

**INFORMATION SEEKING BEHAVIOUR, PROCRASTINATION BEHAVIOUR
AND ETHICAL CONSIDERATIONS IN RESEARCH AMONG
RESEARCH SCHOLARS IN SOCIAL SCIENCE**

Thesis submitted for the Degree of
DOCTOR OF PHILOSOPHY IN EDUCATION

NOWFAL C

Supervisor

Dr. NOUSHAD. P P

Professor, SGTDS
Mahatma Gandhi University

Co-guide

Prof. (Dr.) MOHAMED SALEEM. T

Principal & Professor, FTC



**FAROOK TRAINING COLLEGE
RESEARCH CENTRE IN EDUCATION
UNIVERSITY OF CALICUT**

2022

Dr. NOUSHAD P.P.,
Principal,
School of Gandhian Thought and Development Studies,
Mahatma Gandhi University,
Farook Training College,
Farook Training College, Kollam

DECLARATION

I, NOWFAL C, do hereby declare that this thesis titled as **INFORMATION SEEKING BEHAVIOUR, PROCRASTINATION BEHAVIOUR AND ETHICAL CONSIDERATIONS IN RESEARCH AMONG RESEARCH SCHOLARS IN SOCIAL SCIENCE** is a genuine record of the research work done by me under the supervision of **Dr. Noushad P.P.**, Associate Professor, School of Gandhian Thought and Development Studies, Mahatma Gandhi University and co-guided by **Prof. (Dr.) T. Mohamed Saleem**, Principal and Professor, Farook Training College; and that no part of the thesis has been presented earlier for the award of any Degree, Diploma, Associateship or other similar title of recognition in any other University.

Place: Farook Training College

Date: 16/5/23


Nowfal . C

Dr. NOUSHAD P.P.


Professor,
School of Gandhian Thought and Development Studies
Mahatma Gandhi University, Kottayam.
Formerly Assistant Professor,
Farook Training College, Calicut.

CERTIFICATE

This is to certify that the thesis entitled **INFORMATION SEEKING BEHAVIOUR, PROCRASTINATION BEHAVIOUR AND ETHICAL CONSIDERATIONS IN RESEARCH AMONG RESEARCH SCHOLARS IN SOCIAL SCIENCE** is an authentic record of research work carried out by NOWFAL C, for the degree of Doctor of Philosophy in Education, University of Calicut, under my supervision and guidance and that no part thereof has been presented before for any other Degree, Diploma, Associateship or other similar title of recognition in any other University. Contents in the hardcopy and softcopy are the same.

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Date: 16/5/2023


Dr. Noushad P.P.
(Research Supervisor)



Prof. (Dr.) T. MOHAMED SALEEM

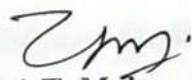
Principal & Professor
Farook Training College
Calicut

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Place: Farook Training College

Date: 16/5/23


Prof. (Dr.) T. Mohamed Saleem
(Research Co-guide)



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INTRODUCTION

- 
- *Need and Significance of the study*
 - *Statement of the problem*
 - *Definition of key words*
 - *Research questions*
 - *Objectives*
 - *Hypotheses*
 - *Methodology of the study*
 - *Scope and limitations*
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- 

Indeed, Information is a primary resource which is fundamental for progressive development in all the vital encounters of the life of developed society. For its proper realization and assimilation, it becomes essential to inspire and encourage the initiatives to seek information properly and scientifically at all the level all over the world. It is obvious that, the ultimate goal of any country whether it is developed or in a developing stage is to get sustainable development and this development is the result of proper assimilation and utilization of knowledge and information. Hence, all the developed countries in the world spend huge amount of money for scientific knowledge production and information processing. When information is processed in a sequential way, it may form the basis of all the programmes and projects implemented by various agencies for the benefits of their stakeholders since the success of such programme depends on the accuracy of information processed and data collected.

The role of information on the development of a nation cannot be neglected as it forms the basis for the progress of any society. As far as human beings are concerned, it is required to collect information from a variety of sources for leading an effective social life. Before information is processed, it is also important to ensure that it is collected from an authentic source through scientific and systematic ways. Technological advancements and innovations have transformed the present era into the information age, where information is considered an essential element of progress and development. Any kind of knowledge obtained from inquiry, study or instruction as well as investigation is called information. Etymologically, the term information has its origin from two Latin words 'formatio' and 'forma' with the meaning of giving shape to something. According to Shannon and Weaver (1949) information is any stimulus that reduces uncertainty. Chen, et al. (1982, p.5) define

information as, “all knowledge, ideas, facts, data, and imaginative works of mind which are communicated formally and/or informally in any format”.

In fact, the information has a significant role in political, economic as well as social changes that happen in a country. In short, no progress and development can be achieved without proper information. Similarly, for the successful completion of research and development programme, it is essential to have required information been available when it is needed. “Information seeking deals with behaviours and actions exhibited by human beings in their search for information to satisfy diverse information needs” (Akakandelwa, 2016, p.127). Line (1974, p.87) has defined information need as, “what an individual ought to have for his work, his research, his edification, his recreation etc”. In order to process information from different sources, a scholar needs to follow certain systematic procedures. Initially, he/she needs to locate the correct source of information. Once the information has been located from an authentic source, it is to be properly processed. “Information Seeking Behaviour (ISB) is the currently preferred term used to describe the many ways in which human beings interact with information, in particular, the ways in which people seek and utilize information” (Bates, 2010, p. 2381). Information seeking behaviour is a broad term, which includes the procedure that a scholar will have while processing information from different source until it is properly stored as well as retrieved such as locating, perceiving, comprehending, interpreting, organizing and retrieval. Fourie (2006) observed that information seeking is a complex, dynamic, social human behaviour that needs as rich a picture as possible to understand the phenomenon truly and even then there will be many unanswered questions. The processing of information is not complete until the information seeker is able to use the collected information appropriately to satisfy his/her information needs. Wilson (1999) has defined information seeking behaviour as

those activities a person may engage in when identifying his or her own needs for information, searching for that information in any source, and using or transferring that information. Information-seeking behavior happens consciously or unconsciously by the way people search for, interact with, feel about, and utilize information. (Gordon et al., 2022, p.288)

Today, there are plenty of information sources available as information is found in many forms. Information and Communication Technology revolution has made information available in digital sources and its availability in digital form has influenced the process of seeking information by researchers as well as users. Drastic changes have been brought in collection and storage of information in libraries as well as their services. Consequently, the nature and function of libraries have been subjected to radical changes due to automation, networking and digitalization. With the emergence of electronic media, the efficiencies of libraries have increased and information is now available in digital form in variety of electronic sources such as e-books, e-journals, institutional repositories, databases and internet. That's why the present age is called information age and the easy availability of digital content due to revolutionary changes in the field of information technology has made it possible to make quality global information equally available to all. As information users decamp rapidly to the digital world, their numbers (and nature) increase considerably and as it becomes possible to digitally map what millions of people actually do in this world, it is important that the knowledge we have about information seeking is updated, corrected and, possibly, rewritten (Nicholas et al., 2007, p. 1085). Hence, research scholars must possess skills to verify authentic information from the available resources. Along with the skills and appropriate behaviour to seek information, it is also important to finish the research tasks timely. As it is observed by Rakes and Dunn (2010), the

online environment increases the tendency to procrastinate and its prevalence is detrimental to student learning and performance. Although Government of India promotes quality researches in all possible ways, there arises question about the quality of researches conducted in India for number of reasons. Procrastination is one of important factors that affect the quality of research work.

Procrastination is derived from Latin verbs, 'pro' refers to forward motion and 'crastinus' refers to belonging to tomorrow (Ferrari et al., 1995). Schraw et al. (2007, p. 12) defined procrastination as the "intentional and needless deferral or delay of work that must be completed to the point of experiencing discomfort". Solomon and Rothblum (1984) defined procrastination as the act of needlessly delaying tasks to the point of experiencing subjective discomfort. Thus, procrastination can be defined as an act of consciously and needlessly putting off the things or a planned course of action until a time where the procrastinator has to experience a feeling of discomfort in not completing the task earlier. Procrastinators tend to delay important tasks needlessly till the last moment and in the hurry to finish the task at eleventh hour they should have to compromise its quality. Procrastination is the consciously and unnecessary postponement of a task that has to be done, to the point that someone experiences inconvenience (Schraw et al., 2007; Solomon & Rothblum, 1984). Academic procrastination, in specific, is postponing academic work. As any other important academic task, procrastination should have its consequences on research too.

Procrastination in research includes delaying of important tasks such as tool preparation, data collection, analysis and reporting. The procrastinators have the tendency to postpone such activities till the eleventh hours. As educational research contributes significantly to the progress of a country, the research scholars must take extreme care to finish their research tasks timely and systematically. Moreover, they

need to keep certain ethical principles in each stage of their research work to ensure quality and integrity of their research.

Urge to explore what is hidden is the inborn nature of all human beings in the world. This tendency is deep rooted in human behaviour and leads him to take various challenging tasks to get a proper answer for the quest in the mind. Quiet frequently, the programme implemented to have fruitful effect on human life fails to produces such an effect. So it is thought that information processing is very important in the success of the entire project and it should follow a systematic procedure to make it free from errors. Such systematic attempt with an unending quest in mind investigating any kind of information is known as research. To err is human and understandably, any human activity can have errors and therefore the pursuit of research should use systematic methods so that errors can be made minimum. The research involves scientific steps of selection of problem, collection of data and its proper analysis to solve an educational problem. As research is a long term process which involves careful examination and analysis, a researcher has to take due attention to sustain his motivation and urge to explore active till the end of entire procedures. Extremely careful attention should be paid in each stage of research not to procrastinate. It is a matter of fact that research scholars should have high degree of commitment to complete their works timely.

Research is a creative task that requires lots of patience and hard work and it is scientific task which needs to be dealt very carefully from the beginning itself. Research must be regulated by ethical standards and values, not least where there is disagreement about which ethical standards apply. Research ethics aim to ensure free, reliable, and responsible research. It is collection of scientific norms and values developed over time and institutionalized in the international research community. Madushani (2016, p.26) defines research ethics as “a complex set of values,

standards and institutional schemes that help constitute and regulate scientific activity”. A consideration of ethics needs to be a critical part of the substructure of the research process from the inception of problem to the interpretation and publishing of the research findings. As Bickman and Rog (2009) reported that there can be ethical concerns at every step of the research process. Ramzan et al. (2011) highlighted the value of ethics in research at all stages

Study of research ethics becomes important as few cases have been reported where academicians with high profiles were accused of research misconduct. Allegation of plagiarism against some Vice Chancellors, for example allegations against Vice chancellor of University of Hyderabad and his admission to plagiarism in three research papers (The Indian Express, April 7, 2016) underlines the seriousness of the issue. President Pranab Mukherjee gave his approval to HRD ministry’s recommendation to sack Pondicherry University Vice Chancellor, facing allegations of plagiarism and misrepresentation. (The Hindustan Times ,June 30, 2016). The Vice Chancellor of Delhi University, New Delhi has been jailed for some time to have plagiarized major section of his book. (The Hindu, November, 24, 2016). “Prof. B.C. Myrappa, Dept. Sociology, Bangalore University, allegedly allowed one of his students to copy his own Ph.D. thesis. The vice chancellor of Mysore University was accused of plagiarism an Osmania University research paper published in an Indian Journal in Oct. 2009 and getting the same published in an International Science Journal latter” (Sen & Nagwanshee, 2016, p.39).

In a broader sense, ethics can be defined as the set of written or unwritten rules that regulate our judgments of our own behaviour and other’s behaviour and guide us to decide what is right and wrong. They help us to choose what is socially accepted. Ethics set guidelines regarding how we expect others to behave and why. Research ethics set guidelines and standards for behaviour that suits the particular

aims and goals of scientific researches. These guidelines also help researchers in education for having proper coordination of their actions or activities to minimize errors and to keep the standard of the research high. It is essential to observe ethical norms in research because these norms uphold the real aim of research viz knowledge production and expansion and hence it is very important to ensure that the knowledge produced is free from any kind of error such as falsifying, or misrepresenting research data. Moreover, research is a creative task which demands a great deal of cooperation and coordination among many different people in different disciplines and institutions. Accordingly, ethical standards help to uphold norms and values of collaborative work such as trust, accountability, mutual respect, and fairness. These guidelines also help to ensure that researchers are held accountable to the public as most of the research endeavours are funded and promoted by government agencies for public interest and to build public support for research. Finally, many of the norms of research promote a variety of other important moral and social values, such as social responsibility, human rights, and animal welfare, compliance with the law, and public health and safety. It is often hard to agree on what is useful to society. Research Ethics is a set of principles that create interaction between the researcher and respondents. Ethical principles in different discipline are given by different authorities on the basis of international standards. “Social and Behavioural Science Researchers need to look forward to the ethical issues that might come up during their studies” (Osho, 2017, p. 185). Agwor and Osho (2017) further observed that, Social Sciences also require the best ethical practices in conducting research. Awareness of research ethics demands the researcher more responsible for obtaining information in the right way which is original and confidential (Gul et al., 2018). Like any research activity, social studies too have an impact on society. Research scholars in social science are reported to be one of the major groups of information users who consume, use, create, produce and

disseminate information at a high rate when compared to other research scholars as the social science research has been dealing with human life and society. Social research aims to provide necessary information for decision-making and allocation of resources amongst the public. Social research also sheds light on choices available for individuals and groups to fulfill their societal needs, (Kunal & Souvik, 2021). If research work in social science is not conducted with honest and integrity, if attempts were not taken to maintain ethical principles in all the stages of the study, then the research will essentially be useless.

Need and Significance of the Study

Research is said to be the prime source for progressive development in all vital encounters in the life of empowered society since innovations are introduced based on research carried out in the respective field. Governments usually present their achievements on the progress and development front in terms of results of various researches. Hence, all the agencies have encouraged continuous research by providing financial support and the number of Ph.Ds. has increased significantly. The All Indian Survey of Higher Education (AISHE, 2019) revealed that the number of Ph.Ds in India has increased by 60 per cent in the last five years. As per data compiled by UNESCO Institute of Statistics, India's contribution to world's research has been increasing each year. The data available with the Organization for Economic Cooperation and Development OECD (2018) shows that India ranks fourth among the countries by the number of PhD degrees awarded. At the same time, it has, unfortunately, led to substantial decline in the quality and utility of research. Despite the fact that a huge amount of money has been wasted to assist research endeavours, the quality of research is reported to be decreasing. Hence, any step taken by any agency to contribute a slight improvement in quality of research work receives positive attention.

“Review on quality of education and research in India shows that the trend is quite unfortunate, and bifurcated to produce more graduates rather than producing ‘quality graduates’. It is the time to focus at quality of education not/or in addition to quantity, if we ensure us to participate in international collaborated research” (Muthukrishnan & Satyanarayana, 2015, p.96). Though India’s rank was at position seven in the SCImago country ranking for 2021 with 2,128,896 cumulative documents, India’s position is only at 21 when citations are considered with h-index 69. It is a matter of fact that the overall quality of University and College level research in India has declined drastically and is far from satisfactory. There are numbers of institution where the quality of research is alarmingly poor. In large number of cases, theses do not conform to international standards and do not make significant contributions to theoretical or applied aspects of a given discipline (UGC Public Notice, 2019). Universities are supposed to be the centers of knowledge generation and creation and, consequently, they are expected to provide a congenial environment for research and innovations. More PhDs may not necessarily be an indicator of quality enhancement as well. Over the last couple of decades, the quality of doctoral-level researches in India has caused considerable concern. After the introduction of the NET examination, the UGC was pressured to relax it in favour of PhD holders and that led to tendency to pursue research to be qualified for lectureship. Serious steps are needed to ensure weeding out of low-quality research output. A national agency needs to scrutinize on selective basis the published research papers and give stratified accreditation to ensure that the junk is not produced any further. Quality enhancement at PhD-level research leads to quality enhancement at every stage of education. At this juncture, Questions have risen about the number of PhDs a country produces, or their quality, or the relevance of the research problems and qualities of research scholars. There is also questioning of whether the researchers are competent to produce significant research outputs and

whether there is any agency to scrutinize research activities for timely completion of quality.

Social science disciplines are understood as academic disciplines which deal with the social, behavioral and cultural environment of the individual (Chatterjee, 2015). Since Social science disciplines are crucial in understanding the influence of social dynamics on an individual's behavior and social interaction system of a society, research in this discipline play an imperative role in enhancing our socio-economic progress by improving our understanding of normative patterns of a society, administrative decision making, cultural diversity and multifaceted dimensions of complicated human behavior (Bhagat & Sahi, 2018). Bhagat and Sahi, (2018) further observed that Social science research in India has been on an upswing in terms of its 'quantity', whereby on the other hand, it has hit its 'lowest ebb' in terms of the 'quality'.

The success of any research is the result of continuous sequential attempts made by the research scholars from the beginning of the task till the entire process is over. Almost all the universities across the globe have some kind of financial assistance to offer to their potential research scholars. Though the government spends a lot of money and energy to initiate, sustain and promote researches in all fields, attempts must be made to validate the skills and aptitude of research scholars to pursue the same and to contribute consequential results. No doubts, time, money and patience could be greatest constraints for a researcher. Along with these physical constraints, research scholars face some personal barriers that need to be seriously addressed. The research work itself demands focused attention to detail and accuracy. When these things are put to stake in a bid to hurry up there could be massive flaws in the work. And when flaws disrupt the research work, the situation slips out of the hand. A research enthusiast hence must overcome these barriers and get head along involved in the work. Research

scholars have been held accountable for the entire result of their research since the result of each research seems to contribute significantly for further decision making and policy formation. Greater accountability eliminates the time and energy spent in unproductive behavior that produces wasted effort and confusing distractions and lack of accountability results in unending procrastination behaviour in carrying out research endeavour. Agwor and Osho (2017) found that research students face many challenges during their researches because of poor time management and planning. Procrastination tendency and lack of proper information seeking behaviour have been reported to be the major problems that the researcher faces now. Once the information is processed in an improper way, it will mislead the researcher and research. So researchers should have possessed a combination of abilities like proper information seeking behaviour to develop proper research accountability and to produce consequential results.

“The research scholars may seek the required information by referring books, browsing periodicals, consulting abstracting and indexing periodicals, consulting colleagues and friends. They also seek information from teachers, senior research scholars, post-doctoral fellows and information centres” (Manjunath, & Babu, 2018, p.332). Information seeking behaviour helps to identify what information is needed, to locate various sources of information, to evaluate the information to find out whether using the information solves the problem. Information literacy provides elbow support throughout the entire process. Moreover in today’s state of information explosion, the internet is open to anyone to post any information; therefore evaluation of information becomes essential which is facilitated by information literacy. Information seeking behaviour forms the basis of lifelong learning and research which is common to all disciplines, to all learning environments, and to all levels of education. It enables investigators to find the right information from authentic sources and extend their investigations to become more result oriented

and assume greater control over their own research. Availability of information in digital sources has influenced the social science researchers too in the process of seeking information. They need to access such emerging resources for various reasons. They are, in fact, one of the major groups of users consuming, utilizing, producing and disseminating information at a high rate. (Gaddimani, 2020)

When a researcher has been confronted with a query or a problem about which a solution is sought, he needs information or knowledge and this situation is normally termed as individual thirst for information. To satisfy this need paves the way for an attempt to search for information and this act of searching and doing something at satisfying his or her information needs is broadly termed as an individual information seeking behavior. The behaviour may take several forms such as demanding information from the library or from other people who know. If an individual user could indicate what is needed under specified conditions, his problem might well be on its way towards a solution; therefore, information seeking activities include ways in which people articulate their need for, search for, and use of information and it is considered as the back bone of any investigation and research. Lack of proper information behaviour forces the investigators to postpone things needlessly and this tendency of researcher to put off research tasks can be termed as procrastination behaviour. Procrastination is a complex psychological behavior that may affect every researcher to some degree or another. As it is noted by Rosental and Carlbring, (2014), Academic procrastination is one area of student behavior that has been widely studied and is affecting half of the student population. Combined with other given variables, Procrastination seems to come on with full force to produce a terrible effect on research. In order to instill a very positive energy in researchers, attention should be made at the preparatory stage itself. A meta-analysis of 33 relevant studies by Kim and Seo (2015) involving a total of 38,529 participants revealed

procrastination to be negatively correlated with academic performance. Negative correlations between procrastination and academic achievement have been pointed out repeatedly in numerous studies (Akça, 2012; Balkıs & Duru, 2017; De Paola & Scoppa, 2015; Goroshit, 2018; Joubert, 2015; Kim & Seo, 2015; Lakshminarayan et al., 2013; Steel, 2007; You, 2015). So any attempt to strengthen the research practices should address this issue.

Among the variables, research ethics stands prominent since it is the major determinant of all other factors. Government of India has uninterruptedly increased funding for conducting quality research but unfortunately none of our university/institution come under the list of top 100 university/institutions at world level. Government of India had initiated several fellowship viz, Non-Net fellowship, Junior Research Fellowship (JRF SRF), Mulana Azad National Fellowship, Rajeev Gandhi National Fellowship, Indian Council for Social Science Research (ICSSR) fellowship, University Grant Commission (UGC) Research Award, Indian Council of Historical Research (ICHR) fellowship, Post-doctoral Fellowship (PDF) for women, and minor and major research project grant etc. to younger generation to make their carrier in the research and to promote the quality research in the higher education system. The trend towards publications is increasing because these are necessary for promotions and financial benefits. The mandatory requirement of publications in journals/conference proceedings for award of doctoral degrees and as a metric in evaluating faculty under the Academic Performance Index (API) score has resulted in a proliferation of predatory journals and conferences, which have abandoned classical peer review as a method of quality control (Patwardhan & Thakur, 2021). To address such concerns and to promote academic integrity and publication ethics in Indian universities, the University Grants Commission (UGC) created the Consortium for Research Ethics (CARE) on November 28, 2018. (UGC Public Notice, 2019).

Research aims to extend human knowledge beyond what is already known. But an individual's knowledge never enters the domain of science until it is presented to others enabling them to judge its validity independently. In planning and conducting research as well as in reporting research findings, experimenters have to fulfill several obligations in order to meet the approved ethical standards. Social and Behavioural Science researchers must take essential steps to address ethical issues that might come up during the studies. For instance, it is well known that social science research does entail gathering data from people and about people. Therefore, it is very vital for researchers to familiarize them with the basic ethical principles and to be up to date in their knowledge on policies around ethics and research to ensure that research participant's safety and to avert findings themselves on the wrong side of the law and ethical guidelines (Sarker & Das, 2020). There are many ethical issues to be taken in to serious consideration for research. Sociologists need to be aware of having the responsibility of securing permission and protecting interests of all those involved in the study. They should not misuse any of the information discovered, there should be a certain more responsibility maintained towards the participants. Every scholar, no matter what type of investigation, is fully responsible for success of any research. Ethical Considerations eliminates the time and energy spent in unproductive behavior that produce wasted effort. Consequently, the study on research ethics becomes relevant in the walks of ethical issues reported in the field.

In fact, research scholars may also have unending enthusiasm to study the problems of other discipline but hardly attempts have been made to investigate the problems of researchers. Of course, there are few recent researchers carried out to study ethical considerations of researchers in social science. Sanjari et al. (2019) identified the ethical challenges in all stages of research. Sen and Nagwanshee (2016) studied major ethical issues the research scholars in social science face and reported number of ethical issues in social science research. Gul et al. (2018)

observed that students' awareness regarding the ethical concern of research was low. Kunal (2021) highlighted the importance of ethics in social science research. Ethical issues are becoming a crucial element in social research. Social science research has long been concerned with ethical issues. Social science investigates complex issues which involve cultural, legal, economic, and political phenomena (Taylor, 1994, p 522). Therefore, the ethical considerations among research scholars in social science must be studied and measures should be taken to improve them. But, no attempts were made to study ethical considerations in research among research scholars in Kerala. Along with ethical considerations in research, information seeking behaviour and procrastination behaviour among research scholars are to be scientifically studied as they relate to the quality and integrity of research work. The existing knowledge base on the subject seems to be scanty piecemeal, and hardly efforts have been made to study, as an entirety, researchers' skill and accountability to process, organize and analyse information effectively as well as their attempts to finish research work timely. Examination of these areas can alert prospective investigators to have a creative and serious outlook on issues that they should explore and develop skills that they might to have in pursuing research. The implication of the study would also help the policymakers to set guidelines and adopt strategies to enhance the quality of research work along with increase in its quantity.

Statement of the Problem

Researchers play a key role in contributing to the development of a nation and they require information from various source. It is also important to ensure that research scholars could collect information accurately and systematically. The present research is a pioneer in the field and studying information needs and seeking behaviour of research scholars will obviously guide to find out some useful strategies to help research scholars to process information accurately and systematically. Hence this research helps to fill the research gap in information seeking behaviour of

research scholars. Fourie (2006) reported that there is a need for more researches examining information seeking from different perspectives. Hence, one of the main aims of the research was identified as to explore how research scholars seek information to fulfill their information needs from information sources available to them. As the present study is carried out to improve the qualities of research, it is also important to think about other factors which contribute to enhance the quality of research output. (Sen & Nagwanshee, 2016) observed that there are various reasons behind the low standard of research in social sciences, but the most important reason is related with the ethics of research. This is the prime responsibility of the researcher to maintain the honesty and integrity while conducting research work in any field of knowledge. If research is not conducted in ethical manner then the purpose of research is not going to fulfill. Along with these important factors, the investigator also has taken attempts to study how much the research scholars procrastinate in their research work as academic procrastination adds to performance decline (Fentaw et al., 2022; Cıkrıkçı et al., 2020; Kurtovic et al., 2019; Karmen et al., 2014; Balkis, 2013; Lakshminarayan et al., 2013; Balkis & Duru, 2009).

The study is an attempt to investigate some of the major issues that the research scholars in social science face as they should affect the quality, relevance and fruitfulness of research activities. The study has been designed to find out the research scholars' need for information as well as the way they seek information and to identify how long they procrastinate in their research tasks. Attempts have also been made to find out ethical considerations in research among ethics of research scholars in social science. Keeping those factors mentioned above in the mind, the problem for the present study has been titled as

INFORMATION SEEKING BEHAVIOUR, PROCRASTINATION BEHAVIOUR
AND ETHICAL CONSIDERATIONS IN RESEARCH AMONG RESEARCH
SCHOLARS IN SOCIAL SCIENCE

Definition of Key Words

The key terms used in the title have been defined as follows.

Information Seeking Behaviour

“Information seeking behaviour arises as a consequence of a need perceived by the information user, who in order to satisfy it, makes demands upon formal or informal information sources or services, resulting in either success or failure” (Wilson 1999, p.251).

The present study made use the term to denote a researcher’s ability to identify what information is needed, to locate various sources of information, to identify nature of information, to process information and to evaluate the information to find out whether using the information solves the problem.

Procrastination Behaviour

Procrastination is defined as the intentional and needless deferral or delay of work that must be completed to the point of experiencing discomfort (Schraw et al., 2007; Solomon & Rothblum, 1984).

Academic procrastination is student delay in studying or completing academic assignments (Rothblum et al., 1986; Solomon & Rothblum, 1984).

In the present study the term procrastination behaviour is used to denote a researcher’s tendency to put off research tasks intentionally or unintentionally but needlessly

Ethical Considerations in Research

The term ‘research ethics’ in social science research, refers to human values, norms, and societal arrangements that regulate scientific understanding of society (Debnath & Chatterjee, 2021).

In the present study the term ethical considerations in research refers to research scholars' awareness of the rules, values, norms and regulations to be kept in all the stages of research process, their knowledge about plagiarism and norms to be kept while publishing research articles

Research Scholars in Social Science

Social science research is a process of enquiry into social issues and social problems in the society (Lawal, 2019).

Social Science Research refers to any scientific study of human action and interaction focusing on elements of thought and behavior that are in some sense social (Chatterjee, 2015).

In the present study research scholars in social science are students pursuing PhD in disciplines education, sociology, social work, economics, political science, history and psychology in four major Universities in Kerala namely Kannur University, University of Calicut, Mahatma Gandhi University and University of Kerala.

Research Questions

1. What are the information needs and seeking process of research scholars in social science?
2. Which are the different information sources accessed by research scholars in social science?
3. Why do research scholars seek information and what are the different types of information sought by research scholars in social science?
4. What are the different challenges faced by research scholars in social science while accessing information?
5. How does sex, mode of research and information seeking behaviour influence procrastination and ethical considerations in research?

Objectives

The study was designed to achieve following objectives

1. To find out information needs, purpose of seeking information, nature and type of information required by research scholars in social science
2. To find out various information sources used by research scholars in social science
3. To find out information seeking process of research scholars in social science
4. To find out information challenges faced by research scholars in social science
5. To categorize information seeking process of research scholars in to three categories viz., good, average and poor
6. To find out procrastination behaviour among research scholars in social science
7. To find out whether there is any significant difference in procrastination behaviour of research scholars in social science based on
 - a) Gender
 - b) Mode of research
 - c) Source of information
 - d) Use of online tools
 - e) Information seeking process
8. To find out ethical considerations in research among research scholars in social science
9. To find out whether there is any significant difference in ethical considerations in research among research scholars in social science based on
 - a) Gender
 - b) Mode of research
 - c) Source of information
 - d) Use of online tools
 - e) Information seeking process
 - f) Procrastination

10. To find out interaction effect of gender and mode of research on procrastination and ethical considerations in research among research scholars in social science
11. To find out interaction effect of information seeking process and procrastination on ethical considerations in research among research scholars in social science

Hypotheses

Based on the objectives the following hypotheses are formulated

1. There exists significant difference in the procrastination behaviour of research scholars in social science based on a) Gender b) Mode of research c) Source of information d) Use of online tools e) Information seeking process
2. There exists significant difference in ethical considerations in research among research scholars in social science based on a) Gender b) Mode of research c) Source of information d) Use of online tools e) Information seeking process, f) Procrastination
3. There exists significant interaction effect of gender and mode of research on procrastination and ethical considerations in research among research scholars in social science
4. There exists significant interaction effect of information seeking process and procrastination on ethical considerations in research among research scholars in social science

Methodology of Research

The methodology adopted for the present study is given briefly under the following headings

Design of the Study

The study could be best described as a mix of both quantitative and qualitative study carried out using the descriptive survey method. Survey method is

adopted to analyse quantitative data collected by using scale of procrastination behaviour and test of ethical considerations in research. Information behaviour of the research scholars was identified by using questionnaire and all the categories were represented and analysed diagrammatically

Sample

The population of the study consists of research scholars in social science. Data were collected from 275 research scholars in social science from the four Universities of Kerala namely Kannur University, University of Calicut, Mahathma Gandhi University and University of Kerala. Attention was paid to give due weightage to gender and mode of research.

Tools for Data Collection

The study made use of following tools to collect the data from the sample.

- A. Questionnaire on Information Seeking behaviour (Nowfal & Noushad, 2019)
- B. Scale of Procrastination Behaviour (Nowfal & Noushad, 2019)
- C. Test of Ethical Considerations in Research (Nowfal & Noushad, 2019)

Statistical Techniques Used

1. The important statistical constants mean median, mode, standard deviation, skewness and kurtosis were worked out for the total sample and sub samples.

The following statistical techniques were used for analysing the data statistically.

2. ***Test of significant difference between mean score (t-test)***. To compare the difference in Procrastination and Ethical Considerations in Research among research scholars based on gender and mode of research.
3. ***Analysis of Variance (ANOVA)***. To find out effect of information seeking behaviour on procrastination and ethical considerations in research

4. *2 x 2 Factorial ANOVA*. To find out interaction effect of gender and mode of research on procrastination and ethical considerations in research
5. *3 x 3 Factorial ANOVA*. To find out interaction effect of information seeking process and procrastination on ethical considerations in research

Scope and Limitations

Since the entire variables selected are very relevant, the study is expected to yield certain fruitful contribution to the field. The scope of the study includes information needs, types, sources and seeking behaviours of research scholars, the procrastination behaviour among research scholars, quality and integrity of research, and ethical considerations among research scholars.

Scope of the Study

- Attempts were made to investigate information needs and purpose of seeking scholarly information among research scholars in social science
- The source accessed by the researchers in social science was also studied and it is very relevant since the quality and integrity of any research work mainly depends on the accuracy and authenticity of the data collected
- Efforts were taken to study nature and type of information that research scholars in social science require to seek.
- The study also investigated information seeking process and challenges face by research scholars while seeking scholarly information
- The study also found out procrastination behaviour among research scholars. As the cases of procrastinations in the field is alarmingly increasing, the investigator hopes that the result of the study would bring light to the measures to be taken to minimize the cases of procrastination.

- Efforts were also taken to study ethical considerations in research among research scholars in the walks of recent ethical issues reported in the field of research.
- The study also investigated the influence of Gender, Mode of research, Source of information, Use of online tools, Information seeking process and procrastination on select variables
- The tools used were valid and reliable.
- The data collected were analysed according to approved statistical norms.

Hence the result can be generalized.

Limitations

In spite of taking extremely careful efforts by the investigator to carry out the study with maximum specificity and attention, certain limitations which could hardly been avoided have crept in to the study. They are,

- Data for qualitative analysis are to be collected directly to make it more reliable and accurate as the sample gets ample opportunity to share their felt problems of information needs and different kind of seeking behaviour openly in a face to face interview. Due to Covid 19 outbreaks data from the sample were collected in digital form using a questionnaire.
- As the researchers might be aware of the entire process of research, a sort of unwillingness to give responses was seen among the samples.
- Data from research scholars from all the subjects under social science could not be collected
- Due representation was not given to different subjects under social science
- Data could not be collected from all the Universities in Kerala

Despite these limitations, extreme care was taken by the investigator to make the study perfect and objective and the investigator hopes that the study would yield some important implications.

Organization of the Report

The report of the present study is systematically divided in to six chapters as follows.

Chapter 1: The first chapter of the report has been meant to give an **Introduction** to the problem emphasizing the reasons that lead the investigator to select the problem along with major objectives, research questions and hypotheses formulated. A brief description of research methodology which includes research design, sampling and statistical techniques has been given in the chapter. The chapter also presents the scope of the study as well as major limitation that might have crept in to the study.

Chapter 2: After introduction, a chapter has been designed to give frame work of the variables information seeking, procrastination behaviour and ethical considerations in research and a brief summary of related studies that the investigator **reviewed**



Chapter 3: The research **methodology** that the investigator adopted to carry out the study with discussion of the variables, detailed description of the tools employed for the collection of data, selection of sample, procedure of data collection and consolidation of data and the statistical techniques used for analysis was described in the third chapter.

Chapter 4: As the title **Analysis and Interpretation** indicates, this chapter gives details of analysis of data collected with qualitative analysis, preliminary analysis, and major analysis. Analysis of data according to prescribed objectives with appropriate discussion is summarized under various titles.

Chapter 5: Report on **Summery of procedure, Major findings and Conclusions and Tenability of hypotheses** can be read in this chapter

Chapter 6: **Educational implications, recommendations and Suggestions for further research** are appended to the report as a separate chapter.

REVIEW OF RELATED LITERATURE

- 
- *Theoretical overview*
 - *Review of related studies*
- 

In order to develop theoretical understanding of the selected variables and to have insights regarding methodology, related literature has thoroughly been reviewed. The details have been presented in this chapter under the following headings

1. Theoretical Overview of Information Seeking Behaviour
2. Studies Related to Information Seeking Behaviour
3. Theoretical Overview of Academic Procrastination Behaviour
4. Studies Related to Academic Procrastination Behaviour
5. Theoretical Overview of Ethical Considerations in Research
6. Studies Related to Ethical Considerations in Research

Theoretical Overview of Information Seeking Behaviour

Technological advancements and innovations have transformed the present era into the information age, where information is considered an essential element of progress and development. In fact, the information has been playing key role in one's personal as well as social life. Any kind of knowledge obtained from inquiry, study or instruction as well as investigation is called information. Etymologically, the term information has its origin from two Latin words 'formatio' and 'forma' which mean to give shape to something. Chen, et al. (1982, p.5) define information as, "all knowledge, ideas, facts, data, and imaginative works of mind which are communicated formally and/or informally in any format." Kaniki (1989; p.19) defines information as "ideas, imaginative works of the mind and data of value that is potentially useful in decision making, question answering and problem solving". As everyone faces different problems in his life, he seeks information from various sources to solve those problems. Moreover, huge amount of information is generated each year due to research works and other innovations. Therefore, an information

seeker must have the abilities to locate information, to select appropriate information seeking strategies, to access and verify reliability of the information sources and to ensure the relevance of information to solve the problems. The totality of the behavior that an individual would have as a result of a particular information need in relation to source of information, channel of information, information seeking process and use of information to solve problems is one's information seeking behaviour.

Information Needs

An individual's concept of what information he has to acquire to achieve a particular goal is called information need. An information need is a drive which forces an individual to seek information to solve a particular problem. An information need evolves from an awareness of something missing, which necessitates the seeking of information that might contribute to understanding and meaning (Kuhlthau, 1993). Information needs arise when an individual faces a gap which forces him to find some form of information to bridge the gap. The American information scientist Taylor (1962) who coined the term information needs has identified four levels of information needs: a) The conscious and unconscious need for information not existing in the remembered experience of the investigator. It is said as the actual, but unexpressed, need for information, b) The conscious mental description of an ill-defined area of information decision. In this level, the information seeker might interact with someone else in the field to get an answer. c) A researcher forms a rational statement of his question. This statement is a rational and unambiguous description of the inquirer's doubts. d) The question as presented to the information system. According to Line (1974) information required is what an individual ought to have for his work, his research, his edification, his recreation etc. Dervin and Nilan (1986), considered information need as a conceptual

incongruity in which the person's cognitive structure is not adequate to a task. Satisfying information needs is a dynamic process during which absorbed knowledge may lead to renewed information needs (Kuhlthau, 1993; Kebede, 2000). Information need is the individual concept of what information he or she needs to satisfy a more basic need that is to achieve a goal (Wilson, 1997)

Information Seeking

It was after 1950s, the term Information Seeking Behaviour is widely used in the research literature (Dave, 2012). When an individual tries to seek information he has to select, seek, verify, store and use information. Information seeking can be defined as a process that an individual has while attempting to satisfy his information needs. Information seeking is "a complex process consisting of social, communicative and interactive behaviour" (Fourie, 2004, p.70). Information seeking includes recognition and understanding the problem, choosing a search system, and examining the results (Marchionini, 1992). It is observed that the information seeker usually visits library with a narrow idea about information sources. Once he starts interacting with different sources to locate information, his view of information sources gets widened and he gets familiarized with different forms of information sources. According to Kingrey (2002) in the simplest terms, information seeking involves the search, retrieval, recognition, and application of meaningful content. Information seeking is used to resolve the 'inadequacy' which can manifest itself as a gap, shortage, uncertainty or incoherence (Ikoja-Odongo & Mostert, 2006). Case (2002) defines information seeking as a conscious effort to acquire information in response to a need or gap in knowledge. According to Wilson (2000) information seeking behavior is the micro-level of behavior employed by the researcher in interacting with all kinds of systems. Case (2002) further defines information seeking as a conscious effort to acquire information in

response to a need or gap in one's knowledge. The seeking process can be active or passive, purposeful or unintentional. It is thus a strictly human process that requires adaptive and reflective control over the afferent and efferent actions of the information seeker (Ikoja-Odongo & Mostert, 2006). Information Seeking Behaviour refers to process of searching, locating, retrieving, identifying, using, evaluating and implementing information and to satisfy the information needs of users. (Veena & Mallaiah, 2015)

Information Seeking Behaviour (ISB)

Information seeking habits result from the recognition of some need, perceived by the user, whom as a consequence makes demand upon formal systems such as libraries, information centres, online services or persons to meet their information needs. (Manjunath & Babu, 2018). Information seeking behaviour can be defined as purposive behaviour of seeking information for satisfying an information need to solve a problem or to achieve some goals. When a need evolves, quite frequently, people take efforts for satisfying that need. Those efforts involve variety of strategies and action based on the types and nature of information. "Information seeking behaviour arises as a consequence of a need perceived by the information user, who in order to satisfy it, makes demands upon formal or informal information sources or services, resulting in either success or failure" (Wilson 1999, p.251). Wilson (1999) further conceptualizes information seeking behaviour as activities a person may engage in when identifying his or her own needs for information, searching for such information in any way, and using or transferring the information. He used the term information behaviour to describe those activities a person may engage when identifying his or her own needs for information, searching for such information in any way and using or transferring that information.

Information Seeking Models

There are many models that have been developed with a view to explain information seeking process. Kundu (2017) observes that most of the information seeking behaviour models are statements that attempt to describe an information-seeking activity, the causes and consequences of that activity, or the relationships among stages in information-seeking behaviour. Kousoyiannus in Aina (2004, p.14) describes a model as a simplified representation, including the main features of the real situation it presents. Though there are numerous models explaining the process of information seeking, the models developed by Wilson (1981 and 1996), Krikelas (1983), Kuhlthau (1991), Ellis (1989), and Choo et al. (1999) are worth mentioning as most of these models seem to focus on the process of active information seeking (McKenzie, 2002). The models also gives focus on the benefits derived from acquiring data during the information seeking process, and practical issues, for example stages, mechanisms, processes, channels, sources and barriers involved when searching for information. (Case et al., 2005)

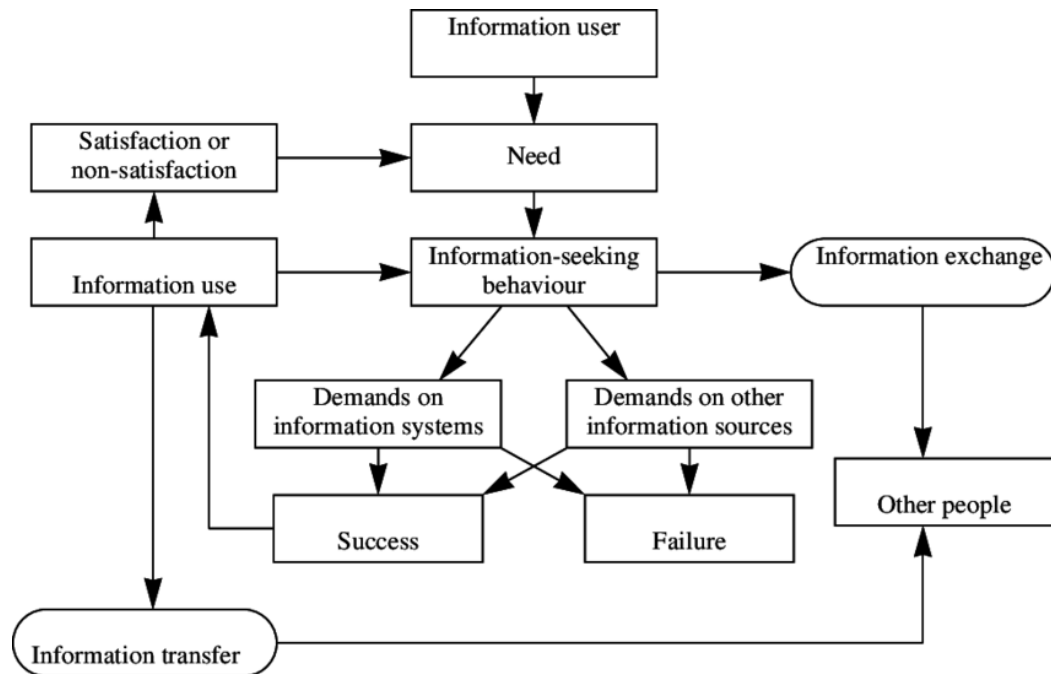
Wilson's (1981) Model of Information Behaviour

Through his model developed in 1981, Wilson attempts to explain information seeking processes. Wilson's model is developed from an analysis of detailed human information behaviour. Wilson (1981) suggests that information-seeking behaviour arises due to the need perceived by an information user in different stages or sequences. In order to satisfy that need, user makes demands upon formal or informal information sources or services. These demands for information result in success or failure to find relevant information. According to the model, satisfying information need is the motive that forces the individual to take appropriate tasks. Success leads to the utilization of the information, which

results in fully or partially fulfilling the perceived need. Failure leads to the repetition of the process and the search process is repeated until the need is satisfied. In his model, he also highlights the concept of information exchange and he adds that the information sought by an individual is not only useful for himself but, it will be used by others through information exchange. Aina (2004) observed that the model identified 12 components involved in the information seeking process. He also observed that the situational context in which a particular need is evolved, has a key role in the information seeking process. According to Wilson (1999) the weakness of the model is that all of the hypotheses are only implicit and are not made explicit.

Wilson's (1996) Model of Information Behaviour

Wilson took further attempts to propose another model by revising his 1981 model of information behaviour. In this model, various activities involved in the cycle of information seeking process, from the stage of information need to the phase of information use are identified. He also identified 'intervening variables' that evolve during the needs of information. These are psychological, demographic, role-related or interpersonal, environmental and source characteristics. The revised model highlights that feedback in the form of information use is highly important for the satisfaction of information needs. The 1996 model also presents four relevant criteria as information seeking behaviour to explain users' behaviour. The activating mechanisms are psychological factors which are explained by these different theories and which prompt the user to proceed with the information seeking process. Thus, Wilson identified characteristics of a number of human behaviour models in his model. (Kundu, 2017)

Figure 1*Wilson's Model of Information Seeking Behaviour*

(Kundu, 2017)

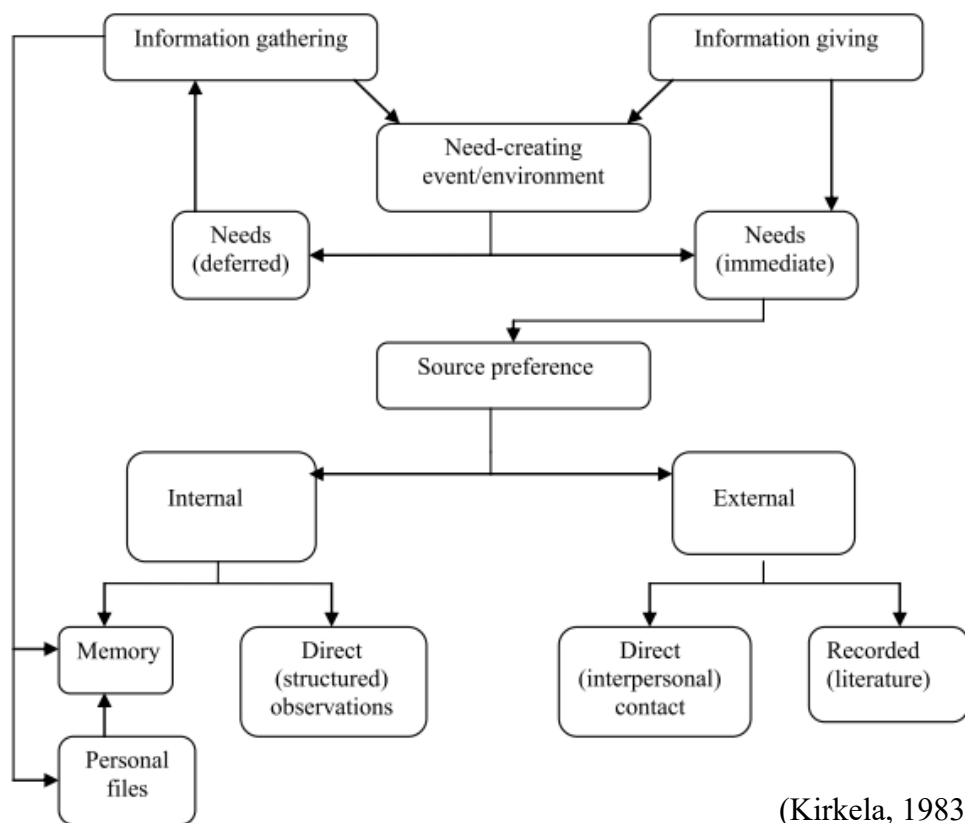
Kirkela's Model of Information Seeking Behaviour

As an oldest model, Kirikelas' model (1983) was cited widely. The model which is a general model that is applicable to ordinary life contains thirteen components. In the model the twin actions namely information gathering and information giving are given at the top. Krikelas (1983) suggests information need as a gap that a user perceives within the context of his/her environment. Identification of this gap or inadequacy leads the user on a search for information through various information sources. If the process may result in failure, the search is repeated until it may result in success. According to Krikelas (1983), information can be seen as any stimulus that reduces uncertainty. An information need is defined as the recognition of the existence of this uncertainty in the personal or work-related life of the individual. Based on the importance of information needs, he further identifies two types of information needs viz; short term immediate requirements,

and long term deferred needs. The effort to satisfy a perceived need results in information-seeking behaviour. However, according to Krikelas (1983), unconscious needs do not necessarily lead to eventual action

Figure 2

Kirkela's Model of Information Seeking Behaviour



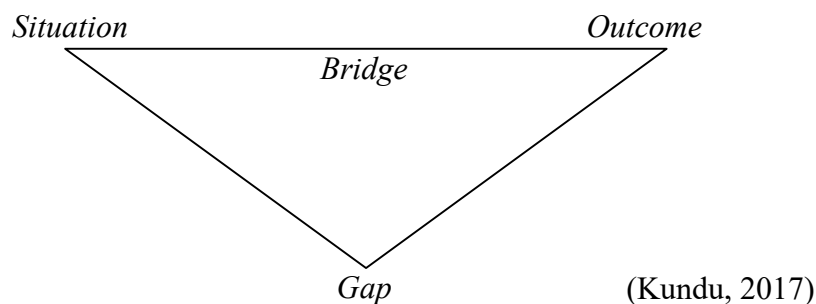
Dervin's Model (1983)

In her sense-making theory developed over a number of years, Dervin (1983) proposes a set of assumptions, a theoretic perspective, a methodological approach, a set of research methods regarding the role of information as a human tool for making sense of a reality. She also suggests four constituent elements of sense making namely - a situation in which information problems arise; a gap, which identifies the difference between the contextual situation and the desired situation an outcome, the consequences of the sense-making process, and a bridge. The prime

motive of information seeking is to bridge this gap, which helps to make new sense and use this information in everyday life. Dervin has expressed these elements in terms of a triangle: situation, Gap/Bridge and outcome.

Figure 3

Sense Making Theory Model



Wai-yi's (1998) Information-Seeking and Using Process Model

Wai-yi information-seeking and using (ISU) process model is based on Dervin's Sense-making approach. He has identified seven situation and information seeking aspects and the theory mainly focuses on the relationship between situation and information seeking aspects that form the framework for the identification of information behaviour. The seven situations are: task initiating; focus forming; ideas assuming; ideas confirming; ideas rejecting; ideas finalizing; and the passing on of ideas. The information-seeking aspects are: use and choice of information sources, information relevance judgment criteria, information organization and information presentation strategies, feelings, and definition of information. He further adds that people with same information needs may use different channel and process of information seeking.

Sandstrom's (1994) Optimal Foraging Theory

Sandstrom's (1994) referred the terms "information foraging" as the activities connected to assessing, seeking and handling of information sources in the

networked environment. In his theory he highlights the role of individual factors in information seeking as individuals are motivated by self-interest. These interests are defined in terms of some specific goal that highlights the content of the individual's choices. Sandstrom found a continuum of two types of foraging strategies: namely Specialists, and Generalists

Blom's Task Performance Model

Blom's (1983) Task Performance Model is based on Blom's research into scientists' information needs and its use. According to this theory successful task performance is the motive behind information seeking. He gives focus on information needs and task performance needs as the requirements to seek information. In his theory the different steps involved in the research process namely the problem statement, methodology, data gathering, analysis and synthesis, report and the application in practice were equated with the steps in the information process.

Leckie et al.'s (1996) Model of the Information-Seeking of Professionals

The theory stresses the importance of work role in information seeking behaviour. According to this model information seeking behavior of professional is influenced by his/her work roles and tasks. Leckie et al. (1996) clarified various factors like context, frequency, predictability, importance, and complexity, age, profession, specialization, career stage, and geographic location that affect the information seeking behaviour.

Kuhlthau's Information Search Process (1991)

Kuhlthau's work complements that of Ellis by attaching to stages of the 'information search process' the associated feelings, thoughts and actions, and the appropriate information tasks (Wilson, 1999). The role of all the three domains namely cognitive (thoughts), affective (feelings) and Psycho motor (actions) were

stressed in information search process. He has presented following six stages of information seeking process

Initiation. This is the beginning stage of information seeking process and information seeking begins when an individual becomes aware of a lack of knowledge or an inadequacy. This stage is filled with uncertainty and feeling of apprehension

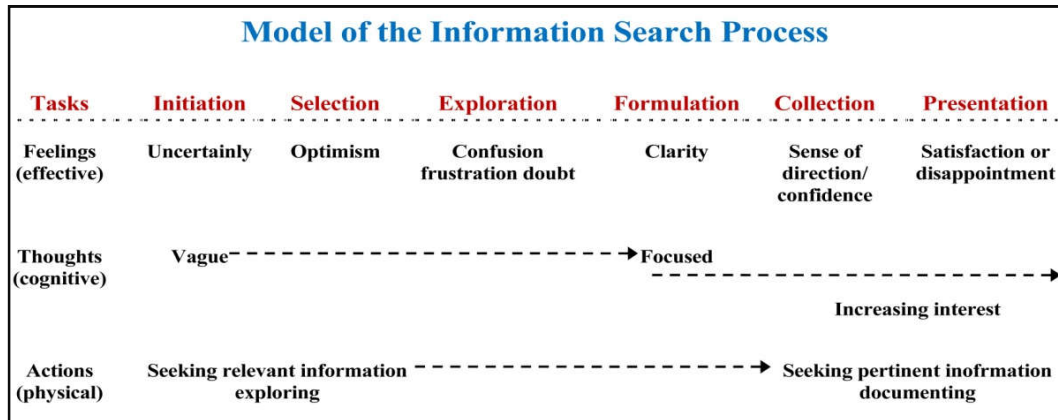
Selection. In this selection stage, the learner identifies an area or a topic or problem to proceed and initial uncertainty often gets replaced by optimism and a readiness to begin the search.

Exploration. This is the most difficult stage in the information search process according to Kuhlthau as the seeker is confused when they encounter “inconsistent or incompatible” information. It is at this stage that information seekers gets discouraged and the stage is marked with feelings of doubt and plan of abandoning search process

Formulation. After a stage of total despair and confusion, the seeker begins to develop a focused perspective which helps him to achieve more clarity and to increase his confidence level. This is the most crucial stage in information search process

Collection. This stage has been meant to gather information from appropriate sources and the seeker is very much interested in search process and his active involvement could be ensured.

Presentation. As the search is completed with a new understanding, the seeker is prepared to present his findings to other or to use it. He expresses a feeling of relief and satisfaction.

Figure 4*Kuhlthau's Information Search Process*

(Kundu, 2017)

Ellis's Behavioural Model of Information Searching Strategies (Ellis, 1989; Ellis et al., 1993)

After studying activities and perceptions of social science scholars, Ellis has identified the following six categories of information seeking behaviour

Starting. This stage includes activities characteristics of the initial search for information from familiar or less familiar sources as the user begins to seek information. These initial sources can lead to additional sources or references

Chaining. Chaining, as referred by Ellis, refers to following references in a work to its cited works (backward) and finding new citations to this work (forward). Backward chaining occurs when pointers or references from an initial source are followed, while forward chaining identifies and follows up on other sources that refer to an initial source or document

Browsing. It is semi-directed or semi-structured searching in an area of one's interest

Differentiating. Based on the nature and quality of the information, the user selects appropriate information.

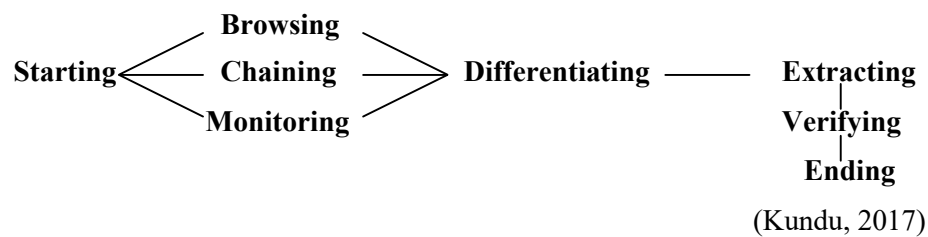
Monitoring. It is the process of keeping up to date about the development in the fields.

Extracting. In this stage, the user checks the authenticity of available information and selects the most appropriate one.

Verifying ending. This may be defined as typing up loose ends through a final search

Figure 5

Ellis Model of Information Search Process

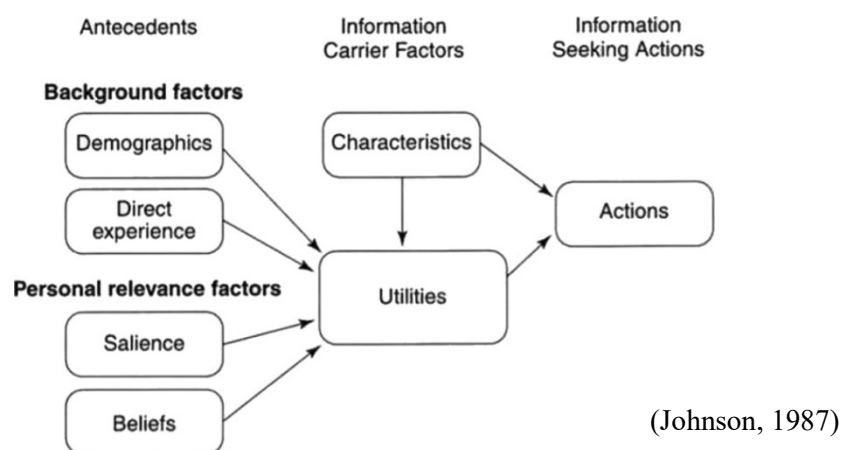


Johnson’s Model

In his model, Johnson (1987) presents seven factors under three headings namely antecedents, information carrier factors and information seeking actions and the fundamental process flows from left to right. The antecedents are further grouped as background factor which includes the factors of demographics and personal experience and personal relevance factor including salience and beliefs. The Information carrier factors are characteristics and utilities of the information channels selected and used by the seekers. Information seeking actions involve that action taken by the user to seek information.

Figure 6

Johnson’s Model of Information Seeking



Studies Related to Information Seeking Behaviour

The variable information seeking behaviour has been explored frequently by previous researchers and numbers of studies are available in the area. A brief report of some of the recent studies that helped the investigator in his research has been following

The study carried out by Mnguni and Kekana, (2022) on Web Information Seeking Behaviour of Undergraduate Students of Library and Information Studies at the University of Zululand found that the web is the major source of information amongst library and information studies undergraduate students and it is used by students for academic purposes like: assignment completion, research and study purposes. Further findings indicate that the Google search engine was found to be the most used tool for information searching.

Humbhi et al. (2022) conducted a study titled Information needs and Information-seeking behavior of undergraduate students: A remote area perspective. The findings reveal that undergraduates do not visit the library frequently but the largest numbers of respondents are only slightly satisfied with the services they get. Most of the students visit the library for study purposes, to prepare for either academic or job recruitment exams

Ayinde et al. (2021) identified the difficulties which electorates faced during accessing electoral information and news. The study was conducted on the basis of Wilson's model of information-seeking behaviour. The results of the study reveal that among the major information sources, print media like newspapers were found to be most preferred source of information compared to social media. The young generation was reported to depend on social media for election-related Information and news.

Mabutho and Mostert (2021) investigated the information seeking behaviour of ORI's researchers with a focus on how they seek information, the information sources they use, and the problems they encounter when seeking information. Data were collected from all the researchers in ORI through a structured questionnaire. Researchers in ORI were found to seek information that is closely aligned to their research fields like to conduct research, write articles for publication, and to update their knowledge. Most of the researchers indicated that they prefer searching the internet and accessing the library remotely to satisfy their information needs. Poor internet connectivity, outdated library materials, and lack of time and skills to search for information are some of the challenges to successful information seeking as reported by the participants.

The study titled "Information seeking behavior and COVID-19 pandemic: A snapshot of young, middle aged and senior individuals in Greece" by Skarpa and Garoufallou (2021) reports that television, electronic press and news websites were found as more reliable than social media, in obtaining information on COVID-19 and it further revealed that Participants' most common information seeking strategy in digital environment was keyword searching.

Neogi and Partap (2021) conducted a study on Information Needs and Information Seeking Behaviour of Agricultural Research Fraternity of West Bengal, India. The findings reveal that 76.40% of the respondents visited the library for issue/return of books, while 59.55% respondents visited the library for accessing electronic information resources. Furthermore, 69.66% of the respondents were seeking their desired information from the library for research work, while 55% respondents were seeking information specially for writing articles

Ali and Jan (2020) conducted a study on Information Seeking Behaviour in Digital Environment on Post Graduate Students at University of Kashmir. It is found

that the information seeking behavior of PG social science students in University of Kashmir has been greatly influenced by the application of ICT.

Qin et al. (2020), in their study titled “Understanding the information needs and information-seeking behaviours of new-generation engineering designers for effective knowledge management”, investigated the information-seeking behaviour and information needs of the new age engineers. The results of the study indicate the engineers' information-seeking behaviour during their project work was influenced by newly emerging IT and web-based applications

Howlader and Islam (2019) conducted a study titled Information-seeking behaviour of undergraduate students: A developing country perspective. Data were collected from 339 samples using a structured questionnaire. It was found that most of undergraduates visited library for academic and job-related information and they were only slightly satisfied with the library services they get. The findings also revealed that undergraduates' information skills were poor and they were not aware of the library resources.

Tubachi (2018) conducted a study titled as information seeking behavior: an overview. The study is an attempt to define information seeking behaviour systematically. The study also gives an overview of types of information and models of information seeking behaviour

Trivedi and Bhatt (2018) investigated Contemporary Trends of Information Seeking Behaviour of Research Scholars of Gujarat University through a Case study collecting data from 80 research scholars from social science and linguistic disciplines through questionnaire developed on the basis of core compounds of information seeking behaviour. Female research scholars are reported to be little dominated in research work and the major purpose of seeking behaviour among

research scholars is to prepare for research work, knowledge expansion and writing research and conference papers

The findings of the study conducted by Balaji and Ragavan,(2016) on the Information Seeking Behavior of faculty members and research scholars of Bangalore University reveals that internet; online journals, print journals and books are the main formal sources for seeking information among research scholars and faculty members. The authors suggested that the reference librarian should help the users in locating the information and thereby help the faculty and scholars to improve the seeking behavior and find the needs of the users of the library.

Ngozi et al. (2015) investigated information seeking behavior of faculty members of the Nigerian university and books were found to be the most used sources of information. The results also revealed that the majority of faculty members seek information for academic and research purpose and Google and other online resources were found as the most preferred source of information

A study was carried out by Kumar et al. (2014) to assess the Information Seeking Behaviour of the research scholars and faculty members of Kurukshetra University. Data were collected from research scholars and faculty members of the seven disciplines of Life Sciences using a well-structured questionnaire. 28.92% of the research scholars and faculty members were found to visit the library to seek information. The study suggested to increase internet speed and to organize training program for the users to maximize utilization of the resource.

Sudha (2013) studied information seeking behavior of the Ph.D. scholars of rural universities, particularly in Gandhigram Rural University, Tamil Nadu, to find out the position of different information sources in their information seeking. It is found that the majority of users seek information for research purpose only and all

the Ph.D. scholars were aware of the information technologies used in the library. Moreover, more than 50.00% of the respondents were found to get assistance from the library staff for their information needs and most of the scholars were reported to be satisfied with the present library services.

Al-Suqri (2011) conducted a study on the Information seeking behavior of social science scholars in developing countries. An integrated model of social science information-seeking behavior based on a synthesis of established models was developed to describe present-day information-seeking among social science scholars in a Middle Eastern university. The result of the study suggests that information-seeking behavior follows universally applicable stages, and that the model can be applied to current-day information-seeking despite changes in the information environment.

The study conducted by Chopkar and Khaparde (2011) focused on information seeking behaviour of research scholars of biological science department of Dr. Babasaheb Ambedkar Marathwada University. Data were collected using a structured questionnaire. The results indicate that 120(89%) research scholars visit the library to seek information and books were found to be most preferred sources of the information followed by newspaper and journals

Sheeja, (2010) conducted a comparative study on the information-seeking behaviour of the research scholars in the field of science and social science with a reference to service effectiveness, satisfaction level on different type of sources and various methods adopted by the scholars to keep their knowledge up to date. Data from 200 randomly selected PhD students of science and social science departments of four universities in Kerala were collected using a questionnaire. Social science and science PhD students were found similar in several aspects of information-seeking behaviour.

Tahira and Amin (2009) conducted a study on information needs and Information seeking behavior of Science and Technology (S&T) teachers of the University of the Punjab to study their preferences regarding various formats of information sources (printed and electronic) and importance of formal and informal sources. Both libraries and e-resources were found to play important role in meeting respondents' information needs; and it also revealed that availability of information at one's fingertip has decreased number of visits to libraries

Vezzosi (2009) investigated the information behaviour of a group of doctoral students in the field of biology with the aim of understanding their needs and obtaining suggestions for an improved library service. From the results of the study, doctoral students were found to use the internet for their research work.

The study conducted by Choukhande and Kumar (2008) focused on the information needs and use pattern of faculty members and research scholars of Amaravati University. Data were collected from 3431 researcher scholars and faculty members of the said university and its affiliated colleges using a structured questionnaire. The results of the study reveal that research scholars and faculty members prefer both formal and informal channels of the information dissemination.

Hemminger et al. (2007) investigated information seeking behavior of academic scientists with a focus on availability of electronic resources for searching, retrieving, and reading scholarly materials. It was found that there exist significant changes in information seeking behavior of participant as majority of them depend on web based resources.

Patitungkho and Deshpande (2005) conducted a study on Information Seeking Behavior of the Faculty members of Rajabhat Universities in Bangkok, Thailand. The data were collected by using a questionnaire from seven faculties in Rajabhat Universities. The results showed that most of the respondents stated their method of seeking information was by consulting a knowledgeable person in the field.

A study was conducted by Saife (2004) investigating information needs and seeking behaviour of Tanzanian forestry researchers in the growing global electronic environment. A wide range of information needs was found among forestry researchers in the studied institutions. It was also found that printed sources are the most preferred source of information among the participants even though they use electronic information resources such as CD-Rom databases and Internet services in varying levels.

Meho, and Tibbo, (2003) Revised Davial Ellis's ISB model of Social Scientists which included six generic features such as starting, chaining, browsing, differentiating, monitoring and extracting. The authors included four additional features, namely accessing, metering, verifying and information managing besides the six features of Ellis' model.

Ileperuma (2002) conducted an investigation on the information gathering behaviour of arts scholars in Sri Lanka's universities. A questionnaire was used to collect both qualitative and quantitative data. It was found that the scholars gather information for three basic types of activities; teaching, research and administration. They were reported to spend 45-55 per cent of their time in the library and the majority of the respondents seek information "to keep up with current developments".

Vijayalaxmi and Maheswarappa, (2001) investigated information seeking behaviour of post graduate lady students of Gulbarga University, Gulbarga with special reference to types of information required, purpose of using information, methods used for keeping up-to-date, awareness, use and usefulness of information sources, information searching undertaken and frequency of visits to libraries etc. From the findings of the study, it is concluded that there is a need for educating post-graduate students in the use of information sources, library, and its services.

Table 1*Summary of the Studies on Information Seeking Behaviour*

Year	Author	Findings
2022	Mnguni and Kekana	Web as the major source of information amongst library and information studies undergraduate students and they seek information for purposes like: assignment completion, research and Google search engine was found as the most used tool for information searching
2022	Humbhi et al.,	Undergraduates do not visit the library frequently and Most of the students visit the library for study purposes, to prepare for either academic or job recruitment exams
2021	Ayinde, et al.	The major information sources among electorates is print media like newspapers and the young generation depend on social media for election-related Information and news
2021	Mabutho and Mostert	Researchers in ORI seek information to conduct research, write articles for publication, and to update their knowledge. They prefer searching the internet to satisfy their information needs and face challenges like Poor internet connectivity, outdated library materials, and lack of time and skills to search for information
2021	Skarpa and Garoufallou	Television, electronic press and news websites were found as more reliable than social media and the participant seek digital information through key word searching
2021	Neogi and Partap	76.40% of Agricultural Research Fraternity of West Bengal visited the library for issue/return of books, while 59.55% respondents visited the library for accessing electronic information resources. 69.66% of the respondents were seeking information from the library for research work, while 55% respondents seeking information specially for writing articles

Year	Author	Findings
2020	Ali and Jan	Information seeking behavior of PG social science students in University of Kashmir has been greatly influenced by the application of ICT
2020	Qin et al.	The engineers' information-seeking behaviour during their project work was influenced by newly emerging IT and web-based applications
2019	Howlader, and Islam	Most undergraduates visited library for academic and job-related information and their skills were poor and they were not aware of the library resources
2018	Tubachi	An attempt to define information seeking behaviour systematically by giving an overview of types of information and models of information seeking behaviour
2018	Trivedi and Bhatt	Female research scholars are reported to be little dominated in research work and the major purpose of seeking behaviour among research scholars is knowledge expansion and writing research and conference papers
2016	Balaji and Ragavan	Internet; online journals, print journals and books are the main formal sources for seeking information among research scholars and faculty members
2015	Ngozi et al.	Books are the most used printed sources of information and majority of faculty members seek information for academic and research purpose
2014	Kumar et al.	28.92% of the research scholars visit the library to seek information and internet speed should be enhanced and training should be organized for users.
2013	Sudha,	Majority of users seek information for research purpose only and more than 50.00% of the respondents were found to get assistance from the library staff for their information needs

Year	Author	Findings
2011	Al-Suqri	Information-seeking behavior follows universally applicable stages, and that the model can be applied to current-day information-seeking despite changes in the information environment
2011	Chopkar and Khaparde	Books were found to be most preferred sources of the information followed by newspaper and journals
2010	Sheeja,	Social science and science PhD students were found similar in several aspects of information-seeking behaviour
2009	Tahira and Amin	Both libraries and e-resources were found to play important role in meeting respondents' information needs; and the availability of information at one's fingertip has decreased number of visits to libraries
2009	Vezzosi	Internet is the most preferred source of information among doctoral students in the biology
2008	Choukhande and Kumar	Research scholars and faculty members prefer both formal and informal channels of the information dissemination
2007	Hemminger et al.	Majority of the participants depend on web based resources
2005	Patitungkho and Deshpande	Most of the respondents stated their method of seeking information was by consulting a knowledgeable person in the field
2004	Saife	Printed sources are the most preferred source of information among the participant even though they use electronic information in varying levels
2003	Meho and Tibbo	Revised Ellis's ISB model of Social Scientists
2002	Ileperuma	Scholars gather information for three basic types of activities; teaching, research and administration
2001	Vijayalaxmi, and Maheswarappa,	There is a need for educating post-graduate students in the use of information sources, library, and its services

Discussion

From the recent research studies available, it could be understood that the variable information seeking behaviour is frequently explored as it is fresh and relevant. Among the studies reviewed, most of the studies are found to highlight the need for equipping information seeker for effective use of information sources. Internet source was found to be as the most preferred source of information among the seekers by most of the study reviewed (Mnguni & Kekana, 2022; Ayinde et al., 2021; Skarpa & Garoufallou, 2021; Ali & Jan, 2020; Qin et al., 2020; Balaji & Ragavan, 2016; Kumar et al., 2014; Vezzosi, 2009; Hemminger et al., 2007; Saife, 2004). As per the studies reviewed, it could also be found that the most preferred purpose of seeking scholarly information among research scholars is to write articles for publication (Trivedi & Bhatt, 2018). Though many studies are available exploring information needs and seeking behaviour among information seekers, most of the studies focused on information seeking behaviour of students and none of the studies were found to be carried out among research scholars in social science in Kerala.

Theoretical Overview of Academic Procrastination Behaviour

“Procrastinatory behaviour is now a common phenomenon among students particularly at the college and university levels. This is recognized to be doing more harms than good to the academic achievement” (Akinsola et al., 2007, p. 363). Procrastination comes from the Latin “pro,” which means forward, and “crastinus,” which means of tomorrow (Mish, 1994). Procrastination is defined as the voluntary yet irrational delay of an intended course of action (Steel, 2007), and frequently results in unsatisfactory performance and emotional upset (Chu & Choi, 2005; Ferrari et al., 2005; Solomon & Rothblum, 1984). Procrastination is a common behavior in contemporary societies (Ferrari et al., 1995; Ferrari et al., 2005). The

tendency to put off things till last moment is a universal phenomenon and it takes different meanings in different time periods or cultures. It should have its impact on academic activities too and it happens with teachers as well as students of all ages whether those students are attending grade school or pursuing research.

Academic procrastination is defined as the intentional and needless deferral or delay of work that must be completed to the point of experiencing discomfort (Schraw et al., 2007; Solomon & Rothblum, 1984). Rothblum et al. (1986) defined academic procrastination as "the tendency to (a) always or nearly always put off academic tasks and (b) always or nearly always experience problematic anxiety associated with this procrastination. The procrastination behaviour can be seen on a wide variety of activities and in different academic contexts whether like submitting an assignment, completing a project. Moreover, individuals with tendency to delay normal things are supposed to procrastinate in specific tasks like academic activities because of a lack of understanding of the complexities of meeting deadlines, or because of an irrational belief. From the literature reviewed, it could be understood that, procrastination behavior is a multidimensional structure involving cognitive, emotional and behavioral processes with regard to both its causes and results. (Rothblum et al., 1986; Özer et al., 2009)

Causes of Academic Procrastination

There are some causes for academic procrastination as following.

Abilities and Psychological Belief

Students' lack self-confidence and irrational belief about their abilities to complete a task causes procrastination.

Distraction

It is related to those students who get distracted and deviated from academic task due to their interest and involvement in entertainment activities.

Procrastination with Social Factors

These can happen when a student feels himself socially backward or belonging to the family with poor background and low study level he goes on procrastination.

Lack of Administration Skills

Students' inability to judge the time taken to complete a task can result in procrastination as there is a mismatch in planning and execution of the tasks. If the tasks or assignments are planned properly and well executed, it increases the effectiveness. However, students who are high on procrastination are unable to manage their time well (Howell et al., 2006, pp. 1519-1530).

Lack of Interest

Some time students procrastinate in their academic tasks since they find it boring and no use.

Laziness

Laziness is also an important factor in procrastination.

Fear of Failure

Students who fear failure waste their precious time worrying about the final results or failure.

Perfectionism

People with idealistic expectation tend to procrastinate as they want time to finish the task perfectly

Theoretical Approaches Regarding Procrastination Behavior

There are lots of explanations based on different theoretical approaches and research outcomes to explain procrastination behaviour.

Psychoanalytic Theory

Fured and other researchers took efforts to explain academic procrastination behaviour for specific tasks psychologically and it was the first theoretical explanation of academic procrastination behaviour. As it is observed by Ferrari et al., (1995) psychoanalytic theory tried to explain procrastination as a kind of defense mechanism that ego adopts to defend itself from the anxious situation caused by incomplete works. Defense mechanisms cannot completely remove anxiety. When having experiencing the problem again, defense mechanisms will not be enough to decrease the anxiety

Psychodynamic Theory

Psychodynamic theorists have a different view of procrastination and they argue that childhood experiences have a huge impact on personality development and on the cognitive processes at adulthood period (Ferrari et al., 1995). They take improper parenting as the important factor in developing procrastination behaviour. According to these theorists, unrealistic expectations and high standard achievements set by the parents are considered as the most important reasons of procrastination behavior. Because, the kids who grew up with these kinds of parenting attitudes feel anxious and worthless at the times they fail, thus they show procrastination behavior.

Behavioral Theory

Berber and veOdei (2015) have identified that there is a negative correlation between academic procrastination behavior and self-efficacy of college students in their study regarding the question of to what extent does procrastination behavior explain students' fear of negative evaluation, sense of self, sense of self-efficacy, distorted beliefs. According to Behaviorist theory people exhibit procrastination

behavior since they are reinforced or not punished for this behavior (Ainslie, 1975).

Cognitive Behavioral Theory

Ellis and Knaus (1977) addressed procrastination behavior with human cognitive and behavioral structures. Cognitive behavioral theory argues that the thought, beliefs that child develops from his family since the childhood creates “the codes” of procrastination behavior that they will produce in the coming years (Burka & Yuen, 2008).

Temporal Motivation Theory: Core theory of The Procrastination Equation

Temporal Motivation Theory represents the most recent developments in motivational research; it is an integrative theory from which most other motivational theories can be derived. The theory explains why people make any decision by using an equation. According to this theory, our decision is influenced by motivation, expectancy and value. Motivation is the driving force which induces to take decision. Expectancy refers to the chance of having a positive result while value refers to how rewarding that result is. Naturally, we would like to opt tasks that give us a good chance of having a pleasing outcome.

Studies Related to Academic Procrastination Behaviour

Melgaard et al. (2022) conducted a study titled “Academic Procrastination and Online Learning During the COVID-19 Pandemic” to investigate the impact of procrastination on online learning during the COVID-19 pandemic. Significant difference was found between procrastinators and non-procrastinators regarding the desire to study and satisfaction with learning outcomes.

Fentaw et al. (2022) investigated Academic Procrastination Behavior among Public University Students in selected higher education institutions in the Amhara

Region, Ethiopia. According to the results, nearly 80 percent of the students were found to procrastinate, of which half always procrastinate due to poor time management skills, lack of planning for academic activities, laziness, and stress. It was also found that procrastination happens irrespective of gender and procrastination affects academic performance as well as emotional behaviour

Yang et al. (2021) in their study titled “The relations between academic procrastination and self-esteem in adolescents: A longitudinal study” investigate the relationship between academic procrastination and self-esteem in adolescents. The results revealed that (a) self-esteem was an antecedent of academic procrastination; (b) the self-esteem of the adolescent participants was declining while academic procrastination was gradually increasing; and (c) the initial level of self-esteem negatively predicted the initial level of academic procrastination and positively predicted the upward trend of academic procrastination, whereas the downward trend of self-esteem negatively predicted the upward trend of academic procrastination.

Gohain and Gogoi (2021) conducted a study on the Reasons of Academic Procrastination among College Students. The results of the study revealed that there are both high procrastinators and low procrastinators among college students due to various reason and 68.9% were found to be high procrastinators as they waited until a classmate did his or her so that he or she could give some advice.

Cıkrıkçı and Erzen (2020) studied the “Associations of academic procrastination, school attachment and Life Satisfaction” on a sample of 324 adolescents including 173 female and 151 male. It was found that there exists a significant association among academic procrastination, school attachment and Life Satisfaction. However, academic procrastination was reported to have to be partially mediating the association between school attachment and Life Satisfaction. It is further revealed that school attachment contributed to a decrease in academic procrastination and an increase in Life Satisfaction.

Amelia and Usman (2020) conducted a study titled “The effect of peer conformity, self-efficacy, academic procrastination and parenting style on student cheating behaviour” to determine and analyze the effect of self-efficacy, peer conformity, parenting style, and academic procrastination on student cheating behavior with the sample of 200 students from DKI Jakarta. Self-efficacy and Peer Conformity along with Parenting Style was found to affect the students’ cheating behaviour. It was also found that academic Procrastination has a big impact on cheating behaviour of students.

Kurtovic et al. (2019) conducted a study entitled “Predicting Procrastination: The Role of Academic Achievement, Self-efficacy and Perfectionism” among 227 University level students as the sample of the study using Tuckmans' procrastination scale, General self-efficacy scale and Almost perfect scale (Revised) to collect data. In the study, procrastination was found to be negatively correlated with all the three variables of the study. It was also found that there exists a positive correlation between maladaptive perfectionism and procrastination. Self-efficacy was found to have negative correlation with maladaptive perfectionism where as it was positively correlated with adaptive perfectionism.

Goroshit and Hen (2019) studied the relationship between academic procrastination and academic performance. The influence of learning disabilities was also examined. Academic procrastination was found to have a negative effect on GPA, which was found to be more in case of students with learning disabilities. From the results, it is also understood that higher levels of procrastination might prove to be more detrimental to the academic performance of the students with learning disabilities.

Afzal and Jami (2018) conducted a study Prevalence of Academic Procrastination and Reasons for Academic Procrastination in University Students to investigate the prevalence and reasons for academic procrastination in public

university students among 200 University students including 155 women and 45 men students from social and natural sciences departments. The result revealed that some important factors like risk taking, task aversiveness, and decision-making were significant predictors (reasons) for academic procrastination. It was also revealed that academic procrastination prevails at all three levels of education (M.Sc., M.Phil. and Ph.D.).

Investigating the relationship between academic procrastination & self-efficacy along with test-anxiety of the students, AI- Shagaheen (2017) reported that academic procrastination level among students was medium and that the dimensions of academic procrastination have interpreted as whole about of total contrast in the variable self-efficacy among students. A significant and positive statistical relationship was found to exist between academic procrastination and test anxiety among students.

Rebetez et al. (2015) conducted a study titled Cognitive, emotional, and motivational factors related to procrastination: A cluster analytic approach identifying four clusters of procrastination such as lower and higher scores of procrastination. The result is regarding the inner thoughts of relationship between the factors related to procrastination and self-regulated difficulties which results in trait procrastination.

Karmen et al. (2014) investigated associations between academic performance, academic attitudes, and procrastination in a sample of undergraduate students attending different educational forms focusing on differences between attitudes toward school, procrastination and academic performance among traditional and distance learning university students. Weak to medium associations was found to exist between some aspects of procrastination and the academic attitudes of students.

Balkis (2013) conducted a study “Academic Procrastination, Academic Life Satisfaction and Academic Achievement: The mediation role of rational beliefs about studying” among 290 undergraduate level students. Negative correlation was found between academic procrastination and academic life satisfaction. It is also revealed that there exists a negative significant correlation of academic procrastination with rational beliefs about studying and academic achievement. In addition, a positive correlation was found to exist between academic achievement, academic life satisfaction and rational beliefs regarding studying

In their study titled “The Relationship between the Academic Procrastination and Self-Efficacy among Sample of King Saud University Students”, AlQudah et al. (2012) explored the relationship between the academic procrastination and self-efficacy among students of King Saud University. Statistically significant differences were reported at the level of academic procrastination due to level of achievement for favour of group who get (acceptable) in their achievement. It also found that academic procrastination was not significantly influenced by the type of college and the academic achievement.

Attempts were made by Lakshminarayan et al. (2012) to investigate the relationship between Procrastination and Academic Performance among a group of Undergraduate Dental Students in India. The sample of the study consisted of 209 second-, third-, and fourth-year undergraduate dental students of Bapuji Dental College and Hospital, Davangere. Data related to academic procrastination were collected by using a sixteen-item questionnaire and they were used to assess the level of procrastination among these students. The correlation between academic procrastination and performance was found by using Spearman’s correlation coefficient. The results of the study revealed that students’ academic procrastination is negatively correlated to academic performance and who showed high procrastination are reported to perform below average in their academics.

Pala et al. (2011) conducted a findout to study the academic procrastination behavior among 366 pre-service teachers of the University of Manisa, Turkey. In the study, male students are reported to procrastinate more in their academic works. Based on subject of their study both Letters students and English Literature students were found to procrastinate more than Biology as well as Turkish Literature students. Further it was found that there exists no difference on the bases of grade level and socio-economical degree.

Jiao et al. (2011) conducted a study titled “Academic procrastination and the performance of graduate-level cooperative groups in research methods courses” to investigate the extent to which academic procrastination predicted the performance of cooperative groups in graduate-level research methods courses. It was found that level of academic procrastination appears to play an important role among graduate students with respect to the performance of cooperative learning groups

Eraslan (2010) conducted a study titled ‘Relationship among perfectionism, academic procrastination and life satisfaction of university students to investigate whether perfectionist personality trait in university students predicts their academic procrastinations and life satisfactions. Data were collected from 230 students attending Anadolu University using multidimensional perfectionism scale for perfectionist personality trait, Procrastination Assessment Scale- for academic procrastination, and Life Satisfaction Scale for life satisfaction. Results revealed that self-oriented perfectionist personality trait significantly predicted academic procrastination and life satisfaction.

Balkis and Duru (2009) investigated the prevalence of academic procrastination behavior among pre-service teachers, and its relationship with demographics and individual preferences among 580 students studying in different major fields at the Faculty of Education in Pamukkale University. 23% of pre-service teachers were reported to be high procrastinators. Other findings indicated

that procrastination behavior significantly differed by gender, time preferences for studying courses and exams, and was negatively related to academic achievement. Implications of the findings are discussed and some suggestions are made for the educators and counselors.

Tan et al. (2008) examined relationship between academic procrastination and students' grade goals in a sample of 226 undergraduate students (54 males and 172 females) pursuing a major in Education from National Institute of Education, Nanyang Technological University in Singapore. Findings indicated that self-efficacy for self-regulated learning was significantly and negatively related to procrastination

Howell et al. (2006) examined behavioural evidence of temporal discounting among procrastinators and they further studied the relationship between self-regulation - namely, self-reported procrastination, implementation intentions, say-do correspondence, and perceived academic control-and behavioural postponement. Results revealed strong behavioural evidence of temporal discounting, especially among those who identified themselves as procrastinators. Among the self-regulation measures, only say-do correspondence was found to be consistently correlated with procrastination.

Andrew et al. (2006) attempted to study pattern of temporal discounting in students' assignment submission. They further examined whether variables related to self-regulation - namely, self-reported procrastination, implementation intentions, say-do correspondence, and perceived academic control - correlated with behavioural postponement. Strong behavioural evidence of temporal discounting, were found among the participants especially among those who identified themselves as procrastinators.

Lee (2005) in his study titled "The Relationship of Motivation and Flow Experience to Academic Procrastination in University Students" examined the relationships of motivation and flow experience to academic procrastination in 262

Korean undergraduate students. It was revealed that high procrastination was associated with lack of self-determined motivation and low incidence of flow state.

In his study titled “Academic procrastination: prevalence, self-reported reasons, gender difference and it's relation with academic achievement” Özer (2005) examined the undergraduate students' level of academic procrastination in relation to gender on 784 undergraduate students from different grades and 37 departments of Middle East Technical University. 52% of METU students were found to procrastinate on their academic tasks and male students are reported to procrastinate more than female students.

Onwuegbuzie (2004) investigated the relationship between academic procrastination and six dimensions of statistical anxiety collecting data from 135 graduate students enrolled in three sections of a required introductory-level educational research course at a university in the southeastern part of the USA. It was found that a high percentage of students reported problems with procrastination on writing term papers, studying for examinations, and completing weekly reading assignments.

Table 2

Summary of the Studies on Academic Procrastination

Year	Author	Findings
2022	Melgaard, et al.	Significant difference was found between procrastinators and non-procrastinators regarding the desire to study and satisfaction with learning outcomes
2022	Fentaw et al.	80 percent of the students were found to procrastinate, of which half always procrastinate due to poor time management skills, lack of planning for academic activities, laziness, and stress. Procrastination happens irrespective of gender and procrastination affects academic performance as well as emotional behaviour

Year	Author	Findings
2021	Yang et al	Self-esteem of the adolescent participants was declining while academic procrastination was gradually increasing
2021	Gohain and Gogoi	68.9 percent were found to be high procrastinators as they waited until a classmate did his or hers so that he or she could give some advice
2020	Cıkırcı and Erzen	There exists a significant association among academic procrastination, school attachment and Life Satisfaction
2020	Amelia and Usman	Academic Procrastination has a big impact on cheating behaviour of students
2019	Kurtovic et al.	Procrastination was found to be negatively correlated with all the three variables namely Academic Achievement, Self-efficacy and Perfectionism
2019	Goroshit and Hen	Academic procrastination was found to have a negative effect on academic performance
2018	Afzal and Jami	Important factors risk taking, task aversiveness, and decision-making were significant predictors (reasons) for academic procrastination. Academic procrastination prevails at all three levels of education (MSc, MPhil and PhD)
2017	AI- Shagaheen	Significant and positive statistical relationship was found to exist between academic procrastination and test anxiety among students
2015	Rebetez, et al.	Inner thoughts of relationship was found between the factors related to procrastination and self-regulated difficulties which results in trait procrastination
2014	Karmen et al.	Weak to medium associations was found to exist between some aspects of procrastination and the academic attitudes of students
2013	Balkis	Negative correlation was found between academic procrastination and academic life satisfaction

Year	Author	Findings
2012	AlQudah et al.	Statistically significant differences were reported at the level of academic procrastination due to level of achievement for favour of group who get (acceptable) in their achievement
2012	Lakshminarayan, et al.	Students' academic procrastination is negatively correlated to academic performance and who showed high procrastination performed below average in their academics
2011	Pala et al.	Male students are reported to procrastinate more in their academic works
2011	Jiao et al.	Level of academic procrastination appears to play an important role among graduate students with respect to the performance of cooperative learning groups
2010	Eraslan	Results revealed that self-oriented perfectionist personality trait significantly predicted academic procrastination and life satisfaction
2009	Balkis and Duru	Procrastination behavior significantly differed by gender, time preferences for studying courses and exams, and was negatively related to academic achievement
2008	Tan et al.	Self-efficacy for self-regulated learning was significantly and negatively related to procrastination
2006	Howell et al.	There exists strong behavioural evidence of temporal discounting, especially among those who identified themselves as procrastinators
2006	Andrew et al.	Strong behavioural evidence of temporal discounting, was found among the participants especially among those who identified themselves as procrastinators
2005	Lee	High procrastination was associated with lack of self-determined motivation and low incidence of flow state

Year	Author	Findings
2005	Özer	52% of Middle East Technical University students were found to procrastinate on their academic tasks and male students are reported to procrastinate more than female students
2004	Onwuegbuzie	High percentage of students were reported problems with procrastination on writing term papers, studying for examinations, and completing weekly reading assignments

Discussion

As procrastination is a universal fact it is always explored by researchers. The most of the studies reviewed underlined the influence of procrastination on academic performance. (Fentaw et al., 2020; Cıkrıkçı et al., 2020; Kurtovic et al., 2019; Al-Shagaheen, 2017; Karmen et al., 2014; Balkis, 2013; Lakshminarayan et al., 2102; Balkis and Duru, 2009). In the review process, it is observed that there are studies which support the claim that academic procrastination of the students was influenced by gender (Özer, 2005; Balkis & Duru, 2009; Pala et al., 2011). Afzal and Jami (2018), reports that academic procrastination prevails at PhD level. Though the variable academic procrastination is much explored, none of the study could be found to be carried out to investigate academic procrastination of research scholars.

Ethical Considerations in Social Science Research

Research ethics refer to the specific principles, rules, guidelines, and norms of research-related behavior that a research community has decided as proper, fair, and appropriate (Davis & Lachlan, 2017, p.108). As Debnath and Chatterjee (2021) reports Research ethics empowers researchers and the academic community with knowledge about accepted norms and values associated with research activity. It helps in disseminating guidance and advice to researchers about the do's and don'ts

of research. Like any research activity, social studies too have an impact on society (Debnath, & Chatterjee, 2021). As social research mainly deals with social problems, it helps for decision-making and allocation of resources amongst the public. Therefore, it is important to keep ethical norms while conducting research. Just distribution of resources by considering different cultural traditions, facilitating different understandings, and solving complex moral dilemmas can be ensured through research ethics. There are various reasons behind the low standard of research in social sciences, but the most important reason is related with the ethics of research. The ethics is closely related with moral and value, it teaches the society what is wrong and what is right? The most of social scientists are defining "ethics as norms for conduct that distinguish between acceptable and unacceptable behavior in research" (Sen, & Nagvanshee, 2016, p.37). Maintaining ethics and scientific temperament in social research is a very difficult task as the major area of social science research like human choices, values, actions and norms, beliefs, culture, language, etc. are subjective in nature and highly unpredictable.

The social science research has been playing a key role in our community. Accordingly, the discussion on ethical considerations in research started centuries before. It was Plato who first raised the issue of ethics almost twenty-four hundred years ago. Still, ethical problems are continuously reported in social science research. It is the ethical responsibility of the researcher to keep honesty and integrity in his research because unethical practices lead to fabrication of results.

History of Ethical Issues in Research

Serious discussions were held among the scientific community about the urgent need to set down ethical rules for researchers that they must follow while conducting research on the background of the Nuremburg trials held in 1945-46, at which several Nazi scientists conducted inhuman experiments on Jewish

inmates of the concentration camps adopting brutal methods which shocked the entire world. Accordingly, the ethical guidelines for conducting research involving human beings known as the Nuremburg Code (1947), were published prohibiting any such scientific experiments involving human being without his or her consent. The Nuremburg Code strongly advocated that any experiment which may lead to disability or death must be prohibited and it should be ensured that no harm should come to a research subject while conducting experiment. Based on The Nuremburg Code several such guidelines have been adopted by various professional associations and research councils. Ethical Guidelines for Biomedical Research on Human Participants (2006) issued by the Indian Council of Medical Research and the Ethical Guidelines for Social Science Research in Health (2000) issued by the National Committee for Social Science Research in Health (India) are among them. All these guidelines highlight the following basic principles:

1. As research is a voluntary activity and care must be taken to carry research activity only when it produces benefits for humanity.
2. Research must not be undertaken to serve the vested interest of any individual or group
3. No Research on human beings must be carried out without their prior knowledge and consent.
4. All human beings have the right to participate voluntarily in research or not.
5. Researches leading to harm to any participant must be prohibited

The Belmont Report

The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, USA has given some guideline and ethical

principles to be kept while involving Human Subjects for Biomedical and Behavioral Research.

Basic Ethical Principles of Social Science Research

There are four basic principles for ethical considerations in research.

The Principle of Non-maleficence. No harm should be made to the participants in particular and to people in general while conducting research.

The Principle of Beneficence. The research must make significant contribution for the benefits of the society

The Principle of Autonomy. The rights and dignity of participants must be protected.

The Principle of Justice. The benefits and risks of research should be fairly distributed among people.

Major Ethical Issues in Social Sciences

As Sanjari et al. (2021) reports, researchers face ethical challenges in all stages of the study, from designing to reporting. These include anonymity, confidentiality, and informed consent, researchers' potential impact on the participants and vice versa. The major ethical issues in Social sciences research can be summarized as ethics related with the research process, data collection, interpretation of data, report writing, publication of paper, confidentiality, anonymity and plagiarism

Issues Related to Participant

The researcher must take extreme care to respect the individuality of the participants as they are subjected to an investigation which never brings any benefits

to them as the research is carried out for the benefits of researcher in form of getting research degree, or writing research paper etc. Therefore, extreme care must be taken to explain the objectives and nature of the study to the participants before collecting data. The participants should be made well aware of the nature of the study before taking part and were given chance to participate voluntarily, with the assurance of confidentiality of their identity. A pilot study to have an idea about possible cross questions and doubts of the participants is to be carried out. The following things must be taken in to account while selecting the participants.

Informed Consent. Informed consent is an ethical and legal requirement for research involving human participants. It is the process where a participant is informed about all aspects of the trial, which are important for the participant to make a decision and after studying all aspects of the trial, the participant voluntarily confirms his or her willingness to participate in a particular clinical trial and significance of the research for advancement of medical knowledge and social welfare (Nijhawan et al., 2013). Therefore, the researcher must inform a participant about the objectives of the study, what they are supposed to do, and the way in which their data would be used.

Number of Participants. It is the responsibility of the researcher to ensure sufficient number of participants as the results of the study would be generalized. According to Salant and Dillman (1994), the size of the sample is determined by four factors: (1) how much sampling error can be tolerated; (2) population size; (3) how varied the population is with respect to the characteristics of interest; and (4) the smallest subgroup within the sample for which estimates are needed. In quantitative studies, sample size can be estimated with a power analysis. 'Statistical power' in hypothesis testing signifies the probability that the test will detect an effect that actually exists. By calculating the power of a study, it becomes possible to determine the required sample size, given a particular statistical method, and a

predetermined degree of confidence (Bos, 2020). Measuring quality in qualitative research is a contentious issue with diverse opinions and various frameworks available within the evidence base (O'Reilly, ,& Parker, 2013, p. 190)

Vulnerable Participants. The concept of vulnerability has held a central place in research ethics guidance since its introduction in the United States Belmont Report in 1979. It signals mindfulness for researchers and research ethics boards to the possibility that some participants may be at higher risk of harm or wrong (Bracken-Roche et al., 2017). As they are at higher risk of harm or wrong, it may be problematic to seek the cooperation of vulnerable people and these groups need special attention. Therefore, care must be taken by the researcher to give them special consideration and care. When data are to be collected from minors and children the researcher must take special consideration from both a moral and a legal perspective. It is compulsory to get consent from the parents or legal representatives of a child.

Fieldwork and Data Collection

It is essential to take in to account some important things when planning to collect data. If the samples are students, it is essential to take formal permission from the head of the institute. Once the consent has been given by the respondents to participate in research process, care must be taken to ensure their active participation and cooperation till the end of the study. Steps should be taken to ensure that the participants must not feel deceived and they are comfortable. Some participants may be found not to answer some question, so that it is advisable to collect data from more participants.

Analysis and Interpretation

Data analysis is an important stage in research process which is prone to unethical practices. Therefore, due attention should be paid by the researchers to avoid undesirable research practice and misconduct as the results produced by the

research is subjected to further decision and policy making by others. Manipulations of data like falsification and fabrications and misinterpretation of results are commonly reported unethical practices in this stage.

Falsification and Fabrication. Fabrication is commonly referred to as the act of making up data and reporting the make-up data as the correct data (Kang, & Hwang, 2020). It is a questionable behaviour among some researcher that they make up data in favour of their study and produce results based on these false data. They try to cheat and fraud the academic community by pretending to present their results based on the original data. Fabrication is treated as serious research misconduct as the researcher took no efforts to collect data from the sample, but they cook data themselves to get expected results. Falsification, on the other hand, refers to the practice of changing or omitting the collected data to present an incorrect research result (Martyn, 2003). When a researcher tries to falsify data what he does is really against ethical practices and he tries to mislead his readers through falsification. Here, the researcher takes efforts to collect data from the sample, but he tries to change or add or omit data to produce expected results. This happens normally when the investigator fails to collect data from sufficient number of samples or when the collected data produce unexpected results. In short, as Chaddah (2021) observed Fabrication is the act of concocting results, of reporting observations that were never made, of inventing something in order to deceive. Falsification is to alter (information, data, a document, or evidence) so as to mislead.

Report Writing

It is the stage where it is common to become unethical among the researchers through plagiarism even though they were honest in previous stages. Plagiarism happens when the researcher tries to present results of other's intellectual efforts or contribution as one's own or without proper acknowledgement. The term 'plagiarism' originates from the Latin word "plagium", which means kidnapping.

Therefore, in academia plagiarism refers to unethically copying another's ideas, work or words without giving the appropriate credit. (Padmaperuma et al., 2020, p.1) There are different types of plagiarism.

Intentional or Unintentional. Intentional plagiarism is the process of stealing or copying the whole text, or part, or data from other authors intentionally and deliberately to present as one's own without giving credits to authors. Sometimes the researcher may copy from other authors without proper knowledge about citation and research ethics. This type of plagiarism is called as unintentional plagiarism.

Direct Plagiarism. This "word-to-word" plagiarism happens when an author tries to copy complete sentences, paragraph, tables or even pictures from other sources without acknowledgement.

Mosaic/Patch writing. This plagiarism occurs when the researcher tries to replace or rephrase words or sentences of the copied text without giving credit to author. Here the author retains the significant part of original work with replacement of only a few words. Patch writing refers to the act of copying from multiple sources and mixing them together.

Self-Plagiarism. This happens when an author tries to copy or re-uses a significant part of his previously published article without proper citation. Submitting same articles to multiple publishers without mentioning properly is also a sort of plagiarism

Source-based Plagiarism. Source-based plagiarism is very difficult to find out. This happens when a researcher tries to cite an incorrect source or a source that does not exist. Sometimes the researcher cites only the primary source without acknowledging the secondary source which he uses for information.

Studies Related to Ethical Considerations in Research

Hosseini et al. (2022) conducted a study titled “Ethical Issues in Social Science Research Employing Big Data” to analyze the ethics of social science researchers (SSR) employing big data. Three clusters of ethical issues: those related to methodological biases and personal prejudices, those connected to risks arising from data availability and reuse, and those leading to individual and social harms were discussed in the study with a special focus on the principles of honesty, carefulness, openness, efficiency, respect for subjects, and social responsibility.

Newman, et al. (2021) conducted a study titled Ethical Considerations for Qualitative Research Methods during the COVID-19 Pandemic and Other Emergency Situations: Navigating the Virtual Field to investigate core ethical and methodological considerations in the design and implementation of qualitative research in the COVID-19 era. Attempts were made to critically evaluate measures to address core ethical challenges around informed consent, privacy and confidentiality, compensation, online access to research participation, and access to resources during a pandemic.

Alam and Matin (2021) discussed the ethics and ethical issues in the process of social science research involving human beings and animals. Attempts were also made to investigate the academic freedom and responsibilities of the researcher. Detailed discussion about guiding ethical principles such as autonomy of researchers and academic institutions, free and informed consent from participants, privacy and confidentiality, harms and benefits and respect for a vulnerable person was also made.

Davies (2020) conducted a study entitled “The introduction of research ethics review procedures at a university in South Africa: review outcomes of a social

science research ethics committee” to study research ethics outcomes of a social science research ethics committee in a Business Faculty at a South African university during its seminal period of operation (2010–2015). The results show the increasing workload of the REC with favourable scores for submission/review processes and minute-taking.

Kaewkungwal and Adams (2019) in their study titled “Ethical Considerations of the research proposal and the informed-consent process: An online survey of researchers and ethics committee members in Thailand” explored the opinions of researchers and ethics committee members about the importance of core ethical issues in the proposal and in the informed-consent process. Data were collected using an anonymous online questionnaire from 219 researchers and 72 REC members. Significant difference could be found between REC members and researchers as REC members attributed the highest importance to three core ethical considerations – risk/benefit, vulnerability, and confidentiality/privacy.

In his study titled *Issues in social sciences and ethical values-an over view*, Parameshwara (2019) conducted a review of available literature of 20 various research efforts from 1982 to 2014 on Ethical Issues in Social Science Research in Developing Countries. After identifying significant issues regarding of research ethics, it was found that ethical issues are mostly reported in developing countries. The finding also suggests that Complex ethical issues in such countries need careful justification by social science researchers.

Thakur and Lahiry (2019) investigated the research ethics in modern era. Number of ethical issues related to randomized controlled trials, informed consent, therapeutic misconception, placebo-controlled studies and assay sensitivity in clinical research were discussed.

Ana et al. (2019) carried out a study titled “Ethical Considerations in social work research: The nature of embedded ethical dilemmas”, with special focus to the challenges related to the principle of non-maleficence and to the role of the researcher. Essential recommendations and resources to build ethical awareness and research integrity were discussed in the study with examples.

Bhagat and Sahi (2018) conducted a review of the quality of social science research in India. Attempts were made by the authors to provide a baseline understanding of social science research and its objectives. Review of present literature of the quality of social science research in India has also been carried out. Certain procedures to enhance the quality of social science research in the Indian setup were also suggested.

Gul et al. (2018) examined the perceptions and practices of research students towards ethical concerns in conducting social sciences research. Sample was selected from 26 public universities selected from all administrative areas of Pakistan. Data were collected using document review and a self-developed questionnaire. It was found that students were not completely aware of the ethical norms of their research in social sciences. Most of the research students were found not to keep ethical considerations in their study in social sciences.

The study carried out by Ferris and Winker (2017) discusses ethical issues in publishing predatory journals. Misrepresentation, lack of editorial and publishing standards and practices, academic deception, research and funding wasted; lack of archived content, and undermining confidence in research literature were reported as the major ethical issues. The authors urge necessary steps to be taken by the scholarly community, including authors, institutions, editors, and publishers, to support the legitimate scholarly research enterprise, and to avoid supporting predatory journals

Agwor and Osho (2017) discussed about Ethical issues in conducting research in the behavioral and social sciences. Ethical issues at each stages of

conducting research right from conceptualization of the research problem up to the dissemination of the research findings were the core of their study. The authors urge all the all researchers in the fields that constituted the social and behavioural sciences to consider ethical issues as very important to maintain and sustain the integrity of research

Sen and Nagwanshee (2016) made an attempt to discuss the importance of the role of the internet for conducting high-quality research. The study also discussed ethical issues in social science research. This descriptive study is based on the secondary data and literature. In the lights of recent allegation against academicians holding big positions, the study highlights the ethical considerations to be kept while conducting social science research.

Curty (2016) in his study titled “Factors influencing research data reuse in the social sciences: An exploratory study” attempts were made to identify and categorize factors influencing research data reuse in the social sciences. The author interviewed 13 social scientists who produced 25 factors that were found to influence their perceptions and experiences, including both their unsuccessful and successful attempts to re-use data. The factors were further grouped into six theoretical variables: perceived benefits, perceived risks, perceived effort, social influence, facilitating conditions, and perceived re-usability.

The study carried out by Sanjari et al. (2014) titled “Ethical challenges of researchers in qualitative studies: the necessity to develop a specific guideline”, discussed the necessity to develop explicit guidelines for conducting qualitative studies with regard to the researchers’ role through a literature review carried out in domestic and international databases. The study highlighted that researchers face ethical challenges like anonymity, confidentiality, informed consent in all stages of the study, from designing to reporting.

Ramzan et al. (2012) conducted a study on Awareness about Plagiarism amongst University Students in Pakistan to highlight the seriousness of plagiarism amongst graduate and post graduate students of Pakistan on a total of 365 graduate and post graduate students of randomly selected public and private sector universities. Data were collected by using a self-reported questionnaire. The awareness about plagiarism and university plagiarism policies and processes amongst the students was found to low and many respondents were reported not to have basic idea about plagiarism.

Kar (2011) conducted a study titled “ethics in research” to discuss the importance of ethics as related to planning conducting, and publishing research. Legal issues which are relevant to research process have been discussed in detail in this article. It was also revealed that researchers, ethic committee and journal editors have considerable concern about research misconducts.

Sanmukhani and Tripathi (2011) conducted a study on Ethics in clinical research: the Indian perspective focusing largely on identifying and implementing the acceptable conditions for exposure of some individuals to risks and burdens for the benefit of society at large.

In his study titled “Research Ethics Review and the Sociological Research Relationship” Hedgecoe (2008) examined how research ethics committees assess applications from social scientists, particularly those proposing qualitative research by using ethnographic data from a study of UK. The results challenged the idea that RECs are somehow ideologically biased against qualitative research and that they cannot give an adequate assessment of applications from sociologists and other social scientists.

Wiles et al. (2006) conducted a study titled “Researching researchers: lessons for research ethics on an ESRC-funded study of informed consent in social research” to explore the ethical issues while conducting research with one’s peers. Data were collected conducting focus groups and telephone interviews with academic and non-

academic researchers. The study highlighted ethical issues related to consent, data ownership and the management of confidentiality and anonymity.

Haggerty (2004) carried out an investigation titled “Ethics creep: Governing social science research in the name of ethics”. In this study the author made an analysis of the Canadian ethics review process by a member of a Research Ethics Board. The author suggests that the new formal system for regulating the ethical conduct of scholarly research is experiencing a form of ethics creep.

Table 3

Summary of the Studies on Ethical Considerations in Research

Year	Author	Findings
2022	Hosseini et al.	Ethical issues related to methodological biases and personal prejudices, those connected to risks arising from data availability and reuse, and those leading to individual and social harms were discussed
2021	Newman et al.	Critical evaluation of measures to address core ethical challenges around informed consent, privacy and confidentiality, compensation, online access to research participation, and access to resources during a pandemic
2021	Alam and Matin	Detailed discussion about guiding ethical principles such as autonomy of researchers and academic institutions, free and informed consent from participants, privacy and confidentiality, harms and benefits and respect for a vulnerable person
2020	Davies	Results show the increasing workload of the Research Ethics Committee with favourable scores for submission/review processes and minute-taking
2019	Kaewkungwal and Adams	Significant difference could be found between Research Ethics Committee members and researchers as REC members attributed the highest importance to three core ethical considerations – risk/benefit, vulnerability, and confidentiality/privacy.

Year	Author	Findings
2019	Parameshwara	Ethical issues are mostly reported in developing countries. The finding also suggests that Complex ethical issues in such countries need careful justification by social science researchers
2019	Thakur and Lahiry	Number of ethical issues related to randomized controlled trials, informed consent, therapeutic misconception, placebo-controlled studies and assay sensitivity in clinical research were discussed.
2019	Ana et al.	Essential recommendations and resources to build ethical awareness and research integrity were discussed in the study with examination of ethical awareness.
2018	Bhagat and Sahi	Review of present literature of the quality of social science research in India has been carried out. Certain procedures to enhance the quality of social science research in the Indian setup were also suggested
2018	Gul et al.	Students were not completely aware of the ethical norms of their research in social sciences. Most of the research students were found not to keep ethical considerations in their study in social sciences.
2017	Ferris and Winker	Misrepresentation, lack of editorial and publishing standards and practices, academic deception, research and funding wasted; lack of archived content, and undermining confidence in research literature were reported as the major ethical issues
2017	Agwor and Osho	Ethical issues at each stages of conducting research right from conceptualization of the research problem up to the dissemination of the research findings were the core of their study
2016	Sen and Nagwanshee	In the lights of recent allegation against academicians holding big positions the study highlights the ethical considerations to be kept while conducting social science research

Year	Author	Findings
2016	Curty	Attempts were made to identify and categorize factors into six theoretical variables: perceived benefits, perceived risks, perceived effort, social influence, facilitating conditions, and perceived re-usability
2014	Sanjari et al.	The study highlighted that researchers face ethical challenges like anonymity, confidentiality, informed consent in all stages of the study, from designing to reporting
2012	Ramzan et al.	The awareness about plagiarism and university plagiarism policies and processes amongst the students was found to low and many respondents were reported not to have basic idea about plagiarism
2011	Kar	Researchers, ethic committee and journal editors have considerable concern about research misconducts
2011	Sanmukhani and Tripathi	Identified and implemented the acceptable conditions for exposure of some individuals to risks and burdens for the benefit of society at large
2008	Hedgecoe	The results challenged the idea that RECs are somehow ideologically biased against qualitative research and that they cannot give an adequate assessment of applications from sociologists and other social scientists
2006	Wiles et al.	The study highlighted ethical issues related to consent, data ownership and the management of confidentiality and anonymity
2004	Haggerty	The author suggests that the new formal system for regulating the ethical conduct of scholarly research is experiencing a form of ethics creep

Discussion



The review of the available study highlights the fact that ethical issues are reported in all the stages of research (Sanjari et al., 2012). The studies also report that unethical practices are found among academicians with high profile and big position (Sen & Nagwanshee, 2016). Researchers in social science were not

completely aware of the ethical norms and principles in social sciences. Most of the research students were found not to keep ethical considerations in their study in social sciences (Gul et al., 2018). The studies in the area are found to be less in number and almost all the studies are qualitative in nature highlighting theoretical aspects of research ethics. No study was conducted to find out ethical considerations among research scholars in social science.

Conclusion

Care was taken to have a detailed analysis of the both Indian and international studies already carried out by various researchers on select variables. The review of the studies helped the investigator a lot in identifying the research gap and selecting appropriate instruments and techniques. The review also threw lights on the some important dimensions that helped the investigator in formulating research questions and hypotheses. The different information seeking model helped the investigator to identify major themes to be included in questionnaire and the areas to be explored. The studies on academic procrastination stressed important causes and correlates of academic procrastination and on the basis of those factors the relevant areas to be assessed could be identified. Some of the studies also investigated the influence of gender on academic procrastination and most of the studies supported the claim that procrastination causes poor performance among researchers. Studies on ethical considerations in research discussed the important ethical principles to be kept while carrying out any research project.

METHODOLOGY

- 
- *Variable of the study*
 - *Design of the study*
 - *Sample selected for the study*
 - *Tools used for data collection*
 - *Data collection procedure*
 - *Scoring and consolidation of data*
 - *Statistical techniques used for data collection.*
 - *Techniques used for classification of select variables*
- 

The role of methodology is to help the investigator to carry on the research work in a scientific and valid manner. The Methodology adopted for the present study is presented under the following main headings.

- Variables of the study
- Design used for the study
- Sample selected for the study
- Tools used for data collection
- Data collection procedure
- Scoring and consolidation of data
- Statistical techniques used for data collection
- Techniques used for classification of select variables

Variable of the Study

As per the problem selected, the variables of the study are information seeking behavior, procrastination behavior and ethical considerations in research.

Rational for Selecting the Variables

As Kaur (2019) reported, the innovations in the field of Information Communication Technologies (ICTs) and electronics have caused radical changes in the process of seeking scholarly information from various sources. In this changed new electronic environment, the increase in information has affected information seeking behaviour of the users by means of active examination of information sources or information retrieval system to satisfy the information needs. Availability of information in digital sources has influenced the social science researchers too in the process of seeking information. They need to access such emerging resources for various reasons. They are, in fact, one of the major groups of users consuming, utilizing, producing and disseminating information at a high rate, (Gaddimani,

2020). Hence, it is important to study their information seeking behaviour in this new digital environment. Moreover, any study on the quality of research shall begin with research scholars' information seeking behaviour as it should affect the quality and integrity of their research results.

Procrastination Behaviour

As every academic activity, procrastination has its consequences in research too. The nature of research demands continuous and tireless works from research scholars. Accordingly, the scholars are prone to procrastination if their work is not systematically planned and scheduled. Moreover, in the present technology driven world order, procrastination has become a major challenge among research scholars because technology has opened the door before them to virtual global world where they are exposed to plenty of tasks and activities. Steel (2007) pointed out that procrastination affects the self-efficacy and self-actualization, distractibility, impulsiveness, self-control and organizational behavior of the students. Research has shown that academic procrastination negatively affects academic performance (Beck et al., 2000; Wang & Englander, 2010). It is obvious that procrastination leads to performance decline. Needless to say, the procrastination shall induce the research scholars to complete their research work at the eleventh hour compromising its quality. Therefore, any study meant to enhance the quality of research work shall have its concern on procrastination behaviour of research scholars

Ethical Considerations in Research

The credibility and integrity of the research results strongly depends on the authenticity of the data that have been published. Many unethical practices have been reported in the field of research recently. As it is observed by Brainard and You, (2018) research misconduct is not uncommon. Johnson, et al., (2018) observed

that Research publications across the world have grown at a compounded annual growth rate of approximately three percent over the past two centuries. A report released by the International Consortium of Investigative Journalists (ICIJ) publicized the results of an analysis of 175,000 scientific papers which were published by two of the world's largest pseudo-scientific platforms. The consortium observed that researchers from all over the world, including authors affiliated with universities in Flanders, had published in questionable journals (Eykens et al., 2019). Considerations of the quality of research involve understanding what quality is and what are its parameters. It is universally agreed that high quality of research refers to a process that covers all aspects of the object of study by raising pertinent questions and arriving at reliable answers which significantly enhance the prevailing knowledge base and create new knowledge (UGC Public Notice, 2019). Hence, consideration of ethics needs to be a critical part of the substructure of the research process from the selection of the problem to the interpretation and publishing of the research findings. Awareness of research ethics demands the researcher more responsible for obtaining information in the right way which is original and confidential (Gul et al., 2018). Social science research has long been concerned with ethical issues. Social science investigates complex issues which involve cultural, legal, economic, and political phenomena (Taylor, 1994). This complexity means that social science research must concern itself with "moral integrity" to ensure that research process and findings are "trustworthy" and valid (Biber, 2005). Therefore it is essential for researchers in social science to keep ethical considerations in each phase of their research.

Categorical Variables

The following categorical variables were used to sub divide the total samples in to sub samples.

Gender

In their study titled Gender differences in information seeking behavior in three universities in West Bengal, India, Halder et al. (2010) reported that Significant differences were noted in most of the domains of information seeking behavior with respect to gender (male and female). Steel and Ferrari (2013) report that men are reported to procrastinate more than women because the identified key determinants of procrastination including higher levels of impulsiveness and lower levels of self-control are found to be more prevalent in men than women. Females may try to avoid the negative consequences of cheating and tend toward ethical action (Becker & Ulstad, 2007, 77-91). Ameen et al., (1996) also reported gender difference in ethical considerations. In the present study, gender refers to those biological distinctions which differentiate male research scholars from female research scholars.

Mode of Research

There are two modes of research that, the research scholars prefer to do their research. Full time researchers are regularly attending their institute and they are not engaged with any other task till the completion of their research study as they registered for the PhD degree devoting full time for completing the degree requirements. Part time research scholars devote a part of their time for pursuit of research as they are already engaged with some other duties. As mode of research has a significant influence on information seeking behavior, procrastination and ethical considerations in research among research scholars attempts were made to study its influence.

Design of the Study

Keeping in the mind the nature and type of research problem as well as the research objectives to achieve, the present study was conducted through survey

method which involves the collection of data from a large number of samples to represent total population. The study could be best described as a mix of both quantitative and qualitative study carried out using the descriptive survey method. Statistical analysis was adopted to analyse quantitative data collected by using Scale of procrastination behaviour and Test of ethical considerations in research. Information seeking behaviour of the research scholars was identified by using questionnaire and all the categories were represented and analysed by using appropriate figures.

Sample Selected for the Study

The population of the present study includes all the research scholars in social science in Kerala. The discipline social science includes majors like economics, politics, history, sociology, social work, psychology, anthropology, philosophy, politics and social studies etc. As it is operationally defined, the study was delimited to the research scholars who are pursuing their PhD in the disciplines Education, Sociology, Politics, Psychology, History and Economics in the major universities in Kerala namely Kannur University, University of Calicut, Mahatma Gandhi University and University of Kerala. As per the data compiled from the websites of these Universities, around 950 research scholars were pursuing their research in the given disciplines at the time of data collection. As it is difficult to conduct study on all the research scholars 275 research scholars were taken as the sample of the study.

Size of the sample

The investigator conducted the present study on sufficient size of the sample of 275 research scholars from Kerala. It is important to adopt scientific sampling techniques to ensure true representation of the total population. The size of the sample was decided by using the following formula (Smith, 2013).

$$n = Np(1-p) \frac{Z_{\alpha/2}^2}{e^2} + p(1-p) \frac{Z_{\alpha/2}^2}{e^2}$$

As per the above Formula

$$N \text{ (Population)} = 950$$

$$P \text{ (Population Proportion)} = 0.5,$$

$$e \text{ (Margin of error)} = 0.05$$

$$Z_{\alpha} = 1.96$$

The sufficient size of the sample for a population of 950 research scholars at 95% confidence Interval was found to be 273. Hence, it was decided to collect data from a sample of 300 hundred research scholars. As the data from most of the research scholars were collected through Google form, the size of the sample was to be fixed as 275 since some of the response sheets were incomplete.

Techniques of Sampling

Probability sampling technique was used in the present study since it allows the investigator to ensure that each segment of the total population has equal probability for being selected as the sample. As the present study was meant to carry out on different sub groups of total population, the investigator followed stratified random sampling in which each strata to be considered has been given due weightage. The sample was selected on the basis of Gender, and Mode of Research. As it was already mentioned in the limitation of the study due representation could not be given to subjects and universities.

Breakup of the Sample

Breakup of the sample and its distribution is systematically presented in the table 4

Table 4
Details of Breakup of the Sample

Category	Samples	N	Total
Gender	Female	165	275
	Male	110	
Mode of research	Full time	121	275
	Part time	154	
Universities	Kannur	35	275
	Calicut	120	
	MG	62	
	Kerala	58	
Disciplines	Education	89	275
	Sociology and Social Work	39	
	Economics	65	
	Politics/International Studies	28	
	Psychology	12	
	History	42	

After the collection of data, the total sample was further divided in to different groups as per their responses based on information seeking behaviour and procrastination. The details are presented as table 5.

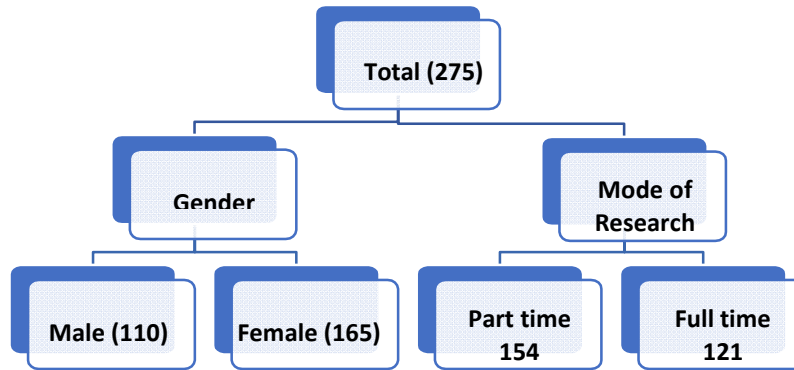
Table 5
Details of Breakup of the Sample based on Information Seeking Behaviour and Procrastination

Category	Sub groups	N	Total
Source of Information	Printed books/Journal	88	275
	E-books/E-journal	90	
	Thesis	97	
Use of Online Tools	Common Search Engines	102	275
	Shodganga/INFLIBNET	98	
	Research Specific Search Engines	75	
Information Seeking Process	Good	83	275
	Average	102	
	Poor	90	
Level of procrastination	High	68	275
	Moderate	145	
	Low	62	

The break-up of the sample has been presented as figure 7.

Figure 7

Breakup of the Sample



Tools used for Data Collection

The scientific nature of educational research is evident from the steps gone through by the investigator to construct and standardize tools for data collection. For the present study qualitative data were collected using a questionnaire on information needs and seeking behavior of research scholars. Data regarding procrastination behavior were collected using scale of procrastination behaviours and to assess ethical considerations in research among research scholars, a test of ethical considerations in research was used. Demographic data sheet was given along with tools to seek information regarding gender, mode of research, subject and university. The construction and standardization of each tool is described in the following section.

Questionnaire on Information Seeking Behavior [Nowfal & Noushad, 2019]

In order to identify information seeking behavior of research scholars in social science, data with respect to information needs, source, process, nature and purpose of seeking information has to be sought. Keeping these in the mind, the investigator had gone through available literature to identify important areas to be considered while preparing the questionnaire. It could be understood that the other investigators in the area followed a particular model of information seeking behavior

as per the nature of data they required. Of the all models given by the scholars Wilson's work role model (1981) and Information seeking model (Ellis, 1989) seemed more sensible and appropriate for the nature of data that the investigator planned to seek. In Wilson's model of information seeking, ones need for information keeps his motivation alive till he seeks information from an appropriate source. It has also a major role in deciding the nature, type and process of information seeking. He has also made an interesting observation that the personal needs of an individual is decided by the work role he has to play in his social life. Keeping all these important factors to be considered in mind, the major themes of the questionnaire could be identified.

Planning of the Questionnaire

Proper planning is essential for having a reliable research tool. After having a detailed analysis of available literature and all the information seeking models, the following major themes were identified for preparing the tool

1. Source and Type of Information. In order to ensure the accuracy and authenticity of the information collected, locating the authentic source of information is very important. As there are plenty of sources with manipulated data and information, it is very important to identify the correct source of information. In the present digital era, the information is available in variety of sources in different form. Brabazon (2007) describes in her book 'The University of Google' how an education system somehow confuses access to digital information with developing informed citizens. Hence, each scholar must take extreme care to check authenticity of the source before he/she tries to gather information. Therefore, items were included to find out if the research scholars are taking efforts to verify and validate sources of information and which source of information they prefer. It is also important to identify the type of information they want to seek and if they prefer printed information over digital information

Eg. Which of the following source of information do you prefer most?
(Number your preference from most to least for all of the given choices)

Source of Information	Preference
Printed Books	
Printed Research Journals/ Magazines	
E-books	
E-journals	
Theses (Printed/ Digital)	
Encyclopaedias	
Bibliographies	
Indexing sources	
Abstracting sources	
Conference proceedings	
Online data base / data	
Any Other (Please Specify)	

2. Need for information. An information need evolves from an awareness of something missing. It necessitates the seeking of information that might contribute to understanding and meaning (Kuhlthau, 1993). The research scholar requires information in the various stages of his research. It is relevant to identify different occasion in which the research scholars attempt to seek information. It becomes also relevant to investigate how much time they spend for seeking information

Eg. For which of the following purpose do you seek information? (Tick all that apply)

Purpose	
Selection of problem	<input type="checkbox"/>
Preparation of research design	<input type="checkbox"/>
Tool preparation	<input type="checkbox"/>
Background reading	<input type="checkbox"/>
Report writing	<input type="checkbox"/>
Writing Research Articles	<input type="checkbox"/>
Writing of Papers for Presentation at Seminar Conferences	<input type="checkbox"/>
Any other	<input type="checkbox"/>

3. Information Seeking Process. Wilson (2000) defines information seeking as “the purposive seeking for information as a consequence of a need to satisfy some goal”. It is also significant to know the different processes that researchers go when there is specific need to locate information. Items are included to know ways of processing information by research scholars, if they store information as it is available or will they take attempts to process and interpret before it is stored and how they reproduce the stored information. Items were also included to know the efforts taken by the researcher to update their knowledge and skills and to satisfy their research acumen

Eg. What do you do usually when you seek information in different stages of your research? (Tick all that apply)

- a. Try to locate accurate source of information
- b. Verify the authenticity of the information
- c. Store the information as it is available
- d. Try to comprehend the information
- e. Try to interpret information and to store

4. Use of library and Internet. Due to information explosion, advancement of education system and technological changes, the choice, requirements and demands of users are changing and increasing in rapid way in this age (Sarma & Sarma, 2014). Library is a very important source of information. As the emergence of information and communication technology revolutionized the field of information, the time spent by researchers in library is alarmingly decreasing. Today, the information is available at one’s fingertip. Library is very traditional source of information where authentic information is available whereas internet is very advanced source of information where easy access of information is possible. As the part of identifying researchers information seeking behavior it also becomes relevant to know their preference over these two sources.

Eg. How much time do you spend in a library for your research work?

- A. Up to 30 minutes
- B. 30 to 60 minutes
- C. More than an hour
- D. Based on needs

5. Information Challenge. Wilson (1999) investigated the problems and difficulties that researchers face in carrying out their own searches. It is understood that the researcher faces many problems while seeking information. It is relevant to know the different problems faced by them while seeking information and the strategies they adopted to overcome those challenges.

Eg: What are the problems faced by you in obtaining information and keeping up with advances in your field? (Tick all that apply)

Lack of time	
Unavailability of required materials/ latest materials	<input type="checkbox"/>
Sources are expensive / located far away/ license imposed by online journals	<input type="checkbox"/>
Lack of awareness about various information sources and their coverage.	<input type="checkbox"/>
Lack of technical support/ knowledge	<input type="checkbox"/>
Lack of source to ensure authenticity	<input type="checkbox"/>
Language barrier	<input type="checkbox"/>
Lack of training in using electronic resources/ products	<input type="checkbox"/>
Information explosion	<input type="checkbox"/>
Lack of information seeking skills	<input type="checkbox"/>
Restrictions imposed by other libraries	<input type="checkbox"/>
Any other. Please specify	<input type="checkbox"/>

Preparation of Questionnaire

On the basis of strategies to be followed for the preparation of the tool as well as incorporating the suggestions of the experts in this field, the draft tool was prepared. Number of statements was written under 5 major areas namely Source and type of information, Need for information, Process of information seeking, use of library and internet and information challenges. The prepared items were discussed with the supervising teacher and experts in this field, for ensuring the relevance of

each item, to remove errors and improve to its language and to remove ambiguity in wording of each question. Care was taken to include maximum options for each item to collect as variety of responses as possible. After thorough editing, the final form of draft the tool with 33 items was made ready.

Try Out and Finalization of Tool

The draft tool consisting of 33 items was tried out on a sample of 10 research scholars. The response sheet was collected and verified to ensure that the items are sufficient to elicit expected responses. On the basis of the responses elicited as well as the suggestion of supervising teacher, some changes were made in the structure and wording of some items and it was also recommended to add one more item to study research behaviour of the scholar. The final tool with 34 items was made ready for data collection. (A copy of the final tool is given as Appendix I)

Scale of Procrastination Behaviour (Nowfal & Noushad, 2018)

To study the procrastination behaviour of research scholars, the investigator prepared a procrastination scale with the help of supervising teacher. The investigator made a detailed analysis of the available literature to construct a most valid and reliable scale to measure procrastination behaviour of research scholars and as it is observed by Mccloskey (2011) number of dimensions or facets of academic procrastination could be identified through past literature.

Planning of the Scales

For the construction of most valid and reliable tool, proper planning is needed. After having a thorough analysis of some of the widely used tools and available literature, (Solomon & Rothblum, 1984, Tuckman, 1991, Steel, 2007 & Ferrari, 2001, Mccloskey 2011) the following 6 dimensions are identified and used for preparing tools.

1. General Procrastination/Chronic Procrastination. Chronic procrastination is a deliberate and repetitive postponement of either starting or finishing a task such that the delay leads to subjective discomfort (Ferrari, 2010). Procrastinators prefer to do less important and less urgent task to more important and urgent one as it demands much of energy and gives less pleasure. General procrastination makes the people to put the entire task till the last moment. Needless to say, it should have great significance in challenging tasks like research. Hence, statements were included to know whether the research scholars have general procrastination tendency

Eg. I find myself performing tasks that I was expected to finish days before.

2. Perfectionism. Analyzing the relationship between procrastination and perfectionism, researchers suggest that most people exhibit procrastination since they are perfectionists (Burka & Yuen, 1983; Onwuegbuzie, 2000). Perfectionism is considered as one of the important causes of procrastination. There are people who delay some important task because they think that they have to compromise quality if they finish it on time. Hence, they put it off as long as possible. Some research scholars may procrastinate to go for perfection. Thus, items to assess perfectionism are included.

Eg. As I am a perfectionist I fail to meet deadlines

3. Time Management. Mish (1994) defines time management as the ability to consciously control activities and behaviors so as to maximize one's available time. Difficulty in managing one's available time was identified By Solomon & Rothblum (1984) as one of the reasons for academic procrastination. To succeed in an academic environment, students must show up on time to classes and keep deadlines. They must also complete assignments and tests by predetermined dates (McCloskey, 2011). As research scholars are expected to complete their research work within stipulated time, they need to manage their time efficiently in completing

different phases of their research tasks. Therefore, they were asked about their ability to manage their time.

Eg. I finish tasks given by my supervising teacher in due time

4. Fear of Failure. Solomon and Rothblum (1984) indicated that two main reasons of procrastination are the fear of failures and delinquency of assignments. Procrastination also originates from the fear of negative evaluation and consequences that the failure brings. Being unable to complete the task successfully or having no confidence to face the result, people tend to procrastination. Hence, efforts are taken to study how much fear of failure forces the researchers to procrastinate.

Eg. I feel frightened to consult my supervising teacher as he criticizes me for my mistakes

5. Task Aversiveness. An individual's reaction to specific person-task characteristics is also identified by researchers as the reason for procrastination. (Milgram et al., 1988). Person-task characteristics refer to the perceived characteristics of a given task which may influence when and how an individual engages in a task (Blunt, 1998). Rothblum et al. (1986) considers task aversiveness as a factor that accounted for student's procrastination. Task aversiveness is typically defined in terms of how unpleasant or unenjoyably a task is to perform, demands patience and hard work from the part of research scholars. Some research scholars who don't have generally procrastination in other tasks are seen procrastinating in completing research task timely. In this scale, items to assess task aversiveness has also been included.

Eg. I took much time than needed to construct my research tool as it is difficult task

6. Unclear Expectation. Several possible causes of procrastination behaviors have been revealed through research, which include poor time management, feelings of being overwhelmed, lack of motivation, lack of organizational skills, inability to concentrate on work, fear and anxiety related to failure, negative beliefs about one's capabilities, personal problems, unrealistic expectations, and perfectionism (Balkis & Duru, 2007). If the research scholar has no a well- defined plan and clear cut expectation they may procrastinate. Some of the items of the tool are meant to know if the scholar has clear cut expectation and well defined plans

Eg. I have a well-planned time line for my research work

The distribution of the items in the tool according to the identified dimensions is presented in the following table 6.

Table 6

Components wise Distribution of Items Scale of Procrastination Behaviour

Sl No	Dimension	Number of questions
1	General procrastination	10
2	Perfectionism	9
3	Fear of Failure	8
4	Task Aversiveness	9
5	Time Management	12
6	Unclear expectation	8
Total		56

Preparation of Scale

As the beginning step of the construction of most valid and reliable tool, it is essential to prepare a draft tool. The investigator went through the strategies to be followed for the preparation of the scale. Care was taken to consult with experts in this filed and their suggestions were sought. The draft scale was prepared incorporating the suggestion of experts. Number of statements was written under 6 dimensions viz., general procrastination, fear of failure, perfectionism, task aversiveness, Time

management and unclear expectation. The prepared statements were again discussed with experts in this field for ensuring the relevance of each statement, to remove errors and improve to its language and to remove ambiguity in wording of each question. After thorough editing, the final form of draft the tool with 66 items including positive statements and negative statements was made ready.

Try Out and Finalization of Scale

The draft scale consisting of 66 items was tried out a sample of 100 research scholars. The response sheet was collected and scored for each individual response separately.

Item Analysis. The tool was administered on group of 100 research scholars in Social science, the total scores of each sheet were calculated and the scored response sheets were arranged in descending order of total marks. Accordingly, two groups, one with high scores on the scale (top 27 percent of the group) and the other with low scores (bottom 27 percent of the group) were selected to find out ‘t’ value of each statement. After calculating the mean and standard deviation for each item in both groups, the ‘t’ value of each statement was calculated by using the formula

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}} \quad (\text{Best \& Khan, 1997})$$

Where,

\bar{X}_1 = Mean of each item in the upper group.

\bar{X}_2 = Mean of each item in the lower group.

σ_1^2 = Standard Deviation of each item in the upper group.

σ_2^2 = Standard Deviation of each item in the lower group.

N_1 = Sample size of the upper group.

N_2 = Sample size of the lower group.

The mean and standard deviation obtained for each item for the two groups along with the critical ratios are given as table 7.

Table 7

Details of Item Analysis of Scale of Procrastination Behaviour

Sl. No.	\bar{X}_1	\bar{X}_2	SD1	SD2	't' value	Status
1	3.59	1.67	1.81	1.59	4.00	Accepted
2	3.11	1.25	1.59	1.28	4.41	Accepted
3	3.89	1.63	2.48	1.76	3.05	Accepted
4	3.44	1.55	2.15	1.41	3.22	Accepted
5	3.19	1.52	1.89	0.93	3.78	Accepted
6	2.41	1.39	2.37	1.36	0.10	Rejected*
7	2.81	1.44	1.74	0.86	3.32	Accepted
8	2.67	1.44	3.07	1.14	-1.15	Rejected*
9	2.78	1.48	3.15	1.46	-0.93	Rejected*
10	3.37	1.52	2.52	1.05	2.39	Accepted
11	3.30	1.41	1.96	1.13	3.84	Accepted
12	2.89	1.34	3.44	1.40	-1.49	Rejected*
13	3.48	1.42	2.70	1.32	2.08	Accepted
14	3.74	1.65	2.37	2.19	2.60	Accepted
15	2.96	1.70	1.48	0.98	3.93	Accepted
16	3.15	1.56	3.33	1.33	-0.47	Rejected*
17	3.07	1.27	1.59	1.12	4.55	Accepted
18	3.59	1.37	1.74	1.10	5.50	Accepted
19	2.56	1.05	2.85	0.99	-1.07	Rejected*
20	3.15	1.61	1.63	0.84	4.35	Accepted
21	2.67	1.54	2.00	0.83	1.97	Accepted
22	2.11	1.48	2.78	1.42	-1.69	Rejected*
23	3.59	1.28	2.67	1.21	2.73	Accepted
24	2.93	1.30	2.33	0.88	1.96	Accepted
25	3.04	1.32	1.85	1.20	3.46	Accepted
26	2.85	1.51	1.56	1.19	3.50	Accepted
27	2.96	1.58	1.81	1.04	3.15	Accepted
28	3.70	1.56	1.48	0.94	6.34	Accepted
29	2.93	1.49	1.59	1.05	3.80	Accepted
30	3.41	1.47	2.44	1.31	2.54	Accepted
31	4.00	1.47	2.59	1.93	3.02	Accepted

Sl. No.	\bar{X}_1	\bar{X}_2	SD1	SD2	't' value	Status
32	2.63	1.47	1.41	0.69	3.90	Accepted
33	2.22	1.37	1.44	0.58	2.72	Accepted
34	2.70	1.41	1.44	0.58	4.30	Accepted
35	3.19	1.75	2.19	1.18	2.46	Accepted
36	2.37	1.31	1.63	0.56	2.71	Accepted
37	2.63	1.24	1.74	0.90	3.00	Accepted
38	3.26	1.72	1.48	1.05	4.58	Accepted
39	3.44	1.80	1.78	0.97	4.22	Accepted
40	2.33	1.49	2.93	1.73	-1.35	Rejected*
41	2.81	1.24	2.04	0.65	2.88	Accepted
42	2.67	1.36	1.89	0.75	2.60	Accepted
43	3.07	1.27	1.63	1.01	4.64	Accepted
44	2.15	1.26	2.89	1.72	-1.81	Rejected*
45	3.19	1.59	1.52	0.80	4.85	Accepted
46	3.26	1.70	1.30	0.61	5.65	Accepted
47	2.41	1.39	1.41	0.80	3.24	Accepted
48	2.74	1.65	1.93	0.83	2.29	Accepted
49	2.81	1.82	1.19	0.79	4.27	Accepted
50	2.37	1.42	1.74	0.53	2.16	Accepted
51	2.74	1.56	1.96	0.90	2.25	Accepted
52	2.85	1.43	1.85	1.13	2.84	Accepted
53	1.85	1.17	2.15	1.23	-0.91	Rejected*
54	2.89	1.34	1.96	1.19	2.68	Accepted
55	2.44	1.69	1.63	0.88	2.22	Accepted
56	2.81	1.78	2.04	0.90	2.03	Accepted
57	2.44	1.65	1.67	0.55	2.32	Accepted
58	3.30	1.79	1.70	1.14	3.90	Accepted
59	2.70	1.46	1.70	1.17	2.77	Accepted
60	3.00	1.52	2.07	1.24	2.46	Accepted
61	2.37	1.57	1.52	0.51	2.68	Accepted
62	2.67	1.64	1.74	1.20	2.37	Accepted
63	2.59	1.58	1.81	0.56	2.42	Accepted
64	2.89	1.72	2.04	1.06	2.20	Accepted
65	2.78	1.65	1.67	1.00	2.99	Accepted
66	3.74	1.46	1.59	1.31	5.70	Accepted

*Indicates rejected items

Selection of Items for Final Scale. Item for final scale was selected on the basis of the “t” value. A statement with “t” value greater than or equal to 1.96 was considered to be a good item for measuring procrastination behaviour. Therefore items, whose ‘t’ values less than 1.96 are rejected from the final scale. The selected items of draft scale were rearranged according to their t-value to get the final scale. Thus the final scale was made ready which contains 56 items. (The final tool in English is given as Appendix II).

Reliability of the Tool

Reliability was found using test re test method. The scale for measuring procrastination tendency among research scholars was administered on sample of 50 researchers and the scores obtained were utilized for studying the reliability of the test. The tool was re administered to the same group after an interval of one week. The correlation between two scores was calculated using the formula

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n \sum x^2 - (\sum x)^2][n \sum y^2 - (\sum y)^2]}}$$

Where

$\sum x$ = Sum of the x scores

$\sum y$ = Sum of the y scores

$\sum x^2$ = Sum of the squared x scores

$\sum y^2$ = Sum of the squared y scores

$\sum xy$ = Sum of the products of paired x and y

n = Number of paired scores/total items

Thus the value of coefficient of correlation was found to be 0.85. This value suggests that the prepared scale is reliable to measure the procrastination behaviour of research scholars. The reliability of the test was again ensured by calculating

Cronbach's Alpha coefficient (N=100) and the calculated value. 78 shows the tool is highly reliable.

Validity of the Tool

The following validities were ensured for the present scale

Content Validity. The dimensions of the variable procrastination were identified on the basis of theories put forward by the experts. Care was taken to give due weightage to each dimension of procrastination. Thus, the tool can be described as having content validity.

Face Validity. Face validity was established on the recommendation of subject experts as it is examined and approved by them. Extreme care was taken to avoid any sort of ambiguity in wording of the statements. Hence it has been ensured that the tool is valid in its outlook.

Criterion Validity. The criterion validity of the scale was estimated empirically by correlating the scores on the scale with the scores of Academic Procrastination Scale (Koya & Shimimol, 2015). Both tools were administered on the same sample and the correlation coefficient was calculated. The obtained value is .72 which shows that the tool has criterion validity.

Scoring Procedure

Research Procrastination Scale is a five point Likert Scale with responses Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D) and Strongly Disagree (SD). The tool includes both positive and negative items. Accordingly, for positive items which supports the procrastination behaviour of the sample, the score varies from 5 (strongly agree) to 1 (strongly disagree) and the reverse order was adopted for negative items which negates procrastination behaviour of research scholars.

Test of Ethical Considerations in Research (Nowfal & Noushad, 2019)

Research ethics is the back bone of the research task. Hence it is important to measure research ethics of research scholars by using most reliable instrument. After analyzing the available literature the investigator made a draft plan to construct a most reliable and valid test. The major areas to be investigated are identified based on guidelines given by Ethical Principles of Psychologists and Code of Conduct (American Psychological Association, 2017), Code of Ethics International Sociological Association, 2014) and Code of Ethics (American Sociological Association, 2018).

Planning of the Test

It is difficult to construct a reliable tool without proper planning. The investigator identified the following dimensions to be measured by the tool

1. Ethical Considerations in all the Phases of Research. The term ‘research ethics’ in social science research refers to human values, norms, and societal arrangements that regulate scientific understanding of society (Debnath & Chatterjee, 2021). Hence, the researcher has to keep research ethic in all the phases of research from selection of the problem to reporting since the violation of ethics makes consequential results in the quality and standard of the research output

Eg. Which of the following is NOT against research ethics?

- A. Adopting a standardized tool to collect data
- B. Sharing confidential data with colleagues
- C. Submitting same article to more than one journal for publication
- D. Disclosing the identity of sample

2. Knowledge about Plagiarism. The term ‘plagiarism’ originates from the Latin word “plagium”, which means kidnapping. Therefore, in academia plagiarism refers to unethically copying another’s ideas, work or words without giving the

appropriate credit (Padmaperuma et al., 2020). Plagiarism is actually theft and it is unethical since the researcher takes others creative ideas and publishes them as his own original thoughts and creative ideas. Fabrication, falsification, and plagiarism (usually referred to as FFP) are three ethical issues characterized as research misconduct. The first two refer to misconducts during research, and the third refers to misconduct during the publication or dissemination process, (UGC, 2021). Therefore, questions were included to find out that how much the research scholars take efforts to keep a way themselves from plagiarism and their knowledge about plagiarism.

Eg. The type of plagiarism in which a researcher borrows phrases from sources without using quotation marks

- A. Self-Plagiarism
- B. Direct Plagiarism
- C. Mosaic Plagiarism
- D. Accidental

3. Publication Ethics. Research and publication ethics are closely connected as each new study leads to new finding, which on publication enter the public domain. If any ethical issue is reported it should affect the quality of the publication and trust in the public. Researchers, authors, sponsors, commissioners of the research have ethical obligations with regard to the publication and dissemination of the results of research (Srivastava, 2020).

Eg. Act of publishing same data or results in more than one journal

- A. Duplicate Publication
- B. Copying
- C. Partial Publication
- D. Triplication

4. Confidentiality and Data Protection. Any information relating to the private sphere of a person that they wish not be shared with others is considered confidential. Bos (2020) observed that confidential information provided by research participants, students, employees, clients, or others is treated as such by sociologists even if there is no legal protection or privilege to do so. Sociologists have an obligation to protect confidential information and not allow information gained from being used in ways that would unfairly compromise research participants, students, employees, clients, or others (ASA code of Ethics, 2018). The researcher must take extreme care while dealing with samples. The samples must be informed in advance about the nature of the study and the personal details of the samples must be kept confidential. Items were included in the test to find out how far the researchers are aware of the seriousness of the issue

Eg. The ethical principle that says research participants should be informed in advance about research to make their choice of participation

- | | |
|--------------|---------------------|
| a. Anonymity | b. Informed Consent |
| c. Deception | d. Confidentiality |

The distribution of items in the test as per the components identified is represented in the table 8.

Table 8

Components wise Distribution of Items in the Test of Ethical Considerations in Research

Sl. No	Dimension	Number of Questions
1	Ethics in all phases of research	12
2	General Ethical principles	10
3	Knowledge about Plagiarism	7
4	Publication Ethics	10
5	Confidentiality and Data Protection	8
Total		47

Preparation of Item

Incorporating suggestions made by the experts and following the principles to be kept to construct reliable tool, the investigator prepared a draft tool including maximum items from all the five dimensions. Number of questions was written under five dimensions namely ethical considerations in all phases of research, General ethical principles, publication ethics, plagiarism and confidentiality and data protection. The prepared questions were then discussed with the supervising teacher for ensuring the relevance of each question, to remove errors and improve its language and to remove ambiguity in wording of each question. After thorough editing, the final form of draft the tool with 54 multiple choice question along with four alternatives for each question was prepared.

Try Out of Draft Scale

The draft test consisting of 54 questions was tried out a sample of 100 research scholars. The response sheet was collected and scored for each individual response separately.

Item Analysis. The purpose of item analysis is to select item that have item characteristics. Items for final tool were selected on the basis of discriminating power. 100 response sheets obtained after try out were scored and the total scores of each sheet were calculated. Then these sheets were arranged in descending order of the total score and the highest 27% (27 sheets) and lowest 27% (27 sheets) of the total sheet were separated. Discriminating power of each question is calculated by using the equation

$$DP = \frac{U-L}{N}$$

Selection of Final Item. The item for the final test was selected on the basis of its discriminating power. Items with discriminating power between .4 to .8 were selected to be included in the final tool. Accordingly, 7 items were deleted from the final tool. The selected items of draft test were rearranged according to their

discrimination index to get the final test. Thus the final test was made ready with 47 items (The final tool in English is given as Appendix III).

The discriminating power of each item in the tool is given in the following table 9.

Table 9

Discriminating Power of Items in Test of Ethical Considerations in Research

Item No	U	L	DP	Status	Item No	U	L	DP	Status
1	27	9	0.67	Accepted	28	23	5	0.67	Accepted
2	27	13	0.52	Accepted	29	21	6	0.56	Accepted
3	7	4	0.11	Rejected*	30	13	6	0.26	Rejected*
4	26	8	0.67	Accepted	31	19	2	0.63	Accepted
5	23	9	0.52	Accepted	32	22	5	0.63	Accepted
6	22	9	0.48	Accepted	33	22	6	0.59	Accepted
7	17	6	0.41	Accepted	34	24	7	0.63	Accepted
8	18	5	0.48	Accepted	35	23	5	0.67	Accepted
9	19	7	0.44	Accepted	36	20	4	0.59	Accepted
10	19	7	0.44	Accepted	37	22	5	0.63	Accepted
11	15	4	0.41	Accepted	38	25	8	0.63	Accepted
12	19	5	0.52	Accepted	39	24	7	0.63	Accepted
13	20	5	0.56	Accepted	40	22	4	0.67	Accepted
14	18	1	0.63	Accepted	41	7	6	0.04	Rejected*
15	18	3	0.56	Accepted	42	23	5	0.67	Accepted
16	9	5	0.15	Rejected*	43	23	4	0.70	Accepted
17	20	4	0.59	Accepted	44	21	3	0.67	Accepted
18	18	7	0.41	Accepted	45	17	5	0.44	Accepted
19	16	5	0.41	Accepted	46	21	3	0.67	Accepted
20	20	9	0.41	Accepted	47	19	5	0.52	Accepted
21	22	3	0.70	Accepted	48	17	4	0.48	Accepted
22	23	3	0.74	Accepted	49	18	5	0.48	Accepted
23	9	8	0.04	Rejected*	50	6	4	0.07	Rejected*
24	21	6	0.56	Accepted	51	15	3	0.44	Accepted
25	27	6	0.78	Accepted	52	7	6	0.04	Rejected*
26	25	4	0.78	Accepted	53	16	3	0.48	Accepted
27	26	5	0.78	Accepted	54	19	7	0.44	Accepted

*Indicates rejected items

Reliability

Reliability was found using test re-test method. The test for measuring ethical considerations in research among research scholars was administrated on sample of 50 researchers and the scores obtained were utilized for studying the reliability of the test. The tool was re-administrated to the same group after an interval of one week. The correlation between two scores was calculated. Thus the value of coefficient of correlation was found to be 0.81. This value suggests that the prepared test is reliable

Validity

For the present test content validity was ensured by giving due weightage to all dimensions of the variable selected according to the guidelines given by Hand books for Code of ethics (ASA, 2018 & APA, 2019).

Scoring Procedure

Finally, the tool Test of ethical considerations in research has 47 multiple choice questions with one correct answer and each correct answer is given one mark and no mark was given for wrong answer. The total mark scored by a sample was considered as the score of his ethical considerations in research.

Data Collection Procedure

As the initial step, details of research scholars were collected. The first phase of data collection was done online during lockdown using Google form. Data from the research scholars in University of Calicut was collected directly after the relaxation on pandemic related restrictions. Care was taken to ring each sample to give clear instructions orally and to ensure accuracy. Data could be collected from 300 research scholars and in the final assessment it was decided to fix total sample as 275 as a few of data collected were incomplete.

Scoring and Consolidation of Data

The collected data were properly tabulated and scoring was done. Data on information seeking behavior were categorized to have further analysis. The responses of procrastination scale and Test of ethical considerations in research were scored as per the scoring scheme of the tool prepared. Each item in the procrastination scale is in the form of statements with five responses. These responses are consolidated and tabulated. For each statement, the respondents have to opt from the five options strongly agree, Agree, Undecided, Disagree and strongly disagree respectively. The total score obtained by each sample for both tools were considered as their final score. The consolidation was done by keeping in view of important sub samples to be obtained, viz, gender and mode of research. The consolidated data was then arranged to be analyzed by suitable statistical technique.

Statistical Techniques Used for Analysis

The score obtained from 275 research scholars were subjected to statistical analysis. As the initial step important statistical constants such as Mean, Median, Mode, Standard Deviation, Skewness and Kurtosis were worked out for total sample and relevant sub sample. The various statistical techniques used for analysis of quantitative data are following.

Percentage Analysis

Percentage analysis was done to categorize information behaviour of research scholars.

Test of Significance of Difference between Means

The statistical technique, the test of significance of difference between different categories is used to found out whether there exists any significant difference among total sample based on relevant sub sample. The mean difference was computed by using the formula.

$$\text{Critical ratio } t = \frac{M_1 - M_2}{\sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}}$$

Where,

M_1 =Mean of the first group

M_2 =Mean of the second group

σ_1^2 =Square of Standard Deviation of first group

σ_2^2 = Square of Standard Deviation of second group

N_1 =Size of the standard Deviation of second group

N_2 =Size of the second group

One-Way ANOVA

One –way ANOVA was done to find out significant difference in procrastination and ethical considerations in research among research scholars based on relevant sub groups. Scheffés post-hoc test was further used to find out which pairs of means significantly differ of the categories of which F value is significant.

2x2 Factorial ANOVA

In order to find out main effect and interaction effect of gender and mode of research on procrastination and ethical considerations in research 2x2 factorial ANOVA was calculated. Based on Gender and Mode of research the sample was divided in to two groups each namely male and female and full time and part time respectively.

3x3 Factorial ANOVA

The procrastination of research scholars were categorized in to three categories of high, moderate and low and other three categories namely good, average and poor were also identified based on information seeking process of research scholars. Hence 3x3 ANOVA, in which two independent variables namely

information seeking process and procrastination at three levels, was used to analyse data obtained for ethical considerations in research.

Techniques used for Classification of Select Variables

The variables information seeking behaviour and procrastination was classified in to three groups for further statistical analysis by using following techniques

Information Seeking Process

The research scholars were categorized in to three groups namely researchers with good information seeking skills, researcher with average information seeking skills and researcher with poor information seeking skills according to the strategies adopted to seek, store and retrieve information, to verify authenticity of the source and the skills to use specific online tools for data analysis and reference management. The research scholars with good information seeking process take attempts to verify source of information, use appropriate and good strategies to seek, store and retrieve information. The research scholars with a habit of verifying source of information, but with no attempts to use appropriate tools to store and retrieve information were considered as having average information skills and finally the poor category includes all other research scholars without efforts to use appropriate strategies to verify, store and retrieve information.

Procrastination

The data collected using procrastination scale were classified in to three groups namely high procrastinators, moderate procrastinators and low procrastinators on the basis of the scores obtained. Mean and Standard deviation of the scores on procrastination scale were calculated. The research scholars scoring above the mean + SD were considered as high procrastinators and research scholars with scores below mean – SD were considered as low procrastinators and the rest whose score come between mean –SD and mean + SD were categorized as moderate procrastinators.

ANALYSIS AND INTERPRETATIONS



- *Preliminary Analysis*
- *Major Analysis*



The present study was meant to find out information seeking behavior, procrastination behavior and ethical considerations in research among research scholars in social science. Due to Covid 19 pandemic, data from majority of the samples were collected using Google forms. Before sharing the Google form link of all the three tools, efforts were taken to conduct a pilot study by sharing the tools with select scholars. Accordingly, modifications were made in the structure and lay out of the tools incorporating the suggestions made by them to solve the problems they faced while filling up the questionnaire. To ensure the integrity and accuracy of the data collected, a semi structured interview was also conducted with a few select scholars. Out of 300 responses received, 275 complete and valid responses were sorted out for final analysis as some of the responses received were incomplete. Responses with respect of the variable information seeking behavior were analyzed qualitatively. Both descriptive statistics and inferential statistics were used for analyzing quantitative data. Descriptive data analysis was done to understand the nature of the distribution of scores of procrastination and ethical considerations in research among the sample. Accordingly, Mean, Median, Mode, Standard Deviation, Skewness and Kurtosis for total sample and relevant sub groups were worked out. Inferential statistics which include Test of significance of difference between two means (t-test) , Analysis of Variance (One Way, 2x2, 3x3) and Scheffé's Post Hoc comparison was applied to test hypotheses and to contribute to knowledge. The details of the analysis done with its results and interpretation have been discussed as follows.

The main purpose of the study was to investigate the information seeking behavior, procrastination behavior and ethical considerations in research among research scholars. The collected data were analyzed systematically by using appropriate techniques and the results have been presented and discussed in this chapter with reference to the following objectives of the study.

Objectives

The study was designed to achieve following objectives

1. To find out information needs, purpose of seeking information, nature and type of information required by research scholars in social science
2. To find out various information sources used by research scholars in social science
3. To find out information seeking process of research scholars in social science
4. To find out information challenges faced by research scholars in social science
5. To categorize information seeking process of research scholars in to three categories viz., good, average and poor
6. To find out procrastination behaviour among research scholars in social science
7. To find out whether there is any significant difference in the procrastination behaviour of research scholars based on
 - a) Gender
 - b) Mode of research
 - c) Source of information
 - d) Use of online tools
 - e) Information seeking process
8. To find out ethical considerations in research among research scholars in social science
9. To find out whether there is any significant difference in ethical considerations in research among research scholars in social science based on
 - a) Gender
 - b) Mode of research

- c) Source of information
 - d) Use of online tools
 - e) Information seeking process
 - f) Procrastination
10. To find out interaction effect of gender and mode of research on procrastination and ethical considerations in research among research scholars in social science
 11. To find out interaction effect of information seeking process and procrastination on ethical considerations in research among research scholars in social science

Hypotheses

Based on the objectives the following hypotheses are formulated

- 1) There exists significant difference in the procrastination behaviour of research scholars in social science based on a) Gender b) Mode of research c) Source of information d) Use of online tools e) Information seeking process
- 2) There exists significant difference in ethical considerations in research among research scholars in social science based on a) Gender b) Mode of research c) Source of information d) Use of online tools e) Information seeking process, f) Procrastination
- 3) There exists significant interaction effect of gender and mode of research on procrastination and ethical considerations in research among research scholars in social science
- 4) There exists significant interaction effect of information seeking process and procrastination on ethical considerations in research among research scholars in social science

Preliminary Analysis

It is essential to ensure normality of the data collected before they are subjected to statistical analysis. Hence, as the initial step of analysis, attempts were made to calculate important statistical constants such as Mean, Median, Mode, Standard Deviation, Skewness and Kurtosis for the total sample with respect to the variables procrastination behaviour and ethical considerations in research. The details have been presented in Table 10.

Table 10

Descriptive Statistics of the Variables Procrastination Behavior and Ethical Considerations in Research among Research Scholars

Variables	Mean	Median	Mode	SD	Skewness	Kurtosis
Procrastination	172.96	173	173	11.89	-.187	-.319
Ethical Considerations in Research	22.16	22	22	5.96	.602	.390

It can be understood from the table that the obtained value of mean, median and mode of the variables procrastination and ethical considerations in research are 172.96, 173, and 173 and 22.16, 22 and 22 respectively for the total sample of 275 research scholars in social science and they are almost equal. Hence it is learnt that the values are normally distributed. The value of skewness ($sk = -.187$ and 0.602) shows that the distribution of the scores of procrastination behavior of research scholars is negatively skewed for the total sample and that of ethical considerations in research is positively skewed. From the values of skewness, it can be inferred that the number of research scholars who scored high mark is comparatively high in procrastination and low in ethical considerations in research. From the value of Kurtosis, it is revealed that the distribution of scores is slightly platykurtic in nature for the total sample of the research scholars with respect to the variable procrastination as the calculated value -0.319 is lesser than $.263$, whereas the distribution is leptokurtic for ethical

considerations in research as the obtained value 0.390 is greater than .263. From the values obtained, it can be ensured that the distribution is not deviating remarkably from normalcy. The normality of the distribution of the scores was further satisfied with a PP plot as given in Figure 8 and Figure 9

Figure 8

Normal P-P Plot of Scores of Procrastination

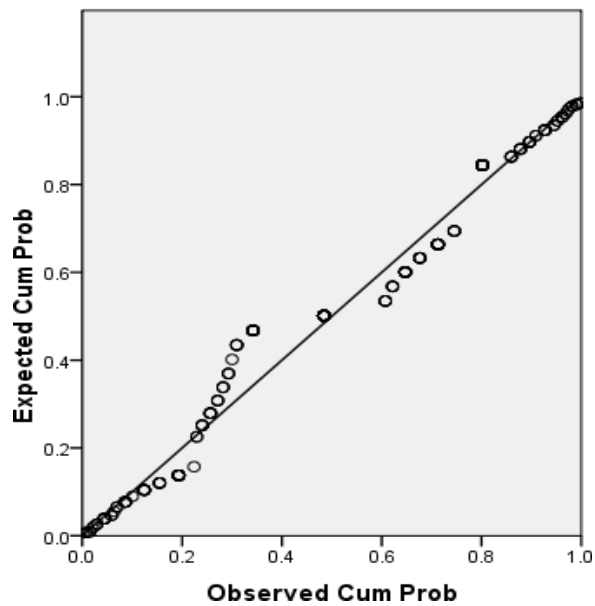
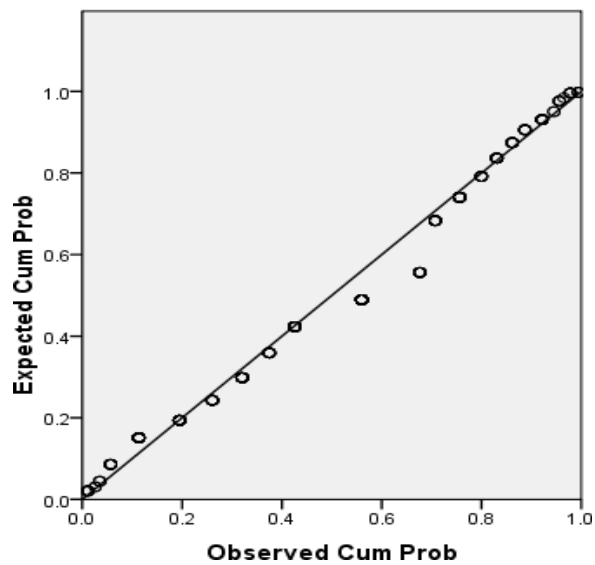


Figure 9

Normal P-P Plot of Scores of Ethical Considerations in Research



Sub groups based on Gender and Mode of Research

Research scholars in social science were categorized in to difference sub groups based on gender and mode of research and mean difference analysis was done to find out gender difference and influence of mode of research on procrastination and ethical considerations in research.

Important statistical constants such as Mean, Median, Mode, Standard Deviation, Skewness and Kurtosis for the sub groups based on gender, and mode of research were calculated of the scores obtained for the variables procrastination and ethical considerations in research. The details are summarized in Table 11

Table 11

Distribution of Statistical Constants for the Variable Procrastination Behaviour and Ethical Considerations in Research based on Gender and Mode of Research

Variables	Category		Subgroups	N	Mean	Median	Mode	S.D	Skewness	Kurtosis
Procrastination	Gender	Female	165	171	173	173	8.92	-0.17	-0.195	
		Male	110	175.91	173.5	173	10.40	-0.522	-0.09	
	Mode of Research	Full time	121	171.02	173	173	11.42	-0.01	-.84	
		Part time	154	174.23	173	173	12.07	-0.12	-0.18	
Ethical Considerations in Research	Gender	Female	165	22.78	22	22	6.34	.59	.210	
		Male	110	21.21	21.5	22	5.30	.31	-0.19	
	Mode of Research	Full Time	121	23.35	22	22	6.61	.54	-0.19	
		Part Time	154	21.21	21	22	5.24	.43	.67	

Discussion

Table 11 conveys that the obtained value of mean, median and mode of the variable procrastination and ethical considerations in research among research

scholars based on the sub groups Gender and Mode of Research coincide approximately. Hence it is learnt that the values are normally distributed. The value of skewness shows that the distribution of the scores of procrastination behavior of research scholars is negatively skewed for sub groups based on gender and mode of research where as it is positively skewed for the variable ethical considerations in research.

Classification of the Sample in to Subgroups based on Information Seeking Behaviour and Procrastination

Research scholars in social science were further classified in to different subgroups based on select aspects of information seeking behaviour. Consequently, three groups of research scholars namely those who prefer books, the research scholars who prefer thesis report and finally those who prefer journals were identified on the basis of the source of information. On the basis of information seeking process (ISP), another three groups good, average and poor were also found. Research scholars make use of several online search engines to seek information. Accordingly, they were grouped in to three groups based on their preference among three major search engines viz, common search engines, Shodhganga/Inflibnet and research specific search engines were identified and finally another three groups namely high, moderate and low were also identified according to their procrastination. Basic statistical constants of all these groups are given in table 12.

Table 12

Basic Statistical Constants for the Variable Procrastination Behaviour and Ethical Considerations in Research based on Information Seeking Behaviour

Variable	Category	Subgroups	N	Mean	Median	Mode	SD	Skewness	Kurtosis
Procrastination	Source of Information	Thesis	97	174.39	173.00	173	10.90	-0.28	1.32
		Book	90	173.59	173.00	173	12.39	-0.14	-0.70
		Journal	88	170.80	173.00	173	12.29	-0.09	-1.05
	Information Seeking Process	Good	83	171.05	173.00	173	13.13	-0.13	-0.80
		Average	102	170.92	173.00	173	12.08	0.12	-0.23
		Poor	90	177.09	173.50	173	9.31	-0.15	0.46
	Search Engines	Common Search Engines	102	170.40	172.00	173	11.11	0.12	-0.42
		Shodhganga/Inflibnet	98	176.49	174.50	173	10.09	-0.13	-0.30
		Research Specific Search Engines	75	171.89	173.00	173	14.02	-0.26	-0.53
Ethical Considerations in Reserach	Source of information	Thesis	97	21.14	21.00	22	5.99	0.32	-0.43
		Book	90	24.14	22.00	22	6.57	0.58	-0.11
		Journal	88	21.24	22.00	22	4.73	0.72	1.92
	Information Seeking Process	Good	83	23.43	22.00	22	6.23	0.46	0.11
		Average	102	21.96	21.00	22	5.96	0.80	0.74
		Poor	90	21.20	22.00	22	5.57	0.46	0.37
	Search Engines	Common Search Engines	102	20.73	21.00	22	4.34	0.27	-0.41
		Shodhganga/Inflibnet	98	21.76	22.00	22	6.35	0.57	0.67
		Research Specific Search Engines	75	24.63	22.00	22	6.64	0.31	-0.60
Procrastination	High	68	20.62	21.00	22	4.91	0.05	-0.30	
	Moderate	145	22.52	22.00	22	6.18	0.66	0.50	
	Low	62	22.98	22.00	22	6.29	0.55	-0.28	

Major Analysis

The collected data were subjected to detailed analysis as per the objectives using appropriate techniques. In order to find out information seeking behavior of the research scholars a questionnaire to identify information need, purpose, and source of information and use of information tools were distributed among research scholars. Percentage of the responses was calculated for each dimension and the results were analyzed as follows.

Information Needs and Purpose

The first objective of the study is to identify the information needs and information seeking behaviour of research scholars in social science. It is undisputable that information needs develop from the information gap to be filled and it necessitates information seeking from appropriate source. In order to identify the information needs of the research scholars, they were asked to in what stage of research they prefer to seek information like problem selection, review of related literature, tool preparation, report writing etc. and the purpose behind seeking information like preparation of research design, preparation of review article, preparation of dissertation/thesis, writing of papers for presentation at seminars conferences and other purposes. The details given by the respondents are following

Table 13

Data Showing Information Needs and Purpose of Research Scholars

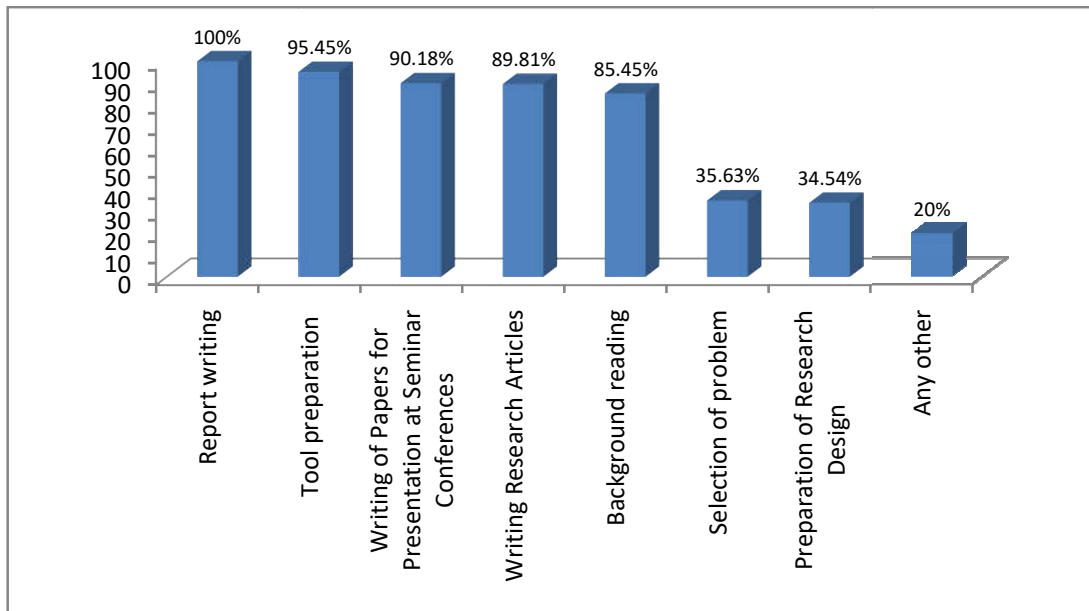
Sl. No.	Purpose	N	%
1	Report writing (N=160)	160	100
2	Tool preparation (N=220)	210	95.45
3	Writing of Papers for Presentation at Seminar Conferences	248	90.18
4	Writing Research Articles	247	89.81
5	Background reading	235	85.45
6	Selection of problem	98	35.63
7	Preparation of Research Design	95	34.54
8	Any other	55	20

From the table, it is revealed that all the respondents seek information to satisfy variety information needs in the different stage of their research work. The entire 160 research scholar who are presently at the stage of report writing agreed that they seek information from various sources to finish their writing and 95% research scholars informed that they refer various source of information to construct research tool. Out of 275 research scholars in social science, 90% of research scholars seek information from different digital and printed sources to prepare research papers based on their research topic as it is the highest important propose. Therefore, it can be concluded that the most preferred purpose of information seeking among research scholars in social science after report writing and tool preparation is preparing research papers/ articles followed by background reading with 85.45%. Only 98 research scholars referred books or other sources to select appropriate research problem. It is further found that 34.54% of research scholars seek information to prepare research design. The least important purpose of information seeking among research scholars is for other purpose not directly related to research such as preparation of academic seminar paper.

Information Purpose of research scholars in Social science is diagrammatically presented in figure 10

Figure 10

Diagrammatic Representation of Information Purpose of Research Scholars in Social Science



Information Needs and Purpose of Research Scholars based on Sub groups

Gender as a variable may be useful for better understanding of the cognitive and social background of human information processing and may have important implications for information dissemination services and systems (Halder et al., 2010). Hence it is relevant to find out gender difference in information seeking behaviour of research scholars in social science. Wilson (1987) argued that personal needs are at the root of motivation to seek information, and these arise out of the role an individual fills in social life. Since part time research scholars and full time research scholars have different roles in their social life, attempts have also been made to investigate the difference in information seeking behaviour between full time and part time research scholars.

Investigation of Gender Difference and Difference in Mode of Research in Information Needs. Efforts were taken to compare information needs and purpose of research scholars based on gender and mode of research. The results have been summarized in table 14.

Table 14

Information Seeking Purpose of Research Scholars based on Gender and Mode of Research

Sl. No.	Purpose	Subsamples	N	%	
1	Selection of problem	Female	52	31.51	
		Male	46	41.81	
		Full time	47	38.84	
		Part time	51	33.11	
2	Preparation of research design	Female	48	29.09	
		Male	47	42.72	
		Full time	39	32.23	
		Part time	56	36.36	
3	Background reading	Female	140	84.84	
		Male	95	86.36	
		Full time	109	90.08	
		Part time	126	81.82	
4	Tool Preparation	Female	132	97.78	(N=135)
		Male	78	91.76	(N=85)
		Full time	87	96.67	(N=90)
		Part time	123	94.62	(N=130)
5	Report Writing	Female	89	100	N=89
		Male	71	100	N= 71
		Full time	75	100	N= 75
		Part time	85	100	N= 85
6	Writing Research Articles	Female	149	90.30	
		Male	98	89.09	
		Full time	117	96.69	
		Part time	130	84.41	
7	Writing papers for presentation at seminars or conferences	Female	150	90.91	
		Male	98	89.09	
		Full time	118	97.52	
		Part time	130	84.41	
8	Any other	Female	24	14.55	
		Male	31	28.18	
		Full time	29	23.97	
		Part time	26	16.88	

The table 14 reveals some interesting facts with regards to information needs and purpose of research scholars based on relevant sub groups. As it is revealed in the table, the most preferred purpose of information seeking among research scholars in social science based on relevant sub groups gender and mode of research is preparing papers related to research topic for presentation in conferences followed by writing research articles for publication. Majority of female and male research scholars (90.91% and 89.09% respectively) seek information to satisfy their immediate needs of preparing seminar papers. With respect to mode of research, it is interesting to note that almost all the full time research scholars (97.52% and 96.69%) search information for preparing seminar papers and research articles respectively.

Information Seeking Process of Research Scholars

According to Wilson (2000), Information seeking behavior is a purposive seeking of Information as a consequence of a need to satisfy some goal. It is also important to identify information seeking process of the research scholars. Hence, they were asked to share details regarding most preferred space for research, strategies they adopt to locate, store and retrieve as well as disseminate the information, how they would update themselves etc. It is interesting to find out, a major group of research scholars are not aware about the precaution to be taken to ensure authenticity of the sources of information. The data thus collected are given in table 15.

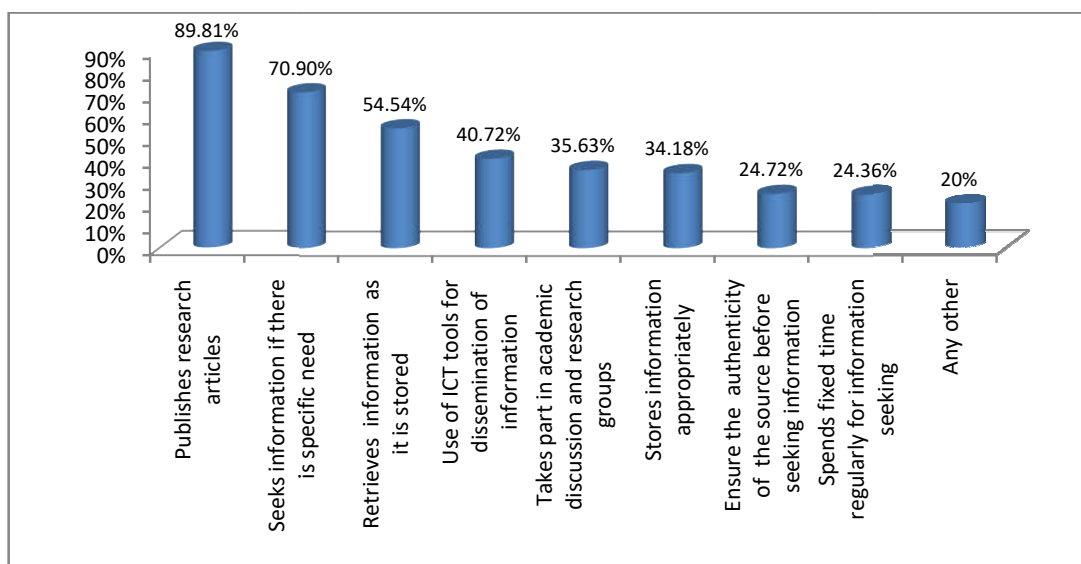
Table 15*Data Regarding Information Seeking Process of Research Scholars*

Sl No	Information seeking Process	N	%
1	Publishes research articles	240	89.81
2	Seeks information if there is specific need	195	70.90
3	Retrieves information as it is stored	150	54.54
4	Use of ICT tools for dissemination of information	112	40.72
5	Takes part in academic discussion and research groups	98	35.63
6	Stores information appropriately	94	34.18
7	Ensure the authenticity of the source before seeking information	68	24.72
8	Spends fixed time regularly for information seeking	67	24.36
9	Any other	55	20

The data in the table show that majority of the respondents have no habit of seeking scholarly information regularly. 70.90% of the total sample tries to seek information only if there is specific need. It is interesting to find out that most of the research scholars take efforts to publish research article even though they are not interested to participate in serious academic activities. Only 35.63 % of research scholars are actively involved in academic activities. It is also exciting to find out that only 24.72% percentage of total sample takes initiatives to ensure authenticity of the information they collect. With respect to storage skills and retrieval skills, some respondents (34.18%) are reported to store information appropriately and 54.54% of research scholars try to retrieve information as it is stored with no further modifications. Some research scholars (40.72%) are found to use ICT tools to disseminate information. The summary of the results has been presented as figure 11

Figure 11

Diagrammatical Representation of Information Seeking Process of Research Scholars



Most Preferred Space for Research Work

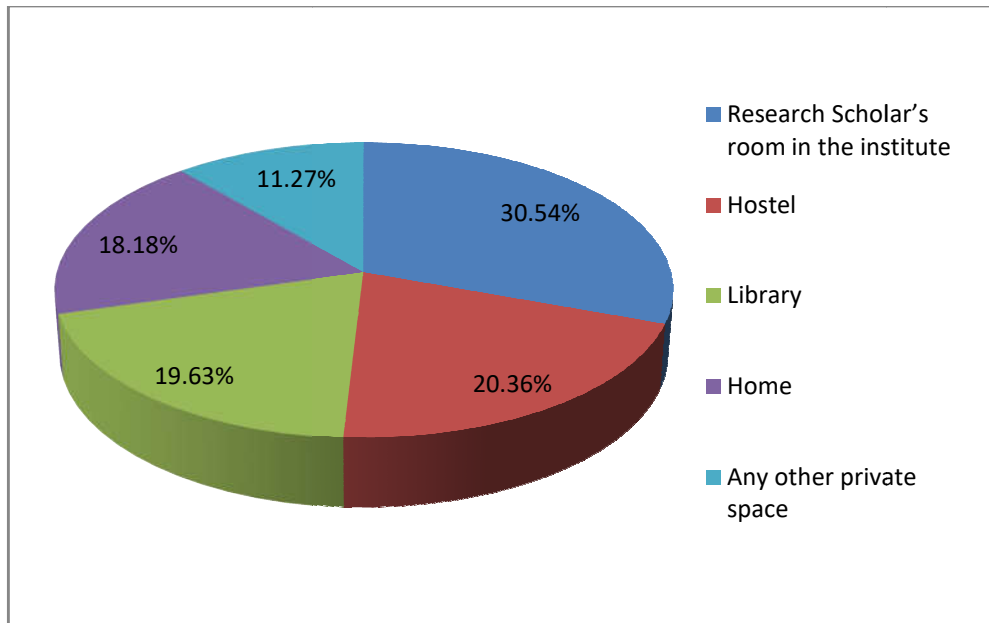
In order to find out Information Seeking Process of research scholars, they were asked to choose most preferred space for research work. The data have been presented as table 16

Table 16

Data Showing Most Preferred Space for Research Work

Space	N	%
Research Scholar’s room in the institute	84	30.54
Hostel	56	20.36
Library	54	19.63
Home	50	18.18
Any other private space	31	11.27

It is seen from the table that most preferred work space among research scholars is research room in the institute with 30.54% of respondent opt it as their first choice followed by hostel (20.36%), library (19.63%), and home (18.18%) respectively. Similarly, there are a few scholars (11.27%) who prefer any other private space. Figure 12 gives diagrammatic representation of most preferred space for research work.

Figure 12*Diagrammatic Representation of Most Preferred Space for Research***Use of Data Analysis Tools (N=78)**

Data analysis is an important stage in research work where collected data will get analyzed qualitatively or quantitatively using appropriate statistical techniques. Hence, the respondents were asked about the data analysis software they used for data analysis from the list of leading data analysis tools. Only 78 research scholars marked their responses to the question while others have yet to complete data analysis. The responses thus collected are presented as table 17

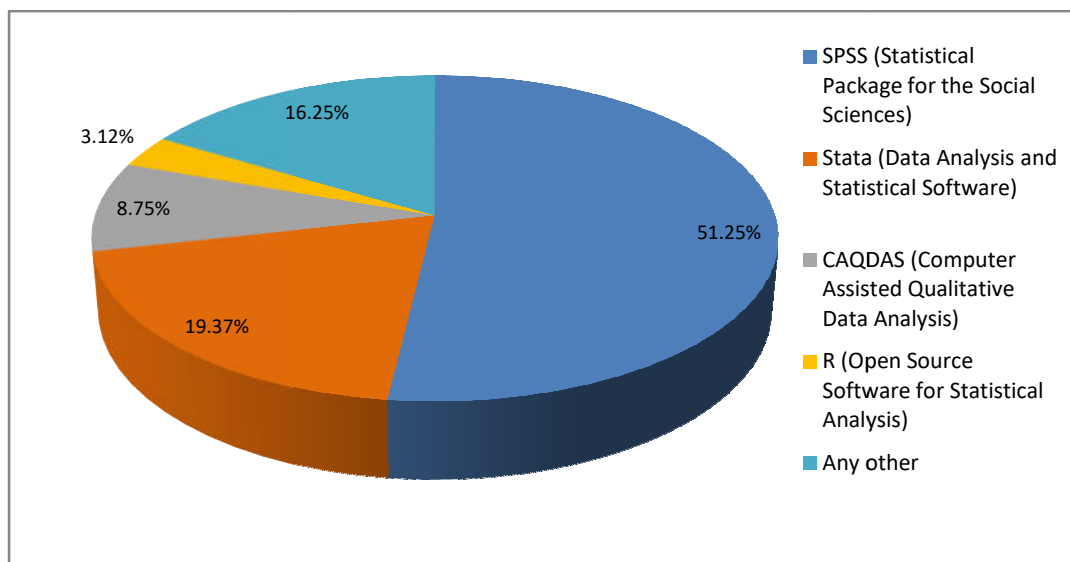
Table 17*Data and Results of Use of Data Analysis Tools (N=160)*

Software	N	%
SPSS (Statistical Package for the Social Sciences)	82	51.25
Stata (Data Analysis and Statistical Software)	31	19.37
CAQDAS (Computer Assisted Qualitative Data Analysis)	14	8.75
R (Open Source Software for Statistical Analysis)	5	3.12
Any other	26	16.25

As per the data in the table convey, 51%(N=160) of the researchers use SPSS for statistical analysis of their quantitative data while a few (19 %, 3%) use other software like Stata and R respectively. It is also revealed that 8% of research scholars use CAQDAS for analysis of qualitative data. Interestingly, there are research scholars who are not aware of software available for qualitative analysis. The result has been diagrammatically presented as figure 13

Figure 13

Diagrammatic Representation of Use of Data Analysis Tool



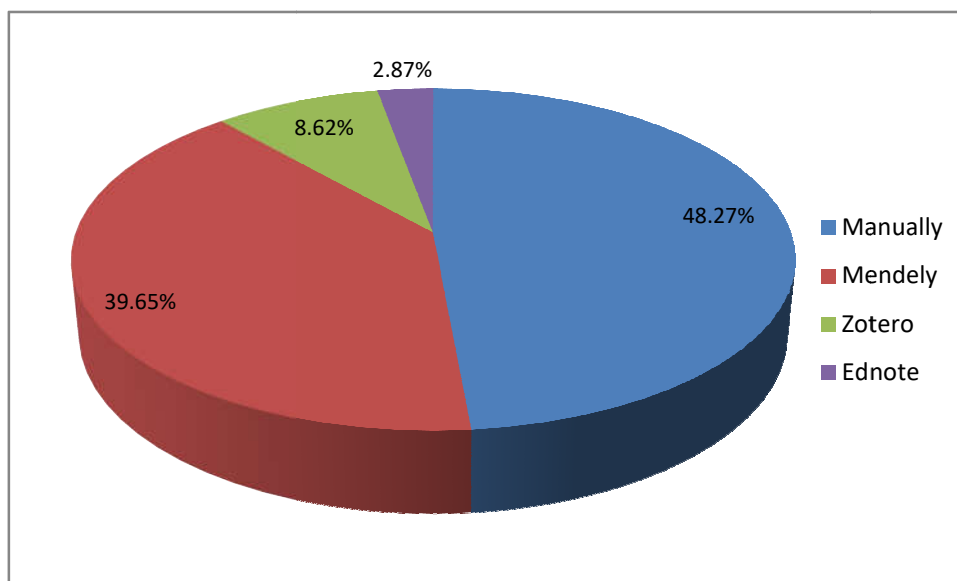
Use of Online Reference Management Tools (N=174)

Managing reference in research work as in text citations as well as references/bibliographies at the end is a laborious task as it involves collection and storage of hundreds of sources. There are numbers of standard digital tools that can be effectively used for efficient management of references. Like analysis, reference management is also an important research behavior and research scholars must be updated in this regard. Hence, questions were asked as to which online reference management tool they use and the response given are as follow.

Table 18*Data and Results of Use of Online Reference Management Tools*

Reference Management tools	Number of research Scholars	%
Manually	84	48.27
Mendely	69	39.65
Zotero	16	8.62
Ednote	5	2.87

It is obvious from the table that use of reference management tools is not that much popular among research scholars and the number of research scholars in Social science who use reference management tools is comparatively less as most of the respondents (48.27%) prefer to do it manually. Among the users, majority (39.65%) use Mendely, 8.62% use Zotero and 2.87% prefer Ednote. Surprisingly, there are number of research scholars who are not aware of reference management tools. The details are graphically presented as figure 14.

Figure 14*Diagrammatic representation of Use of Reference Management Tools by Research Scholars*

Major Categories of Information Seeking Process

The study was mainly meant to investigate information seeking behavior of research scholars in social science. The research scholars were categorized in to three groups namely researchers with good information seeking skills, researcher with average information seeking skills and researcher with poor information seeking skills according to the strategies adopted to seek, store and retrieve information, to verify authenticity of the source and the skills to use specific online tools for data analysis and reference management. The summary of the data thus obtained is properly analyzed. The research scholars, who frequently try to verify authenticity of the information available, seek information from appropriate sources, store information properly and who have possessed skills to retrieve information when it is required along with the updated knowledge about latest tools for information processing were considered as researchers with good information seeking skills. The behavior of processing information from appropriate source but without using relevant strategies for its proper retrieval was considered as average and the researchers without habit of verifying the authenticity of the information source were considered as researchers with poor information seeking skills. Based on the responses given by the participants, the percentage of each category was calculated for total sample and sub groups based on gender and mode of research. The results and discussions are following.

Table 19*Information Seeking Process of Research Scholars in Social Science*

Sl. No.	Information Seeking Process	N	%
1	Total	83	30.18
	Female	62	37.58
	Male	21	19.09
	Fulltime	56	46.28
	Part time	27	17.53
2	Total	102	37.09
	Female	61	36.97
	Male	41	37.27
	Full time	44	36.36
	Part time	58	37.66
3	Total	90	32.72
	Female	42	25.45
	Male	48	43.63
	Full time	21	17.35
	Part time	69	44.80

It can be observed from the data presented in the table that, the majority of research scholars in social science (37%) belong to the category of research scholars with average information seeking behavior. It is very important to lean that out of 275 total samples only 83 (30 %) research scholars have good information seeking behavior. More importantly, 32% of research scholars possess poor information seeking process.

While analyzing information seeking process of research scholars based on relevant sub groups namely Gender and Mode of research, it could be learnt that the number of male research scholars belonging to the first category (good) is very less (19.09%) whereas, 43.63% of male researcher belong to poor category. Interestingly, out of the 83 research scholars with good information seeking behaviours 62 are

female research scholars. It is also revealed that majority of part time research scholars(37.66%) have average information seeking behavior whereas most of the full time research scholars(46.28%) possess good information seeking behavior.

Comparison of Information Seeking Process of Research Scholars based on Gender and Mode of Research is diagrammatically presented as figure 15 and 16.

Figure 15

Comparison of Information Seeking Process of Research Scholars based on Gender

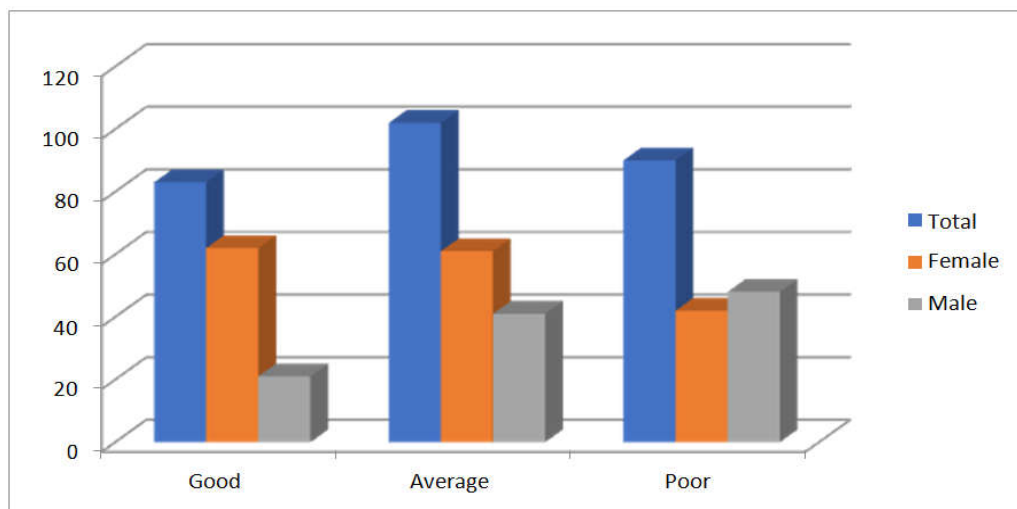
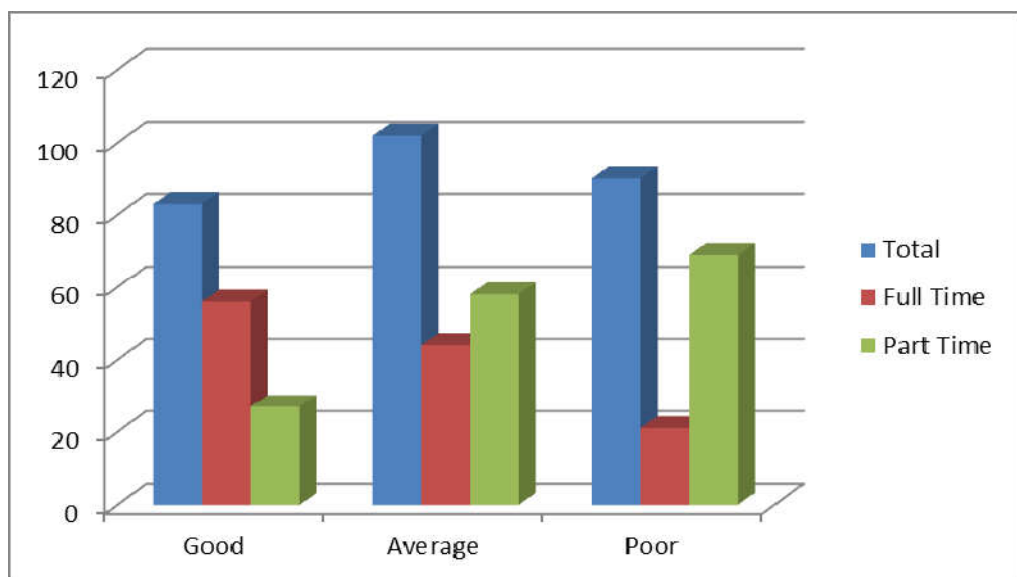


Figure 16

Comparison of Information Seeking Process of Research Scholars based on Mode of Research



Source of Information

Collecting information from relevant source is very important in research. To find out source of information frequently accessed by research scholars they were asked to tick their preference in the given sources of information. The responses thus given are shown as table 20

Table 20

Data Showing Source of Information Accessed by Research Scholars in Social Science

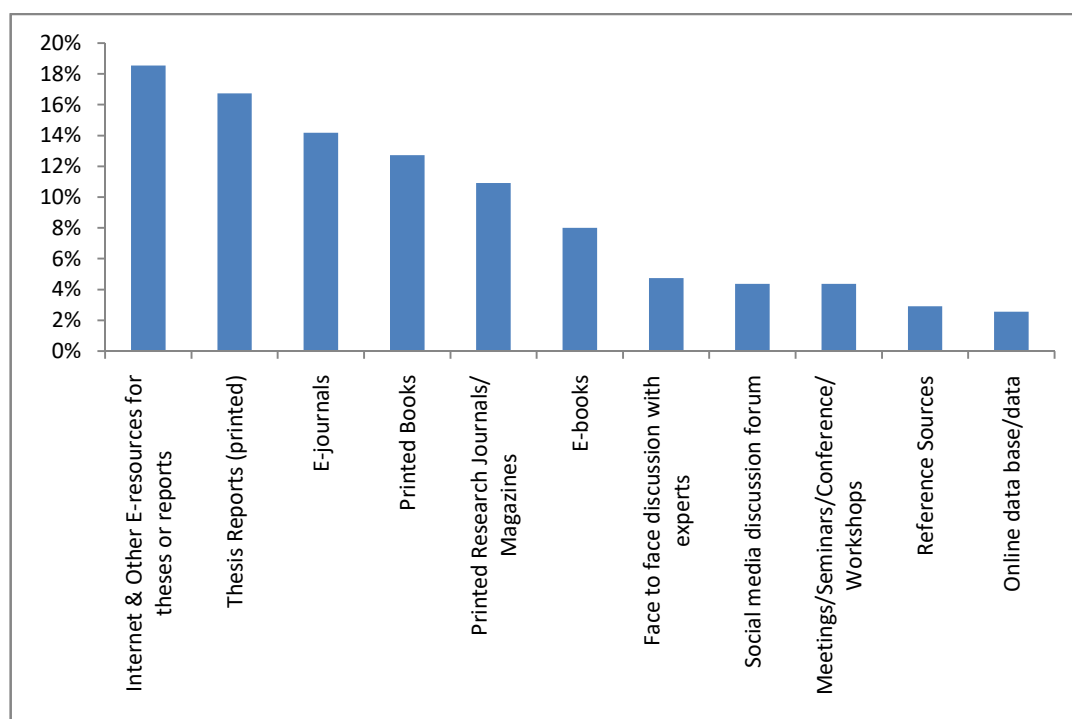
Main Source of Information	N	%
Internet & Other E-resources for theses or reports	51	18.55
Thesis Reports (printed)	46	16.73
E-journals	39	14.18
Printed Books	35	12.73
Printed Research Journals/ Magazines	30	10.91
E-books	22	8
Face to face discussion with experts	13	4.73
Social media discussion forum	12	4.36
Meetings/Seminars/Conference/Workshops	12	4.36
Reference Sources	8	2.91
Online data base/data	7	2.55
Indexing sources	0	0
Abstracting sources	0	0
Conference proceedings	0	0
Encyclopaedias	0	0

The source presented in the table consists of both formal and informal sources. Among formal sources, e-journals, e-books and internet sources are found to be

frequently accessed by research scholars as 47% percentage of respondents selected e-journals or e-books or internet sources or social media as their first choice. Interestingly, only a few respondents viz., 12 % and 10 % respectively take printed books or journal as the main source of information. A few research scholars interact directly with the experts to seek information. It is also revealed that 16% of research scholars refer printed theses or reports where as 18% access digital thesis reports from Shodganga or INFLIBNET and another 4 % of research scholars seek information from social media discussion forum. Thesis report is the most preferred source of information among printed sources. Most interestingly, there are number of standard source of information like encyclopedia that is rarely or never accessed by research scholars. The percentage of participants who prefer each of given sources is diagrammatically presented as figure 17.

Figure 17

Diagrammatical Representation of Source of Information Accessed by Research Scholars in Social Science



Classification of Research Scholars based on Source of Information

Research scholars in social science were classified according to their most preferred source of information and three major groups namely those who prefer traditional printed sources like printed books, printed journals and interaction with expert, those who seek information from e-journal, e-book and social media platform and the research scholars who access thesis reports digital as well as printed were identified. Accordingly, the percentage of research scholars who belong to each category is calculated. The details are summarized as table 21.

Table 21

Data Showing Percentage of Research Scholars who Prefer Different Source of Information

Sl. No.	Source of Information	N	%
1	Total	90	32.73
	Female	65	39.39
	Male	25	22.73
	Full Time	52	42.98
	Part Time	38	24.68
2	Total	88	32.00
	Female	57	34.55
	Male	31	28.18
	Full Time	48	39.67
	Part Time	40	25.97
3	Total	97	35.27
	Female	43	26.06
	Male	54	49.09
	Full Time	21	17.36
	Part Time	76	49.35

The data in the table 21 reveals some interesting facts regarding the study skills of research scholars in social science. The research scholars in social science prefer to seek information through easy means as they are not ready to take efforts to ensure the quality of the information they search. Male and part time researcher prefer the source where the required information is readily available since most of the part time (49.09%) and majority of male research scholars (49.35%) like to refer thesis reports only. It is also understood that majority of female (39.39%) and most of full time research scholars (42.98%) prefer printed books to thesis reports and journals. The preference of research scholars regarding source of information is diagrammatically represented as figures 18-20.

Figure 18

Diagrammatic Representation of Preference of Research Scholar based on Source of Information

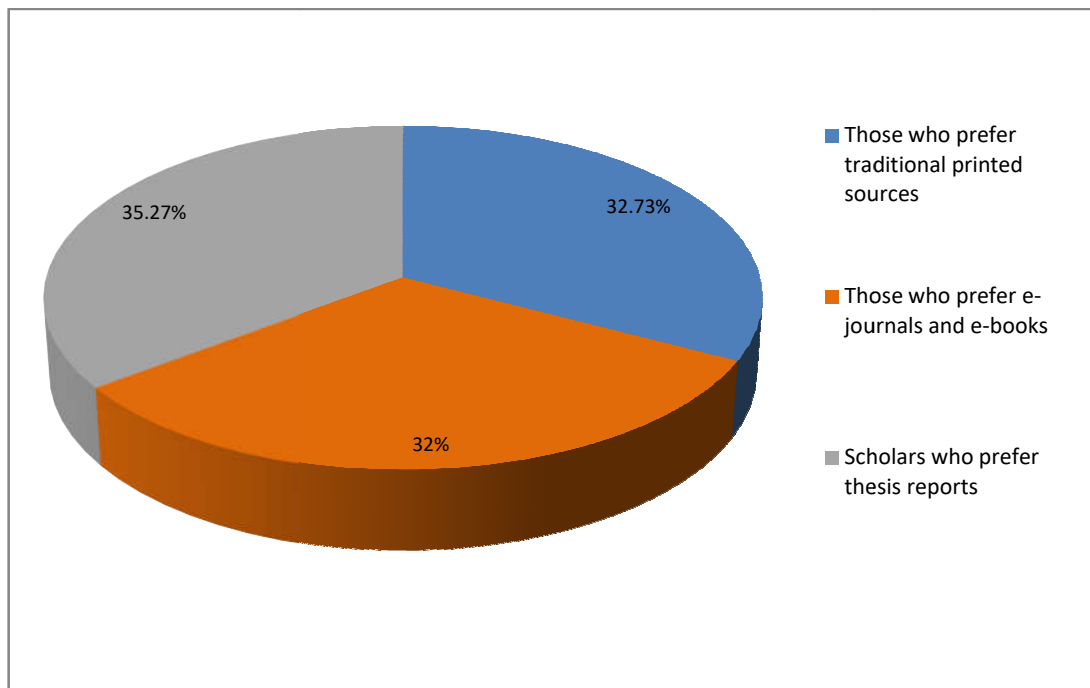


Figure 19

Source of Information Accessed by Research Scholars based on Gender

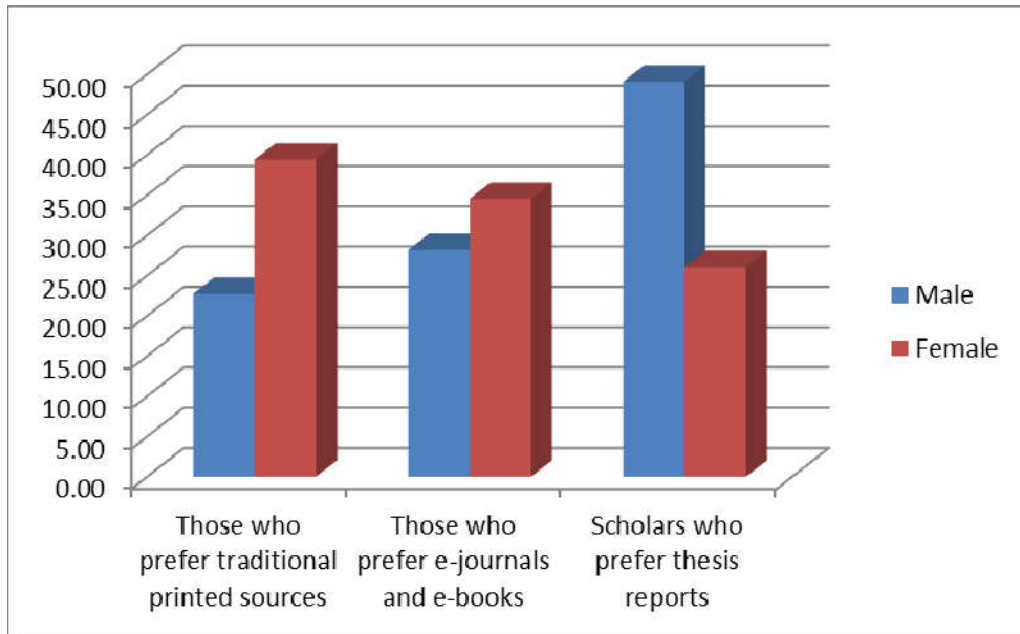
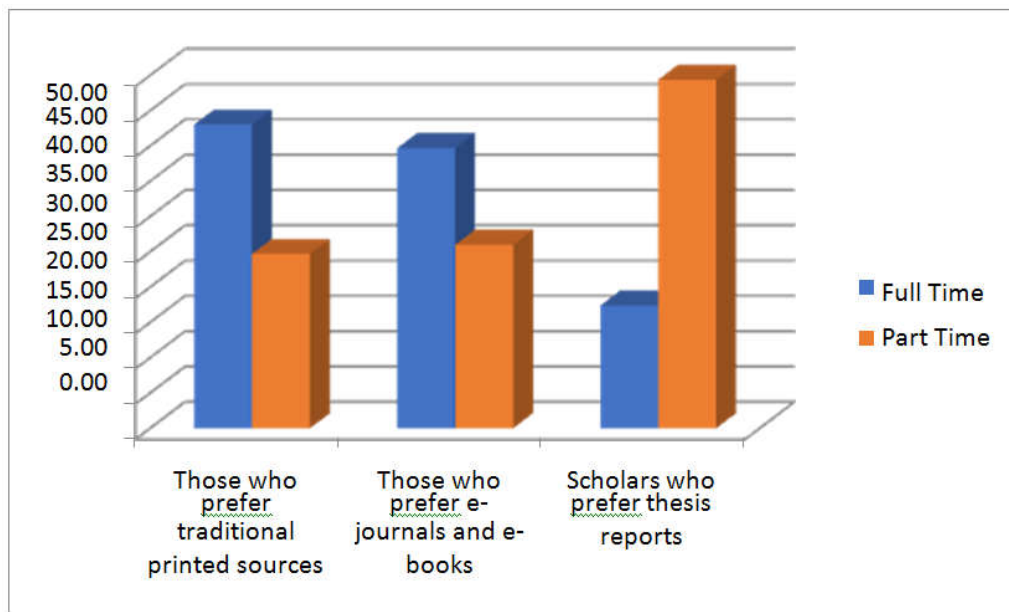


Figure 20

Source of Information Accessed by Research Scholars based on Mode of Research



Online Search Engines used by Research Scholars

ICT has revolutionized the entire field of information as the information is available at one’s fingertip. Moreover, the thesis reports from almost all the

universities in India are available in Shodhganga. Questions were asked to find out respondents' preferred choice among online sources. The details are summarized as table 22

Table 22

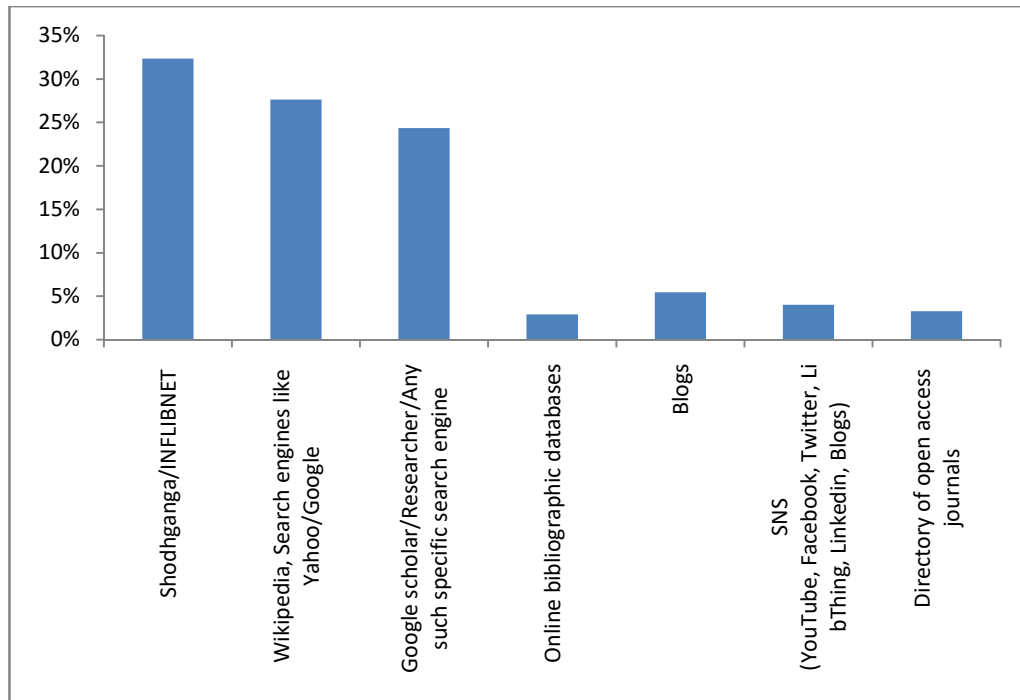
Data and Results of Online Search Engines Used by Research Scholars in Social Science

Source	N	%
Shodhganga/INFLIBNET	89	32.36
Wikipedia, Search engines like Yahoo/Google	76	27.64
Google scholar/Researcher/Any such specific search engine	67	24.36
Online bibliographic databases	8	2.91
Blogs	15	5.45
SNS (YouTube, Facebook, Twitter, LibThing, LinkedIn, Blogs)	11	4
Directory of open access journals	9	3.27

The data in the table 22 reveals a very interesting fact that the most preferred online source among research scholars is common search engines like Google and Yahoo with 37% research scholar prefer common search engines like Wikipedia, blogs and SNS etc. followed by subject portals like Shodgnaga and INFLIBNET as 35% of respondents prefer the same. It is interesting to find out that research specific search engines are least preferred online sources among research scholars as only 27% research scholars prefers research specific search engines like research gate. Among common search engines, 27% of respondents admit that they prefer Wikipedia as their first choice and 4% of research scholars prefer social media platform where as 5% of respondents opt blogs. It can also be understood that Google is most preferred search engine among research scholars. The preference of research scholars on search engine is diagrammatically presented as figure 21

Figure 21

Diagrammatic Representation of Use of Online Search Engines by Research Scholars



User Categories

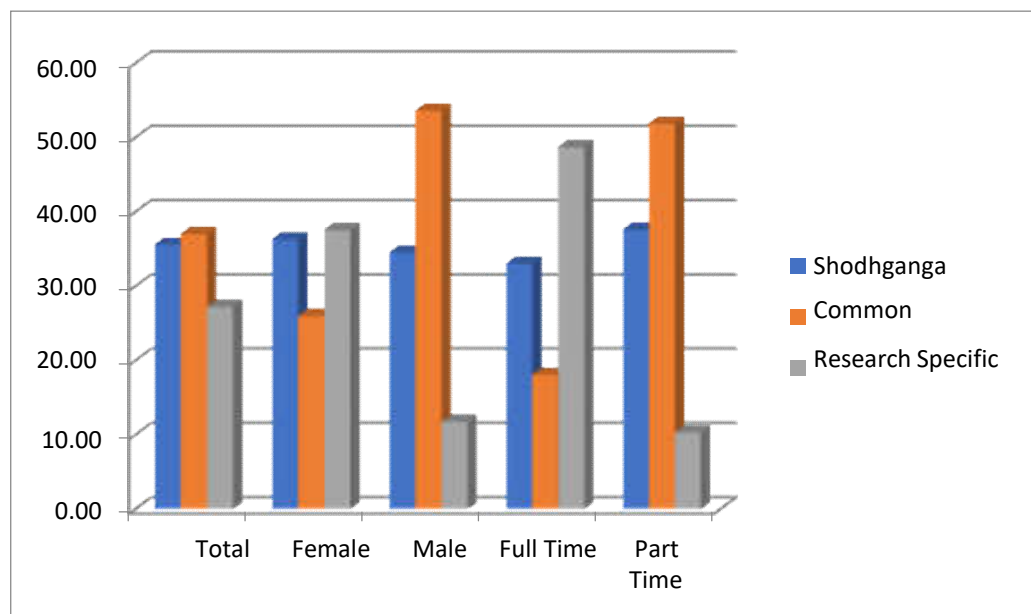
In order to keep the users up to date in the new digital environment, they need to use different online tools. Needless to say, all the research scholars use variety of online tools to access information from different online sources. Based on their nature and type of information available, these tools were categorized in to three major categories namely common search engines which include Google, Yahoo, Wikipedia etc. , subject specific portals like Shodhganga and INFLIBNET and scholarly search engines like researcher and Google scholar. Accordingly, three groups of research scholars were identified. The summary of the results is shown as table 23

Table 23

Data and Results of Search Engines Used by Research Scholars based on Gender and Mode of Research

Sl No	Category	N	%	
1	Those who prefer Shodhganga or INFLIBNET or other subject specific Portals	Total	98	35.64
		Female	60	36.36
		Male	38	34.55
		Full Time	40	33.06
		Part Time	58	37.66
2	Those who prefer common search engines	Total	102	37.09
		Female	43	26.06
		Male	59	53.64
		Full time	22	18.18
		Part time	80	51.95
3	Scholars who prefer research specific tools	Total	75	27.27
		Female	62	37.58
		Male	13	11.82
		Full time	59	48.76
		Part time	16	10.39

It is quite interesting to find out that research scholars especially male and part time research scholars don't go for authentic information and the most preferred online tools among them is common search engine like Google or Yahoo since 53.64% of part time research scholars and 51.95% of male research scholars opt them. It is also observed that female and full time research scholars use research specific search engines mostly with 37% and 48.76% respectively. Interestingly, the most accepted online source among all the type of research scholar is Shodhganga or INFLIBNET. The results are presented as figure 22

Figure 22*Diagrammatic Representation of Search Engines Used by Research Scholars***Use of Library by Research Scholars**

It is generally reported that use of library by information seeker has been decreasing day by day with the emergence of ICT. The respondents were asked as for what purpose they use library. The details are following.

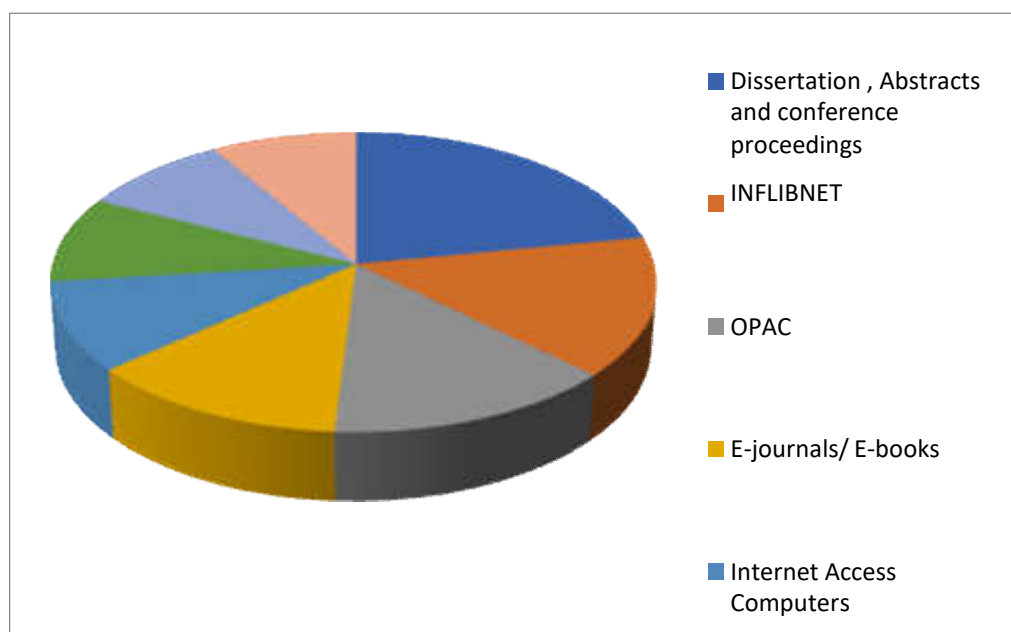
Table 24*Data and Results of Use of Library by Research Scholars*

Source of information	N	%
Dissertation, Abstracts and conference proceedings	243	88.36
INFLIBNET	166	60.36
OPAC	153	55.64
E-journals/ E-books	138	50.18
Internet Access Computers	106	38.55
Periodicals	102	37.09
Journals	98	35.64
Books	96	34.91

It is observed that the library is becoming a least preferred source of information among research scholars since they don't visit library regularly and frequently. Interestingly, the main purpose of visiting library among research scholars not to borrow book or refer printed sources but to access online sources like periodicals, printed journals and books are least preferred source of information (37%, 35% and 34% respectively) accessed by research scholars from library. Of the printed materials they prefer periodicals followed by journal. Most of the research scholars (88.5%) visit library to access dissertation and theses. 60% of research scholars access INFLIBNET, 55% OPAC and 50% e-books/Journals. It is quite interesting to observe that 38 % of research scholars visit library to access internet. The results are presented as figures 23.

Figure 23

Diagrammatic Representation of Use of Library by Research Scholars



Nature and Type of Information Sought

In order to understand research scholar's preference with respect to type and nature of information they seek, questions were asked about different format in the

form of printed text, e-documents, video, published data etc. The responses thus collected have been retrieved as table 25.

Table 25

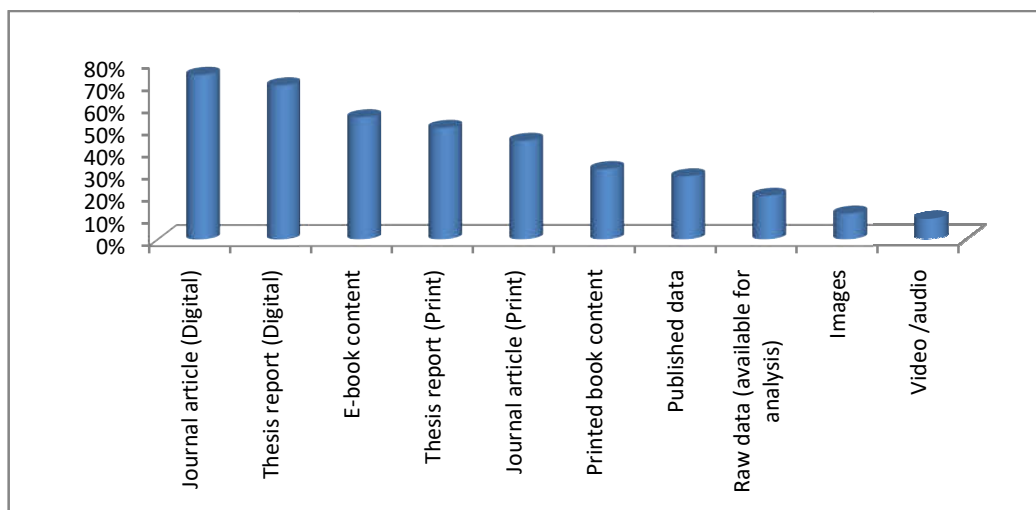
Data showing Nature and Type of Information Sought

Format	N	%
Journal article (Digital)	204	74.18
Thesis report (Digital)	191	69.45
E-book content	151	54.91
Thesis report (Print)	138	50.18
Journal article (Print)	122	44.36
Printed book content	87	31.64
Published data	78	28.36
Raw data (available for analysis)	54	19.64
Images	32	11.64
Video /audio	25	9.09

It is observed from the data given in the table that digital journal articles are the most accessed type of information among research scholars in social science since 74 % of respondents seek that type of information followed by digital thesis reports with 69%, e-books with 54%, printed thesis reports with 50% and printed journal articles with 44%. It can be further understood that, digital document is most preferred type of information among research scholars in social science. The number of research scholars looking for printed documents in the form of books, journals and thesis reports is very low. There are a few research scholars who look for raw data as well as published data. Still, a small section of research scholars are seen seeking images or videos for their research propose. The results are graphically presented as figure 24.

Figure 24

Diagrammatic Representation of Nature and Type of Information Sought



Problems faced by Research Scholars in Social Science while Seeking Information

In order to find out the problems faced by research scholars while seeking information they were provided with some possible options to choose from. The responses thus yielded have been summarized in the following table.

Table 26

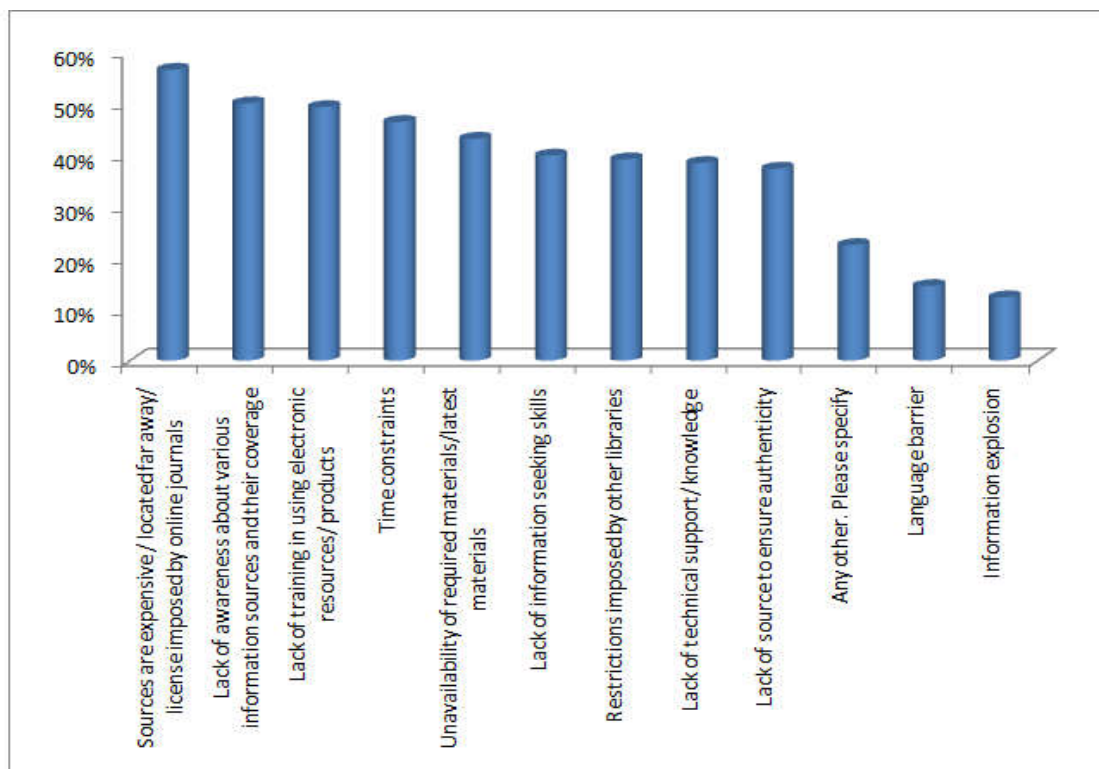
Data Showing the Problems Faced by Research Scholars

Problems	Number	%
Sources are expensive/located far away/license imposed by online journals	156	56.73
Lack of awareness about various information sources and their coverage	138	50.18
Lack of training in using electronic resources/ products	136	49.45
Time constraints	128	46.55
Unavailability of required materials/latest materials	119	43.27
Lack of information seeking skills	110	40.00
Restrictions imposed by other libraries	108	39.27
Lack of technical support/ knowledge	106	38.55
Lack of source to ensure authenticity	103	37.45
Any other. Please specify	62	22.55
Language barrier	40	14.55
Information explosion	34	12.36

The data in the table reveal that research scholars face almost all the listed problems and they have caused constrains in some point of their research. License imposed by online journal in the form of huge amount of money or difficulty in accessing print documents located far away is the greatest problem faced by most of the research scholars (56%) followed by lack of awareness about various information sources and their coverage (50%), lack of training in using electronic resources (49%), time constraints (46.5%), unavailability of required materials/ latest materials (43%), lack of information seeking skills (40%), restrictions imposed by other libraries (39%), lack of technical support/ knowledge (38%) and lack of source to ensure authenticity (37%). The other problems they listed are family pressures, relationship with supervisor, location of research work, lack of adequate internet/network speeds and financial issues. The information seeking problems among research scholars in social science is presented as figure 25.

Figure 25

Diagrammatic Representation of Information Challenges



Statistical analysis of the scores obtained for the variables Procrastination and Ethical Considerations in Research

After the preliminary analysis, the scores obtained were subjected to further statistical analysis. The details are presented under the following headings

1. Procrastination among research scholars in social science
2. Ethical considerations in research among research scholars in social science
3. Investigation of the differences in the scores of procrastination and ethical considerations in research among research scholars in social science based on relevant sub groups
4. Interaction effect of Gender and mode of research on procrastination and ethical considerations in research
5. Interaction effect of procrastination and information seeking process on ethical consideration in research

Procrastination Behaviour among Research Scholars in Social Science

Data regarding the procrastination behaviour of research scholars were collected by using a five point procrastination scale. In order to find out whether the research scholars have high/moderate / low level of procrastination the mean score obtained for total sample was compared to the maximum possible score that can be obtained on the tool. The total sample of research scholars has a mean score of 172.96. The maximum possible score on the scale is 295 and minimum score is 56, since it is five points scale with 56 statements ($56*5=280$, $56*1=56$). From the mean score obtained that is 172.96, it can be inferred that research scholars have moderate to high level of procrastination behavior. It can also be ensured from the calculated value 169.8 for 30th percentile that 70% of research scholars lie above the score 169.8 where the maximum possible score is 280.

Ethical Considerations in Research among Research Scholars in Social Science

In order to understand ethical considerations in research among research scholars in social science, a test with multiple choice questions was constructed and each question in the test yields 1 mark for correct answer and no mark for wrong answer. The total sample of research scholars has a mean score of 22.15. The maximum possible score on the test is 47. From the mean score obtained that is 22.15, it can be inferred that ethical considerations in research among research scholars in social science is unsatisfactory. The 80th percentile value 27 also shows that research scholars in social science possess unsatisfactory level of ethical considerations in research as only 20% of research scholars in social science come above the score 27 where the total score is 47.

Investigation of the Influence of Categorical Variables on Procrastination and Ethical Considerations in Research

Procrastination is a complex phenomenon with affective, cognitive, and behavioral components (Rothblum, et al., 1986). Hence, it is supposed that significant differences may be found in categorical variables like gender, mode of research, and information seeking behavior. Steel's (2007) meta-analysis research reported that men procrastinate in everyday life more than women. This necessitates investigation of the influence of gender on procrastination of research scholars. As part time research scholars are not devoting their whole time for research work, it is possible to find out significant difference in the procrastination of research scholars based on mode of research. It can also be understood that ethical considerations in research among research scholars is influenced by gender, mode of research and information seeking process.

Investigation of Group Difference in Procrastination and Ethical Considerations in Research among Research Scholars Based on Gender and Mode of Research. Research scholars in social science were classified in to different sub categories on the basis of gender, and mode of research and the scores were subjected to further statistical analysis to find out whether there exists any significant difference in the procrastination behaviour and ethical considerations in research of research scholars in Social science based on relevant sub groups. The details have been presented as follows

Gender. The total sample was classified in to two groups based on gender i.e.; male and female. The mean and standard deviation were calculated and they were subjected to test of significant difference between two groups to find out the influence of gender on procrastination and ethical considerations in research. The data and result are presented in the table 27.

Table 27

Data and Results of the Test of Significant Difference in the Mean Scores of Procrastination Behaviour and Ethical Considerations in Research among Research Scholars based on Gender

Variables	Gender	N	Mean	Std. Deviation	t-value	Level of Significance
Procrastination	Female	165	171	11.39	3.42	0.01
	Male	110	175.91	12.07		
Ethical considerations in research	Female	165	22.78	6.44	2.14	0.05
	Male	10	21.22	5.06		

From the data shown in the table 27, it can be observed that the mean score of female research scholars is 171 and the standard deviation is 11.39 and that of male research scholar is 175.91 and standard deviation is 12.07 respectively. The critical ratio calculated is 3.42 and it is greater than the table value 2.58 to be significant at 0.01 levels. This indicates that there exists significant difference in the mean score of procrastination behaviour among research scholars based on gender. Since the

higher mean is associated with male research scholars, it can be inferred that male research scholars possess high level of procrastination when compared to female research scholars.

From the data shown in the table 27, it can also be learnt that the mean score of female research scholars on ethical considerations in research is 22.78 and the standard deviation is 6.44 respectively and that of male research scholars is 21.22 and standard deviation is 5.06 respectively. The critical ratio calculated is 2.14 and it is greater than the table value 1.96 to be significant at 0.05 levels. This indicates that there exists significant difference in the mean score of ethical considerations in research among research scholars based on gender. Since the higher mean is associated with female research scholars, it can be inferred that female research scholars possess high level of ethical considerations in research when compared to male research scholars

Mode of Research. The total sample was classified in to two sub groups based on mode of research and two categories viz., full time research scholars and part time research scholars were thus identified. The mean and standard deviation were calculated for both variables namely procrastination and ethical considerations in research and they were subjected to test of significant difference between two groups. The data and result are presented in the table 28

Table 28

Data and Results of the Test of Significant Difference in Mean Scores of Procrastination Behaviour and Ethical Considerations in Research based on Mode of Research

Variables	Mode of research	N	Mean	Std. Deviation	t-value	Level of Significance
Procrastination	Full time	121	171.35	11.63	2.00	0.05
	Part time	154	174.23	11.98		
Ethical Considerations in Research	Full time	121	23.35	6.61	2.99	0.01
	Part time	154	21.21	5.24		

From the table it can be understood that the mean score of Part time research scholars is 174.23 and the standard deviation is 11.98 and that of full time research scholars is 171.35 and standard deviation is 11.63 respectively. The critical ratio calculated is 2 and it is greater than the table value 1.96 at 0.05 levels. This indicates that there exists significant difference in the mean score of procrastination behaviour among research scholars based on mode of research and from the mean scores obtained for part time and full time research scholars it can be understood that the part time research scholars procrastinate more when compared to full time research scholars.

It is further learnt from the table that the mean score of full time research scholars for the variable ethical considerations in research is 23.35 and the standard deviation is 6.61 and that of part time research scholars is 21.21 and standard deviation is 5.24 respectively. The critical ratio calculated is 2.99 and it is greater than the table value 2.58 at 0.01 level. This indicates that there exists significant difference in the mean score of procrastination behaviour among research scholars based on mode of research. Since the higher mean is associated with full time research scholars, it can be inferred that full time research scholars possess high level of ethical considerations in research when compared to part time research scholars.

Difference in the Scores of Procrastination and Ethical Considerations in Research Based on Information Seeking Behavior. According to Wilson, (2017) the word 'information seeking behaviour' of an individual is his total behaviour in respect of the sources and channels of information and the information he uses. On the basis of the source of information they seek, online tools they use and their information seeking behavior, the research scholars in social science were divided in to groups of three each. Analysis of variance was done to find out whether there exist any significant differences in the mean score of procrastination and ethical considerations in research. The details are presented as following.

Effect of Source of Information on Procrastination and Ethical Considerations. The research scholars were classified in to three groups namely those who prefer printed books and journals, those who prefer e-books and e-journals and finally the category which prefers thesis report. One-way ANOVA was carried out to investigate whether there exists any significant difference among the mean scores of procrastination and ethical considerations in research for the subgroups based on source of information viz, printed books and printed journals, e-books and e-journal and thesis reports. The data and results of One-way ANOVA have been given in table 29.

Table 29

Result of ANOVA on the Scores of Procrastination and Ethical Considerations in Research among Research Scholars in Social Science based on Source of Information

Variables	Group	Sum of Squares	Df	Mean Square	F-value
Procrastination	Between Groups	635.45	2	317.72	
	Within Groups	38118.19	272	140.14	2.27
	Total	38753.64	274		
Ethical considerations in research	Between Groups	529.19	2	264.59	
	Within Groups	9227.09	272	33.92	7.80**
	Total	9756.28	274		

**Significant at 0.01 level

As shown in the table, the calculated F-ratio is 2.27 for the score obtained for procrastination based on source of information, which is lesser than the table value for degrees of freedom (2, 273) required for significance at .05 level. This means there exists no significant difference in the mean scores of procrastination among research scholars who prefer printed books or printed journal, those who prefer e- books or e-journal and the category who prefers thesis based on source of information. Thus it can be interpreted that the variable source of information

has no significant influence on procrastination of research scholars in social science.

The table also contains the result of ANOVA of the scores of research scholars obtained for the variable ethical considerations in research. The calculated F-ratio 7.37 was found to be greater than the table value 4.68 at 0.01 levels for Degree of Freedom (2,273). This means there exists a significant difference in the mean scores of ethical considerations in research among research scholars who prefer printed materials, those who like to refer e-books or e-journals and the category which prefers to refer thesis reports. Thus it can be interpreted that the variable source of information has significant influence on ethical considerations in research among research scholars in social science

The data were further subjected for analysis by using Scheffés test of Post Hoc comparison to find out the sub groups who differ significantly and to know which groups’ mean score of ethical considerations in research is significantly higher. The results of the Scheffés test of post hoc comparison for subgroups based on source of information are presented in table 30.

Table 30

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means for Various Categories of Research Scholars based on Source of Information they Prefer to Refer (Ethical Considerations in Research)

Source of Information	Thesis report	Printed Book/ Printed Journal	E-book/ E-Journal	
	Mean score	21.14	24.14	21.24
Thesis report	21.14	0.00	3.00*	.10
Printed book/ Printed Journal	24.14		0.00	2.9*
E-book/E- Journal	21.24			0.00

*Indicates significance at 0.05 level

It can be seen from the table that the difference between mean scores of e-books and e-journal group and printed book and printed journal group based on source of information that the research scholars in social science refer is 2.9 with Std. Error .87 which is significant at 0.05 level, $p < 0.05$. Hence it is revealed that the difference in the mean scores of e-books and e-journal group ($M=21.24$) and printed book and printed journal group ($M=24.14$) based on source of information among research scholars in social science is significant and these two groups of research scholars are not identical in their ethical considerations in research. It can further be inferred that the research scholars who prefer printed documents to e-book and e-journals have high ethical considerations in research since the highest mean score is associated with that group.

From Scheffé's test of Post Hoc Comparison it is further observed that the difference between mean scores of thesis report group and printed book and printed journal group based on source of information that the research scholars in social science refer is 3 with Std. Error .85 which is significant at 0.05 level, $p < 0.05$. Therefore, it can be concluded that the difference in the mean scores of thesis ($M=21.14$) and printed book and printed journal group ($M=24.14$) based on source of information among research scholars in social science is significant and these two groups of research scholars differ significantly in their ethical considerations in research. It is also observed that the research scholars who prefer thesis report either printed or digital to printed books have low ethical considerations in research when compared to research scholars who prefer printed book or printed journal.

Coming to the another comparison between thesis group and e-book/ journal group based on source of information, it could be learnt that the difference between mean scores of thesis report and e-journal and e-books group based on source of information that the research scholars in social science refer is 1.00 with Std. Error .86 which is not significant at 0.05 level, $p > 0.05$. Therefore, it is observed that the difference in the mean scores of thesis ($M=21.14$) and e-book and e-journal group ($M=21.24$) based on source of information among research scholars in social science

is not significant and these two groups of research scholars is identical in their ethical considerations in research.

Effect of Use of Search Engines on Procrastination and Ethical Considerations. As the research scholars prefer digital information, three groups based on the use of online tools to seek information were identified. The first category is of the research scholars who use common search engines like Google or Yahoo. Those who search information in Shodhganga and INFLIBNET were grouped as second category and the research scholars who seek information through research specific search engines such as researcher or research gate belong to the third group. One way ANOVA was carried out to find out if there exists any significant difference in the mean scores of research scholars based use of online search engines with respect to procrastination and ethical considerations in research.

Table 31

Result of ANOVA on the Scores of Procrastination and Ethical Considerations in Research among Research Scholars in Social Science based on use of Online Search Engines

Variables	Search Engines	Sum of Squares	Df	Mean Square	F
Procrastination	Between Groups	1985.45	2	992.72	7.34**
	Within Groups	36768.19	272	135.18	
	Total	38753.67	274		
Ethical considerations in research	Between Groups	682.29	2	341.15	10.23**
	Within Groups	9073.98	272	33.36	
	Total	9756.28	274		

**Significant at 0.01 level

The table 31 reveals that the obtained F-ratio for procrastination is 7.34, which is greater than the table value 4.68 at 0.01 levels. This means there exists a significant difference in the mean scores of procrastination among research scholars who uses

common search engine, those who search Shodhganga and the category which seeks information through research specific search engines. Thus it can be interpreted that the variable use of online search engine has significant influence on procrastination of research scholars in social science. In order to understand the two sub groups which difference significantly, Scheffés post hoc analysis has been done. The results of the Scheffés test of post hoc comparison for subgroups based on use of online search engines are presented in table 32.

Table 32

Summary of Scheffés test of Post Hoc Comparison with Matrix of Ordered Means for Three Categories of Research Scholars in Social Science based on Use of Online Search Engine (Procrastination)

Use of Online Search Engines	Common Search Engines	Shodhganga	Research Specific Search Engines
Mean score	170.4	176.49	171.89
Common search Engines	170.40	0.00	6.10**
Shodhganga/inflibnet	176.49	0.00	4.64*
Research Specific Search Engine	171.89		0.00

As per the data given in the table, it can be understood that the difference between mean scores of Common Search Engines group (M= 170.40) and Shodhganga/INFLIBNET group (M=176.49) based on use of online search engines that the research scholars in social science access is 6.10 with Std. Error 1.64 which is significant at 0.01 level, $p < 0.01$. Hence it is revealed that the difference in the mean scores of Common Search Engines group and Shodhganga/INFLIBNET group based on use of online search engines among research scholars in social science is significant and these two groups of research scholars are not identical in their procrastination behaviour. It can further be concluded that the research scholars who use common search engines like Google/Yahoo have high level of procrastination since the highest mean score is associated with that group.

Scheffés test of Post Hoc Comparison again shows that the difference between mean scores of Common Search Engines group (M= 170.40) and Research specific search engine (M=171.89) based on use of online search engines among research scholars in social science refer is 1.46 with Std. Error 1.76 which is not significant at 0.05 level, $p>0.05$. Therefore, it can be concluded that that the two groups among research scholars in social science based on use of online search engines namely those who use common search engines and research specific research engines like researchers or Research Gate don't differ significantly in their procrastination behaviour.

Coming to the results of Scheffés test of Post Hoc Comparison between Shodhganga/INFLIBNET group and research specific search engine group based on use of online search engines, it is noted that the difference between mean scores of Shodhganga/INFLIBNET group and research specific search engine group is 4.63 with Std. Error 1.78 which is significant at 0.05 level, $p>0.05$. Therefore, it is observed that the difference in the mean scores of Shodhganga/ INFLIBNET group and research specific search engine group based on use of online search engines among research scholars in social science is significant and these two groups of research scholars is not identical in their procrastination behaviour. It is further observed from the mean scores that the research scholars who prefer to search Shodhganga was found to procrastinate more when compared to those who use research specific search engines to seek information

The data in the table also convey that the obtained F-ratio for ethical considerations in research is 10.23, which is greater than the table value 4.68 at 0.01 levels. This means there exists a significant difference in the mean scores of ethical considerations in research among research scholars who uses common search engine, those who search Shodhganga and the category which seeks information

through research specific search engines. Thus, it can be interpreted that the variable use of online search engine has significant influence on ethical considerations in research among research scholars in social science. In order to understand the two sub groups which differ significantly, Scheffés post hoc analysis has been done. The results of the Scheffés test of post hoc comparison for subgroups based on use of online search engines are presented in table 33.

Table 33

Summary of Scheffés test of Post Hoc Comparison with Matrix of Ordered Means for Three Categories of Research Scholars in Social Science based on use of Online Search Engine (Ethical Considerations in Research)

Use of Online Search Engines	Common Search Engine	Shodhganga/Inflibnet	Research Specific Search Engines
Mean score	20.73	21.76	24.63
Common search Engine	20.73	0.00	3.90*
Shodhganga/Inflibnet	21.76	0.00	2.87*
Research Specific Search Engines	24.63		0.00

As the data in the table convey the difference between mean scores of Common Search Engines group (M= 20.73) and Shodhganga /Inflibnet group (M=21.76) based on use of online search engines that the research scholars in social science access is 1.03 with Std. Error 0.81 which is not significant at 0.05 level, $p > 0.05$. Hence it is revealed that the difference in the mean scores of Common Search Engines group and Shodhganga /Inflibnet group based on use of online search engine among research scholars in social science is not significant and these two groups of research scholars are identical in their ethical considerations in research.

Scheffés test of Post Hoc Comparison again shows that the difference between mean scores of Common Search Engines group (M= 20.73) and Research

specific search engine (M=24.63) based on use of online search engines among research scholars in social science refer is 3.90* with Std. Error .87 which is significant at 0.05 level, $p < 0.05$. Therefore, it can be concluded that the two groups among research scholars in social science based on use of online search engines namely those who use common search engines and research specific research engines like researchers or Research Gate differ significantly in their ethical considerations in research. It can therefore be concluded that that the research scholars who prefer research specific search engines have comparatively higher ethical considerations in research as highest mean is associated with them.

Coming to the results of Scheffés test of Post Hoc Comparison between Shodhganga/INFLIBNET group and research specific search engine group based on use of online search engine, it is noted that the difference between mean scores of Shodhganga/INFLIBNET group and research specific search engine group is 2.87* with Std. Error .88 which is significant at 0.05 level, $p < 0.05$. Therefore, it is observed that the difference in the mean scores of Shodhganga/ INFLIBNET group and research specific search engine group based on use of online search engines among research scholars in social science is significant and these two groups of research scholars is not identical in their ethical considerations in research. As the higher mean score is associated with research specific group it is further observed that they possess higher ethical considerations in research when compared to Shodhganga group.

Effect of Information Seeking Process on Procrastination and Ethical Considerations in Research. After identifying information seeking behavior of research scholars, efforts were taken to classify them in to three groups viz., good, average and poor based on their information processing skills. The good category of research scholars based on information seeking behaviour comprises of those entire

research scholar who take serious efforts to locate and verify appropriate source of information, to store information properly and to retrieve information efficiently. The research scholars who are not concerned about the source of information are categorized as poor and those who pay attention to verify sources but lack skills to store and retrieve information properly are considered as average. One Way ANOVA was carried out to find out the influence of Information Seeking Process (ISP) on procrastination and ethical considerations in research among research scholars. The data and results are presented in table 34.

Table 34

Result of ANOVA on the Scores of Procrastination and Ethical Considerations in Research among Research Scholars in Social Science based on Information Seeking Process

Variables	Group	Sum of Squares	Df	Mean Square	F-ratio
Procrastination	Between Groups	2265.57	2	1132.780	8.44**
	Within Groups	36488.08	272	134.15	
	Total	38753.64	274		
Ethical considerations in research	Between Groups	221.69	2	110.82	3.16*
	Within Groups	9534.62	272	35.05	
	Total	9756.28	274		

*Significant at 0.05 level; **Significant at 0.01 level

As it is clear from the data presented in the table 34, the obtained F-ratio is 8.44**, which is greater than the table value 4.68 at 0.01 levels. This means there exists a significant difference in the mean scores of procrastination among research scholars based on information seeking process. Thus it can be interpreted that the variable information seeking process has significant influence on procrastination of research scholars in social science. In order to understand the two variables which differ significantly, and to know which groups' mean score of procrastination is

significantly higher, Scheffés post hoc analysis has been done. The results of the Scheffés test of post hoc comparison for subgroups based on information seeking process are presented in the table 35.

Table 35

Summary of Scheffés test of Post Hoc Comparison with Matrix of Ordered Means for Three Category of Research Scholars in Social Science based on Information Seeking Process(Procrastination)

Information Seeking Process (ISP)		Good	Average	Poor
	Mean score	171.05	170.92	177.09
Good	171.05	0.00	0.16	6.03*
Average	170.92		0.00	6.19*
Poor	177.09			0.00

It is understood from the data given in the table that the difference between mean scores of good group (M= 171.05) and Average group (M=170.92) based on information Seeking Process among the research scholars in social science access is 0.16 with Std. Error 1.71 which is not significant at 0.05 level, $p > 0.05$. Hence it is clear that the difference in the mean scores of good group and average group based information seeking process among research scholars in social science is not significant and these two groups of research scholars are almost identical in their procrastination behaviour.

It is also found from this multiple comparison of mean scores that the difference between mean scores of good group (M= 171.05) and poor group (M=177.09) based on information seeking process among research scholars in social science is 6.03* with Std. Error 1.76 which is significant at 0.05 level, $p < 0.05$. Therefore, it is also revealed that that the two groups among research scholars in social science based on information seeking process viz., good and poor differ significantly in their procrastination behaviour. In comparison based on the mean

scores, it is also understood that the poor group procrastinate more when compared to good group since the poor group have highest mean score.

As per the results of Scheffé's test of Post Hoc Comparison between average group and poor group based on information seeking process, it is found that the difference between mean scores of average group and poor group is 6.19 with Std. Error 1.67 which is significant at 0.05 level, $p < 0.05$. Therefore, it is observed that the difference in the mean scores of average group and poor group based on information seeking process among research scholars in social science is significant and these two groups of research scholars is not identical in their procrastination behaviour. Since the average group possess highest mean score, it is also understood that they procrastinate more when compared to poor group.

The table also reveals the result of ANOVA of the scores of research scholars obtained for the variable ethical considerations in research. The calculated F-ratio 3.16 was found to be greater than the table value at 0.05 levels for Degree of Freedom (2,273). This means there exists a significant difference in the mean scores of ethical considerations in research among research scholars who possess good information seeking process, those who have average information seeking process and the research scholars who are weak in their information seeking process. Thus, it can be interpreted that the variable information seeking process has significant influence on ethical considerations in research among research scholars in social science

In order to understand the two variables which differ significantly, and to know which groups' mean score of ethical considerations in research is significantly higher, Scheffé's post hoc analysis has been done. The results of the Scheffé's test of post hoc comparison for subgroups based on information seeking process are presented in the table 36.

Table 36

Summary of Scheffé's test of Post Hoc Comparison with Matrix of Ordered Means for Three Category of Research Scholars in Social Science based on Information Seeking Process(Ethical Considerations in Research)

Information Seeking Process (ISP)		Good	Average	Poor
	Mean Score	23.43	21.96	21.20
Good	23.43	0.00	1.47	2.23*
Average	21.96		0.00	.76
Poor	21.20			0.00

From the data obtained for Scheffé's test of post hoc comparison , it is obvious that the difference between mean scores of good group (M= 23.43)and Average group(M=21.96) based on information Seeking Process among the research scholars in social science access is 1.47 with Std. Error .87 which is not significant at 0.05 level, $p>0.05$. Hence it is clear that the difference in the mean scores of good group and average group based information seeking process among research scholars in social science is not significant and these two groups of research scholars concede each other in their ethical considerations in research.

It is also found from this multiple comparison of mean scores that the difference between mean scores of good group (M= 23.43) and poor group (M=21.20) based on information seeking process among research scholars in social science is 2.23 with Std. Error .90 which is significant at 0.05 level, $p<0.05$. Therefore, it is also revealed that that the two groups among research scholars in social science based on information seeking process viz good and poor differ significantly in their ethical considerations in research. In comparison based on the mean scores, it is also understood that the good group have better ethical considerations when compared to poor group since the good group has highest mean score.

The results of Scheffé's test of Post Hoc Comparison between average group and poor group based on information seeking process reveals that the difference between mean scores of average group and poor group is .76* with Std. Error .85 which is not significant at 0.05 level, $p > 0.05$. Therefore, it is observed that the difference in the mean scores of average group and poor group based on information seeking process among research scholars in social science is not significant and these two groups of research scholars are identical in their ethical considerations in research.

Effect of Procrastination on Ethical Considerations in Research. In order to find out the influence of procrastination on ethical considerations in research, research scholars in social science were grouped into three categories based on the level of procrastination and consequently three groups namely high procrastinators, moderate procrastinators and finally low procrastinators were identified. Mean and Standard deviation of the scores on procrastination scale were calculated and three categories of procrastinators were identified on the basis of Mean and SD. Consequently, research scholars scoring above the mean + SD were considered as high procrastinators and research scholars with scores below mean - SD were considered as low procrastinators and the rest whose scores come between mean - SD and mean + SD were categorized as moderate procrastinators. In analysis, 62 research scholars were found to be high procrastinators as their scores lie above the score 184.88 (Mean +SD) and other 68 research scholars lie below the score 161.06 (Mean -SD) and they were categorized as low procrastinators. The remaining 145 research scholars were grouped as having moderate level of procrastination as their scores lie between 161.06 and 184.88 (Mean +SD and Mean -SD). One way ANOVA was carried out to find out the influence of procrastination on ethical considerations in research among research scholars. The data and results have been presented as follows.

Table 37

Result of ANOVA on the Scores of Ethical Considerations in Research among Research Scholars in Social Science based on Procrastination

Variables	Group	Df	Mean Square	F-ratio
	Between Groups	2	111.534	
Ethical considerations in research	Within Groups	272	35.05	3.18*
	Total	274		

*Significant at 0.05 level

As per the data conveyed, the obtained F-ratio is 3.18, which is greater than the table value at 0.05 levels. This means there exists significant difference in the mean scores of ethical considerations in research among research scholars based on procrastination. Thus it can be interpreted that the ethical considerations in research among research scholars in social science is influenced by their procrastination. In order to understand the two variables which difference significantly, and to know which groups mean score of ethical considerations in research is significantly higher, Scheffés post hoc analysis has been done. The results of the Scheffés test of post hoc comparison for subgroups based on information seeking process are presented in the table 38.

Table 38

Summary of Scheffés test of Post Hoc Comparison with Matrix of Ordered Means for Three Category of Research Scholars in Social Science based on Procrastination (Ethical Considerations in Research)

Procrastination				
		High	Moderate	Low
	Mean Score	20.62	22.52	22.98
High	20.62	0.00	1.91	2.36
Moderate	22.52		0.00	.46
Low	22.98			0.00

As it is clear from the data given in the table, the difference between mean scores of high procrastinators ($M= 20.62$) and moderate procrastinators ($M=22.52$) based on procrastination among the research scholars in social science is 1.91 with Std. Error .87 which is not significant at 0.05 level, $p>0.05$. Hence it is clear that the difference in the mean scores of high and moderate group based on procrastination among research scholars in social science is not significant and these two groups of research scholars are almost identical in their ethical considerations in research.

It is also found from this multiple comparison of mean scores that the difference between mean scores of high procrastinators ($M = 20.62$) and low procrastinators ($M=22.52$) based on procrastination among the research scholars in social science is 2.36 with Std. Error 1.03 which is not significant at 0.05 level, $p>0.05$. Hence it is clear that the difference in the mean scores of high and low procrastinators among research scholars in social science is not significant and these two groups of research scholars are almost identical in their ethical considerations in research.

As per the results of Scheffé's test of Post Hoc Comparison between moderate group and low group based on procrastination, it is found that the difference between mean scores of moderate group and low group is .46 with Std. Error .89 which is not significant at 0.05 level, $p>0.05$. Therefore, it is observed that the difference in the mean scores of moderate procrastinators and low procrastinators among research scholars in social science is significant and these two groups of research scholars are identical in their ethical considerations in research. It is interesting to observe that, though the influence of procrastination on ethical considerations in research was found significant in ONE Way ANOVA, no significant difference could be found between the pairs in Scheffé's Post Hoc comparison.

Interaction Effect of Gender and Mode of Research on Procrastination and Ethical Considerations in Research among Research Scholars in Social Science

It could be understood from the mean difference analysis that the categorical variables gender and mode of research has significant influence on procrastination behaviour and ethical considerations in research among research scholars in social science. The data were further analyzed with the help of 2X2 factorial ANOVA to find out the interaction effect of gender and mode of research on procrastination and ethical considerations in research among research scholars and the results are presented in following table. The influence of categorical variables gender and mode of research on procrastination and ethical considerations in research were investigated separately and their interaction effect was also studied.

Interaction Effect of Gender and Mode of Research on Procrastination

Attempts were made to find out interaction effect of gender and mode of research on procrastination of research scholars in social science. Accordingly, 2x2 factorial ANOVA was carried out to find out interaction effect of male and female research scholars and full time and part time research scholars on procrastination. The data and results have been presented as table 39

Table 39

Data and Results of 2x2 ANOVA of Gender and Mode of Research on Procrastination

Source	Sum of Squares	Df	Mean Square	F	Sig.
Gender * Mode of Research	568.040	1	568.040	4.248	.040
Error	36237.759	271	133.719		

a. R Squared = .065 (Adjusted R Squared = .055)

From the calculated 't' value for mean difference analysis, it could be concluded that the variable procrastination is influenced by the gender of research scholars as well

as mode of research. it is further revealed that the 'F' value obtained for interaction effect of gender and mode of research is 4.24 df (4,271) which is significant at .05 level of significance. It may therefore be concluded that there is significant interaction effect of gender and mode of research on procrastination of research scholars in social science.

Interaction Effect of Gender and Mode of Research on Ethical Considerations in Research

Attempts were made to find out interaction effect of gender and mode of research on ethical considerations in research among research scholars in social science. Accordingly, 2x2 factorial ANOVA was carried out to find out interaction effect of male and female research scholars and full time and part time research scholars on ethical considerations in research. The data and results have been presented as table 40.

Table 40

Data and Results of 2 x 2 ANOVA of Gender and Mode of Research on Ethical Considerations in Research

Source	Sum of Squares	Df	Mean Square	F	Sig.
Gender * Mode of Research	69.561	1	69.561	2.035	.155
Error	9264.299	271	34.186		

a. R Squared = .050 (Adjusted R Squared = .040)

The 't' value calculated for mean difference analysis between full time and part time research scholars and between male and female research scholars reveals that the variable ethical considerations in research is influenced by the gender as well as mode of research. Interestingly, the 'F' value obtained for interaction effect of gender and mode of research on ethical considerations in research is 2.03 df (4,271)

which is not significant at .05 level of significance. It may therefore be concluded, though there is individual effect of gender as well as mode of research on ethical considerations in research among research scholars in social science, there exists no significant interaction effect of gender and mode of research on ethical considerations in research among research scholars in social science.

Interaction Effect of Information Seeking Process and Procrastination on Ethical Considerations in Research

Based on information seeking process and procrastination, three groups of research scholars were identified. Accordingly, attempts were made to find out interaction effect of three groups of research scholars based on information seeking process namely, good, average and low and three categories based on procrastination viz, high procrastinators, moderate procrastinators and low procrastinators on ethical considerations in research was made. In order to find out interaction effect of procrastination and information seeking process on ethical considerations in research, 3x3 factorial ANOVA was carried out. The interaction effect of three groups of research scholars based on procrastination viz., high procrastinators, moderate procrastinators and low procrastinators and three categories based on information seeking process namely good, average and low was found. The data and results have been presented as table 41

Table 41

Data and Results of 3 x 3 ANOVA of Information Seeking Process and Procrastination on Ethical Considerations in Research

Source	Sum of Squares	Df	Mean Square	F	Sig.
Procrastination * ISP	204.306	4	51.077	1.488	.206
Error	9129.987	266	34.323		

a. R Squared = .064 (Adjusted R Squared = .036)

Form the F value 1.48 obtained for 3 x 3 ANOVA , it can be understood that, there exists no significant interaction effect of three groups of research scholars based on procrastination viz high procrastinators, moderate procrastinators and low procrastinators and three categories based on information seeking process namely good, average and low on ethical considerations in research among research scholars in social science

Conclusion

The chapter presents the summary of data analysis and both qualitative and quantitative data collected through appropriate tools were properly tabulated and analyzed. The results yielded helped the investigator to have a deep understanding of the information seeking process and the subsequent research behaviour of research scholars in social science. The results also helped to understand procrastination behaviour and ethical considerations in research among research scholars. The results further led the investigator to sort out major findings of the study and based on the findings certain important implications could be submitted to all stakeholders to make fruitful recommendations.

SUMMARY, MAJOR FINDINGS AND CONCLUSION



- *Study in Retrospect*
- *Major Findings*
- *Tenability of Hypotheses*
- *Conclusion*



In this chapter a bird's eye view of essential aspects of the different stages of the study has been summarized under the titles Study in Retrospect, Major findings of the study, Conclusions, and Tenability of hypotheses.

Study in Retrospect

The first part of the chapter is an attempt to restate different aspects of the study such as Title, Variables, Objectives, Hypotheses, and Methodology adopted in the study.

Restatement of the Problem

The study was solely meant to investigate Information seeking behaviour, Procrastination Behaviour and Ethical considerations in research among Research scholars in Social Science. Therefore, title given to the study is “**INFORMATION SEEKING BEHAVIOUR, PROCRASTINATION BEHAVIOUR AND ETHICAL CONSIDERATIONS IN RESEARCH AMONG RESEARCH SCHOLARS IN SOCIAL SCIENCE.**”

Variables

The study has three variables namely Information seeking behaviour, Procrastination Behaviour and Ethical considerations in research. Moreover, influence of gender and mode of research was also studied

Objectives

The study was designed to achieve following objectives

1. To find out information needs, purpose of seeking information, nature and type of information required by research scholars in social science
2. To find out various information sources used by research scholars in social science
3. To find out information seeking process of research scholars in social science

4. To find out information challenges faced by research scholars in social science
5. To categorize information seeking process of research scholars in to three categories viz., good, average and poor
6. To find out procrastination behaviour among research scholars in social science
7. To find out whether there is any significant difference in the procrastination behaviour of research scholars in social science based on
 - a) Gender
 - b) Mode of research
 - c) Source of information
 - d) Use of online tools
 - e) Information seeking process
8. To find out ethical considerations in research among research scholars in social science
9. To find out whether there is any significant difference in ethical considerations in research among research scholars in social science based on
 - a) Gender
 - b) Mode of research
 - c) Source of information
 - d) Use of online tools
 - e) Information seeking process
 - f) Procrastination
10. To find out interaction effect of gender and mode of research on procrastination and ethical considerations in research among research scholars in social science
11. To find out interaction effect of information seeking process and procrastination on ethical considerations in research among research scholars in social science

Hypotheses

Based on the objectives the following hypotheses are formulated

1. There exists significant difference in the procrastination behaviour of research scholars in social science based on a) Gender b) Mode of research c) Source of information d) Use of online tools e) Information seeking process
2. There exists significant difference in ethical considerations in research among research scholars in social science based on a) Gender b) Mode of research c) Source of information d) Use of online tools e) Information seeking process, f) Procrastination
3. There exists significant interaction effect of gender and mode of research on procrastination and ethical considerations in research among research scholars in social science
4. There exists significant interaction effect of information seeking process and procrastination on ethical considerations in research among research scholars in social science

Methodology of Research

The methodology adopted for the present study is given briefly under the following headings

Design of the Study

The study could be best described as a mix of both quantitative and qualitative study carried out using the descriptive survey method. Survey method is adopted to analyse quantitative data collected by using scale of procrastination behaviour and test of ethical considerations in research. Information behaviour of the research scholars was identified by using questionnaire and all the categories were represented and analysed diagrammatically

Sample

The population of the study consists of research scholars in social science. Data were collected from 275 research scholars in social science from the four Universities of Kerala namely Kannur University, University of Calicut, Mahathma Gandhi University and University of Kerala. Attention was paid to give due weightage to gender and mode of research.

Tools for Data Collection

The study made use of following tools to collect the data from the sample.

- A. Questionnaire on Information Seeking Behaviour (Nowfal & Noushad, 2019)
- B. Scale of Procrastination Behaviour (Nowfal & Noushad, 2019)
- C. Test of Ethical Considerations in Research (Nowfal & Noushad, 2019)

Statistical Techniques Used

1. The important statistical constants mean median, mode, standard deviation, skewness and kurtosis were worked out for the total sample and sub samples.

The following statistical techniques were used for analysing the data statistically.

2. **Test of significant difference between mean score (t-test).** To compare the difference in Procrastination and Ethical Considerations in Research among research scholars based on gender and mode of research.
3. **Analysis of Variance (ANOVA).** To find out effect of information seeking behaviour on procrastination and ethical considerations in research
4. **2 x 2 Factorial ANOVA.** To find out interaction effect of gender and mode of research on procrastination and ethical considerations in research
5. **3 x 3 Factorial ANOVA.** To find out interaction effect of information seeking process and procrastination on ethical considerations in research

Major Findings

The detailed analysis of the data collected helped the investigator to find out some interesting facts. They are following.

Information Need of the Research Scholars in Social Science

1. Research Scholars are said to be the main consumers of the information and they require information in the different stages of their research work from the selection of the problem till the last stage of report writing. From the analysis of the data collected it is clear that, Research scholars seek information for various purposes such as preparation of research design, preparation of research article, preparation of dissertation/thesis and writing of papers for presentation at seminar conferences. From the results of the study, it is learnt that all the research scholars refer various source of information in the report writing stage and out of 220 research scholars who have finished tool preparation 210 research scholars admitted that they referred various source of information for the purpose of tool preparation. It could also be learnt that almost all the research scholars seek information for writing research articles since 90% (N=275) of the participants selected it as one of the purposes of seeking information. Therefore it is inferred that writing research articles is the most preferred need and purpose of information seeking among research scholars in social science followed by background reading (85%). It is also found that only 35 % of research scholars seek information for problem selection.
2. All the 160 research scholars who were at the stage of report writing have agreed that they seek information continuously to satisfy their needs of report writing. 60 of them opted report writing as the main aim of their information seeking

3. The least preferred purpose of information seeking among research scholars is for other purpose not directly related to research such as preparation of academic seminar paper
4. In comparison based on sub groups it is also found that writing research articles is the opted by most of the female (90%), male (89%), full time (96%) and part time (84%) research scholars as the purpose of information seeking
5. In short, writing research articles can be considered as the most preferred information need of research scholars in Social science.

Information Seeking Behaviour of Research Scholars

1. Among the total sample of 275 research scholars, 240 research scholars are found taking attempts to publish research articles and 98 (35%) research scholars are found to take part actively in academic activities related to their research area.
2. It is interesting to find out that most of the research scholars (70%) take attempts to seek information only if there is a specific need and 67 research scholars (24%) are found spending a fixed time regularly for seeking information
3. Only 68 participants (24%) are reported to verify the authenticity of the source before seeking information and 94 (34%) scholars are found to store information properly
4. 112 research scholars (40%) use ICT tools for effective dissemination of information. Surprisingly, 150 (54%) research scholars admitted that they retrieve information as it is stored without taking efforts to verify.
5. It could also be understood that the most preferred space for research among research scholars is research scholar's room in the institute as 84 respondents

(30%) opted it as their first choice followed by hostel (20%), library (19%), and home (18%) respectively. Similarly, there are a few scholars (11%) who prefer other private space.

6. Out of 160 respondents who opted the question regarding use of data analysis tools, 82 research scholars are found to use SPSS (Statistical Package for Social Science and 31 scholars (19%) used Stata, 14 researchers (8%) did their analysis using CAQDAS (Computer Assisted Qualitative Data Analysis) and 5 participants (3.57%) used R (Open Source Software for Statistical Analysis)
7. Coming to the use of online reference management tool, it is also found that 84 research scholars (48%) did it manually without using any reference management tool. The most preferred reference management tool among the users is Mendely as 69 scholars (39.51%) preferred it followed by Zotero (8.62%) and Ednote (2.87%).
8. On the basis of their information seeking process, research scholars were categorized in to three categories namely Good, Average and Poor. It was found that 102 (37%) research scholars belong to average category and 83 participants (30%) have good information seeking process. There are 90 research scholars (32%) who possess poor information seeking process. It can be summarized that most of the research scholars in Social Science possess average Information Seeking Skills
9. In the comparison based on gender and mode of research, it could be identified that majority of both female and full time research scholars have good information seeking process with 37% and 46% respectively. Among male research scholars, the majority was found to possess poor information seeking process with 43% and majority of part time research scholars are

found having poor information seeking process (44%). Female and Full time research scholars are found having good information seeking process whereas most of the part time research scholars and majority of the male research scholars are reported poor in their information seeking process.

Source of Information

1. Regarding the use of various source of information, sources like e-journals, e-books and internet sources are found to be frequently accessed by research scholars as 44% of respondents selected e-journals (14%) or e-books (8%) or e-thesis reports or internet sources (18%) or social media (4%) as their first choice.
2. Only 12% of respondents take printed books, other 10 % refers printed journal and 16% of research scholars take printed theses or reports as their main source of information. In short, printed sources are preferred by 38% of research scholar.
3. Among three major sources of information namely printed books/printed journal, E-books/e-journal and thesis reports either printed or digital, thesis reports are found to be accessed by majority of research scholars (35%) followed by printed book/printed journal (32.72%) and e-book/e-journal (32%). Hence. The most preferred source of information among research scholars in social science is thesis reports.
4. It is also reported that 39% female research scholars prefer printed book/journal, 34% opted e-book/Journal and 26% refer thesis reports where as the number of male research scholar who prefer printed book/journal is 22%, 28% male researchers opted e-books/e-journal and the number of male researchers who prefer thesis report is 49%.

5. In the comparison based on the mode of research, it could be found that majority of full time research scholars (42%) chose printed book/journal, followed by e-book/e-journal (39%) and thesis report (17%). The most preferred source of information among part time research scholars is thesis report (49%) then e-journal/e-book (25%) and the least preferred source of information is printed book/printed journal (24%).

Use of Online Search Engines

1. The findings of the study reveal some interesting fact regarding the preference of research scholars with respect to search engines. Based on the nature, the available search engines were categorized in to three major groups viz., Shodhganga/INFLIBNET, Common Search Engines and Research Specific Search Engines. It is found that 37% of research scholars identified Common search engines like Google or Yahoo as their first choice of search engine, and 35% opted Shodhganga/ INFLIBNET. It is surprising to find out that only 27% research scholars prefer Research specific search engines like Research Gate/Researcher for seeking scholarly information.
2. From the results of gender wise comparison, it is also found that the most preferred search engine among female research scholars is research specific search engines like Research Gate (37%) and they are found to be taking more strenuous efforts to ensure authenticity of the information they seek. 26% female research scholars are seen to use common search engines for scholarly information
3. It is also revealed that male research scholars are not aware of the importance of using standard search engines for seeking scholarly information as most of the respondents (53%) use common search engines like Google and Yahoo. Surprisingly, 11 % male research scholars use research specific search engines.

4. Mode of research is also found to have influence on search engines as the part time research scholars mostly prefer (51%) common search engines followed by Shodhganga /INFLIBNET (37%)

Use of Library by Research Scholars

1. Research Scholars in social science are found to use library according to their information need during this age of information technology. There are research scholars who spend fixed time regularly in library, those who visit library if there is any specific need, and some research scholars are seen visiting library to refer online resources.
2. 88% of research scholars are reported to visit library to refer abstracts or thesis reports, 60% to access INFLIBNET, 55% for OPAC 50% for e-journal/e-book, 38% for Internet access computers, 37% for periodicals, 35% for printed journals and 34% of research scholars take or read printed books from library.

Nature and Type of Information sought by research Scholars in Social Science

1. E-journal articles are the favorite form of information among research scholars in Social science since 74% research scholars use it followed by thesis report (digital) with 69%.
2. It is also revealed that 54% of research scholars refer content of e-books, 50% use thesis report (print), and 44% read articles of printed journals for research purpose
3. Content of printed books is preferred by 31% research scholars. It is also interesting to learn that 28% research scholars search for published data and 19% participants look for raw data available for analysis,

4. Images are chosen by 11% of research scholars where as 9% research scholars use videos.

Problems Faced by Research Scholars in Social Science while Seeking Information

1. All of the participants admit that they face multiple problems while seeking scholarly information. 56% of research scholars identified that some of the source they would like to refer are expensive. The problems for information seeking also involves lack of awareness about the sources (50%), lack of awareness in using electronic resources (49%) and time constraints (46%).
2. 43% of research scholars identified unavailability of required materials as one of the problems that they face and 40% of research scholars mentioned lack of information processing skills.
3. The other problems identified by the research scholar include restrictions imposed by libraries (39%), lack of technical knowledge (38%), lack of source to ensure authenticity (37%), language barrier (14%) and information explosion (12%).

Procrastination BehaviOur and Ethical Considerations in Research among Research Scholars

1. Research scholar in social science are found to procrastinate in their research work (Mean= 172.96, Maximum possible score= 280 & 30th Percentile= 169.8)
2. Ethical considerations in research among research scholars in social science is found to be unsatisfactory(Mean =22.15, Maximum Possible score=47 & 80th percentile=27)

Influence of Gender and Mode of Research on Procrastination and Ethical Considerations in Research

1. Procrastination among male and female research scholars are found to have significant difference ($t=3.42$, $p>.01$). Male research scholars are found to achieve higher mean score in procrastination than female research scholars (Female- $M= 171$, $SD= 11.39$, Male- 175.91 , $SD=12.07$). Hence it may be summarized that the categorical variable gender has influence on procrastination of research scholars in social science and male research scholars are found to procrastinate more
2. Ethical considerations in research among male and female research scholars are found to be significantly different ($t=2.14$, $p>.05$). Female research scholars are found to achieve higher mean score in Test of ethical considerations than male research scholars (Female-Mean= 22.78 $SD= 6.44$, Male- $M=21.22$, $SD=5.06$). It is therefore learnt that, ethical considerations in research among research scholars in social science is influenced by the categorical variable gender and female research scholars are found to be better in ethical considerations in research than male research scholars
3. It was also found that research scholars significantly differ in their procrastination based on mode of research ($t=2.00$, $p<0.05$). Part time research scholars are found to procrastinate more when compared to full time research scholars (Full time-Mean= 171.35 , $SD=11.63$, Part time-Mean= 174.23 , $SD=11.98$). Hence it may be inferred that the categorical variable mode of research has influence on procrastination among research scholars in social science and part time research scholars are found to procrastinate more

4. It was also found that research scholars significantly differ in their ethical considerations in research based on mode of research ($t=2.99$, $p>0.01$). Full time research scholars are found to have better ethical considerations in research when compared to part time research scholars (Full time-Mean=23.35, SD=6.61, Part time-Mean=21.21, SD=5.24). It is therefore inferred that, ethical considerations in research among research scholars in social science is influenced by the categorical variable mode of research and full time research scholars are found to have better ethical considerations in research than male research scholars

Influence of Information Seeking Behaviour on Procrastination and Ethical Considerations in Research among Research Scholars in Social Science

1. The difference in the procrastination of research scholars based on source of information was found to be not significant ($F=2.27$, $p<0.05$). Hence it is learnt that the procrastination of research scholars in social science is not influenced by source of information they access.
2. The difference in the ethical considerations in research among research scholars based on source of information was found to be significant ($F=7.8$, $p>0.05$). Hence it is inferred that the ethical considerations in research among research scholars in social science is influenced by the source of information they seek to access.
3. In post Hoc comparison, it is further found that there exists significant difference in ethical considerations in research among those who refer thesis report and printed books/journal (Mean difference=3.00 , $p>0.05$)
4. Difference could be found in ethical considerations in research among research scholars who refer printed books/journal and E-books/e-journal

(Mean difference=2.9, $p>.05$). No significant difference could be found between research scholar who prefer e-books/e-journal and those who prefer thesis reports in their ethical considerations in research. (Mean difference=.10, $p<0.05$). It can therefore be concluded from the mean score that, the research scholars who refer printed books and journal have better ethical considerations than the other two categories

5. In the comparison based on use of online tools it could be found that there exists significant difference in procrastination of research scholars in social science. (7.34, $p>0.05$). Hence it is observed that the procrastination of research scholars in social science is influenced by use of online tools
6. The post Hoc comparison led to the findings that the procrastination of research scholars who prefer common search engines like Google/ Yahoo and the research scholars who prefer Shodhganga differs significantly (Mean difference =6.10, $p>0.01$)
7. The category of research scholars who use Shodhganga/Inflibnet and those who use research specific search engines like Research Gate are found to significantly differ in their procrastination (Mean difference=4.6, $p>0.05$)
8. No significant difference was found between those who prefer common search engine and those who prefer Research specific search engines in their procrastination (Mean Difference =1.46, $p<0.05$). From the mean score calculated for each category of research scholars it is clear that those who refer Shodhganga/Inflibnet procrastinate more in their research work.
9. In the comparison based on use of online tools it is revealed that, there exists significant difference in ethical considerations in research among research scholars in social science. ($F=10.26$, $p>0.01$). Therefore , it can be

observed that the categorical variable use of online tools has significant influence on ethical considerations in research among research scholars in social science

10. It is found from the findings, ethical considerations in research among research scholars who prefer common search engines like Google/ Yahoo and the research scholars who prefer Shodhganga is almost identical (Mean difference =1.03, $p < 0.05$)
11. The category of research scholars who use common search engines and those who use research specific search engines like Research Gate are found to significantly differ in their ethical considerations in research (Mean difference=3.90, $p > 0.05$)
12. Significant difference was found between those who prefer Shodhganga and those who prefer Research specific search engine in ethical considerations in research (Mean Difference =2.87, $p > 0.05$). The research scholars who refer research specific search engines are found to have better ethical considerations in research when compared to other two categories of research scholars
13. Results of ANOVA on the scores of procrastination of research scholars in social science based on information seeking process reveals the important finding that the significant difference can be seen in the procrastination of research scholars in social science based on information seeking process. ($F=8.44$, $p > 0.01$). It can thus be summarized that procrastination of research scholars in social science is influenced by their information seeking process.
14. In post hoc analysis, it is also found that there exists significant difference in procrastination behaviour of good and poor group of research scholars based on information seeking process (Mean difference = 6.02, $p > 0.05$)

15. No significant difference could be found between good and average group based on information seeking process in their procrastination (mean difference = 0.16, $p < 0.05$)
16. It is also found that there exists significant difference between average and poor group based on information seeking process in their procrastination (mean difference = 6.19, $p > 0.05$)
17. Results of ANOVA on the scores of ethical considerations in research among research scholars in social science based on information seeking process reveals that there is significant difference in ethical considerations in research among research scholars in social science based on information seeking process. ($F = 3.16$, $p > 0.05$). So, it is learnt that the influence of information seeking process of research scholars on their ethical considerations is significant.
18. In post-hoc analysis, it is also found that there exists no significant difference in ethical considerations in research between good and average group of research scholars based on information seeking process (Mean difference = 1.47, $p < 0.05$).
19. Significant difference was found between good and poor group of research scholars in ethical considerations in research based on information seeking behaviour (mean difference = 2.23, $p > 0.05$).
20. As the mean difference between average and poor group of research scholars based on information seeking behaviour is not significant, it was found that the two groups are almost identical in ethical considerations in research (Mean difference = 0.76, $p < 0.05$).

Influence of Procrastination on Ethical Considerations in Research among Research Scholars

1. From the results of ANOVA on the scores of ethical considerations in research among research scholars in social science based on procrastination, significant difference could be found in the ethical considerations in research among research scholars in social science based on procrastination. (3.18, $p > 0.05$). This finding led to the observation that ethical considerations in research among research scholars in social science is influenced by their procrastination.
2. In post Hoc comparison no significant difference could be found between high procrastinators and moderate procrastinators, between high procrastinators and low procrastinators and between moderate procrastinators and low procrastinators in their ethical considerations in research.

Interaction Effect of Gender and Mode of Research on Procrastination and Ethical Considerations in Research

1. Significant interaction effect of gender and mode of research was found on procrastination behaviour of research scholars ($F=4.25, p > 0.05$). Therefore, it is inferred that, the categorical variables gender and mode of research have individual and interaction effect on procrastination behaviour of research scholars.
2. No significant interaction effect of gender and mode of research was found on ethical considerations in research among research scholars. It is, hence, concluded that though the variable ethical considerations in research among research scholars was influenced by gender as well as mode of research, there is no significant interaction effect of gender and mode of research on ethical considerations in research among research scholars. ($F=2.03, p < 0.05$).

Interaction Effect of Information Seeking Process and Procrastination on Ethical Considerations in Research

1. The categorical variables information seeking process and procrastination have individual effect on ethical considerations in research among research scholars in social science. But, no significant interaction effect of information seeking process and procrastination on ethical considerations in research among research scholars could be found.

Tenability of Hypotheses

After having survey of previous studies and a careful examination of the nature of the variables selected, certain hypotheses were formulated on the basis of the objectives of the study and they were tested according to the data collected from the samples. Accordingly, the major findings of the study were identified. In the light of analysis and its findings, the tenability of the hypotheses was examined as follows.

The hypothesis formulated to study the influence of categorical variables namely Gender, Mode of Research, Source of Information, Use of Online Tools and Information Seeking behaviour on Procrastination is stated as

- **Hypothesis 1-There exists significant difference in the procrastination behaviour of research scholars in social science based on a) Gender b) Mode of research c) Source of information d) Use of online tools e) Information seeking process**

From the results of mean difference analysis, it could be understood that there exists significant difference in the procrastination among research scholars based on gender and mode of research. Hence the hypothesis is accepted for sub groups based on gender and mode of research. From the results of one way ANOVA it is understood that there exists significant difference in the procrastination among research scholars based on use of

online tools and information seeking process. Accordingly, the hypothesis has been retained for sub groups based on use of online tools and information seeking process and it is rejected for sub group based on source of information. In the view of aforementioned findings, the hypotheses 1a, 1b, 1d and 1e are accepted and hypothesis 1c is rejected.

- **Hypothesis 2 There exists significant difference in ethical considerations in research among research scholars in social science based on a) Gender b) Mode of research c) Source of information d) Use of online tools e) Information seeking process, f) Procrastination**

The results of mean difference analysis supported the claim that there exists significant difference in ethical considerations in research among research scholars based on gender and mode of research. Hence the hypothesis is accepted for sub groups based on gender and mode of research. From the results of one way ANOVA, it is understood that there exists significant difference in the ethical considerations in research among research scholars based on, source of information, Use of online tools, Information seeking process and procrastination. Accordingly, the hypothesis has been retained for sub groups based on source of information, Use of online tools, Information seeking process and procrastination. In the view of aforementioned findings, the hypotheses 1 a, 1 b, 1c, 1 d, 1 e and 1f are accepted and hypothesis 1c is rejected.

- **Hypothesis 3 There exists significant interaction effect of gender and mode of research on procrastination and ethical considerations in research among research scholars in social science**

As the results of 2x2 ANOVA failed to prove the claim the hypothesis is rejected for Ethical considerations in research and accepted for procrastination.

- Hypothesis 4 **There exists significant interaction effect of information seeking process and procrastination on ethical considerations in research among research scholars in social science**

From the results of 3x3 ANOVA, no significant interaction effect of information seeking process and procrastination was found. Hence the hypothesis was rejected.

Table 42

Summary of Tenability of Hypotheses

H ₁	There exists significant difference in the procrastination behaviour of research scholars in social science based on a) Gender b) Mode of research c) Source of information d) Use of online tools e) Information seeking process	Accepted except for subgroup based on source of information
H ₂	There exists significant difference in ethical considerations in research among research scholars in social science based on a) Gender b) Mode of research c) Source of information d) Use of online tools e) Information seeking process, f) Procrastination	Accepted
H ₃	There exists significant interaction effect of gender and mode of research on procrastination and ethical considerations in research among research scholars in social science	Accepted for procrastination and rejected for Ethical Considerations in Research
H ₄	There exists significant interaction effect of information seeking process and procrastination on ethical considerations in research among research scholars in social science	Rejected

Conclusion

As the title of the study indicated, this research work was carried out to study information seeking behaviour, procrastination behaviour and ethical considerations in research among research scholars in social science. Data regarding various aspects of information seeking behaviour were collected and they were further subjected to qualitative analysis helping to yield some important findings. Data regarding procrastination behaviour and ethical considerations in research among

research scholars were analyzed on the basis of the hypotheses formulated. From the findings of the study, the following conclusions are made.

- 1) In spite of the fact that the research scholar in social science seek scholarly information for satisfying variety of academic as well as research needs, it is interesting to find out that the most preferred purpose of seeking information among the research scholars in social science is report writing and tool preparation as all of the research scholars in social science seek information for satisfying their needs of report writing and tool preparation. The most preferred purpose of information seeking after, report writing and tool preparation, is writing research articles for publication or to be presented in seminars.
- 2) Majority of the research scholars in social science are found to have only moderate information seeking process. There are numbers of research scholars having no skills to locate, store and retrieve information properly. Some of the research scholars are not equipped to use advanced digital tools for the purpose of data analysis and referencing.
- 3) Majority of male as well as part time research scholar are reported to lack good information seeking process.
- 4) Research scholars in social science prefer digital document to printed documents. Among the printed documents, thesis reports are found to be mostly preferred by research scholars. Among the three important source of information namely, thesis reports, printed books or journals and e-books or e-journals thesis reports are the most preferred source of information among research scholars.
- 5) Majority of the research scholars in social science are found to use common search engines like Google, Yahoo and Shodhganga to seek digital information. The tendency to use research specific search engines among research scholars is comparative less and male as well as part time research scholars prefer common search engines to research specific search engines.

- 6) Most of the part time and male research scholars in social science are found not to refer standard search engines for scholarly information.
- 7) Research scholars in social science face number of challenges while seeking scholarly information such as expensive sources, lack of awareness about authentic sources, lack of proper information seeking skills and lack of technological skills.
- 8) Research scholars in social science are found to procrastinate in their research work. Procrastination behaviour is comparatively high among male and part time research scholars.
- 9) Research scholars in social science are reported to lack ethical considerations in their research works. Male and part time research scholars are reported to lack ethical considerations than female and full time research scholars.
- 10) The source of information that the research scholars in social science try to access has a significant influence on ethical considerations in research among research scholars. Those who prefer books are found to have better ethical considerations in research
- 11) The procrastination behaviour and ethical considerations in research among research scholar in social science is also influenced by their preference on online search engines. Those who prefer research specific search engines are found to have better ethical considerations and comparatively low procrastination.
- 12) Procrastination behaviour and ethical considerations in research among research scholars are also influenced by their information seeking process. The research scholars with good information seeking process are found to have better ethical considerations in research.
- 13) The procrastination behaviour of research scholars in social science also contribute to poor ethical practices.

EDUCATIONAL IMPLICATIONS & SUGGESTIONS FOR FURTHER RESEARCH



- *Educational Implications*
- *Suggestions for Further Research*



Obviously, the results of academic research significantly contribute to the progress of any society and the evaluation of quality of one's work is done on the basis of accuracy and authenticity of the information collected as well as produced. The results of the study carried out on research scholars to find out their information seeking behaviour, procrastination behaviour and ethical considerations in research led the investigator to sort out major findings of the study and based on the findings certain important implications could be submitted to all stakeholders to make fruitful recommendations. As this study was conducted on research scholars, the results have multi-dimensional contribution.

Educational Implications

- 1) Research scholars should be encouraged to seek scholarly information from authentic sources using appropriate information process in the different stages of their research work. Extreme care must be taken to encourage them to seek scholarly information from authentic sources from the stage of problem selection onwards. A systematic mechanism should be developed by research centers as well as research guides to monitor information seeking of research scholars regularly. Research scholars may be encouraged to store information appropriately by taking notes instead of typing directly on computer. Hence, the tendency to copy from other sources can be minimized. Both scholars and supervising teachers should be given continuous training to locate and use authentic sources.
- 2) Steps must be taken to enhance information seeking process of research scholars. Due attention should be paid to ensure that part time research

scholars are also up to date with respect to their information seeking process and skills. A systematic schedule should be worked out by the research centers in consultation with supervising teachers to involve part time research scholars in research outreach activities and to sustain their motivation active throughout the study.

- 3) Due attention should be paid to arrange training for research scholars as well as research guides to locate, store and retrieve information properly. Measures should, also be taken to equip them to use advanced digital tools for the purpose of data analysis and referencing.
- 4) In this digital age, the importance of digital information cannot be neglected as it paved way to make quality information available at one's fingertip. Unfortunately, the priority given by research scholars to digital documents along with mushrooming of predatory journals led to poor ethical practices. Moreover, as the information can easily be accessed from different sources through internet, the research scholars may procrastinate in their research work. Serious measures should be taken to develop ethical considerations among research scholars and to control predatory journals. Workshops on academic writing should be conducted frequently by the research centers to equip the research scholars to publish their articles in care listed and standard journals. Now, India has become the hub and one of the top most predatory publishing countries in the world (Devnani & Gupta, 2015). The mushrooming of predatory journals which demand a huge amount of money from the authors to publish their articles without any peer-review has led to poor ethical practices among research scholars too. Since publication of articles based on research problem is compulsory as per UGC regulation, the

research scholars approach predatory journals to meet mandatory requirements of publishing articles. Hence, it is important to take necessary measures to control this tendency as it affects their research work too.

- 5) As each University has drafted its own regulations, ethics policy and guidelines governing research involving human and animal participants, steps must be taken to sensitize researchers on ethical practices from initial meeting with supervisors. The research scholars must take sole responsibility of their research work. It is to be carried out by protecting dignity, and safety of the participants. Care should be taken to seek proper consent from the participants and the data collected must be kept confidential. Careful supervision and examination is essential to avoid data manipulation, falsification and plagiarism.
- 6) Huge volume of thesis reports is available in digital format in Shodhganga and INFLIBNET. Consequently, research scholars prefer to seek even theoretical information like definition of key terms, dimensions of tools etc. from this source without referring original sources to verify its authenticity. Availability of thesis reports in Shodhganga reservoir to be accessed by anyone anywhere also caused to develop poor ethical practices and procrastination behaviour among research scholars. It could be understood that it is customary among research scholars to copy even review reports and references from other thesis reports. This issue needs to seriously be addressed at earliest.
- 7) Use of research specific search engines like research gate and researcher is very less among research scholars in social science. Therefore, they must be sensitized about the use of research specific search engines to prevent un-

ethical practices. Steps should be taken by all the stake holders to encourage research scholar to use research specific search engines.

- 8) One of the important challenges before research scholar in social science to seek scholarly information is lack of awareness about authentic sources. Training sessions should be arranged by research centers to familiarize information sources and to develop proper information seeking skills and technological skills. Issues like license imposed by some journals, restriction imposed by the libraries needs to be addressed.
- 9) Of course, procrastination has negative impact on academic performances as the procrastinators have to compromise quality to finish their research work at eleventh hour. Therefore, steps must be improved to trace research progress of research scholars, especially part time research scholars and to ensure timely completion of research work. Part time research scholars are reported to procrastinate more in their research work. Serious efforts should be taken to trace their progress timely. Steps should be taken to assess research aptitude of research scholars before selecting them for research.

Research scholars must take the sole responsibility for the ethical conduct of their research work. They should have sufficient knowledge about ethical principles to be kept in social research. Moreover, the authority must work on a comprehensive; goal oriented and focussed research policies to promote quality research among young researchers, both at state and national levels. The guidelines and research policies must get updated in tune with emerging global trend. As envisaged in the National Education Policy, 2020 (MHRD, 2020), it is essential to establish research intensive higher education institutes to enhance quality researches.

Maintaining research integrity is high priority area and therefore the researchers must be educated about issues like plagiarism, falsification, and

fabrication etc. at an appropriate level of their training. It is difficult to ensure quality in research unless research scholars are not aware about the importance of research integrity and therefore it should be incorporated as an important research component. Any malpractices affecting integrity of research should be dealt seriously. Predatory journals which demand money from authors must be controlled seriously. Ethical practices in research are of paramount importance as it promotes quality and high standards of research. The research scholars must be sensitized about ethical principles from the very beginning of research and the research centres must be vigilant to ensure ethical principles among research scholars in each stage of their research. In short, it is impossible to achieve high standards and quality in research without integrity and ethics.

Suggestions for Further Research

Based on major findings and the limitation of the present study, the following suggestions are made for further research

- 1) Only some aspects of information seeking behaviour were studied by the investigator. There are other important aspects based on different models in information seeking that can be explored
- 2) Based on the nature of discipline the information seeking behaviour may change. Hence, attempts may be made to study information seeking behaviour of other disciplines like science and humanities
- 3) The discipline social science includes variety of majors. Therefore, a study can be carried out investigating difference in information seeking, procrastination and research ethics of research scholars in social science based on subject
- 4) The influence of other categorical variables like subject, methods of study can also be investigated

- 5) Research ethics and procrastination of research scholars belonging to social science, science, language and humanities can be compared
- 6) A study can be initiated to investigate information seeking behaviour of research scholars from different universities
- 7) A study can be conducted to investigate ethical considerations in research among Ph.D. holders.
- 8) The study can be replicated on M.Phil. and Post graduate students
- 9) Information seeking behaviour of teachers and other academician can be studied
- 10) A study can be conducted to find out research aptitude of research scholars.

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APPENDICES

Appendix I

FAROOK TRAINING COLLEGE

FAROOK COLLEGE P.O. 673632

Affiliated to University of Calicut

QUESTIONNAIRE ON INFORMATION SEEKING BEHAVIOUR OF RESEARCH SCHOLARS (Final)

Dr. Noushad. P P
Associate Professor
SGTDS, MG University

Nowfal. C
Research Scholar
Farook Training College

Instructions

The following questions are meant to find out information seeking behaviour of research scholars. Kindly read each question carefully and tick your response as per the instruction given to each question.

1. If you need information in the different stage of your research, what do you do usually? (Tick the most appropriate one which you do first)
 - A. Consult your supervising teachers
 - B. Discuss with friends,
 - C. Web searching
 - D. Visit library
2. Which of the following is most preferred space for research work? (Tick only one)

Space	Tick
Home	
Hostel	
Library	
Research scholar room in the institute	
Any other private space	

3. Which of the following purpose do you seek information? (Tick all that apply)

Purpose	Tick
Selection of problem	
Preparation of research design	
Tool preparation	
Background reading	
Report writing	
Writing Research Articles	
Writing of Papers for Presentation at Seminar/Conferences	
Any other	

4. Which of the following source of information do you prefer?
 (Number your preference from most to least for all of the given choices)

Source of Information	Preference
Printed Books	
Printed Research Journals/ Magazines	
E-books	
E-journals	
Theses (Printed/ Digital)	
Encyclopaedias	
Bibliographies	
Indexing sources	
Abstracting sources	
Conference proceedings	
Online data base / data	
Any Other (Please Specify)	

5. How frequently do you visit library for your research work?
- A. Daily,
 - B. Weekly,
 - C. Fortnightly,
 - D. Monthly,
 - E. If there is a specific need
 - G. Rarely,
6. How much time do you spend in a library for your research work?
- A. Up to 30 minutes,
 - B. 30 to 60 minutes,
 - C. More than an hour,
 - D. Based on needs
7. Do you get sufficient information from your library?
- A. Very Frequently
 - B. Frequently
 - C. Sometimes
 - D. Rarely
 - E. Never

8. What source of information would you use from libraries for your research? (Tick all that apply)

Source	Tick
Books	
Journals	
Periodicals	
Dissertation, Abstracts and conference proceedings	
Internet Access Computers	
E-journals/ E-books	
INFLIBNET	
OPAC	

9. For what purpose do you use library today? (Tick all that apply)

Purpose	Tick
Borrow books or other materials	
To refer previous works or reference books	
As a quiet place to do works	
Browse e-resources/ databases	
To consult OPAC	
To consult INFLIBNET	

10. Do you prefer internet sources to printed books?

- A. Always
- B. Often
- C. Sometimes
- D. Rarely
- E. Never

11. Which of the following digital service is available in your library? (Tick all that apply)

Service	Preference
Browsing	
E-thesis	
E-books	
E-journals	
E-newsletters	

12. Which of the following online sources do you prefer to consult for your research work? (Number your preference from most to least)

Source	Preference
Google Scholar/ Researcher/ Any such specific search engine	
Common Search engines like Google/ Yahoo	
Shodhganga/ INFLIBNET	
Subject gate ways/portals	
Online bibliographic databases	
Blogs	
Wikipedia	
SNS (YouTube, Face book, Twitter, LibThing, LinkedIn, Blogs)	
Directory of open access journals	

13. Which of the following format of document do you look for? (Tick all that apply)

Format	Tick
Printed books	
e-books	
Journal article(Print)	
Journal article (Digital)	
Raw data (available for analysis)	
Published data	
Thesis report(Print)	
Thesis report(Digital)	
Images	
Video /audio	

14. Which of the following search engines do you use to access Digital resources ? (Number the search engines that are frequently used by you to access the Digital resources on the Internet)

Search Engine	Preference
Yahoo	
Google	
Info seek	
AltaVista	
Through College Web site	
Any others. Please specify	

15. How frequently do you search E resources for your research work?
 - A. Daily
 - B. Thrice in a week
 - C. Twice in a week
 - D. Weekly
 - E. Based on needs
16. How much time do you spend to search E resources for your research work approximately?
 - A. Less than an hour
 - B. One to Two hours
 - C. Two to Four hours
 - D. Based on needs
17. Are you a member of any social media groups exclusively created for research discussion?
 - A. Yes
 - B. No
18. If yes, does this group help you in your research work?
 - A. Very Frequently
 - B. Frequently
 - C. Sometimes
 - D. Rarely
 - E. Never
19. State your preferences over electronic document formats
 - A. Doc format
 - B. PDF format
 - C. Others
20. Do you attend workshops/ seminars regularly?
 - A. Always
 - B. Frequently
 - C. Sometimes
 - D. Rarely
 - E. Never
21. The number of research papers published in research journals
 - A. 0-5
 - B. 5-10
 - C. Above 10

22. Do published research papers help you to update your knowledge?
 A. Very Frequently
 B. Frequently
 C. Sometimes
 D. Rarely
 E. Never
23. Average number of scholarly articles accessed by you per day(Please state no. of articles accessed per day)
 A. 1-10
 B. 11 – 20
 C. 21 – 30
 D. 31 and above
24. Do you subscribe any research Journal?
 A. Yes
 B. No
25. Does your library subscribe Indian and Foreign research Journal?
 A. Yes
 B. No
26. How helpful are the research journal for your research work?
 A. Always
 B. Often
 C. Sometimes
 D. Rarely
 E. Never
27. What are the problems faced by you in obtaining information and keeping up with advances in your field? (Tick all that apply)

Problems	Tick
Lack of time	
Unavailability of required materials/ latest materials	
Sources are expensive/located far away/license imposed by online journals	
Lack of awareness about various information sources and their coverage.	
Lack of technical support/ knowledge	
Lack of source to ensure authenticity	
Language barrier	
Lack of training in using electronic resources/ products	
Information explosion	
Lack of information seeking skills	
Restrictions imposed by other libraries	
Any other (Please specify)	

28. Difficulties experienced by you to access and use the Digital resources (Please tick all that apply)

Difficulties	Tick
Lack of time in accessing Digital resources	
Unawareness of the availability of the Digital resources related to their research/study	
Lack of system speed and network capacity	
Unawareness of the access mechanisms and lack of adequate access points	
Lack of conducive physical environment	
High cost to access	
Lack of training program to access and use the Digital resources	
Lack of subject gateways	
Lack of printing facilities	
Any other (Please specify)	

29. In which phase of your research do you seek information?
(Number your preference)

Phase	Preference
Selection of problem	
Review	
Tool construction	
Data collection	
Data analysis	
Report writing	

30. What do you do usually when you seek information in different stages of your research? (Tick all that apply)

Process	Tick
Try to locate accurate source of information	
Verify the authenticity of the information	
Store the information as it is available	
Try to comprehend the information	
Try to interpret information and to store	

31. Which of the following is more important for you?
- A. Seeking only authentic and accurate information
 - B. Seeking easily accessible information
 - C. Seeking information from maximum sources
32. Which of the following technique do you use to share information you collected?
- A. Social Networking
 - B. E-Mail
 - C. Discussion Forums
 - D. Video Conferencing
 - E. Web 2.0 tools
 - F. File Sharing
 - G. Collaborative Writing
 - H. Others
33. Which of the following tools do you use for data analysis? (Write NA if it is not applicable)

Software	Tick
SPSS (Statistical Package for the Social Sciences)	
CAQDAS (Computer Assisted Qualitative Data Analysis)	
Stata (Data Analysis and Statistical Software)	
R (Open Source Software for Statistical Analysis)	
Any other	

34. Which of the following reference management tools do you use? (Write NA if it is not applicable)

Reference Management Tools	Tick
Mendely	
Zotero	
Ednote	
Any other	

Appendix II

FAROOK TRAINING COLLEGE

FAROOK COLLEGE P.O. 673632

Affiliated to University of Calicut

SCALE OF PROCRASTINATION BEHAVIOUR (Final)

Dr. Noushad. P P
Associate Professor
SGTDS, MG University

Nowfal. C
Research Scholar
Farook Training College

Instructions

The following statements are meant to find out procrastination behaviour of research scholars. Kindly read each statements carefully and tick your response as Strongly Agree, Agree, Undecided, Disagree or strongly Disagree which you find most appropriate among the five choices.

Item No.	Statements	Strongly Agree	Agree	Undecided	Strongly Disagree	Disagree
1	I see myself making delay until it is too late					
2	I find myself performing tasks that I was expected to finish days before					
3	I waste a lot of time before taking final decision					
4	I get things done on time					
5	I waste a lot of time even for tasks that require little time					
6	I have the habit of putting the works till the last moment					
7	I dislike that person who makes decision late.					
8	I do not start task just after it is assigned.					
9	I think that it takes more than five years to finish a research systematically					
10	I think it will take more time than necessary to complete my research in a best possible way					
11	I believe that those who complete the research before time have not taken serious efforts to make their research perfect					

INFORMATION SEEKING, PROCRASTINATION & ETHICAL CONSIDERATIONS IN RESEARCH

Item No.	Statements	Strongly Agree	Agree	Undecided	Strongly Disagree	Disagree
12	I will not finish a work until it is perfect					
13	As I am a perfectionist, I fail to meet deadlines					
14	I am worried that I can't finish my work on due time as I am more conscious on its quality					
15	The very thought of making the best of my research drives me to procrastinate					
16	As I am taking more time to make my work more accurate I fail often to submit the works on time					
17	I am confident that I can finish my works on time without compromising its quality					
18	I rarely consult my supervising teacher as I am afraid of his criticism					
19	Even if there is a need I find myself delay in meeting my supervising teacher					
20	I finish tasks given by my supervising teacher in due time					
21	My supervising teacher warns me that I am running out of time					
22	I feel hesitant to make changes in my tasks according to feedbacks given by my supervising teacher					
23	I feel frustrated when my guide asks me to re-write any assignment					
24	Frequent criticism and feedback of my supervising teacher would help me to make my research perfect					
25	I am lazy to do research tasks as I am not confident to face others criticism					
26	I believe that I wasted a lot of time to select my research problem					
27	I believe that I can't finish my research during the stipulated time					
28	The very thought I have sufficient time before me always prompts me to postpone research tasks unnecessarily					

Item No.	Statements	Strongly Agree	Agree	Undecided	Strongly Disagree	Disagree
29	I believe that the time allotted for research work is too short					
30	I believe that I could not make commendable progress in my research during my course work					
31	I believe I am good at meeting deadlines in academic and research activities					
32	I believe I could finish review of related literature timely					
33	I took much time than needed to construct my research tool					
34	I usually get my research tasks finished as I planned					
35	I feel sleepy while doing any important assignment					
36	I believe I can submit my research report before due date without having any extension					
37	I take notes when I read any book related to my research topic					
38	I am very interested to prepare research papers and to get it published					
39	I am lazy to present papers in the seminars even if my supervising teacher asked to do so					
40	I believe that I could not complete each phases of my research work timely					
41	I think I could start my research at right time					
42	I believe that putting things off till the last minute has cost me a lot in the beginning year of my research work					
43	I am often relieved that I may take another year if I can't finish my research during stipulated time					
44	I have a well-planned time line for my research work					
45	I believe that I have been unable to make significant progress in my research work					
46	I always fail to keep the momentum of my research work					

INFORMATION SEEKING, PROCRASTINATION & ETHICAL CONSIDERATIONS IN RESEARCH

Item No.	Statements	Strongly Agree	Agree	Undecided	Strongly Disagree	Disagree
47	I still have no detailed plan of action regarding my research work					
48	I procrastinate in my research activities as I have no clear expectation					
49	In each stage of my research work I often have finished a task sooner than necessary					
50	I feel disappointed that I can't finish the works timely					
51	I have to rush to meet deadlines set by my supervising teacher					
52	I feel disappointed that some of friends who joined research after me had gone too far					
53	I find myself distracted while sitting to do research tasks as I have no systematic plan					
54	I undertake with satisfaction all the tasks assigned by my supervising teacher					
55	I am not hesitant to sit till midnight to finish a task timely					
56	For each year I prepared a yearly plan and I am almost successful to keep this plan					

Appendix III

FAROOK TRAINING COLLEGE

FAROOK COLLEGE P.O. 673632

Affiliated to University of Calicut

TEST OF ETHICAL CONSIDERATIONS IN RESEARCH (Final)

Dr. Noushad. P P

Associate Professor

SGTDS, MG University

Nowfal. C

Research Scholar

Farook Training College

Instructions

The following questions are meant to find out ethical considerations in research among research scholars. Kindly read each question carefully and write your response as A, B, C or D which you find most appropriate among the choices in the box given with each question.

1. The researcher has to take extreme care to
 - A. Inform the sample about the entire procedure of the research in advance
 - B. Convince the sample about the experience of the researcher in the field of research
 - C. Inform about the purpose of the research
 - D. Inform the sample about the validity and reliability of research tool
2. Which of the following stage of research is most subjected to research ethics?
 - A. Problem formulation
 - B. Defining the population
 - C. Data collection
 - D. Reporting of research findings
3. Which of the following is against research ethics?
 - A. Selection of the topic from the suggestion of previous studies
 - B. Selection of the topic from another University without changing the variables and population
 - C. Extension of a study to another level of population without changing variables
 - D. Correlating the variable of a study with a new variable
4. Which of the following is against research ethics?
 - A. Research findings are taken for policy making
 - B. A research study is replicated with a view to verify from the other researches
 - C. Reviewed studies are not cited with proper reference
 - D. A researcher critically looks at the findings of another research

5. Ethical norms in research provides guidelines for
- A. Thesis format
 - B. Hypothesis formulation
 - C. Data sharing policies
 - D. Applying statistical techniques
-
6. The research is considered ethical if the researcher tries to
- A. establish the reliability of the tool
 - B. select sufficient number of sample
 - C. ensure privacy and anonymity of the respondent
 - D. use standardized tool
-
7. Which of the following is not against research ethics?
- A. Adapting a standardized tool to collect the data
 - B. Sharing the confidential data with colleagues
 - C. Submitting the same articles to more than one journal
 - D. Disclosing the identity of sample
-
8. Which of the following is not considered guidelines in research ethics?
- a. Nuremberg Code,
 - b. Declaration of Helsinki,
 - c. Belmont Report,
 - d. APA
-
9. Which of the following statement is true of informed consent in research?
- A. The investigators can conduct the research without any ethical responsibility.
 - B. A written consent with a brief description of the procedures must be taken.
 - C. A full description of the risks and benefits should be stated in the informed consent.
 - D. There is no need for informed consent
-
10. The type of plagiarism which one person copies another work (word-for-word) without any change and claim as his own work
- A. Cloning
 - B. Remix
 - C. Hybrid
 - D. Recycle
-

11. Which of the following is not plagiarism?
- A. act of borrowing from one's own previous document without a proper citation
 - B. the written document is copied from more than one source and all are mixed together without any proper citation
 - C. one person collects information from various sources and mix them all together as a single document then claim the work as their own work
 - D. quoting others work with citation
-
12. Which of the following best describes research ethics?
- A. It states how to write a research report systematically
 - B. It helps prevention of plagiarism
 - C. It states research methodology
 - D. It provides a common set of standards for conducting ethical research
-
13. An ethical principle which guarantees the right of all human participants to cease taking part in research at any time.
- A. Freedom of movement
 - B. Freedom of association
 - C. Discontinuing participation
 - D. Voluntary participation
-
14. Which of the following is not a plagiarism software?
- A. Easybib
 - B. Turnitin
 - C. Writecheck
 - D. Quetext
-
15. Which of the following step of research is least vulnerable to research ethic?
- A. Defining research variable
 - B. Data collection
 - C. Data analysis
 - D. Report writing
-

16. Which of the following step of research is most vulnerable to research ethic?

- A. Defining research variable
- B. Data collection
- C. Data analysis
- D. Report writing

17. As a researcher if you want to collect data from the sample whose identity is not revealed to you. This is called

- A. Confidentiality
- B. Anonymity
- C. Ethics
- D. Duplication

18. Which of the following is not against research ethics?

- A. A researcher uses data of earlier study to publish a new research paper
- B. A research uses the variable of his earlier study to do a new research on a different sample
- C. A researcher uses unpublished data without permission
- D. A researcher manipulates and misinterprets data to get expected results

19. Which of the following is not an ethical principle in research?

- A. Honesty
- B. Integrity
- C. Confidentiality
- D. Subjectivity

20. A predatory journal

- A. Publishing research article for a fee without peer review
- B. Publishing research article with blind peer review
- C. Publishing research article with a review process of certain requirements done by a journal indexer
- D. Publishing article in a particular subject area

21. The type of peer review in which the reviewer does not know the identity of the author and the author does not know the identity of the reviewer
- A. Single blind
 - B. Double blind
 - C. Open peer review
 - D. Transparent peer review

22. Which of the following is not essential in research ethics?
- A. A good knowledge about research method
 - B. Research aptitude
 - C. Basic knowledge about research ethics
 - D. Previous experience

23. Restating a clause or word by using synonyms of the words used in the original source is
- A. Patch writing
 - B. Direct plagiarism
 - C. Summarizing
 - D. Paraphrasing

24. Which of the following is not important in research ethics?
- A. Obtaining the permission from the sample in advance
 - B. Keeping the identity of the sample confidential
 - C. Ensuring originality in the research work
 - D. Standardizing the tool before collecting the data

25. Research fraud refers to
- A. Using the result of earlier research for a new study
 - B. Drawing conclusion through falsification of data
 - C. Adopting a tool without obtaining permission
 - D. Taking information from other source without proper citation

26. IRB stands for
- A. International Review Board
 - B. Internal Review Board
 - C. Institutional Review Board
 - D. Inter personal Review Board

27. Giving the responses by the researcher himself using faked name is an example of

- A. Falsification
- B. Fabrication
- C. Replication
- D. Triplication

28. Ownership for creative work is

- A. Copyright
- B. Patent
- C. Trademark
- D. Registered design

29. Act of publishing same data or results in more than one journal

- A. Duplicate publication
- B. Copying
- C. Partial publication
- D. Triplication

30. Publishing several article from the data collected in one study

- A. Duplicate publication
- B. Copying
- C. Partial publication
- D. Triplication

31. Which of the following is not against publication ethics?

- A. Publishing the same paper in two different journals
- B. Including a colleague as an author in a paper for a favour without significant contribution
- C. Using inappropriate statistical techniques to enhance the significance of your results
- D. Publishing PhD thesis as a book

32. The type of plagiarism in which a researcher borrows phrases from a sources without using quotation marks
- A. Self
 - B. Direct
 - C. Mosaic
 - D. Accidental
-
33. Which of the following statement is not true?
- A. Adapting and adopting research tool are same
 - B. When the research tool is adopted the reliability and validity established by the tool can be applied to our study
 - C. When adapting the tool the researcher should report the same in the methodology
 - D. When the tool is adapted the reliability and validity is to be re-established
-
34. Which of the following is not against research ethics in data collection?
- A. Forcing the respondent to give specific responses to yield expected results
 - B. Manipulation of the data to yield expected results
 - C. Explaining the items clearly to ensure accurate response
 - D. Asking the same respondent to give multiple responses
-
35. The process of examining the findings of a study by using the same design but a different sample
- A. Experimentation
 - B. Replication
 - C. Data validation
 - D. Hypothesis testing
-
36. Ethical problem may arise when collecting data online because
- A. Anyone can assess
 - B. Researcher may fake their identities
 - C. Respondents may fake their identities
 - D. Easy and fast collection of data
-

37. The ethical principle that research participants should be informed in advance about research to make their choice of participation
- A. Anonymity
 - B. Informed consent
 - C. Deception
 - D. Confidentiality
-
38. Making up data or results and recording or reporting them
- A. Falsification
 - B. Fabrication
 - C. Replication
 - D. Triplication
-
39. Research is not considered ethical if
- A. data are not collected by standardized tool
 - B. all the hypotheses are rejected
 - C. data are not collected from sufficient number of samples
 - D. related studies are properly reviewed
-
40. Which of the following is not against good practice in tool construction?
- A. Adapting a research tool without reporting in methodology
 - B. Using the same dimension used by previous researcher to construct a new tool
 - C. Constructing a new tool by reframing an available tool
 - D. Constructing new tool by compiling items from different tools
-
41. Which of the following is not true about falsification?
- A. Modifying the data to support research hypothesis
 - B. Changing the data while analysing to make the result statistically significant
 - C. Deliberately concealing the research results that do not fit to hypothesis
 - D. Fabricating the data that does not exist
-
42. Which of the following is not research misconduct?
- A. Fabrication of research data
 - B. Separating research results in to many publishing units
 - C. Adopting a standardized tool without permission
 - D. Entering random numbers for analysis to finish the research paper in time
-

43. Which of the following does not require quoting?

- A. Restating other arguments
- B. Presenting the respondent's original feedback
- C. Reporting an event
- D. Quoting second hand information

44. Which of the following statement about self plagiarism is not true?

- A. Submitting your previously published article as new one
- B. A researcher can never use what he has done previously
- C. Self-plagiarism decreases your academic contribution
- D. Reusing the same set of data from previous study without making this clear to the reader

45. Which of the following is not an ethical principle according to Belmont report?

- A. Respect for persons
- B. Beneficence
- C. Justice
- D. Confidentiality

46. The principle which states that no harm should be made to the participants in particular and to people in general while conducting research

- A. The Principle of Non-maleficence
- B. The Principle of Beneficence
- C. The Principle of Autonomy
- D. The Principle of Justice

47. Ethical Guidelines for Social Science Research in Health (2000) was issued by

- A. Indian Council of Medical Research
- B. National Committee for Social Science Research in Health
- C. American Sociological Association
- D. American Psychological Association