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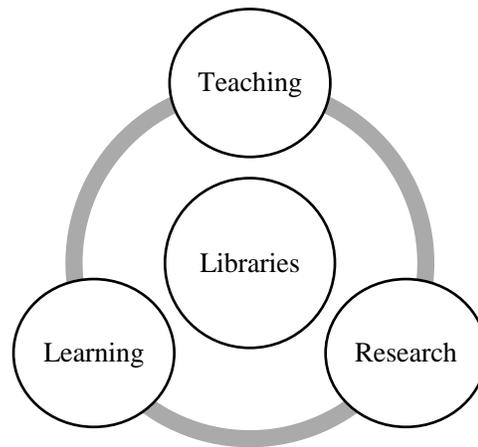
ABSTRACT

COVID-19 is a highly contagious pandemic that restricted scholars to their homes and reduced academic writings since they could not reach libraries. Metacognitive Self-Consciousness is a metacognitive ability. It pertains to awareness and monitoring of thoughts. The purpose of this study was to explore Metacognitive Self-Consciousness about using digital libraries for academic writings during Covid-19 pandemics. The sampling frame consisted of two types of Ph.D. research scholars of the social sciences enrolled at public sector universities. One of them was already using digital library resources, whereas the others were not using digital library resources. The study sample consisted of forty-eight (48) Ph.D. research scholars. The sample was further divided into two groups called treatment and control groups. Online sessions were arranged on metacognitive self-consciousness about using digital libraries for academic writings for the research scholars of the treatment group. The post-test control group was the design of the study. The data were collected with a metacognitive self-consciousness questionnaire about using digital libraries for academic writings (MSCQ-DL). Means (M), Standard Deviations (SD), and t-tests were employed with SPSS version 24. The results concluded that metacognitive self-consciousness about using digital libraries for academic writings remained significant and enhanced academic writing of research scholars of public sector universities ($M = 13.4$; $SD = 2.5$), $p = .000 < \alpha = 0.005$. It is recommended that universities focus on the awareness of research scholars about using digital libraries and arrange mandatory sessions for training. This study may open new doors for scholars, supervisors, and other stakeholders to improve their academic writings.

Keywords: Metacognitive Self-Consciousness, Digital Libraries, Academic Writings, Covid-19 pandemic

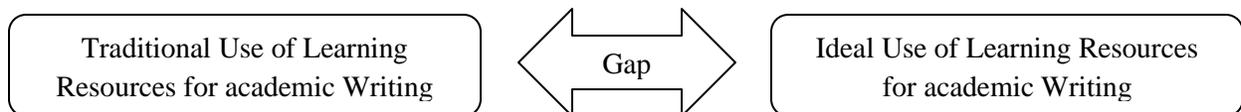
INTRODUCTION

Metacognition refers to knowledge about self-cognition. Metacognitive self-consciousness is a metacognitive ability (Wagaba et al., 2016). It refers to the awareness and monitoring of personal thoughts (Khurram et al., 2020); and, metacognitive abilities are helpful in problem-solving (Rosikhoh et al., 2022). Similarly, the library is the collection of books, and the term is derived from the Latin *liber*, meaning book. Libraries are a valuable source of information (Hoshi & Schatz, 2003). The use of digital libraries is rapidly increasing since it has a significant impact on gathering information (Liu & Luo, 2011). University libraries



play a pivotal role in research, teaching, and learning by providing in-depth knowledge and reference (Zhao et al., 2019). Likewise, academic writings pertain to conference papers, institutional assignments, Journal articles, classroom presentations, theses, and dissertations, etc. (Strobl et al., 2019). Academic writing requires care, and it entails achieving worldwide recognition in a particular field (Teng, Qin & Wang, 2021).

It is observed that the research scholars at universities are of two types. Some research scholars use digital resources to enrich their academic writings. Similarly, the other type of scholars uses traditional ways to research. Usually, scholars use libraries as valuable resources for academic writings. But, unfortunately, the current most prolonged phase of Covid-19 has drastically influenced the routine and traditional methodologies. Life became frozen at home, and new learning activities emerged.



Scholars face multiple problems acquiring proper knowledge since they cannot search learning resources like digital libraries. The research scholars either possess a less or moderate level of metacognitive self-consciousness about using digital library resources. Therefore, this study was initiated to explore the

metacognitive self-consciousness of Ph.D. research scholars towards using digital libraries for their academic writings during the Covid-19 pandemic.

LITERATURE REVIEW

Metacognition was introduced by Flavel (1964) and is widely operative in almost every learning process (Khurram et al., 2021). It is successful for problem-solving (Rosikhoh et al., 2022). The knowledge and comprehension of cognitive processes are known as metacognition (Smith & Beran, 2021) and are linked with mental aspects involving monitoring, controlling, and interpreting (Wells & Capobianco, 2020). It aids learners in making judgments regarding employing techniques and strategies for completing educational tasks (Winne, 2021). Sionicio and Barbacena (2021) reported that metacognition is crucial for achieving lifelong learning; however, it receives little attention. Similarly, Khurram et al. (2021) described that metacognition plays a significant role in Higher Education subjects. University students and scholars get benefit since it gears up metacognitive self-consciousness and conceptual understanding.

Metacognitive self-consciousness is an essential metacognitive ability consisting of awareness and monitoring of thoughts. (Khurram et al., 2021). It improves efficiency (Prouvost, Calamari & Woodard, 2016) and enhances focus (Koch & Exner, 2015). Further, it improves effort alignment and self-esteem, speeds up the processing time, and allows researchers to finish tasks more quickly (Leutwyler, 2009). Similarly, Khurram and Shabbir (2021) reported that metacognitive self –consciousness improves self-effort. Thus, students, scholars, and academicians may benefit from metacognitive self–consciousness for their academic writings.

Libraries act as virtual destinations for pupils, supplying them with learning materials. As a result, people have constant access to digital material and may study at their own speed and whenever it is convenient for them. Some universities have developed a mobile version of their library website. Libraries also act as virtual sites, giving learning tools to students who are unable to attend on-campus sessions. As a result, people have constant access to digital material and may study at their own speed and whenever it is convenient for them. Some libraries have also developed a mobile version of their website and catalog so that students may access digital goods from any device with an internet connection.

Academic writing is a term used by scholars/researchers to describe the scholarly limits of their field and competence areas (Labaree, 2013). Teng, Qin & Wang (2021) advocated the stance of Graham & Harris (2000) that scholars need to be well equipped with self-regulation. He further reported the citation of Zimmerman (2002) that scholars should possess self-awareness about academic writing. Libraries help to

improve academic writing. A library catalogs provide all of the information needed to correctly characterize each object, both physically and cognitively, to differentiate it from others.

Public and private universities provide academic access to their researchers, teachers, and students using digital libraries. They offer access to high-quality, peer-reviewed journals, databases, and other electronic information in various fields. These resources may be subdivided into primary and premium resources. The primary resources are available to universities, colleges, and other academic and research institutions around the country. Ovid, Wiley, Springer Link, Taylor & Francis (T&F), ASTM, PQDT, and INFORMS are the main primary resources. Similarly, premium resources are costly licensed resources to which only a few public and private institutions have access. Some are IEEE, Science Direct, JSTOR, Emerald, IOP, AIP, Web of Science (HEC Only), Scopus (HEC Only), ACS, ACM, etc.

COVID-19 is a highly contagious pandemic. This disease has restricted scholars to their homes and reduced academic writings since they could not reach libraries. This epidemic has wreaked havoc on the lives of students, researchers, and learners in various ways. They cannot finish their coursework, research projects, and assignments in the usual manner, and in many cases, they have been ripped from their social groups virtually overnight. Thus, the use of digital libraries through e-resources may fill the gap to use physical resources of libraries.

THE OBJECTIVE OF THE STUDY

The study's main objective was to determine the effectiveness of metacognitive self-consciousness about using digital libraries for academic writings during the covid-19 pandemic.

HYPOTHESES OF THE STUDY

The null hypotheses to achieve the objectives of the study were as follows:

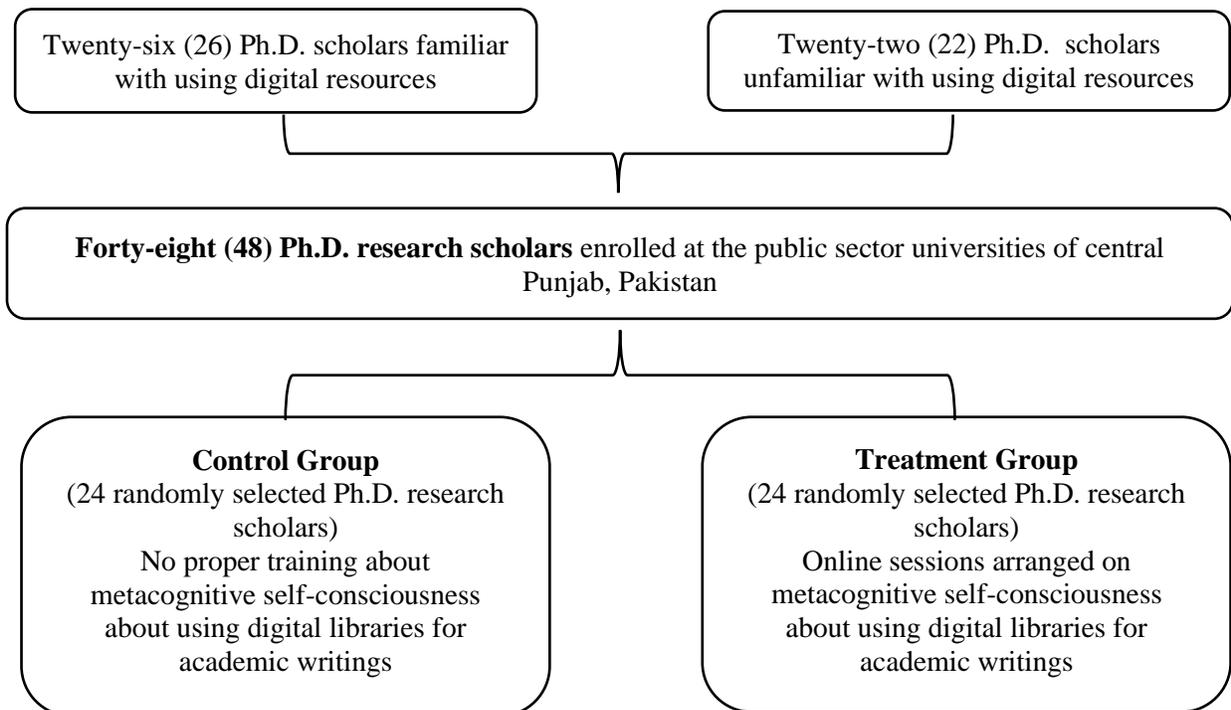
H₀₁. There is no significant effect of metacognitive awareness about using digital libraries for academic writings during covid-19 pandemics.

H₀₂. There is no significant effect of metacognitive monitoring about using digital libraries for academic writings during covid-19 pandemics

H₀₃. There is no significant effect of metacognitive self-consciousness about using digital libraries for academic writings during covid-19 pandemics

METHODOLOGY

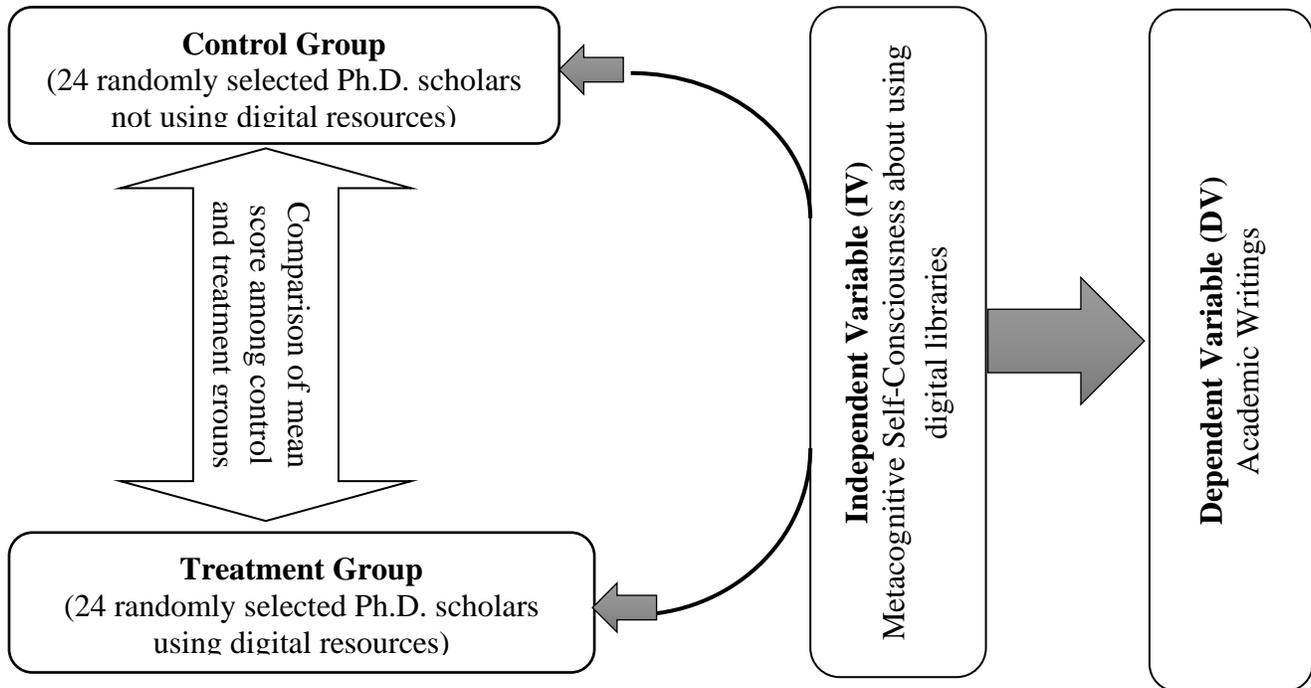
The sampling frame consisted of two types of Ph.D. research scholars of the social sciences enrolled at public sector universities of central Punjab, Pakistan. One of them was familiar with using digital library resources, whereas the others were unfamiliar. Both types were merged. According to the percentage of marks obtained in MS/MPhil research theses, they were arranged into descending order. The study sample consisted of forty-eight (48) Ph.D. research scholars. The sample was further randomly divided into treatment and control groups.



Online sessions for seven (07) consecutive days were arranged on metacognitive self-consciousness about using digital libraries for academic writings for the research scholars of the treatment group. Every day they were given one-hour training. It is worth mentioning that no proper training was provided to the control group about metacognitive self-consciousness about using digital libraries for academic writings

DESIGN OF THE STUDY

The post-test control group was the design of the study. The principal investigator was an expert in metacognition. After completion of the online training of the treatment group, Ph.D. scholars continued their regular research. After forty (40) days, data were collected using a metacognitive self-consciousness questionnaire about using digital libraries for academic writings (MSCQ-DL). The metacognitive self-consciousness about using digital libraries was an independent variable (IV). Similarly, academic writing during the Covid-19 pandemic was the dependent variable (DV).



Means (M), Standard Deviations (SD), and t-test were employed with SPSS version 24.

RESULTS

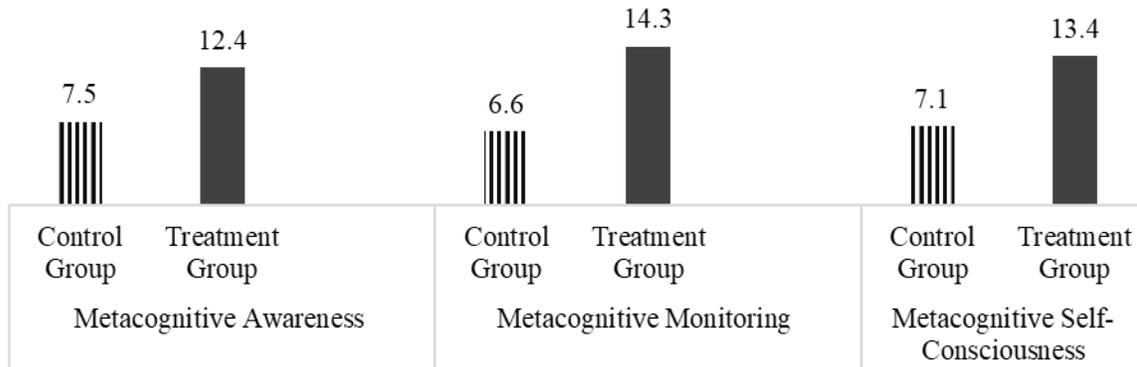
Results of t-test and Descriptive Statistics for metacognitive self-consciousness about using digital libraries during Covid-19 pandemics

| | Groups | N | M | SD | df | t- value | Sig. |
|----------------------------------|-----------------|----|------|-----|----|----------|-------|
| Metacognitive awareness | Control Group | 24 | 7.5 | 4.3 | 47 | 6.85 | 0.000 |
| | Treatment Group | 24 | 12.4 | 2.5 | | | |
| Metacognitive monitoring | Control Group | 24 | 6.6 | 3.6 | 47 | 7.75 | 0.000 |
| | Treatment Group | 24 | 14.3 | 2.4 | | | |
| Metacognitive self-consciousness | Control Group | 24 | 7.1 | 3.9 | 47 | 7.3 | 0.000 |
| | Treatment Group | 24 | 13.4 | 2.5 | | | |

* $p < .005$ M =Mean and SD = Standard Deviation

The results of the study rejected all the null hypotheses of the study and concluded that:

- a. Metacognitive awareness about using digital libraries for academic writing remained significant for the (treatment group) research scholars of public sector universities (M = 12.4; SD = 2.5), $p = .000 < \alpha = 0.005$ than the control group (M = 7.5; SD = 4.3).
- b. Metacognitive monitoring about using digital libraries for academic writing remained significant for the (treatment group) research scholars of public sector universities (M = 14.3; SD = 2.4), $p = .000 < \alpha = 0.005$ than the control group (M = 6.6; SD = 3.6).



- c. Metacognitive self-consciousness about using digital libraries for academic writing remained significant for the (treatment group) research scholars of public sector universities (M = 13.5; SD = 2.5), $p = .000 < \alpha = 0.005$ than the control group (M = 7.8; SD = 4.3).

DISCUSSION, CONCLUSION AND RECOMMENDATION

The study results affirmed that during the pandemic period of Covid-19, metacognitive self-consciousness about using digital libraries remained valuable and effective for academic writing since it provided awareness of the thoughts and their regular monitoring. Therefore, metacognitive self-consciousness about using digital libraries is recommended for academic writings. It is recommended that universities focus on the awareness of research scholars about using digital libraries and arrange mandatory sessions for training. This study may open new doors for scholars, supervisors, and other stakeholders to improve their academic writings.

Further, this study established that academic writing might receive attention at every level if taught metacognitively. It might give information about using library databases, using the library website from home, awareness of the thoughts for using library resources, monitoring the thoughts for using library resources, and exploring desired content related to research while using the library. This study may open several doors for researchers.

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| Item No. | Statement |
|----------|--|
| CSC1 | I am aware of using library databases |
| CSC2 | I am aware of using the library website from home |
| CSC3 | I am aware of my thoughts for using library resources |
| CSC4 | I know how to achieve desired outcomes of using the library |
| CSC5 | I monitor my thoughts while using library databases |
| CSC6 | I pay close attention to the way my mind works while using the library |
| CSC7 | I explore desired content related to research while using the library |
| CSC8 | I continuously examine my thoughts for and during using the library |
| CSC9 | I pay close attention to task completion while using library resources |