

Information Sources of Students of Psychology

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Abstract

Every year, universities spend a large sum of money on databases and library sources to help with education and research. The main aim is to determine the sources of information utilized by the psychology students at Semnan University to address their information needs. This study is applied research and uses grounded theory to reveal the viewpoints of postgraduate psychology students at Semnan University. The statistical population comprised all postgraduate psychology students at the time of the study (2018-2019). Data collection and analysis were conducted until saturation point, and 50 in-depth interviews were carried out. Semi-structured interviews were conducted, and MaxQDA was used for data coding. Interviewing was stopped following 40 interviews due to data saturation, although 10 additional interviews were held with the students, which led to no new data. Based on the open coding, 95 codes were identified and extracted from the data, followed by 27 codes in axial coding. Finally, 10 codes were identified and extracted from the data through the selective coding process. The results showed that the sources of information for psychology students of Semnan University are their professors, databases, research questionnaire databases, resource ordering, accessible electronic sources, the Internet, audio-visional sources, library, search engines, and professional websites. Psychology students of Semnan University used formal/informal and digital/printed sources of information. These cover many types of information. They need more bibliographic instruction on making greater use of library services prepared for them.

Keywords: Sources of information, information need, Semnan University, postgraduate psychology students.

Introduction

“Needs” or “human needs” are central concepts in many disciplines. Psychology and Maslow’s hierarchy of needs is the best-known example. It is also of central concern in economics and political science. Human need is considered a driving force in demand for goods and services (Naumer & Fisher, 2010). We also have it in LIS; information needs lead people to information sources. Information needs may lead to information behavior in varying contexts such as university, research, and education. Research is a process for accessing specific facts

(Mansoorian & Marefat, 2019). In order to achieve a fact, in addition to being equipped with and proficient in the tools and methods of recognizing and discovering the unknown, it is necessary to have access to relevant sources of information and use appropriate sources. Universities invest much money in databases and library sources to help with education and research. In order to provide better information services, it is necessary to examine the status of used information sources by students in the university.

Many researchers are actively involved in information behavior and study the use of information as part of it. Deretchin, Yeoman & Seidel (1998) examined medical students' resource use profile in a longitudinal problem-based learning course to examine patterns of change. Their results showed that, during the six months, the percentage of use (the number of times a resource category was used / number of weekly reports submitted) declined from 64.0% printed, 81.7% electronic, and 4.3% physical to 44.0%, 69.8%, and 3.9%, respectively. The use of human resources increased from 29.1% to 36.6%. The use of a variety of resources also declined. Waldman (2003) studied freshmen's use of library electronic resources and self-efficacy and the factors encouraging students to seek out information in the library setting. He found that the use of the library correlated to the students' use of the library's electronic resources. He also found out that students who are interested in learning about the library's electronic resources will be more likely to have higher self-efficacy. Lee, Paik, and Joo (2012) noted that one of the essential steps during the information-seeking task is the selection of information sources. Some research has been carried out on sources of information that have dealt with the methods of obtaining information and its sources. Among them, we can mention Lotfipour Rafsanjani et al. (2010), who studied the sources of information employed by Payame Noor University students in the transmission and prevention of AIDS in Rafsanjan city. They found that most students (61.7%) use television as the most important source of information. In their study, the share of the family in obtaining information related to the field of AIDS was very insignificant (1.6%). Their research showed that paying attention to other sources of information, especially the use of combined methods from other sources, and education by including the required content in the form of a course can be useful.

Homaii, Sobhaninejad, and Karimpour (2005) studied the sources of sexual information obtained by university students in Isfahan province. A questionnaire was used, and the findings showed that the use of mass media, the Internet, and friends as information sources were above average, while parents and the opposite sex had a lower-than-average frequency. Hamade and Al-Yousef (2010) studied the use of information sources by LIS graduate students in Kuwait. The results showed that most of the students used journal articles, web pages, and books as the most preferred sources and printed format. Lee, Paik and Joo (2012) studied the information resource selection of undergraduate students in academic search tasks. Their results showed that human sources (such as experts, professors, and librarians), printed sources (e.g. books, magazines, and lecture notes), online sources (like search engines, databases, and Google scholar), and mass media are the most common information sources used by the students. Olajide and Otunla (2015) studied the use of information sources by student nurses. The results of this study revealed that print materials are the major information source used by the students. Asking colleagues and librarians ranked highest among the sources contacted for information. Tlakula and Fombad (2017) examined the use of electronic sources by undergraduate students at the University of Venda. The results of their study highlighted that usage of sources by

undergraduate students was elementary and limited to some databases. They confused electronic sources with web-based Internet sources. The findings of this study showed that psychological factors influenced the use of electronic information sources. Their findings also recommended that universities should improve their subscription to various electronic information sources through their libraries.

Research question

This study seeks to identify the information sources for graduate psychology students at Semnan University. The main question of the present study is ‘What are the sources of information for psychology students of Semnan University?’

Methodology

The present research was done using the grounded theory. The research population in this study included psychology students of Semnan University in master’s (87 students) and doctoral degree (12 students) at the time of research (2018-2019).

This study used Semi-structured in-depth individual interviews to collect data. The interviews were recorded with the help of a mobile phone. Data collection continued until data saturation. After the fortieth interview, data saturation was reached due to the duplication of data provided by the research population. Ten more interviews were conducted to ensure the necessary non-duplication of data and data saturation, and given that the data collection process was carried out along with data analysis, no new data was obtained.

All interviews were typed and analyzed by open, axial, and selective coding after being uploaded into MaxQDA, the qualitative data analysis software. Using the member checking method, constant comparison between the data, coupled with its memorization and continuous examination, was used during the coding procedure. The extracted codes in the data collection and analysis process were provided to the members of the research population to check the relevance of the codes with their opinions. The results showed that the views of the research population and the extracted codes are similar.

Findings

Simultaneous data analysis was started after data collection. In the open coding process, 94 open codes were picked up with the help of MaxQDA software.

In the axial coding process, 28 categories of open code were obtained. These codes included OPACs, citation databases, English databases, Persian databases, faculty brochures, web search, faculty resumes, media and social networks, reputable university sites, e-questionnaire websites, information technology sites, video sharing services, TV, movies, videos, and clips, books, libraries, web-accessible electronic sources, book/article purchasing source, open access sources, public Internet sources, online library sources, reference sources, scientific journals, professors’ websites, specialized websites, professional websites, news websites, and blogs.

In selective coding from the obtained categories, 10 codes were finally obtained, which can be seen in Figure 1.



Figure 1: Information Sources of Psychology Students

As Figure 1 shows, the psychology students interviewed use a wide range of sources to obtain the information they need, elaborated below with abundant evidence and examples.

Professors

Data showed the frequency of concepts such as faculty resumes, faculty homepage, and faculty booklets as sources of information for interviewed students. At least 10 psychology students participating in the study stated that they refer to the professors' websites for the information they need.

For example, a graduate psychology student answers the question, 'If you wanted to search for a topic on the Internet, where would you search?'

'If it is an article, Google Scholar, or if, for example, I know that a professor has worked on it, I will go and look at his/her resume' (Interview code 46).

It seems that the interviewed students consider the knowledge and expertise of professors as one of the important sources and references in obtaining information.

Databases

In Table 1, the frequency of open codes extracted from the interviews with the students participating in the present study as sources of information. The three main categories extracted from the text of the interviews are English databases, citation databases, and Persian databases.

Table 1

Databases as the Source of Information

Frequency	Concept	Category	Axial code
26	Science Direct	English databases	Databases
10	PubMed		
8	Psych Info		
7	ERIC		
6	Springer		
3	JStore		
3	Sage		
1	Taylor & Francis		
1	Ebsco		
1	Emerald		
5	Scopus		
2	Google Scholar	Persian databases	
44	SID database		
29	Magiran		
14	IranDoc		
10	Noormags		
4	ensani.ir		

For example, a Ph.D. student in psychology answers the question, ‘How well do online information sources meet your information needs?’ *Among all the sites I search, PubMed and Science Direct helps me a lot. PubMed helps a lot with the medical sciences, and then on the same page, it is clear which ones we have access to, which ones are free and which ones we do not have access to*‘ (Interview code 30).

Besides, as another example, in response to the question ‘*Suppose I, as a psychology student, ask you to guide me, for example, to an English site on which I can find a suitable source, can you guide me?*’ ‘*There are many sites like Science Direct, and now there are general things. There is also a series in research method books*’ (Interview code 20).

In the answers provided by the students participating in the study, the ScienceDirect database (frequency=26) among English language sources, Scopus (frequency=5) as a citation database, and the Magiran database (frequency= 29) among Persian-language databases have been mentioned as sources of information.

Research questionnaires

As shown in Table 2, research questionnaires have been proposed as tools needed by researchers in conducting various scientific and professional research. Hence, psychology students required these questionnaires and referred to these sources for information.

Table 2

Research questionnaires as sources of information

Frequency	Concept	Category	Axial code
5	Azmoonyar	Electronic questionnaire websites	Research questionnaires
3	Sina Institute		
1	Madsage		
1	Azmon Poya		
1	Ravan Tajhiz		
1	Ravan Farkav		
1	Housazmaye Novin		

Examples of answers of postgraduate and doctoral students in response to questions related to the questionnaires required for conducting research are as follows:

'For example, we take our information from Sina Institute or AzmoonYar' (Interview code 43).

Resource ordering

People can obtain the information they need by ordering and purchasing it through data publishers and brokers. Psychology students participating in the research have reported that they order and buy information through some publishers and sellers of the information.

Table 3

Resource Ordering as a Source of Information

Frequency	Concept	Category	Axial code
29	Ordering article	Book / Article Purchasing Source	ordering source
11	Edupaper		
8	Amazon		
1	Adinehbook		
1	Ravansanji Publication		

As a witness, a graduate student in psychology answers the question, *'Do you google the books?'* with *'Google or, for example, websites like Adinebook'* (Interview code 13).

Free electronic sources

In order to obtain the required information, the psychology students participating in the study mentioned some free electronic websites and sources. Table 4 lists the sources mentioned by these students.

Table 4

Free Electronic Sources as an Information Source

Frequency	Concept	Category	Axial code
4	Free electronic books	Electronic source available on the web	Free electronic sources
3	Search electronic source		
2	Bookfi		
1	Free paper		
1	Scihub		
1	http://b-ok.org		

For instance, a graduate student in the study cites free electronic sources available on the Web: *'The only thing I use is free paper, for example, I click the link and get the article'* (Interview code 43). Similarly, in the study, a Ph.D. student of psychology points out that *'I sometimes consult Scihub'* (Interview code 27).

Internet source

The Internet has been regarded as an information medium by psychology students participating in the present study, and these students use it as a source of information. Some of the students cited Wikipedia as a valuable source of information, noting that they also refer to news websites, open access sources, reputable university websites, information technology websites, and blogs for information. Table 5 presents the list of these sources.

Table 5

Internet as a Source of Information

frequency	concept	category	Axial code
2	OpenCourseWare	open access source	Internet sources
31	Wikipedia, general information	Public Internet Source	
8	Websites containing PowerPoint		
3	Cyberspace		
2	News websites	News websites	
1	Online news		
6	Stanford University, USA	Website of universities	
1	Oxford site		
25	website	IT sites	
1	Zoomit		
16	weblogs	weblogs	

For example, a graduate student in psychology goes to the Stanford University website to get the information s/he needs. *'Why Stanford? Well, because it's a leading institution in psychology'* (Interview code 6).

Visual and audio sources

Students participating in the study use a variety of instant messaging and social information networks such as Instagram, Facebook, Aparat, etc., to obtain the information they need.

For instance, a graduate student in psychology says, *'For example, I might want to see the environment of a university. I might like to see the Stanford Psychology Lab'* (Interview code 6).'

Another graduate student spoke of Facebook as a source of information: *'Facebook is a good tool for exchanging information. It is more of a public network for accessing friends and acquaintances. Information exchange only works well on the Telegram social network'* (Interview code 10).

Library sources

Psychology students participating in the study stated that they use OPAC of National Library of Iran, reference sources, scientific journals, and library sources (traditional and

modern) to access the information they need.

Below are examples of some comments made by students participating in the research about the sources from which they obtain information:

'Well, I will look at the books such as DSN5' (Interview code 8).

'Kaplan's book' (Interview code 36).

'I go to the library a lot' (Interview code 12).

'At the center where I worked, I had comprehensive and complete books on psychology. I built a small library for myself, and I got these books from elsewhere' (Interview Code 12).

Search engines

Psychology students in the present study used web search tools such as Google, Yahoo, Bing, and other search engines to find the information sources they needed.

Examples of some of the students' views about the web search to find the information they need are mentioned below:

'I use Google almost all the time, except when Google has a problem' (interview code 12).

'I do not go to foreign sources. I search more on Google' (interview code 12).

'I do not know. We are locked in Google. I do not know what the story is now. It is Yahoo. or Yooz, which is an Iranian search engine. But I do not know why we go to Google' (Interview code 46).

Specialized/professional websites

Evidence and findings show that psychology students participating in this study refer to professional and specialized websites related to their field and use them to obtain the information they need. Table 6 contains the consulted websites of the students in the study.

Table 6
Specialized/Professional Websites as the Source of Information

Frequency	Concept	Category	Axial word
2	Iranian Association of Psychologists	Professional website	Specialized / professional websites
2	Psychological system Website		
16	American Psychological Association (APA) website		
1	Lecture Website	Specialized website	
1	Faculty Website		
1	Psychologist Network		

A Ph.D. student in psychology consults the website of Psychology and Counseling Organization of Iran to find out the tariffs for clinical psychologists, citing this site as a source of information: *'Some websites, for example, have general information. It is useful. For example, suppose you want to say that for example, what is the tariff for clinical psychologists now? You have to go to the website of the Psychology and Counseling Organization of Iran; you have to go to the site'* (Interview code 27).

A master's student in the interview also referred to the American Psychological Association's website: *'websites like Springer, etc., or Emerald, but I am not very comfortable*

with them. When I search, I do not find much in them and the site that I find more. There is also *American Psychological Association*' (Interview code 11).

Discussion

Examining the sources of information is very important from the point of view of librarians and information scientists. The type of sources from which the audience and users of libraries and information centers get the information they need play a vital role in collection and development policies. Providing information sources and buying and ordering the needed sources will be practically futile if we are unaware of the audience's needs. Although the main effort of librarians is to collect and make available the works needed by users, the results of research by some scholars such as Mokhtarpour (2009) indicate that users of libraries and information centers tend to refer to informal sources of information. For reasons such as 'human sociality, the principle of least effort, sense of human credibility and the pattern of economic saving, and the overload of information, the use of informal sources is increasing among professionals and non-professionals. Evidence of Mokhtarpour's claims in the present study can also be observed by referring to Tables 6, 7, and 8.

Although the comparison of librarians' sources of information with those of psychology students participating in this study is not appropriate, similar to Mokhtarpour's findings (2009), the present study's findings highlighted the importance of attention to visual, auditory sources as a source of information. As indicated in the findings of Lotfipour Rafsanjani et al. (2010), who studied the sources of information of Payame Noor University students in the transmission and prevention of AIDS, most students (61.7%) pointed out that television is the most important source of information. The present study results (see Table 8) also showed that attention to television networks and their use as sources of information for psychology students have been raised. Other research findings such as Homaii, Sobhaninejad and Karimpour (2005), Lee, Paik and Joo (2012) identified mass media as the source of information.

In all the studies that had somehow dealt with the sources of information mainly in different thematic areas, including the research by Ebrahimi Tavani et al. (2016), the Internet was considered one of the sources of information of different groups participating in the researches. In the present study, the Internet was regarded and used as a tool and source of information by psychology students (see Tables 7, 10, and 11); therefore, most were electronic sources. On the contrary, Olajide and Otunla (2015) found that print materials were the primary information source for nursing students.

Conclusion

Psychology students of Semnan University used various information sources, including formal/informal and printed/digital, although formal more than informal and digital more than printed. These cover many types of information. The library prepares many sources of information, but it seems to be low, so they need more bibliographic instruction on how to make greater use of library services prepared for them.

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