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Information Seeking and Information Avoidance among University Students: Focusing on Health and other Information

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Abstract

This study aims to investigate whether information awareness, search purpose, and search expectations influence information avoidance among university students. The data were collected by using a self-completion questionnaire with convenience sampling of students from one university. The collected data were analyzed by descriptive statistics, t-test, analysis of variance (ANOVA), Pearson's correlation coefficient, and multiple regression using R 4.2.3. The main results are as follows: First, both search purpose and search expectations exhibited a significant inverse correlation with all information avoidance dependent variables. Second, there was a significant difference in the mean of search expectations across majors, such that science majors had higher search expectations than humanities majors. Third, there were significant differences in the means of the information avoidance-system and information avoidance variables by major, such that both variables had lower means for the science than the humanities group. Fourth, among the independent variables, search expectation had a significant effect on information avoidance-personal: the higher the search expectation variable, the lower the information avoidance-personal variable. This study confirmed that information avoidance should not only consider the psychological, emotional, and affective aspects of information seekers, but also that information seekers' information search purpose and search expectations are predictors of information avoidance.

Keywords: Information Behavior, Information Seeking, Information Avoidance, Information Awareness, Search Purpose

Major Classification Code: D83, D12, I23

1. Introduction

1.1. The Need for the Study

Advances in digital technology and media have led to an explosion in information production and an incalculable amount of accessible information. In this environment, information avoidance by information seekers is also becoming prevalent. In the current complex digital

information environment, there is a growing interest in understanding and dealing with information avoidance behaviors, making information avoidance a rapidly emerging topic.

Which factors influence information avoidance, under which circumstances, and why are matters of interdisciplinary research interest that have been addressed in communication studies, psychology, health sciences, economics, consumer studies, and library and information science. Depending on the perspective and emphasis of the

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researcher, the definition of information avoidance varies. In general, information avoidance is broadly defined in a behavior-oriented way as “information avoidance is any behavior intended to prevent or delay the acquisition of available but potentially unwanted information” (Sweeny et al., 2010). On the other hand, some define information avoidance as the deliberate avoidance of certain types of information or news that may be uncomfortable, difficult, or emotionally distressing in terms of emphasizing the receiver’s reaction to the content of the information.

The psychological, emotional, and affective aspects of information seekers have long been discussed in psychology and health sciences as factors contributing to information avoidance. In particular, psychological, emotional, and affective factors such as illness perception, anxiety, self-efficacy, perceived risk, uncertainty, coping, and personality traits have been proposed as variables related to information avoidance in the specific context of searching for health information (Addison, 2017; Barbour et al., 2012; Choo, 2017; Emanuel et al., 2015; Gangemi, Mancini, & Hout, 2012; Howell & Shepperd, 2016; Kim, 2021; Mayer et al., 2007; Miles, 2008; Miller, 1987; Miller et al., 2011; Muris et al., 1994; Neidell, 2008; Sairanen & Savolainen, 2010; Sexton & Dugas, 2008; Yang & Kahlor, 2013). It can be argued that this approach to information avoidance research has the limitation of overlooking the aspect of how information seekers interact with information (information content) during their information search.

More recent research has tended to focus on how information seekers react to information content as a cause of information avoidance: Negative emotions, cognitive dissonance, confirmation bias, information that threatens self-esteem or identity, procrastination in making difficult decisions, information overload, limited attentional resources, and social rules and pressures (Golman et al., 2017; Isaksson, 2014; Link, 2023; Narayan et al., 2011). It has also been linked to “information overload, poor information literacy, lack of time and attention, laziness, and excessive choice” (Isaksson, 2014).

A recent trend emphasizing the interactive aspects of information seekers and information (information content) has emerged from communication and library and information science perspectives: It is assumed that information avoidance is related to individual information sources and information content (Sairanen & Savolainen, 2010), that information sources are the main variables in the context of information avoidance in risk perception (Dunwoody et al., 2015), or that personal evaluation of information (content) and the characteristics and usefulness of information sources (media) are related to information avoidance (Schumann et al., 2022). In addition, a recent study categorizes information avoidance as being driven by personal, informational, and systemic factors, and suggests

that information awareness, search purpose, and search expectations influence information avoidance (Kim, 2023).

This study aims to investigate the factors associated with information seeking and information avoidance among university students living in the age of information explosion in terms of their interactions with information they encounter in the process of information seeking. University students were selected because they can be considered a group that actively performs information seeking and frequently experiences information avoidance in academic and personal areas more than any other group.

1.2. Purpose of the Study

This study aims to identify the factors that influence information avoidance among university students. The specific objectives of this study are as follows:

First, to identify the differences in information awareness, search purpose, search expectation, and information avoidance according to the characteristics of the respondents.

Second, to identify the relationship between respondents’ information awareness, search purpose, search expectation, and information avoidance.

Third, to identify the effects of respondents’ characteristics, information awareness, search purpose, and search expectations on information avoidance

2. Research Methods

2.1. Research Design

This study is a descriptive correlational design to investigate the relationship between information awareness, search purpose, search expectation, and information avoidance behavior of university students.

2.2. Subjects

This study was conducted on a random sample of university students enrolled in various liberal arts courses at a four-year university in Region C.

2.3. Definition of Terms

2.3.1. Information awareness

This study operationally defined the three information awareness items of the Information Seeking-Avoidance Scale as seekers’ information awareness and measured them on a 5-point scale. Therefore, in this study, information awareness was operationally defined as perceiving information as a skill for gaining initiative, information as a

mechanism for adaptation and growth, and information as a tool for communicating with others. The reliability of the original instrument is Cronbach's $\alpha = 0.701$; we follow the interpretation of α that .6 or higher is considered fair, .7 or higher is good, and at least .5 is acceptable (Nunnally, 1978).

2.3.2 Purpose of search

This study measured the purpose of information seeking item of the Information Seeking-Avoidance Scale, which is scored on a 5-point scale. Therefore, this study operationalized the purpose of seeking as "to seek information in order to expand knowledge, grow a perspective, or find a basis for action." The reliability of the original instrument was $\alpha = .694$.

2.3.3. Search expectations

This study measures the expectation of information seeking with the search expectation item of the Information Seeking-Avoidance Scale, which is scored on a 5-point scale. The operational definition of search expectations in this study is threefold: "search expectations are information seekers' expectations of their own ability to successfully navigate, expectations of the outcome of their search, and expectations of future successful achievement once the current search problem is solved." The reliability of the original instrument's items is $\alpha = 0.590$.

2.3.4. Information avoidance

This study measured information avoidance according to the Information Seeking-Avoidance Scale as "information seekers' stopping, delaying, or avoiding information seeking due to personal factors, information factors, and system factors," scored on a 5-point scale. The personal items (8 items) are about the information seeker's information literacy, while the information items (17 items) concern the objective and subjective evaluation of the information based on the interaction with the information content. System items (4 items) concern contents that hinder the convenience of using the system.

The overall reliability of the information avoidance items (29 items) is shown by $\alpha = 0.934$, and that of the individual items by $\alpha = 0.839$ for personal items, $\alpha = 0.924$ for information items, and $\alpha = 0.784$ for system items.

2.4. Respondents

The data for this study were collected from students enrolled in various liberal arts courses at a specific four-year university in Region C. The majority of the students were first-year students.

2.5. Measuring Instruments

A structured questionnaire was used to collect data for this study. The questionnaire consisted of 43 items scored on a 5-point scale (1 = strongly negative to 5 = strongly positive), including background variables (5 items) and information seeking-avoidance scale (38 items). The Information Seeking-Avoidance Scale consists of two parts: Information Seeking and Information Avoidance (38 items). Information seeking (9 items) consists of information awareness (3 items), purpose of information search (3 items), and search expectations (3 items). Information Avoidance (29 total items) consists of individual (8 items), information (17 items), and system (4 items) items. Information Avoidance captures experiences that have caused information seekers to stop accessing and using information and to give up. Higher scores indicate higher information avoidance. The reliability of the scale at the time of tool development was shown by $\alpha = .90$.

2.6. Data Analysis Methods

The collected data were statistically processed using the R 4.2.3 program: The general characteristics of the respondents were analyzed using descriptive statistics. Respondents' information awareness, search purpose, search expectation, and information avoidance were analyzed using descriptive statistics. Differences in information awareness, search purpose, search expectation, and information avoidance according to respondents' characteristics were analyzed by t-tests and ANOVA. The relationships between respondents' information awareness, search purpose, search expectation, and information avoidance were verified using Pearson's correlation coefficient. Linear multiple regression was used to determine whether respondents' characteristics, information awareness, search purpose, and search expectations affect information avoidance. Finally, as seen above, the reliability of the research instrument was verified by calculating Cronbach's α .

2.7. Research Limitations

While this study may shed light on a trend of information seeking and information avoidance among university students, it has the following limitations: First, the respondents of this study were a convenience sample of a limited number of university students taking specific liberal arts courses at a specific university in a specific region. Therefore, the respondents are not representative of the overall population of university students, and it is difficult to generalize the results of this study to the information seeking and information avoidance behavior of

university students nationwide. Second, respondents who are indifferent to information seeking and information avoidance behaviors may have limited understanding of the concepts and questionnaire items. Third, since a self-report questionnaire was used to investigate the subjective perceptions of the respondents, they might have answered the questions in a socially desirable way.

3. Research Results

3.1. Reliability Analysis of Measuring Instruments

Cronbach’s α was calculated to determine the reliability of the measurement tools. The values of α were: information awareness = 0.7699, search purpose = 0.8588, search expectation = 0.7571, information avoidance = 0.9517, information avoidance-individual = 0.8424, information avoidance-information = 0.9359, and information avoidance-system = 0.8409. In general, a value of α above 0.7 is considered reliable, so overall reliability was good.

3.2. General Characteristics of Respondents

The general characteristics of the university student respondents (N = 103) who participated in this study are as follows (Table 1). In terms of gender, male students (63.1%), and by major, science majors (68.8%) each accounted for more than half of the participants (Table 1). The mean age was 20.41 years old. Search topics were dominated by interests (42.7%) and task/academics (38.8%). Information avoidance most commonly occurs 1–3 times per week (63.1%)

Table 1: General Characteristics of the Respondents (N = 103)

Variable Classification	Variable Name	Category	F (%)
Background Variables	Gender	Male	65 (63.1)
		Female	38 (36.9)
	Major	Humanities	32(31.1)
		Science	71 (68.9)

Search Topics	Tasks/ Academics	40 (38.8)
	Health	4 (3.9)
	Purchasing	11 (10.7)
	Interest	44 (42.7)
	Social/ opinion	4 (3.9)
Avoidance Frequency	1–3 times	65 (63.1)
	4–6 times	23 (22.3)
	Daily	15 (14.6)

3.3. Correlations between Information Awareness, Search Purpose, Search Expectations, and Information Avoidance

Correlation analysis was conducted to determine the interrelationship between information awareness, search purpose, search expectation, and information avoidance. The Pearson correlation coefficient between variables and the significance probability obtained through the t test are as follows (Table 2).

Overall, the variables were highly correlated (all below the 0.05 significance level). For information avoidance, strong positive correlations were observed between all variables.

No significant correlations were found between information awareness information awareness and the information avoidance variables. However, there were significant negative correlations of search purpose and search expectation with the information avoidance variables.

3.4. Differences between Information Awareness, Search Purpose, and Search Expectation and Information Avoidance

To determine whether there were differences in the means of information awareness, search purpose, and search expectation variables by respondents' gender, major, search topic, and avoidance frequency, t-tests or ANOVA was conducted, and Levene's test for equality of variance was conducted to check for equality of variance.

The analysis showed significant differences in the means of the search expectation variables by major, such that science majors had higher search expectations than did humanities majors (Table 3).

Next, t-tests or ANOVA were conducted to determine whether there was a difference in the mean of information avoidance by the respondents' gender, major, topic of search, and frequency of avoidance, and Levene's test of equality of variance was conducted to determine whether there was

equality of variance (Table 4).

The results showed significant differences in the means of the information avoidance-system and avoidance variables by major, and the means of both variables were lower in the science group than in the humanities group.

Overall, statistically significant differences were found in the background variables analyzed only by major, such that science majors had higher means for the search expectation variable and lower means for the avoidance-systems and avoidance variables than the humanities majors.

Table 2: Correlation Analysis Results (p-values in parentheses; N=103)

Variable	Information Awareness	Search Purpose	Search Expectation	Avoidance - Personal	Avoidance - Information	Avoidance - System	Avoidance
Information Awareness	1.000						
Search Purpose	.596*** (.000)	1.000					
Search Expectation	.423*** (.000)	.598*** (.000)	1.000				
Avoidance - Personal	-.135 (.174)	-.241* (.014)	-.377*** (.000)	1.000			
Avoid - Information	-.096 (.334)	-.267** (.006)	-.356*** (.000)	.705*** (.000)	1.000		
Avoidance - System	-.074 (.456)	-.215* (.029)	-.318** (.001)	.569*** (.000)	.753*** (.000)	1.000	
Avoidance	-.113 (.257)	-.277** (.005)	-.390*** (.000)	.833*** (.000)	.970*** (.000)	.822*** (.000)	1.000

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 3: Analysis of Differences in Information Awareness, Search Purpose, and Search Expectation by major (*t*-test results; *N* = 103)

Variable	Group	<i>F</i> (<i>p</i>)	Mean	<i>SD</i>	<i>t</i> (<i>p</i>)
Information Awareness	Science	.918 (.340)	3.939	0.623	.550 (.583)
	Humanities		3.865	0.661	
Search Purpose	Science	.003 (.954)	4.122	0.715	1.897 (.061)
	Humanities		3.833	0.713	
Search Expectation	Science	.732 (.394)	4.066	0.624	2.110* (.037)
	Humanities		3.781	0.654	

* *p* < .05, ** *p* < .01, *** *p* < .001

Table 4: Differences in Information Avoidance Variables by Major (*N* = 103)

Variable	Group	<i>F</i> (<i>p</i>)	<i>M</i>	<i>SD</i>	<i>t</i> (<i>p</i>)
Avoidance -Individual	Science	.000 (.992)	2.711	0.592	-1.879 (.063)
	Humanities		2.957	0.663	
Avoidance -Information	Science	.070 (.792)	2.611	0.648	-1.651 (.102)
	Humanities		2.838	0.647	
Avoidance -System	Science	1.511 (.222)	2.553	0.803	-2.248* (.027)
	Humanities		2.938	0.806	
Avoidance	Science	.048 (.826)	2.630	0.598	-1.995* (.049)
	Humanities		2.885	0.601	

* *p* < .05, ** *p* < .01, *** *p* < .001

3.5. Effects of Personal Characteristics, Information Awareness, Search Purpose, and Search Expectations on Information Avoidance-personal

Regression analysis was conducted to determine the effect of respondents’ characteristics, information awareness, search purpose, and search expectation on information avoidance.

The regression analysis showed that this regression model was statistically significant ($F = 2.404, p = .010$), and the explanatory power of the model was about 14.17% (Table 5).

Among the independent variables, search expectation

had a significant effect on the information avoidance—personal factor ($B = -.373, p = .002$), and the sign of the regression coefficient was negative, indicating that the information avoidance—personal factor tended to decrease as search expectation increased.

Other independent and background variables did not have a significant effect on the dependent variable. It can be said that there is no evidence of multicollinearity in this regression, as no variable has a VIF index greater than 10

Table 5: Effects of Personal Characteristics, Information Awareness, Search Purpose, and Search Expectations on Information Avoidance-Personal

Classifying Variables	Variable		B	SE	β	t(p)	VIF
-	Intercept		4.453	0.616		7.225*** (0.000)	-
Independent Variables	Information Awareness,		0.038	0.116	0.038	0.323 (0.747)	1.667
	Search Purpose		0.011	0.122	0.013	0.089 (0.929)	2.384
	Search Expectations		-0.373	0.117	-0.386	-3.194** (0.002)	1.739
Background Variables	Gender (Reference group: Male)	Female	0.024	0.123	0.019	0.194 (0.847)	1.092
	Age		-0.024	0.018	-0.133	-1.377 (0.172)	1.102
	Major (Reference group: Science)	Humanities	0.250	0.132	0.187	1.892 (0.062)	1.159
	Search Topic (Reference group: Interest)	Tasks/ Academics	0.184	0.135	0.145	1.359 (0.177)	1.451
Health		0.472	0.311	0.147	1.517		

						(0.133)	1.252
		Purchasing	0.206	0.206	0.103	1.002 (0.319)	
		Social/ Opinion	-0.411	0.308	-0.128	-1.336 (0.185)	
	Search Frequency (Reference group: 1-3 times)	4-6 times	-0.192	0.148	-0.129	-1.300 (0.197)	
		Daily	-0.102	0.175	-0.058	-0.582 (0.562)	
F(df)			2.404(90)**				
R²			.2427				
Adj. R²			.1417				

* $p < .05$, ** $p < .01$, *** $p < .001$

4. Discussion

In this study, search purpose and search expectation were significantly negatively related to all the information avoidance dependent variables. This means that the stronger the search purpose and the higher the search expectation, the less information avoidance is found due to personal, informational, and systemic factors, demonstrating that information seekers' search purpose and search expectations are related to information avoidance.

There were significant differences in the mean search expectations of the respondents in this study by major, such that science majors had higher search expectations than did humanities majors. In addition, science majors had lower means than humanities majors for the information avoidance—system and information avoidance variables, which suggests that science students are more active in information seeking than humanities students.

This study demonstrated that search expectation can be a predictor of information avoidance. Among the independent variables in this study, the search expectation variable had a significant effect on information avoidance—personal ($B = -.373$, $p = .002$), such that as the search expectation variable increased, the information avoidance—personal variable tended to decrease. This result suggests

that individuals with higher levels of search expectations are more information-literate and therefore less likely to avoid information due to personal factors.

In a study of the general population (adults aged 27 years older) using the same instrument (Kim, 2023), the impact of information awareness on the individual factor of information avoidance was significantly positive, and the influence of search expectation on the information factor of information avoidance was significantly negative. The results of these two studies suggest that search expectation may be an influential factor in information avoidance. Overall, it can be interpreted as indicating that the higher the degree of search expectation, the less the information avoidance, suggesting that high search expectation is related to search efficacy.

Based on the findings of this study, one solution to reduce information avoidance due to various factors faced by university students is to develop and apply information literacy education programs that reflect the current rapidly changing information environment. Many studies have suggested that individual information literacy can be a way to reduce information avoidance (e.g., Hirvonen et al., 2015; Katharina et al., 2020).

Improving information literacy is expected to increase search expectation and search efficacy. It is also important to engage and motivate students in the learning process so

that they are more likely to actively seek information on topics that are relevant to their interests.

5. Conclusion

This study aimed to investigate whether information awareness, search purpose, and search expectation affect information avoidance among university students by applying information seeking and avoidance scales. The results showed that search purpose and search expectation were significantly negatively related to the variable of information avoidance, and search expectation had a significant effect on information avoidance—personal, such that the higher the search expectation, the lower the information avoidance—personal.

This study is significant in that it confirms that information search expectations can be a predictor of information avoidance. In addition, this study is significant in that it suggests that research on information avoidance should not only consider the psychological and emotional aspects of information seekers, but also that information seekers' search purposes and search expectations are predictors of information avoidance.

The information-seeking and avoidance scales applied in this study are generalized structured questionnaires that are applicable in everyday contexts to the general population. Therefore, it is not a specialized questionnaire for university students that reflects the characteristics of the academic and information environment of university students, so it has the limitation that it does not reflect the unique information-seeking and information-avoidance context of the university student population.

Information avoidance can occur in situations where students do not seek information for academic or personal reasons, or ignore information because they are not interested in a particular topic or field. Alternatively, information avoidance can occur during the search process due to personal, informational, or systemic factors, which can hinder university students' learning and personal growth and development. Educational approaches and support are needed to reduce information avoidance and improve information literacy. The results of this study indicate that it is necessary to develop and apply various information literacy education programs that cover the information environment of the 4th Industrial Revolution.

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