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Library patrons' emotions after information retrieval: effects of perceived self-efficacy

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Abstract

Purpose – Successful information retrieval is determined by library patrons retrieving accurate, relevant, and up-to-date information stored in documents; this affects their self-efficacy, emotions, and behavior. The purpose of this paper is to examine the impact of mastery experiences, self-evaluation, vicarious observation of others' experiences, social feedback, and physiological state of library patrons' emotions after information retrieval.

Design/methodology/approach – A structured close-ended questionnaire survey was utilized of which 200 responses were valid and usable for data analysis. Multiple regression analysis was executed to assess the influence of personal self-evaluation, comparisons with others, physiological state, and social feedback, on the library patrons' emotions after information retrieval.

Findings – The findings of this study indicated that social feedback had the greatest influence on the library patrons' emotions after information retrieval, followed by personal self-evaluation and physiological state.

Originality/value – This study employed quantitative research design utilizing multiple regression analysis which provides useful insight for university librarians on the specific factors that have significant effects on library patrons' emotions after information retrieval. The outcomes add a new perspective to preceding studies on library patrons' emotions after information retrieval, which has previously been inadequately researched in the Malaysian setting.

Keywords Information retrieval, Malaysia, Library, Personal self-evaluation, Physiological states, Social feedback

Paper type Research paper

Introduction

Information retrieval requires proper skills to navigate, select, and evaluate the appropriate information, and re-use information effectively (Gui, 2007). This involves the skills of knowing where and how to efficiently retrieve accurate, relevant, and up-to-date information stored in documents (Herring, 2010; Xie, 2007). Preceding research noted that the deployment of e-resources and the enhancement of information skills are important for end users (Ahmed and Cooke, 2008). "Librarians are needed more than ever to guide patrons to find reliable and valid information" (Stern and Kaur, 2010, p. 69). Information cannot be fully retrieved if students are unfamiliar with how to operate the system. This leads to lack of ability to successfully retrieve information required for academic work (Fordjour *et al.*, 2010).

In Western countries, Dhanavandan *et al.* (2012) noted that students only occasionally used e-resources because they did not fully understand the use and importance of e-resources. There are fewer studies on the impact of self-efficacy on library patrons' emotions after information retrieval in Asian countries, including Malaysia, than in Western countries (Mahmood and Richardson, 2011; Ram *et al.*, 2011; Stern and Kaur, 2010). Likewise, within the Malaysian context, there is a lack of research concerning the validity of some of the expected relationships. Hence, this research aims to examine the impact of self-efficacy information such as mastery



experiences, personal self-evaluation, vicarious observation of others' experiences, social feedback, and physiological state on library patrons' emotions after information retrieval. Results offer useful insight for university librarians on the specific factors that have significant impact on library patrons' emotions after information retrieval.

This paper is arranged as follows. The first section opens with an introduction to the study. The paper then presents, in second section, the review of literature on the sources of self-efficacy perceptions regarding information retrieval skills. The methodology of how the research was conducted is explained in third section, while the succeeding section provides results derived from this study guided by the outlined research objectives. Discussion of the results is presented in fifth section. This paper then describes the conclusion and direction of future research in the final section.

Literature review

Information retrieval is related to the utilization of the information contained in documents (Rowley, 1988). Information retrieval via electronic resources is unrestricted by time limits as it allows searchers to look for information without having to be physically present in the library, offers speedy retrieval of current information useful in teaching, learning, and research for the background information, and thus saves time and cost for the users (Din and Haron, 2012; Din *et al.*, 2012; Mahmood and Richardson, 2011; Ram *et al.*, 2011).

Self-efficacy is defined as "belief in one's capabilities to organize and execute the courses of action required to produce given statements" (Bandura, 1997, p. 3). Self-efficacy is "characterized as situation-specific belief, called particularized self-efficacy" (Bandura, 1986, p. 397), which refers to judgment of one's ability to successfully perform a specific task or activity in a particular area and achieve the desired goals. Self-efficacy drives individual motivation, life choices, quality of task completion, and resilience to adversity (Bandura, 1986). Perceived self-efficacy of library patrons could be the factor influencing information searches as emotions and behavior affect the achievement of successful information retrieval. Self-efficacy determines people's feelings, thoughts, motivations, and behavior (Bandura, 1986).

This section discusses the four sources of self-efficacy information, i.e. mastery experiences, personal self-evaluation, vicarious observation of others' experiences, social feedback, and physiological state, guided by Bandura's (1986) study.

Mastery experience and personal self-evaluation

Mastery experience and personal self-evaluation are related to one's ability to evaluate one's own knowledge and skills to identify limits and weak spots. It is believed that the best way to develop self-efficacy regarding a particular task is through mastery of the subject (Hodges and Murphy, 2009). Success leads to success, while failure casts doubt on the outcome of future attempts. When a person succeeds at something, that person is more likely to attempt it again. Mastery experiences have shown strong internal consistency by evaluating past and current performance, both positive and negative (Britner and Pajares, 2006; Lent *et al.*, 1991). There is also significant correlation between academic achievement of both adult learners and elementary school students and their information retrieval skills (Din *et al.*, 2012; Monoi *et al.*, 2005; Huy, 2012). Students increase their self-efficacy concerning use of

e-resources through assignments, projects, and reports that require them to use a range of reliable information sources during their program of study (Bronstein and Tzivian, 2013). Hence, the ensuing hypothesis is postulated:

H1. Personal self-evaluations positively impact library patrons' emotions after information retrieval.

Vicarious experience and comparison with others

Vicarious experience is how people evaluate their capabilities in relation to the achievements of others. This affects their self-esteem and satisfaction levels. Foregoing research stated that vicarious experience has a powerful influence on one's behavior (Mulholland and Wallace, 2001). When an individual notices others achieving mastery, it reinforces their personal self-efficacy, improves methodical thinking, and boosts performance accomplishments. Malliari *et al.* (2012) stated that students' IT self-efficacy and perceived computer competence were positively related to frequency of use and previous experience. Pajares *et al.* (2007) in their study reported that vicarious experiences impacted people's self-efficacy when they were uncertain of their capabilities with regards to their information seeking skills. Other research such as Chan and Lam, Morris and Usher (2011) and Usher and Pajares (2009) asserted that vicarious learning experiences did not lead to an upsurge in people's self-efficacy. Thus, the following hypothesis is derived:

H2. Comparisons with others positively impact library patrons' emotions after information retrieval.

Physiological state

Physiological state or physiological arousal is also called affective arousal and emotional arousal. Generally, people attribute a physiological condition to an efficacy perception, as fatigue is attributed to physical incapability. Mulholland and Wallace (2001) found that there are direct influences on physiological state which provide little ability information. Emotional support through empowerment techniques and strategies helps to strengthen self-efficacy beliefs of individuals. A professional development program has been designed to reduce stress and anxiety among teachers (Ross and Bruce, 2007). However, the program is not relevant to their confidence. Prior research (Bronstein, 2014) affirmed that physiological state is associated with a high level of self-efficacy and also influences the nature and the performance of information searches (Bronstein, 2014; Flavian-Blanco *et al.*, 2011). Hence, it is proposed that:

H3. Physiological state positively impacts library patrons' emotions after information retrieval.

Social feedback

Social feedback is related to written or oral evaluation, either positive or negative, that an individual receives from friends or family members from time to time regarding his or her actions, characteristics, competence, performance, and values. The positive response highlights personal capabilities whereas the negative response accentuates personal deficiencies. Some teachers thought that students' enthusiasm was social feedback due to commitment from the students themselves (Mulholland and Wallace, 2001). Bronstein

(2014) found that there is significant correlation between social feedback and self-efficacy. Therefore, this study proposes the following hypothesis:

- H4*. Social feedback positively impacts library patrons' emotions after information retrieval.

Emotions after information retrieval

Emotions after information retrieval, whether success or failure, are influenced by thinking processes (Eich *et al.*, 2000; Quinn, 2003). Affective components of the search behavior influence information processing (Flavian-Blanco *et al.*, 2011; Kao *et al.*, 2008). For instance, Bechwati and Xia (2003) noted that people have less accurate search outcomes when they put less effort into searching for information. High self-efficacy and optimism significantly affect varieties of information tasks (Bronstein and Tzivian, 2013; Nahl, 2005).

Based on the literature review, the proposed research framework is illustrated in Figure 1.

Methodology

Participants and procedure

Questionnaires were randomly distributed to 250 library patrons comprising students in a public higher learning institution in the Federal Territory of Labuan, Malaysia. Respondents were pre-screened and restricted to library patrons who had made prior visits to the university main library, faculty library, or public library, and had retrieved information at the library either by a physical means or electronically, via the internet in the past six months. Data collection was held from May 1, 2013 to May 31, 2013 and participants were required to circle the responses which best described their level of agreement with each of the questionnaire items. Of these, 200 responses deemed useful were included in the data analysis with a valid response rate of 80 percent. Roscoe (1975) and Hair *et al.* (2010) noted that this is a reasonable sample size as it exceeds the requirement of a 10:1 ratio of the number of predictor constructs. Specifically, this study involved four predictor constructs (i.e. personal self-evaluation, comparisons with others, physiological state, and social feedback). Their participation was voluntary and thus leads to no response bias.

Questionnaire development and instrument

The structured close-ended questionnaire was developed on the basis of the objectives of this study with the intention to test various formulated hypotheses.

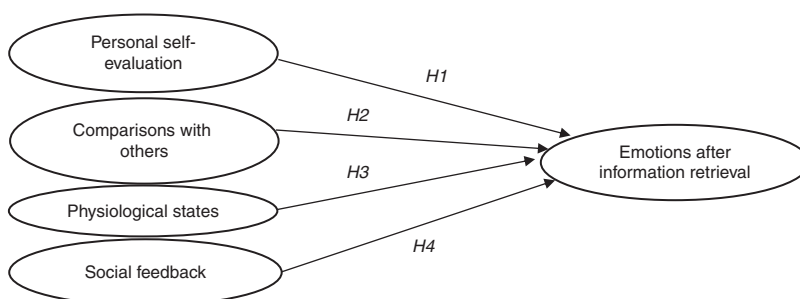


Figure 1.
Proposed theoretical
framework

The questionnaire was divided into three parts. The first part was designed to capture the respondents' demographic information, while the second part comprised questions about the respondents' prior visits to the library in the past six months. The final part of the questionnaire measured the perceptions of respondents according to Bandura's (1986) four sources of self-efficacy information factors, i.e. past performance or mastery experiences (12 items), vicarious observation of others' experiences (three items), verbal or social feedback (four items), and affective or physiological state (six items). These items were also used in Hinson *et al.* (2003)'s study with high reliability results (i.e. Cronbach's α ranged 0.73-0.87) which were established in a non-Asian setting and replication in the Malaysian context enhances the generalizability of the scale. Meanwhile, emotions after the information retrieval factor comprised seven items adapted from Ethier *et al.* (2006). Respondents were required to indicate their perceptions of each of the measurement items, as listed in the Appendix, on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Statistical analysis

The completed and usable questionnaires gathered from the respondents were then coded and keyed in Statistical Package for Social Sciences version 21 and descriptive analysis such as means, standard deviation, skewness, kurtosis, and correlation analysis were performed. Next, further investigation utilizing multiple regression analysis was executed to assess the influence between a set of independent variables (i.e. personal self-evaluation, comparisons with others, physiological state, and social feedback) and the dependent variable (i.e. the library patrons' emotions after information retrieval), and to portray the relative significance of each of the independent variables in the prediction of the dependent variable.

Results

Table I shows the demographic breakdown of the sample and details the frequency count and percentage of the respondents segregated according to gender, age, and education level. Of the sample of 250 questionnaires, 200 were valid, yielding a response rate of 80 percent. In total, 55 percent of the respondents were female and the remaining 45 percent were male. As for the age distribution, among the 200 subjects, about half of the respondents were 18-21 years old. The remaining half were above

	Number	Percentage
<i>Gender</i>		
Male	90	45.0
Female	110	55.0
<i>Age (years old)</i>		
18-19	41	20.5
20-21	63	31.5
22-23	57	28.5
24 and above	39	19.5
<i>Education level</i>		
Malaysian Higher School Certificate	90	45.0
Matriculation	61	30.5
Diploma	49	24.5

Table I.
Demographic profile
of the respondents

22 years old. Regarding educational attainment, approximately 45 percent had completed and passed the Malaysian Higher School Certificate, 30.5 percent Matriculation and 24.5 percent Diploma.

Prior visits to library

The respondents' prior visits to the library in the past six months are described in Table II. Among the options of types of library visited, 40 percent of the respondents visited the faculty library, 34 percent preferred to go to the university main library, and 26 percent opted for the public library. English was more often used to communicate with the librarians than Malay or Chinese. Respondents were also asked about the frequency of visits to the library in the past six months and about 45 percent had visited the library 2-3 times a week. Encouragingly, 21 percent of the respondents went to the library more than five times a week.

Reliability analysis

Before the proposed hypotheses of this study were investigated, reliability tests using Cronbach's α coefficients were conducted on each factor in order to check the internal consistency of the measurement items in the questionnaire with their respective constructs. Cronbach's α offers an assessment of reliability based on the inter-correlations of the observed indicator's variable and assumes that all indicators are similarly reliable. Cronbach's α values may range from 0 to 1. The internal consistency reliability is higher as the value of coefficient is closer to 1. According to Sekaran (2003), coefficient value of more than 0.90 is excellent, more than 0.80 is good, more than 0.70 is acceptable, and less than 0.60 is poor. Nunnally (1978) quantified 0.70 as the acceptable threshold for reliability. In this study, values of Cronbach's α for each variable are illustrated in Table III of which all variables had reliability values well above the minimum value of 0.70, varied between 0.760 and 0.902 where $n = 200$ (Cronbach's α : personal self-evaluation = 0.902, comparisons with others = 0.760, physiological states = 0.839, social feedback = 0.865, and emotion after information retrieval = 0.762). These results inferred that the questionnaire items had substantial internal consistency and construct reliability which measure the underlying construct of the research.

	Number	Percentage
<i>Types of library visited</i>		
University main library	68	34.0
Faculty library	80	40.0
Public library	52	26.0
<i>Language use with the librarians</i>		
English	77	38.5
Malay	73	36.5
Chinese	50	25.0
<i>Frequency of library visit</i>		
Once times in a week	36	18.0
2-3 times in a week	89	44.5
4-5 times in a week	33	16.5
> 5 times in a week	42	21.0

Table II.
Prior visits to library

Correlation analysis

Pearson correlation was performed to measure the inter-relationships between constructs (i.e. personal self-evaluation, comparison with others, physiological state, social feedback, and emotions after information retrieval). Preceding research (i.e. Lind *et al.* (2011) stated that correlation coefficients can range from the value of -1.00 to $+1.00$, where the first refers to a perfect negative correlation while the latter represents a perfect positive correlation). If the correlation value is $r = 0.1$ to 0.29 , it is a small or weak correlation, while, when the value is $r = 0.30$ to 0.49 , it is a medium correlation, and it is a large or strong correlation if the value is $r = 0.50$ to 1.0 . The multiple items for each construct were computed beforehand to generate an average score to be used in correlation analysis and multiple regression analysis. Correlation coefficients in Table IV depict that the inter-correlations between personal self-evaluation, comparison with others, physiological state, and social feedback and the library patrons' emotions after information retrieval are significant at the 0.01 level and are positively correlated, ranging from 0.205 to 0.297. Hence, no significant multicollinearity is detected in this study.

More specifically, based on the coefficient values available in the correlation table, results indicate that social feedback has the strongest correlation with the library patrons' emotions after information retrieval ($r = 0.297$), followed by personal self-evaluation ($r = 0.253$). The next construct that has significant correlation with the library patrons' emotions after information retrieval is physiological state ($r = 0.246$), while the construct on comparisons with others had the weakest correlation ($r = 0.205$).

Next, mean, standard deviation, skewness, and kurtosis of all constructs were computed for the constructs measured (see Table IV). The mean for all constructs ranged between 3.046 and 3.590, which were rated above 3.0 on a five-point Likert scale of 1 = strongly disagree to 5 = strongly agree. Comparison with others had the highest mean

Table III.
Reliability analysis

Dimension	No. of items	Cronbach's α
Personal self-evaluation	12	0.902
Comparisons with others	3	0.760
Physiological states	6	0.839
Social feedback	4	0.865
Emotion after information retrieval	7	0.762

Table IV.
Inter-correlations
between constructs

	1	2	3	4	5
(1) Personal self-evaluation	1.000				
(2) Comparisons with others	0.607**	1.000			
(3) Physiological states	0.489**	0.475**	1.000		
(4) Social feedback	0.466**	0.608**	0.717**	1.000	
(5) Emotion after information retrieval	0.253**	0.205**	0.246**	0.297**	1.000
Mean	3.474	3.590	3.500	3.524	3.046
SD	0.598	0.667	0.646	0.774	0.514
Skewness	-0.127	0.047	-0.361	-0.789	1.053
Kurtosis	0.038	-0.577	0.616	1.029	1.308

Note: **Correlation is significant at the 0.01 level (two-tailed)

of 3.590 with standard deviation of 0.667, and was closely followed by social feedback (mean = 3.524, SD = 0.774), physiological states (mean = 3.500, SD = 0.646), and personal self-evaluation (mean = 3.474, SD = 0.598). The lowest mean appears for emotion after information retrieval of 0.046 with standard deviation of 0.514. This means that, on average, most of the library patrons' had positive emotions after information retrieval.

A further inspection of the descriptive statistics includes the indices for the skewness and kurtosis of the sample data obtained. The skewness of all factors ranges from -0.127 to 1.053 which, being lower than ± 2.0 , deduces a positively and negatively skewed distribution. Further, the kurtosis values range from -0.577 to 1.308 , well below the inception of ± 10 . These values are below the acceptable threshold, denoting that the scores approximate a "normal distribution" or "bell-shaped curve." In other words, the responses obtained from the survey were fairly normally distributed. Both values were lower than the cut-off boundary set by Hair *et al.* (2010).

Relationships with the library patrons' emotions after information retrieval

The R^2 of the model of the relationships with the library patrons' emotions after information retrieval was 0.688 (see Table V), which shows that 68.8 percent of the variation in the dependent variable (i.e. library patrons' emotions after information retrieval) was explained by the independent variables (i.e. personal self-evaluation, comparisons with others, physiological state, and social feedback). Durbin-Watson statistic was further checked to test for serial correlation of adjacent error term. The Durbin-Watson value was 1.254, which was relatively near to 2, which is significant and indicates non-independence of errors. Next, tolerance and variance inflation factor (VIF) values for each predictor were assessed for multicollinearity. The values of tolerance were below 1, i.e. between 0.393 and 0.579, whereas VIF values were below 10, ranging between 1.728 and 2.544, conjecturing that there was no multicollinearity problem in the research data. The significant F ratio ($F = 25.787$, $p < 0.001$) specifies that the results of the regression model would be unlikely to have arisen by chance. Consequently, the goodness-of-fit of the model is adequate.

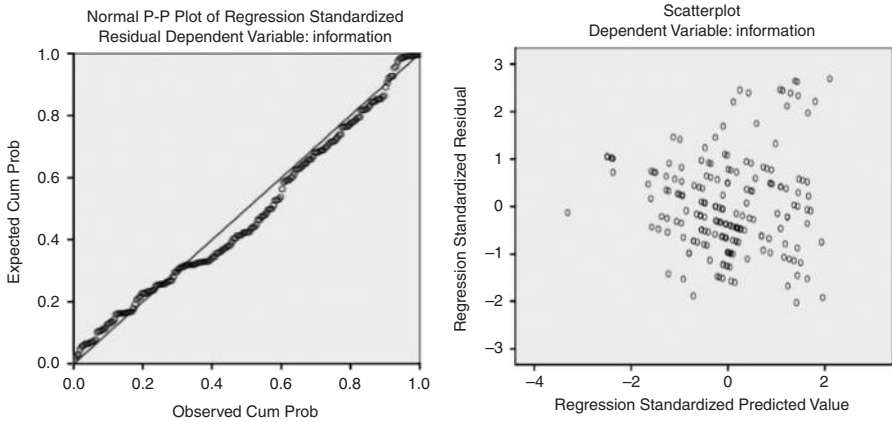
Figure 2 displays the normal probability plot (P-P) analysis showing a uniform spread around the normal probability plot of a straight line when graphed against the predicted values. The scatter plot of the model displays no major deviations from norms as most of the scores are rectangularly distributed in the center.

	Unstandardized coefficients		Standardized coefficients β	t	Sig.	Collinearity statistics	
	B	SE				Tolerance	VIF
(Constant)	2.085	0.237		8.810	0.000		
Personal self-evaluation	0.138	0.076	0.161*	2.003	0.023	0.579	1.728
Comparisons with others	-0.030	0.074	-0.045	-0.466	0.642	0.495	2.021
Physiological states	0.117	0.080	0.121*	1.999	0.006	0.454	2.203
Social feedback	0.155	0.072	0.234*	2.171	0.031	0.393	2.544
Adjusted R^2	0.688						
F	25.787						
p -value	0.000						
Durbin-Watson	1.254						

Notes: VIF, Variance inflation factor; * $p < 0.05$

Table V.
Relationships with
the library patrons'
emotion after
information retrieval

Figure 2.
Normal P-P plot and
scatter plot



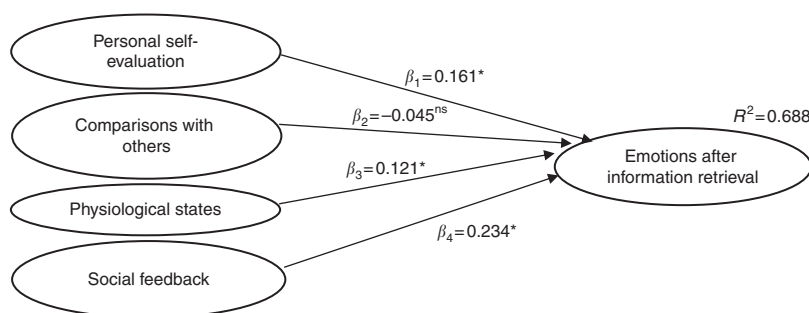
The results of multiple regression analysis are presented in Table V. The unstandardized β -coefficient among the independent variables ranges from -0.030 to 0.155 . The multiple regression equation is specified below:

Library Patrons' emotions after information retrieval = $2.085 + 0.138$ (personal self-evaluation) -0.030 (comparisons with others) $+0.117$ (physiological states) $+0.155$ (social feedback).

A closer examination of the standardized β coefficients of the multiple regressions revealed that the three independent variables, personal self-evaluation ($\beta_1 = 0.161$, t -value = 2.003 , $p < 0.05$), physiological state ($\beta_3 = 0.121$, t -value = 1.999 , $p < 0.05$), and social feedback ($\beta_4 = 0.234$, t -value = 2.171 , $p < 0.05$) significantly impacted the library patrons' emotions after information retrieval. Hence, $H1$, $H3$, and $H4$ are sustained. Based on these figures, social feedback had the greatest influence on the library patrons' emotions after information retrieval, followed by personal self-evaluation, and physiological state. Further investigation of the study discovered that comparisons with others did not appear to be a significant dimension in predicting the library patrons' emotions after information retrieval as was hypothesized ($p > 0.05$), implying $H2$ is not maintained.

Discussion

This research examined the impact of self-efficacy information sources such as mastery experience and personal self-evaluation, vicarious observation of others' experiences, social feedback, and physiological state on library patrons' emotions after information retrieval. Multiple regression analysis results revealed that personal self-evaluation significantly influenced the library patrons' emotions after information retrieval at $p < 0.05$ (see Figure 3). Thus, $H1$ is reinforced. This finding affirms that of Bronstein and Tzivian (2013) which found that personal self-evaluation significantly influences users' emotions after information retrieval. This also applies to the self-efficacy of algebra students (Monoi *et al.*, 2005), and academic achievement of elementary school students (Huy, 2012). In regard to library patrons' experience in information retrieval skills, they are able to find the information that they need when physically present in the library and via the e-resources and understand how to search for information and find that the searches are easier than they used to be. Should they not find the required materials that they are looking for during the searches, they keep on trying without fail



Notes: ns, not significant; * $p < 0.05$

Figure 3.
Results of
hypotheses testing

and try alternative searching strategies so that they can solve difficult problems and come across information if they make a serious attempt and invest the necessary effort although it takes more time.

On the other hand, the analytical results demonstrate that comparison with others was found not to have a statistically significant connection with the library patrons' emotions after information retrieval. Hence, as illustrated in Figure 2, *H2* is not held. In normal practice, library patrons are knowledgeable about searching for information and can find it in a shorter period of time than other people. Indeed, they are better versed on the strategies to effectively search for information than their friends. However, they are not likely to compare themselves to the other patrons in the sense that they have low social comparative standards to revitalize their self-esteem and satisfaction with the accomplishment of information retrieval tasks. Results corroborate with discoveries of Pajares *et al.* (2007). However, Morris and Usher (2011) and Usher and Pajares (2009) opined that vicarious experience does not significantly influence success or failure in award-winning as part of boosters in performing individual tasks.

According to the empirical results of this study, another significant finding also appeared for *H3* as the library patrons further considered that physiological state contributes in affecting their emotions after information retrieval. Further explanation for this is that the library patrons really enjoy searching for and retrieving information and might feel energized by retrieving information in the library and in e-resources. Nonetheless, this finding is not in agreement with earlier studies (i.e. Flavian-Blanco *et al.*, 2011) which found that the initial affective state modifies the feelings of repentance and obstruction after information retrieval. It showed that cheerful feelings during the information retrieval were not affected by feelings of regret and frustration. Nevertheless, Bronstein and Tzivian (2013) found that female participants were more comfortable, felt more energized and enjoyed searching for information more than male respondents having positive self-efficacy beliefs.

An additional noteworthy finding, when referring to the standardized β coefficients of the regression analysis, empirical results indicated that social feedback was the foremost critical factor in determining the library patrons' emotions after information retrieval as compared to the other constructs. Thus, *H4* is acknowledged. Friends and family have the perception that the library patrons are good at searching for information and prefer to seek their help when searching for information in order to minimize search time at the library for effective information retrieval. Previous

research enumerated that feedback from multi-sources such as managers and friends was really important to gain better performance (Van Dierendonck *et al.*, 2007). Poor feedback from people influenced the situation (Basu *et al.*, 2009). Indeed, within the academic context, social feedback or social persuasion had a strong positive impact on teaching self-efficacy in order to get the award-winning professors (Morris and Usher, 2011)

Conclusions

This research conveys vital implications for research and practice. With regard to managerial implications, this research concludes by making the following recommendations for university librarians and university management in order to encourage more library patrons' visits to the university libraries and optimal usage of e-resources and lift their positive emotions after information retrieval:

- They should consider social feedback of friends, family members, and neighbors to improve library patrons' behavioral intention to actively use public computing facilities at a library for quality information retrieval. Foregoing research by Van Dierendonck *et al.* (2007) asserted that feedback from multi-sources was essential to gain better performance in information searches.
- As for personal self-evaluation, they should exercise better service delivery in a friendlier way and be courteous, well-versed with duties, besides being more responsive to queries and rendering services promptly to library patrons.
- They should offer personal coaching on the appropriate use of information retrieval systems and tools available at the library through suitable training programs which enable users to acquire the correct information retrieval skills besides the right search strategies to retrieve relevant information stored in documents. Earlier research noted that proper guided training encouraged more use of e-resources in retrieving more up-to-date information after enhancement of literature searching skills (Brettle and Raynor, 2012; Lai and Wang, 2012; Majid *et al.*, 2013), which encouraged fruitful social feedback and minimized search time spent at the library and via e-resources for retrieving information.
- They should provide library patrons with reliable and fast access to the internet for quality information retrieval while using public computing facilities at a library. This could heighten their search attainment outcome and revive their emotions on the effectiveness and efficiency of retrieval of related information. Bechwati and Xia (2003) affirmed that people experience positive emotions such as happiness and pride when the search process is successful.

From the theoretical viewpoint, this study employed quantitative research design utilizing multiple regression analysis which provided useful empirical insight and thorough understanding of the specific factors that have significant effects on library patrons' emotions after information retrieval. Furthermore, the outcomes of this study add a new perspective on the preceding studies of library patrons' emotions after information retrieval, which has been inadequately researched in the Malaysia setting. As an extension of this study, further research is deemed necessary using a wider sample of library patrons in different geographical areas beyond the Malaysian context in order to expand the generalizability of the results. More research work is recommended to shift focus by analyzing the influence of library patrons' emotions

after information retrieval on other key variables that determine their self-efficacy. For instance, it is most likely that greater levels of use may also be connected to positive levels of users' emotions after information is successfully retrieved as expected. Finally, it would also be a good idea to use structural equation modeling in analyzing the moderations of demographics such as gender, age, and education level in order to examine the relationships of perceived self-efficacy of library patrons concerning their emotions after information retrieval.

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Appendix. Measurement instruments

(1) Personal self-evaluation:

- I can usually find the information I need
- If I cannot find what I'm looking for, I usually give up
- I manage to solve difficult problems encountered during an information search if I try hard enough
- Searching for information is easier for me than it used to be
- I understand how to search for information better than I did before
- If I cannot find what I'm looking for, I keep trying until I find it
- I am better now at searching for information than I used to be
- When seeking information, I can solve most problems if I invest the necessary effort
- I can usually come up with alternative searching strategies if I am confronted with a problem during an information search

- I keep trying to find what I'm looking for, even if it takes a while
 - I'm sure I can select the relevant information from the results of a search
 - When I'm with other library patrons, I can usually understand what they need
- (2) Comparisons with others:
- I seem to know more about searching for information than other people
 - I understand how to search for information better than most of my friends
 - I can search for information faster than other people
- (3) Physiological state:
- Searching for information makes me feel good
 - I feel comfortable when searching for information
 - I feel energized when I am searching for information
 - I think looking for information is relaxing
 - I enjoy searching for information
 - Searching for information can be frustrating
- (4) Social feedback:
- Patrons at the library think that I am good at searching for information
 - My friends think that I'm good at searching for information
 - My family think I'm good at searching for information
 - My friends seek my help when searching for information
- (5) Emotion after the information retrieval:
- I experienced joy after the information retrieval
 - I experienced relief after the information retrieval
 - I experienced pride after the information retrieval
 - I experienced regret after the information retrieval
 - I experienced frustration after the information retrieval
 - I experienced disgust after the information retrieval
 - I experienced anger after the information retrieval

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