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The Role of Perceived Self-Efficacy in the Information Seeking Behavior of Library and Information Science Students

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ABSTRACT

This study investigated the self-efficacy perceptions of Israeli library and information science students regarding their information seeking behavior. That is, it examined the judgments that participants make of their searching abilities. The study was based on Bandura's four sources of self-efficacy information: past performance or mastery experiences, vicarious experiences of observing the experiences of others, social feedback and affective states. An online survey presenting the Information Seeking Self-Perception Scale (IRSPS) was distributed and 205 students completed the questionnaire anonymously. Findings show that participants reported a high level of self-efficacy and that three of the four sources of self-efficacy information were significant in constructing their self-efficacy beliefs. Correlations between self-efficacy percepts and several socio-demographic variables revealed no gender-based differences. A significant correlation was found between age and degree and the sources with more influence. Older postgraduate students reported being more impacted by their mastery experiences, their affective states and social feedback. The implementation of the Information Seeking Self-Perception Scale (IRSPS) can be valuable when designing and implementing LIS academic programs for different groups of students.

INTRODUCTION

Information seeking is a primary activity of everyday life. People seek information to broaden their understanding of the world around them and to pursue their professional and personal goals. Earlier studies described the information seeking process mainly as a cognitive process based on knowledge structures held by individuals, which have been described as cognitive maps that shift according to conceptual development (Belkin, 1982; Taylor, 1968). Later studies have searched for the connection between cognitive processes and emotions and perceptions and have focused on the affective component that influences information behavior (Lopatovska, 2009; Lopatovska & Arapakis, 2011; Flavian-Blanco et al., 2011; Kao, Lei & Sun, 2008; Nahl, 1998, 2003; Nahl, 2006; Nahl & Tenopir, 1996; Kuhlthau, 1991; Wilson et al., 2000). Kuhlthau's (1991) holistic view of the information seeking process was one of the first models to add an affective component to the physical and cognitive realms described in earlier cognitive oriented models. Nahl (1998) found that the affective component of information search behavior can regulate cognitive processing through a hierarchical organization of goals, which is prescribed by both individual and cultural elements. Wilson (2000) proposed a new formulation of information searching in formally recognizing that the affective goal state imparts directionality to problem-solving steps. Chatman (1991) showed that affective states such as "alienation," "information avoidance," and "disinterest" have a strong influence on information behavior in everyday contexts.

Flavian-Blanco et al. (2011) posited that searching for information is more than mastering a set of techniques or following certain rules or principles to achieve desired outcomes. They found that affective states or emotions experienced during the search can influence the nature and the performance of the search. The study of the affective element of information seeking behavior has examined different emotions involved in the process such as uncertainty (Nahl, 2004; Wilson et al., 2000), optimism (Nahl, 2004), positive and negative feelings towards the search (Flavian-Blanco et al., 2011; Tenopir et al., 2008), satisfaction (Nahl, 2004) and perceived self-efficacy (Nahl, 2004; Tsai & Tsai, 2003). The present study focuses on this last emotional element and examines the impact that percepts of self-efficacy might have on their information seeking behavior of users.

Self-efficacy refers to "beliefs in one's capabilities to organize and execute the courses of action required to produce given statements." (Bandura, 1997, 3). These beliefs determine people's feelings, thoughts, motivations and behaviors (Bandura, 1986). Hence, success in performing a task is not only based on the possession of the necessary skills but it requires the confidence to use these skills effectively. There is a marked difference between possessing a set of skills and being able to use them optimally under diverse circumstances. For this reason, people with similar skills or the same individual on different situations may perform poorly or extraordinarily depending on their self-perceptions. Self-efficacy beliefs also determine the individuals' perseverance and resilience in the face of difficulties and the amount of effort that will be invested in

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accomplishing a task. Pajares (2002) argued that individuals with high self-efficacy perception expect to succeed and will persevere in an activity until it is completed. Contrarily, individuals with low self-efficacy anticipate failure and will be less likely to persist on doing an activity they perceive as challenging. This function of self-beliefs can also create the type of self-fulfilling prophecy in which one accomplishes what one believes one can accomplish.

LITERATURE REVIEW

SELF-EFFICACY

The study of self-efficacy beliefs is important "because they influence people's thought patterns, emotions and actions; in other words they influence the totality of human behavior" (Kurbanoglu, 2003, p. 638). Pajares (2002) stated that self-efficacy is central to human behavior because it touches virtually every aspect of people's lives providing the foundation for human motivation, well-being, and personal accomplishment. This is the reason why self-efficacy has generated research in several areas such as health management (Schwarzer & Fuchs, 1995) computer use (Downey & McMurtrey, 2007), business (Zhao et al., 2005), prison-based learning (Allred et al., 2013), work-related performance (Sonnentag & Kruel, 2006), mathematics (Usher & Pajares, 2009), web-based learning (Cheng & Tsai, 2011), and organ donation (Wu et al., 2013).

THE FOUR SOURCES OF SELF-EFFICACY BELIEFS

According to Bandura (1986, 399), knowledge regarding one's self-efficacy is based on four sources of information: past performance or mastery experiences; vicarious experiences of observing the experiences of others; verbal persuasion or social feedback and affective or physiological states. Mastery experiences are one of the most influential sources of information about efficacy because it is based on the individual's enactive attainments. This is why successful experiences raise self-efficacy appraisals and failures lower them. The interpretation given to new experiences depend on the nature and strength of existing self-efficacy percepts into which these new experiences have to be incorporated. Several studies have found that the interpretation of one's own performance is the most influential source of self-efficacy information (Bates & Khasawneh, 2007; Britner & Pajares, 2006; Calkin, 1994).

Self-efficacy can also be partly influenced watching other people succeed or fail in a task. Vicarious experiences are another means by which self-efficacy beliefs are created and enhanced. That is, by observing others that are perceived to be similarly competent succeed or fail in a task, people can convince themselves that they are equally capable or incapable of performing that task. Studies that investigated the self-efficacy beliefs of students found that the effects of competition through vicarious experiences were one of the most important factors of self-efficacy beliefs (Chan & Lam, 2008; Hodges & Murphy, 2009).

Verbal persuasion or social feedback is widely used to get people to believe that they are capable of achieving a certain task, so it can also have an effect on self-efficacy beliefs. People can be convinced into believing that they have or lack the necessary capabilities to perform a certain task or to achieve a certain goal. Verbal persuasion alone might have limited power to create an enduring increase in self-efficacy but it can contribute to a successful performance (Bandura, 1986). In a series of qualitative studies about self-efficacy in mathematics and technology fields, Zeldin and Pajares (2000) and Usher (2009) found that women received most of their insights about their abilities from what others believed they can accomplish.

Finally, physiological or affective states are also used by individuals as sources of self-efficacy information. Individuals with low self-efficacy can interpret tensions or stress as vulnerability to failure whereas individuals with high self-efficacy can interpret aroused states as energizing and leading to success. For example, Pajares et al. (2007), found that students can estimate their degree of confidence by the way they feel as they contemplate an academic task. This study aims to understand the perceived self-efficacy beliefs of LIS students regarding their information seeking skills and to examine the role that the four information sources of self-efficacy have in creating and maintaining these percepts.

EMOTIONAL ELEMENTS IN INFORMATION SEEKING BEHAVIOR

A number of studies have examined the connection between thinking processes and emotions and perceptions and the role these elements play in the information seeking behavior of users. Kuhlthau's (1991) early work found that affective states such as uncertainty might have both a positive and a negative impact in the decision to start or continue information seeking. Nahl's (1993) study about CD-ROM use examined the users' predictions of their performance and found that the more confident these novice searchers feel, the more successful they are, the more they find the instructions helpful, the more satisfied they are, and the less frustrated they feel. In a later study, Nahl (2006) claimed that high self-efficacy and optimism have been found to significantly influence success in a variety of information tasks. Kracker and Wang (2002) posited that there is a positive association between emotions and thoughts, and that most feelings were associated with more than one thought. Tenopir et al. (2008) investigated the use of ScienceDirect and found that positive feelings were associated with thoughts about results from the search and negative feelings were associated more often with thoughts related to the system, search strategy and task. Savolainen's (2012) examination of the motivational factors in information seeking behavior posited "that the stronger the sense of pleasantness, the more ready is the actor to start seeking for information." He further stated that self-efficacy can be a strong motivational factor in information-seeking behavior that has both cognitive and affective attributes. Several studies have investigated the role that self-efficacy percepts have in different contexts of information-seeking. Ford et al.'s (2001) study about individual differences in internet searching found a connection between retrieval failure and low self-efficacy. That is, students with low self-efficacy perceived themselves as being unable to maintain control and keep on target. Tsai and Tsai (2003) examined information searching strategies on web-based science learning and found that high self-efficacy resulted in more effective internet searching and learning. Monoi et al. (2005) developed an instrument that measures online searching self-efficacy beliefs during an online course and discovered that mastery experiences obtained during the course positively impacted students' perceived self-efficacy. Arnone et al. (2010) designed an instrument for assessing adolescents' perceived competence in information literacy skills. Bronstein and Tzivian (2013) investigated the perceived self-efficacy of LIS professionals and found that men and women are impacted by self-efficacy percepts and that men were more prone to frustration while women were more affected by affective states. Bronstein and Tzivian (2013) also reported that students would be better able to gradually develop higher self-efficacy regarding their use of online library resources through assignments, projects, and reports that require students to use a variety of credible information sources throughout their program of study.

Wilson (2000) defined information seeking behavior as the purposive seeking for information as a consequence of a need to satisfy some goal. The search process encompasses not only the action of seeking and using sources but also the development of thoughts about a topic and the feelings that typically accompany such evolution of thinking (Kuhlthau, 1988). This study wishes to extend the existing literature dealing with the emotional elements of the information seeking process by examining the role that personal perceptions of self-efficacy play in information seeking behavior. Understanding how students perceive their own information skills could help libraries and others who teach information seeking skills to focus on and strengthen areas where students lack confidence and provide enriched inquiry-based learning experiences and support. The study adapted and implemented a survey

tool that could aid in the development and improvement of the users' searching skills that will take into account self-percepts and emotions. The specific research questions examined were as follows:

- To what extent the four sources of self-efficacy information proposed by Bandura (1986) impact self-efficacy beliefs of LIS students and are there any correlations between the four sources?
- To what extent socio-demographic variables impact self-efficacy beliefs?

METHOD

DATA COLLECTION

An online survey (see Appendix A) was utilized to collect demographic data about students enrolled in the Information Science Department at Bar-Ilan University in Israel as well as data regarding the four sources of self-efficacy information outlined in the previous chapter. The findings presented in the study are based on the results of an online survey conducted for three months (April to June 2012). The online questionnaire was short, simple, and easy to answer to lessen many of the drawbacks of online questionnaires (Baron & Siepmann, 2000; Gunn, 2002). It was written in Hebrew since it targeted a Hebrew-speaking population. The online survey was anonymous and the questions were sorted out randomly so the pattern of answering questions about related topics did not become obvious to participants.

Perceived self-efficacy refers to an identified level and strength of self-efficacy, this strength is measured by the degree of certainty that one can perform a certain task. Hence, self-efficacy should be measured directly by the use of self-report scales (Kurbanoglu et al., 2006). These scales consist of Lickert items which allow the participant to report the strength of their perceptions about their abilities to perform behaviors successfully. The survey instrument measuring self-perceptions of elements in the information seeking behavior of participants was adapted from the Internet Self-Perception Scale (ISPS) developed by Hinson et al. (2003). This survey examined four dimensions of children's internet skills and when matched these four factors with previous studies of self-efficacy and self-perceptions in other content areas showed high reliability (Cronbach's alpha ranged .73–.87). Four items were omitted from Hinson et al.'s (2003) survey because they were intended for small children and therefore not relevant for an adult audience. In the present study, references regarding internet use were changed to references regarding information seeking resulting in a 27-item scale named the Information Seeking Self-Efficacy Scale (IRSES). Another version of the scale has been implemented to investigate LIS professionals' perceived self-efficacy regarding their information retrieval skills (Bronstein & Tzivian, 2013). Each item in the survey was measured using a 5-point Lickert scale with the following anchors: strongly disagree (1), disagree (2), undecided (3), agree (4), strongly agree (5). The survey examined the four factors identified in Bandura's (1982) model of self-efficacy that individuals take into account went judging their capabilities:

(1) Mastery experiences: including past successes and failures, amount of effort needed, task difficulty, task persistence.
(2) Comparison with others: referring to a judgment of one's capabilities in comparison to others performing the same task.
(3) Social persuasion: verbal and social persuasion received when searching.
(4) Affective states: perceptions of physiological states while searching for information

POPULATION OF THE STUDY

The population of the study consisted of 205 LIS students enrolled in bachelor, master and doctoral degrees at Bar-Ilan University in Israel. Mean age of participants was 32.75 SD 10.43 (range 19–62), 76% ($n = 155$) were women and 24% ($n = 50$) were men. 35% ($n = 72$) were B.A. students, 58% ($n = 118$) were M.A. students and 7% ($n = 15$) were doctoral candidates. The majority of the participants (89% $n = 182$) were native speakers of Hebrew, and 11% ($n = 23$) were native speakers of Russian, Spanish and Arabic. We found a significant correlation between age and degree ($r = 0.43$ $p < 0.001$).

RESULTS

The following section presents the findings relevant to the first research question that examines the impact that the four sources of self-efficacy information proposed by Bandura (1986) have on the self-efficacy beliefs of LIS students and the possible correlations between the four sources.

DESCRIPTIVE STATISTICS

Findings from the descriptive statistics and from the reliability analysis for each one of the information sources (α-Cronbach) are presented in Table 1.

Findings from Table 1 show that the distribution of the sources of information variables is left-side tailed symmetric. That is, the means of the variables are relatively close to the maximal value, the highest rating given to mastery experiences. Findings also show that the reliability of the each source is high (0.85 and higher).

CORRELATIONS BETWEEN SOURCES OF SELF-EFFICACY INFORMATION

In order to understand the self-efficacy beliefs of the participants regarding their information seeking behavior, we first examined the possible correlations between the four sources using a Pearson correlation coefficient. Table 2 presents the results of the analysis.

Results in Table 2 show a strong significant correlation between the four sources. That is, the higher a participant rates any of the four sources the more he/she will rate the other three sources. The highest coefficients were found between social feedback and comparison with others, and affective states.

CORRELATION BETWEEN SOCIO-DEMOGRAPHIC VARIABLES AND THE FOUR SOURCES OF SELF-EFFICACY INFORMATION

The second research question examines the possible associations between the sources of self-efficacy information and the socio-demographic variables of the participants. Table 3 presents the results of the MANOVA analysis and the Pearson correlation coefficient.

Three demographic variables were investigated, gender, age and degree. A MANOVA analysis was performed to find if the sources of self-efficacy information influenced males and females differently, but no significant gender-based differences were found. A Pearson correlation coefficient was performed to find significant correlations between age and the four sources of self-efficacy information. A significant positive correlation was found between age and three of the sources of self-efficacy information, mastery experiences, social feedback and affective states. Hence, the older the participant is the stronger the impact that these three sources of information have on their self-efficacy. A second MANOVA analysis was performed to find differences between the three groups of students regarding the four sources of self-efficacy information.

Table 1
Descriptive statistics and results of reliability analysis.

Sources of information	Minimum	Maximum	Mean (SD)	α-Cronbach
Mastery experiences	1.85	5	4.03 (0.57)	0.87
Comparison to others	1.00	5	3.34 (0.88)	0.88
Affective states	1.00	5	3.31 (0.89)	0.87
Social feedback	1.00	5	3.52 (0.89)	0.85

Table 2
Correlations between sources of self-efficacy.

Sources of information	Mastery experiences r (*p*)	Comparison with others r (*p*)	Affective states r (*p*)
Mastery experiences	1		
Comparison with others	0.54 (<.001)	1	
Affective states	0.60 (<.001)	0.79 (<.001)	1
Social feedback	0.610 (<.001)	0.54 (<.001)	0.57 (<.001)

The analysis showed a significant difference between students at different study levels ($F(8,400) = 2.45$, $p = 0.14$). The subsequent ANOVA performed showed differences between degree and mastery experiences, social feedback and affective states. To further examine the differences between the three degrees, the Bonferroni correction for ANOVA test was performed. A significant difference was found between M.A. and Ph.D. students and B.A., students regarding mastery experiences, social feedback and affective states. That is, these three sources had a higher impact on postgraduate students than on B.A. students.

A Mann–Whitney test was performed that found no significant differences between male and female participants regarding the four sources of self-efficacy information. A Spearman correlation coefficient performed showed a significant correlation between age and three of the four sources of self-efficacy information. That is, the older the participant the stronger the impact the self-efficacy information has on him/her. To examine possible differences between the different degrees a Kruskal–Wallis Test was performed and a general tendency was revealed that showed that B.A. students reported lower levels of self-efficacy regarding their information seeking skills than M.A. and Ph.D. students. For example, the following questions exemplify the importance of searching experience that comes with age, as in question 9: "*I am confident that I can choose the information relevant to my search from the results of my search*", in which B.A. students reported feeling less confident ($M = 3.85$ SD $= 1.016$) than Ph.D. students; or as in question number 12: "*I can usually come up with alternative searching strategies if I am confronted with a problem during an information search*". B.A. students reported lower self-efficacy scores ($M = 3.62$, SD $= 1.013$) than Ph.D. students ($M = 4.40$ SD $= 0.0507$). Findings also show that B.A. students were less affected by affective states as in question 23: "*Searching for information makes me feel good*", in which B.A. students also reported lower self-efficacy scores ($M = 3.42$ SD $= 1.058$) than Ph.D. students ($M = 4.13$ SD $= 0.915$) or as in question 27: "*I enjoy searching for information*", in which B.A. students ($M = 3.10$ SD $= 1.050$) reported enjoying searching for information less than Ph.D. students ($M = 4.13$ SD $= 0.915$).

DISCUSSION

The present study examined the self-efficacy beliefs of LIS students as an emotional element of their information seeking behavior. Understanding this element of the information behavior of participants is important because as Bandura (1986) asserted, self-efficacy is a judgment of ability regarding a specific task or activity within a particular domain so understanding self-efficacy percepts regarding information seeking skills can be of value to the research in information behavior. Regarding the first research question, the descriptive analysis revealed that participants have high self-efficacy regarding their information searching skills. Results show that mastery experiences followed by social feedback and affective states impact participants' self-efficacy beliefs. This finding supports Malliari et al.'s (2012) study that found that LIS students' IT self-efficacy and perceived computer competence were positively related to frequency of use and previous experience. Other studies that found mastery experiences made the strongest contribution to self-efficacy investigated immigrant and Anglo-Saxon adolescents (Klassen, 2004), scores of algebra students (Monoi et al., 2005), academic achievement of elementary school students (Huy, 2012) and science-based career choices (Lopez & Lent, 1992). Interestingly, findings show that vicarious experiences of observing the behavior of others did not represent a significant source of self-efficacy information for participants in this study. Pajares et al. (2007) explain this finding claiming that vicarious experiences become important in creating self-efficacy beliefs when people are uncertain of their abilities, since participants in this study reported strong self-efficacy beliefs regarding their information seeking skills they did not need to observe the behavior of other people as a source of self-efficacy information. This finding echoes Chan and Lam's (2008) study which also found that vicarious learning experiences did not contributed to an increase in self-efficacy.

To further understand the role of each of the four sources of self-efficacy information a Spearman correlation analysis was performed that showed significant correlations between the four sources, which concur with prior findings on the subject (Usher & Pajares, 2009). The strongest correlation was found between comparison with others and affective states ($r = 0.79$) which might mean that the social environment of participants affect their emotions regarding their self-efficacy perceptions. This finding differs from Bronstein and Tzivian's (2013) study which examined the sources of self-efficacy information of information professionals and found a lower correlation ($r = 0.34$) between these two sources. The second strongest correlation was found between mastery experiences and social feedback ($r = 0.61$) which means that the evaluation of past performances is also strongly affected by the social feedback they received at the time. A third strong correlation was found between mastery experiences and affective states ($r = 0.60$), which means that the evaluation of past performances is strongly affected by the feelings and emotions that these experiences arouse in the participants. In other words, feelings and emotions in the past as in the present are a significant source of self-efficacy information for participants. These findings echo Flavian-Blanco et al.'s (2011) conclusion that the outcomes of an information search can be influenced by different structures of perceptions, affective states and emotions felt during the search and by Savolainen's (2012) claim that a user will be more ready to start an information search if s/he can relate this task to positive feelings.

The second research question examined the relations between the four sources of self-efficacy information and different socio-demographic variables. No significant gender-based differences were found regarding the sources of self-efficacy information. This finding contradicts other studies that found gender differences related to self-efficacy percepts. Bronstein and Tzivian (2013) found that female participants are more impacted by affective states while Anderson & Betz (2001) and Usher & Pajares (2006) asserted that the main difference between men and women lies on the fact that women tend to compare themselves with others and gave greater importance to social feedback than men. Hatice's (2013) study about the relationship between risk-taking behavior and academic self-efficacy and problematic internet use showed that problematic internet use varies according to gender, with males scoring higher than females.

The significance of age in relation to some of the self-efficacy information sources is an important contribution of this study. Most of the studies that have investigated self-efficacy beliefs have used homogenous samples of participants such as children, undergraduate students or elderly people, so age has not been found to be a significant variable

Table 3
Correlations between sources of self-efficacy information and socio-demographic variables.

Sources of self-efficacy information	Gender F (*p*)*	Age r (*p*)**	Degree F (*p*)*
Mastery experiences	−0.55 (0.45)	0.24 (<0.001)	5.24 (<0.001)
Comparison with others	−0.23 (0.63)	0.11 (0.11)	1.50 (0.22)
Affective states	−0.30 (0.58)	0.3 (<0.001)	6.94 (<0.001)
Social persuasion	−2.64 (0.11)	0.19 (<0.007)	2.99 (0.05)

* Performed using a MANOVA analysis.
** Performed using Pearson correlation test.

in the majority of studies (Fletcher, 2005; Nasco, Hale & Thomas, 2012; Usher, 2009). We believe that the heterogeneous nature of the sample that comprised LIS students from different backgrounds, studying for three different degrees with ages ranging between 19 years old and 62 years old makes it an interesting sample to study. This premise was supported by the fact that the age of participants and their level of study were found to be significant socio-demographic variables. Having found a significant correlation between age and degree, findings show that these two variables make participants more susceptible to internal sources of self-efficacy information such as mastery experiences and affective states and to external sources such as the social feedback received from their surroundings. Judgments of self-efficacy also determine how much effort people invest in an activity or a task (Bandura, 1997). This assertion is reflected in the findings since the three questions dealing with perseverance in the search for information showed a correlation with age and degree. In other words, as a result of the correlation between age and degree, this finding could be interpreted to mean that past experiences as information searchers positively affect the information seeking behavior of the participants which includes perseverance and the ability to resolve challenging situations.

The present study has two major limitations. In the survey presented participants were asked to report about their information retrieval seeking behavior. As in any other research based on self-reported behaviors, the perceptions people have of their own behavior may differ from their actual behavior, and therefore accuracy is difficult to verify. Unlike other studies where researchers have personally observed relevant behavior, no external validation was conducted for this study. A second limitation relates to the nature of the sample. One could expect that students in information science will have stronger self-efficacy percepts related to their information seeking behavior. Regardless of this limitation, the heterogeneous nature of the sample rendered interesting results that have further the existing literature on the emotional aspects of information seeking behavior. Future research should investigate the role that self-efficacy beliefs play in the information seeking behavior of different populations. In addition, further research needs to expand the existing literature on the emotional and affective components of information seeking behavior.

CONCLUSION

The present study presents an innovative approach to the study of information seeking behavior by implementing a survey that investigates Bandura's self-efficacy theory. Self-efficacy is not a universal phenomenon that applies to every situation, that is, an individual can have a high level of self-efficacy in one domain and a low level of self-efficacy in another. Therefore, "scales of perceived self-efficacy must be tailored to the particular domain of functioning that is the object of interest" (Bandura, 2006, pp. 307–308). The survey instrument developed for the study uncovered interesting differences related to the ages of their participants and their academic degrees that expand the existing literature on the role that emotions, past experiences and social factors have on information seeking behavior. These findings can be valuable when designing and implementing LIS academic programs for different groups of students. These programs can take into account the impact that demographic factors have on information seeking behavior and adapt their curricula to help them strengthen their perceptions of self-efficacy thus enhancing their information searching skills.

APPENDIX A

Information Seeking Self-Efficacy Scale (IRSES)

Factor 1: Personal self evaluation

1. I can usually find the information I need
2. If I can't find what I'm looking for, I usually give up.
3. I manage to solve difficult problems encountered during an information search if I try hard enough
4. I need less help than I used to when searching for information
5. Searching for information is easier for me than it used to be
6. When I search for information, I know the difference between the different information sources available to me
7. I understand how to search for information better than I did before
8. If I can't find what I'm looking for, I keep trying until I find it
9. I am better now at searching for information than I used to be
10. I am confident that I can choose the information relevant to my search from the results of my search
11. When seeking information, I can solve most problems if I invest the necessary effort
12. I can usually come up with alternative searching strategies if I am confronted with a problem during an information search
13. I keep trying to find what I'm looking for, even if it takes awhile.

Factor 2: Comparisons with others

14. I seem to know more about searching for information than other people
15. I can search for information faster than other people
16. When I am searching for information I know what information source to use for each search better than other people
17. I think I am better at searching for information better than other students at my class

Factor 3: Physiological states

18. Searching for information makes me feel good
19. I feel comfortable when searching for information
20. I feel energized when I am searching for information
21. I think looking for information is relaxing
22. I enjoy searching for information

Factor 4: Social feedback

23. My teachers think that I am good at searching for information
24. My friends and family think that I am good at searching for information
25. Other students think that I excel in information searching
26. Other students ask for my help when searching for information
27. Other people think I am excellent at searching for information

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