PREFERENCE FOR ONLINE HEALTH INFORMATION AMONG CHINESE

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If soon-to-be-aged (STBA) adults do not do well in disease prevention or chronic illness care, their health problems may add a heavy load to the health care system and its costs. Objective: This study aims to identify factors that were associated with Chinese STBA adults' preference for online health information (POHI). Methods: This is a secondary analysis of a cross-sectional survey conducted in 2005-2006 among Hong Kong adults. Results: Out of the 516 respondents, one-third indicated their preference to get health information via the Internet. Five significant independent factors were found to be associated with POHI: 10th grade education or above, being employed, perceiving they had good language ability, knowing someone who could teach them, and Chinese who placed a higher value on learning as they grew older. Conclusions: With these findings, practitioners could work out some ways to support STBA adults for online health-related learning and health literacy.

Keywords: health literacy, Chinese, Internet, online health information

Chinese societies are predicted to become one of the largest groups of Internet users in the next decade (Lai, Arthur, & Chau, 2004). There has been a tremendous growth in Internet use in China, which reached 298 million "netusers" at the end of 2008, which surpassed the average level in the world, according to the China Internet Network Information Centre (China Internet Network Information Center, 2009). In Hong Kong, a Special Administrative Region (SAR) in China, about 3.4 million persons aged 10 or above had used Internet service at least once per week in 2008, while 800 thousand households

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(37% of households in Hong Kong) had purchased a personal computer or related products or services in that year (Census and Statistics Department, 2008). These figures indicate that using the Internet and information technology are very common in Chinese society. With the rapid increase in Internet use in their daily lives, more people have been searching for health information from the Internet and they value the quality of health information they find on the web (Leung, 2007; Leung, 2008). Previous studies of online health-related activities mainly focused on Caucasian adolescents (Cheuk & Chan, 2007; Tahiroglu, Celik, Uzel, Ozcan, & Avci, 2008) or health activities across all ages (Atkinson, Saperstein, & Pleis, 2009). Little is known about the Chinese STBA adults' preference for searching health information via the Internet and the factors that influence their desire.

Soon-to-be-aged (STBA) adults who are aged 50 to 64 years old are in their transition from employment to retirement, and from being relatively healthy to facing inevitable age-related changes. In November 2009, US health authorities (Centers for Disease Prevention and Control (CDC), American Association of Retired Persons (AARP) and American Medical Association) highlighted the importance of promoting health concepts and educating this age group about preventive strategies, because they account for about 20% of the US population (Centres for Disease Control and Prevention, 2009). It was asserted that if this group of people does not do well in disease prevention or chronic illness care, they may place a heavy load on the health care system (Centres for Disease Control and Prevention, 2009). The same may be true in many other countries, where about one fifth of the population is STBA adults. These include Australia (19%), Japan (21%), New Zealand (18%), Republic of Korea (18%), Singapore (23%), and the two SARs of China, Macau SAR (23%) and Hong Kong SAR (22%) (World Health Organization, 2010). Thus, neglecting to educate this age group for health promotion and chronic illness care may increase the burden and costs of health care in these countries.

According to the Healthy Living Survey in Hong Kong, the STBA group has the highest proportion (50-60%) of people who have either not taken action or have not planned to take action to improve their health in the next 6 months (Lam, Chan, Ho, & Chan, 1999). The STBA group also has the smallest proportion (31%) of people worrying about chronic illness, the highest proportion (75%) with a current weight that is heavier than they had at age 20, and the highest daily cigarette consumption per person (Lam, Chan, Ho, & Chan, 1999). All these figures indicate that persons in the Hong Kong STBA group are vulnerable and have considerable potential to develop health problems. Thus health education is crucial to them. An online platform is one of the ways to educate this age group. In a previous study, many of the Chinese adults indicated their interest in using the Internet to learn health information as they grew older (Leung, Ko, Chan, Chi, & Chow, 2007).

Previous studies investigated the phenomenon of online health information searching and identified some predictors of such behaviour. About 73% of the respondents in Taiwan had access to the Internet and about half searched for online health information (Hsu, 2005).

Among the breast cancer patients, Internet was ranked as the second health information source eight months after the diagnosis, and then it became the most frequently cited information source sixteen months after the diagnosis (Satterlund, McCaul, & Sandgren, 2003). This indicated that patients were more willing to use Internet to get health information as time went by. On the contrary, another study found that adults who have been diagnosed with cancer were more likely to have incidental health information use from traditional media but not the Internet (Tian & Robinson, 2009). It seemed that whether illness or health status would enhance online health information searching behaviour was still controversial. High education, young age, and high socioeconomic status or household income (Pereira, Koski, Hanson, Bruera, & Mackey, 2000; Satterlund, McCaul, & Sandgren, 2003; van de Poll-Franse & van Eenbergen, 2008) were the significant predictors of Internet use. Other than these demographic factors, patients' satisfaction with the amount of treatment-related information given by caregivers also triggered individuals to look for online health information (Pereira, Koski, Hanson, Bruera, & Mackey, 2000).

The current study aims to identify factors (demographics, health-related factors and socio-cultural factors) that are associated with Chinese STBA adults' preference for online health information (POHI). We propose the following research questions:

RQ1: What are the characteristics of the STBA adults who prefer online health information?

RQ2: Which factors increase the likelihood of the preference for online health information among Chinese STBA adults?

METHODS

Design and Sampling

The current study is a secondary analysis of a 2005-2006 cross-sectional survey that aimed to identify factors affecting health-related learning behavior in Hong Kong residents, aged 45 years or older (Leung, 2007). The dataset was used for this secondary analysis to study a more specific age range; it contained a large group of Chinese STBA adults, aged 50 to 64 years, along with potential predicting factors. Convenience sampling was used for the original study; included were persons who were in the respective age range who were Chinese, Hong Kong residents, able to read Chinese, and willing to participate in the survey and sign an informed consent form. Of the original 805 (50%) questionnaires (out of 1,625) that were completed and returned, 516 who were aged between 50 and 64 were selected and included in the secondary analysis.

Measures

Preference for online health information.

Respondents' preference for online health information was measured by their responses to a question "Which form of health information would you prefer?" with eight options including health information on the Internet, lectures/talks by health professionals, television, newspaper, radio, individual counseling by health professionals, self-learning materials, and recommendations from relatives/friends. These options were decided on by reviewing the findings of the qualitative study conducted by the investigator (Leung, Ko, Chan, Chi, & Chow, 2007; Leung, Lui, & Chi, 2005a; Leung, Lui, & Chi, 2005b). Respondents were asked to choose from the eight pre-set options all that applied to them. We then created a dichotomous variable "preference for online health information (POHI)" based on whether or not this option was selected (1 = yes, 0 = no).

Perceived barriers and facilitators to learning health information.

Respondents were asked to choose items they perceived to be barriers and facilitators to learning health information. They were given an investigator-developed checklist of ten items with four barriers (i.e. believe the content is not worth learning about, have the basic knowledge already, have difficulty comprehending the content, and are unable to learn health information) and six facilitators (i.e. having better language ability, a companion, financial support, a positive learning atmosphere in society, a teacher who is similar in age, and someone can teach me). Respondents were asked to choose all those that applied to them (1 = yes, 0 = no). Each item was scored dichotomously; total scores were not calculated.

General self-efficacy.

Respondents' self-efficacy (the general sense of competence) was assessed by the 10-item Chinese version of the General Self-efficacy Scale (GSeS) (Zhang & Schwarzer, 1995). All items are rated on a 4-point Likert scale (1 = not at all, 4 = exactly true). Scores could range from 10 to 40. Higher scores indicated greater self-efficacy. The Chinese version of this scale demonstrated excellent internal reliability: all the inter-item correlation coefficients were 0.30 and all item-to-total correlation coefficients were 0.50 and good internal consistency (Cronbach's alpha = .90) in Chinese adults aged 18 or above (Zhang & Schwarzer, 1995). The internal consistency coefficient (Cronbach's alpha) of the GSeS in the current sample was .89.

Chinese value of learning.

The value that respondents placed on learning, in the context of Chinese society was measured by using the 5-item Chinese Value of Learning Scale (CVLS) (Leung, Chi, Chow,

& Chan, 2006). All items are rated on a 4-point Likert scale (1 = not at all, 4 = exactly true). Scores could range from 5 to 20. Higher scores indicated a greater value that the respondent placed on learning. The scale demonstrated good internal consistency and reliability: Intra-class correlation (ICC) = 0.51 (95% CI = -0.03, 0.82) over 7 days (Leung, 2007; Leung, Chi, & Chan, 2006). The factor loadings of the five items in the CVLS ranged from 0.86 to 0.92. All five items of the CVLS contributed to one principal component, which accounted for 79.80% of the total variance (Leung, 2007; Leung, Chi, & Chan, 2006). The internal consistency coefficient (Cronbach's alpha) in the CVLS in the sample aged 45 to 64 was .93.

Health-related factors.

Four items are included: self-rated health, physical exercise, smoking, and drinking. Self-rated health was a one-item question asking "In the last 3 months, how would you describe your health status?" It was measured with a 5-point Likert scale (1 = very good, 2 = good, 3 = fair, 4 = bad, 5 = very bad). Lower scores indicated better perceived health status. Physical exercise was measured as whether or not they participated in sports or exercises for at least 30 minutes per session for three times a week in the previous 30 days (1 = yes, 0 = no). Smoking was asked by a question "In the previous 30 days, how many cigarettes did you smoke per day?" This variable was then recoded as a dummy variable "smoking" (1 = yes, 0 = no). Drinking was measured by a question "How often do you drink alcohol beverage (drink at least one can/bottle of beer, 1 glass of wine or 1 measure (peg) of spirits)?" Six options were given: 1) I don't drink any alcohol beverage; 2) I drink daily (at least 1 glass / can per day); 3) 1 drink 4-6 days per week, 4) I drink 1-3 days per week; 5) I drink 1-3 days per month; 6) I drink less than once per month. This variable was then recoded as "drinking". Answers to the option 1, 5 and 6 were grouped and recoded as "0 = no, I don't have such habit", while the rest of the responds were recoded as "1 = yes, I have such habit".

Demographic factors.

The following demographic characteristics of respondents were measured on the survey form: age, gender, educational level, employment status, marital status, and monthly household income.

Procedure

Ethical approval of the study was obtained from the Institutional Review Board of the University of Hong Kong. The investigator asked 28 non-government agencies to assist by inviting their members to participate in the survey. The investigator and a research assistant went to the centers or attended meetings of each agency and asked members who were there

if they would be willing to take the survey. Those who agreed, then provided informed written consent and filled out the questionnaire. Some questionnaires were returned at the time of the survey and some were returned to the in-charge person of the agency. Participation in the survey was completely voluntary and there was no linkage to any of the services provided by the agencies. Details of the procedure were reported elsewhere (Leung & Leung, 2010). For the secondary analysis, only those aged 50 to 64 were selected for analysis.

Data analysis

Bivariate and multivariate analyses were used to identify factors associated with POHI. In the bivariate analyses, t-tests were used to compare continuous variables while chi-square tests were used for categorical variables. Factors tested were demographic characteristics, health-related factors, barriers and facilitators to online health information seeking, self-efficacy and Chinese value of learning. All factors that were significantly associated with POHI in the bivariate analyses were included in the multivariate logistic regression model; determinants of POHI were identified using a backward elimination method with likelihood ratio tests. To check the correlations among the independent variables in the logistic regression model, multicollinearity diagnosis was conducted on the independent variables that were significant. The variance inflation factor (VIF) was used to quantify the severity of the multicollinearity (Lohninger, 2010). We reported adjusted odds ratios (adj. OR) with 95% confidence intervals (CI). The alpha was set at 0.05.

RESULTS

Nearly all of the soon-to-be-aged respondents (513/516) selected more than one modality for learning health information, while three others selected only one method. One third selected "learning health information from the Internet" as one of their choices. It ranked fifth among the other forms of information-seeking (Table 1). Three methods were selected by over half of the respondents: "learning from lectures/talks offered by health professionals," "via TV," or "newspapers". Learning information from the radio was selected by nearly half of the respondents, while individual counseling offered by health professionals was chosen by only one-third.

The majority of the respondents were between the ages of 50 and 54, female, had a 10^{th} grade education or above, were not employed, were married or cohabiting, had a monthly income from $10,000 to above $30,000 HKD, rated their heath as fair to good, exercised, and did not smoke or drink. The characteristics of the 154 respondents who chose online health information (Research Question #1) were similar to those who did not choose online

Table 1. Chinese soon-to-be-aged adults' preferred forms of health information learning

Learn health information via...	Frequency	Percentage
Lecture/talks by health professionals	323	62.6%
Television	310	60.1%
Newspaper	304	58.9%
Radio	246	47.7%
Individual counseling by health professionals	180	34.9%
The Internet	154	29.8%
Self-learning materials	142	27.5%
Recommendation from relatives/friends	131	25.4%

health information, except that there were more in the younger STBA age group, (aged 50 to 54 years), the educated group (grade 10 or above), the being employed group, the married or cohabiting group, the higher household income group and the physical exercise active group (Table 2). There were significant bivariate relationships between POHI and the demographic factors of age (p = .01), educational level (p < .001), employment status (p = .002), marital status (p = .03), and monthly household income (p = .02), but not gender. The only health-related factor that was associated with POHI was physical exercise (p = .045). There were no significant associations between POHI and health-related factors of self-rated health, smoking, and drinking (p > .05) (Table 2).

The most frequently chosen barrier to learning was that many respondents said they "had already had a basic knowledge of health information" while fewer said they "had difficulty comprehending the content" or "felt they were unable to learn," these two barriers were significantly negatively associated with POHI. The most frequently chosen facilitator to learning was the perception that "someone could teach them," and more than half chose it. Another facilitator"having good language ability" was significantly positively associated with POHI (Table 3).

Finally, using t-tests, those who chose learning about health on the Internet had significantly higher scores on the Chinese value of learning scale, compared to those who did not choose Internet learning (M [SD]: 23.10 [2.80] vs 22.2 [2.61], p = .001).

To answer Research Question #2, multivariate logistic regression analysis indicated that five of the ten factors were found to be the predictors of POHI: 10th grade education or above, OR = 1.90, 95% CI = 1.17, 3.08, being employed, OR = 1.67, 95% CI = 1.06, 2.63, perceiving they had good language ability, OR = 2.35, 95% CI = 1.53, 3.62, knowing someone who could teach them, OR = 1.81, 95% CI = 1.18, 2.76, and Chinese who placed a higher value on learning (higher Chinese value of learning [CVLS]), OR = 1.13 , 95% CI = 1.04, 1.23 (Table 4). Those with Grade 10 or above education were almost twice as likely as their counterparts with lower education level to search for online health information. Those who were being employed were also more likely to look for health information than

the unemployed, the retired or the housewives. Respondents who perceived that they had

Table 2. Demographic factors, health-related factors and their relationships with preference for online health information (POHI) among Chinese soon-to-be-aged adults (N = 516)

	Total Sample (N=516)	Prefer online health information (n = 154)	Not prefer online health information (n = 362)	
	N	n (%)	n (%)	*p*
Age (in years)				.01*
50 – 54	201	71(46)	130 (36)	
55 – 59	188	58 (38)	130 (36)	
60 – 64	127	25 (16)	102 (28)	
Gender				.65
Male	133	42 (27)	91 (25)	
Female	380	112 (73)	268 (75)	
Education level				<.001***
Below grade 10	180	32 (21)	148 (41)	
Grade 10 or above	334	121 (79)	213 (59)	
Employment status				.002**
Being employed (full/part time)	134	54 (37)	80 (23)	
Retired/housewife/unemployed	356	93 (63)	263 (74)	
Marital Status				.03*
Single/divorce/widow	111	24 (16)	87 (24)	
Married/cohabit	403	129 (84)	274 (76)	
Monthly household income (HKD)				.02*
No income	48	10 (7)	38 (12)	
≤$5,999	35	7 (5)	28 (8)	
$6000 - $9,999	51	15 (10)	36 (11)	
$10,000 - $19,999	108	28 (20)	80 (25)	
$20,000 - $29,999	61	16 (11)	45 (14)	
≥ $30,000	163	67 (47)	96 (30)	
Self-rated health				.23
Very good	45	19 (12)	26 (7)	
Good	195	60 (39)	135 (38)	
Fair	225	64 (42)	161 (45)	
Bad	43	11 (7)	32 (9)	
Very bad	4	0 (0)	4 (1)	
Physical exercises				.045*
Yes	337	111 (73)	226 (64)	
No	169	41 (27)	128 (36)	
Smoking				.37
Yes	19	4 (3)	15 (4)	
No	483	148 (97)	335 (96)	
Drinking				.11
Yes	153	54 (35)	99 (28)	
No	352	99 (65)	253 (72)	

Note: * =$p < .05$, ** =$p < .01$, *** =$p < .001$

Table 3. The relationships between the barriers / facilitators to learning and preferencefor online health information (POHI) among soon-to-be aged adults

		Total Sample (N=516)	Prefer online health information (n = 154)	Not prefer online health information (n = 362)	
		N	n (%)	n (%)	*p*
Barriers to learning					
	Not worth making the effort to learn	34	10 (6)	24 (6)	.95
	I have had basic knowledge already	226	74 (48)	152 (42)	.21
	Difficult to comprehend the content	92	18 (12)	74 (21)	.02*
	I am not able to learn	76	11 (7)	65 (18)	.001**
Facilitators to learning					
	I think I have good language ability	152	65 (42)	87 (24)	<.001***
	I wish I could have some companion	162	48 (31)	114 (31)	.94
	I wish I have financial support	208	70 (45)	138 (38)	.12
	There is positive learning atmosphere in society	151	53 (34)	98 (27)	.009
	Someone who is in my age group can be my teacher	66	22 (14)	46 (13)	.63
	Someone can teach me	282	102 (66)	180 (50)	.001**

Note: * =$p < .05$, ** =$p < .01$, *** =$p < .001$

good language ability were more likely to search for online health information than their counterparts. Availability of someone who could teach the STBA adults also increased the likelihood of online health information preference. Finally, those who valued ongoing learning in older age were more likely to browse the Internet and look for health information than those who did not. The VIF of these five predictors were all smaller than 1.1 which indicated that there was no multicollinearity among the predictors (Lohninger, 2010).

DISCUSSION

We found that about 30% of the Chinese soon-to-be aged adults in Hong Kong would like to look for health information on the Internet. This was the first survey that assessed the health-related online behavior in Hong Kong. The few published population surveys studied use of the Internet in general, such as communicating through emails, browsing government websites and reading newspapers (Census and Statistics Department, 2009). No previous study investigated health-related behavior in relation to use of the Internet. However,

Table 4. Multivariate logistic regression of preference for online health information (POHI) among Chinese soon-to-be-aged adults

Predictors to POHI	Adjusted Odds Ratios	95% Confidence Interval	*p*
Education level: Grade 10 or above	1.90	1.17 - 3.08	.009**
Employment status (Being employed)	1.67	1.06 - 2.63	.03*
Have good language ability (Yes)	2.35	1.53 - 3.62	< .001***
Someone can teach me	1.81	1.18 - 2.76	.007**
Greater Chinese value of learning (per score)	1.13	1.04 - 1.23	.004**

Note: * = $p < .05$, ** = $p < .01$, *** = $p < .001$

preferring to use the Internet to search for health information among soon-to-be-aged adults in Hong Kong society is relatively low, compared to other countries or regions such as Canada (58%), Taiwan (52%), and the US (40%) (Baker, Wagner, Singer, & Bundorf, 2003; Ernerst & Shanthim 2004; Hsu, 2005)

The characteristics of Chinese Internet users who would like to use online health information that those who were younger, married, being employed, better educated, and who had a higher monthly household income were more likely to look for online health information than their counterparts. These findings were consistent with findings of previous studies in Caucasian populations (Pereira, Koski, Hanson, Bruera, & Mackey, 2000; van de Poll-Franse & van Eenbergen, 2008). Chances of using online health information among the more educated STBA adults was almost double that of their counterparts. Previous studies also found that the higher educated breast cancer patients were significantly more likely to use cancer-related online health information than the less-educated patients (Pereira, Koski, Hanson, Bruera, & Mackey, 2000; van de Poll-Franse & van Eenbergen, 2008). However, the current study extended our understanding of the relationship between educational level and use of the Internet by also surveying individuals' views on their own language ability. We found that one's perception of better language ability doubled the likelihood of using the Internet to search for health information, compared to those who did not think they had good language skills. Perceived language ability was not necessarily equal to educational level, which was supported by the lack of multicollinearity in this study. For example, adult cancer patients admitted that their language skills such as spelling and writing were learned informally, across different situations in everyday lives (Taylor, 2006). Reading newspapers, listening to radio and watching films are good examples of these situations (Taylor, 2006). If television and radio are used to learn, adults tend to observe first and then practice their language skills (Taylor, 2006). Some adults said that they used a discovery approach to informally improve their language skills, that is, "trying to figure something out by not getting it right by the first time" (Taylor, 2006). Thus, through day-to-day practice and informal learning, adults

improve their literacy, beyond that of their educational level (Taylor, 2006). To encourage more STBA adults to use the Internet to look for health information, it may be worthwhile to help them develop their language abilities through informal learning. The government should provide sufficient facilities, such as libraries and educational television programs, to improve individuals' language skills in adulthood. Health educators could take the lead and run workshops in public libraries to educate citizens how to access quality health websites (Oermann, Lesley, & VanderWall, 2005). With better language skills, one may be more willing to access online health information.

Employment status and monthly household income were initially found to be associated with preference for online health information. However, the relationship between monthly household income and POHI diminished in the regression model. Thus, household income was not a strong indicator for preference for online health information among soon-to-be-aged adults. This may be because using the Internet to search for health information in Hong Kong is not a costly activity. Many public facilities such as public libraries and Mass Transit Railway stations provide free access to the Internet to the citizens in Hong Kong. Financial constraints do not seem to hinder the use of the Internet to search for online health information in Hong Kong, for those who really have the intention to do so. On the contrary, employment status remained as one of the significant factors associated with the preference of online health information. Being actively employed was related to greater preference for using the Internet for health information, probably because Internet skills are often learned and maintained on the job.

Self-rated health and health behaviors (doing regular physical exercises, avoid smoking and drinking) were also not good predictors of preference for online health information. This indicated that STBA adults with a poor perception of their existing health status, or those who were sedentary, or who smoked or drank alcohol did not prefer online health information, compared to their healthier counterparts. Their behaviors differed from those of persons whose online health information searches may have been triggered by a diagnosis and their interest in looking for alternative therapies (Pew Internet and American Life Project, 2000).

The findings also contributed to the identification of cultural factors in relation to health-related online behavior. The availability of teachers and the value of learning in Chinese society were the two significant predictors of the preference for health-related online behavior among STBA adults. In the Chinese culture, teachers are considered as authoritative figures and are highly respected by students. Chinese adults are inclined to ask for someone who can teach them to use new technology. This echoes the findings of a previous study in which Chinese older adults reported that they gained more confidence in looking for health information on their own, after attending a geragogy-based (that is, the method was tailor-made to meet the learning needs of older adults) workshop on web-navigation (Leung, Ko, Chan, Chi, & Chow, 2007). In the workshop, a nursing faculty

member and six nursing students guided the respondents to browse several reliable health websites and then get answers to their health questions (Leung, Ko, Chan, Chi, & Chow, 2007). Although STBA adults expected to have someone to guide them in Internet use, they did not think having teachers of a similar age (that is, middle-aged or older) was essential. Thus people from different age groups should be encouraged to teach STBA adults how to make good use of the health websites and get health information. In the recent years, under the Elder Academy Scheme, many schools have organized computer workshops for STBA adults/elders and have trained primary and secondary students to be the tutors (Elderly Commission, 2009). Such intergenerational workshops provide a pool of teachers to assist STBA adults in Internet learning.

The Chinese value of learning was another significant factor associated with the chance of POHI among STBA adults. This construct, which is closely related to the concept of lifelong learning, is that learning should be extended to old age, and efforts should be made to overcome barriers in learning. This belief is deeply embedded in the heart of many Chinese people. Confucius espoused a lifelong learning approach and the concept was reflected by his aphorisms. For example, "Grant me a few more years so that I can continue to learn at the age of fifty, and I shall be, perhaps, may be free from major errors" (Lau, 1992). Confucius' aphorisms were usually short statements and are well recognized by the Chinese. Individuals with a higher level of the Chinese value of learning were more likely to search for health information from the websites than their counterparts. This may partly be due to notions that searching health information from the Internet is not an easy task. Use of the Internet could be hindered by navigational challenges due to disorganization of the contents in the websites, use of technical language, and periodical changes in the features of the websites (Cline & Haynes, 2001). STBA adults acknowledge the difficulties in comprehending the content of the health websites, and perhaps this is one of the reasons why they would enjoy having someone to guide them in the Internet search. In addition, when STBA adults read the health information on the Internet, they need to execute comprehensive ability and numerical skills to understand what was written in the health websites. Someone who had a low level of health literacy would find it difficult to understand and comprehend the health information from the Internet and then apply the knowledge in daily life (United States Department of Health and Human Services, 2010).

The current study found that general self-efficacy was not a significant factor related to the preference of online health information. Greater self-efficacy was not associated with preferring to search for health information in the Internet. This finding may suggest that individuals having the confidence to solve general problems in daily lives do not necessarily have the confidence to deal with the problems in the Internet world. Internet search may demand more specific skills and thus building up STBA adults' Internet self-efficacy would be essential (Eastin & LaRose, 2000).

Limitations

The current study was a secondary analysis of a survey and there were a number of limitations. First, findings are limited to Chinese soon-to-be-aged adults in Hong Kong and cannot be generalized to other cultures, age groups or locations. Second, the instrument used to measure the barriers and facilitators to health-related learning was not specific to online health information preference. Third, the respondents were asked to indicate their interest in using the Internet to search for health information, among other ways of learning. The current findings do not represent the actual behavior of the soon-to-be-aged adults in Internet application. Therefore, the findings should be interpreted with caution.

Conclusion

This study contributed to better understanding of STBA adults' preferred kinds of health information, in particularly, their preference for online health information. Although online health information was ranked fifth among other kinds of information, nearly one-third would like to get health information from the Internet. This indicates online health information plays a significant role in health promotion in this age group. The current study identified two socio-cultural factors (the availability of teachers and the Chinese value of learning) that could increase the likelihood of STBA adults to access online health information. This group of adults would like someone to be present to teach them ways of obtaining health information from the Internet. Individuals who value the notion of lifelong learning are more likely to use online health information.

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