

網上育兒資訊搜尋：中國幼兒父母的使用與滿足

梁韻姿、崔燕、梁永熾

摘要

這項研究探討了中國父母的滿足、預期價值與網路連繫性，跟網上育兒資訊的重要性之間的關連。通過對391位年輕父母的問卷調查，結果顯示，資訊的可操作性和可靠性能顯著預測網上育兒資訊搜尋行為。心理需求能顯著預測尋求兒童健康和發展相關網上資訊的重要性，而社交需要則是網上幼兒教育資訊重要性的顯著預測因子。本研究從以往文獻側重健康資訊的傾向，擴展至更廣的育兒資訊範疇，並豐富了關於網路和育兒資訊搜尋的知識。

◎ 關鍵字：中國父母、網路、使用與滿足、育兒資訊

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Online Parenting Information Seeking: Gratifications, Usage, and Perceived Importance by Chinese Parents with Young Children

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Abstract

This exploratory research examines how different gratifications, expectancy value, and Internet connectedness are related to usage and perceived importance of the Internet in seeking parenting information by Internet users with young children in China. Data were gathered from a sample of 391 young parents via questionnaire survey. Results showed that operability and reliability are significant predictors of attitude and behaviors of online parenting information seeking. Psychological needs significantly predicted perceived importance of the Internet in seeking information on children's health and development, while need for social networking is a significant predictor of perceived importance of online early education information. This study empirically extends previous research from health information to more general parenting information. It also enriches the research regarding the Internet and parenting information seeking.

⊙ Keywords: Chinese parents, expectancy value, gratifications, Internet connectedness, online parenting information usage

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Online Parenting Information Seeking: Gratifications, Usage, and Perceived Importance by Chinese Parents with Young Children

The Internet has become an important information seeking tool in people's daily life. Among all Internet users, parents are a significant and important group, as the Internet provides them with huge resources of information on topics varying from health information to children's development at different stages. A U.S. survey showed that information seeking by parents was 17% more than non-parents (Allen & Rainie, 2002). Parents utilize the Internet as a source of health information in particular (Khoo, Bolt, Babl, Jury, & Goldman, 2008). It was estimated that 20% to 65% of parents had sought health information through the Internet in the U.S. (Roche & Skinner, 2009).

There is no doubt that the majority of research done within the area of online information seeking by parents concerned health information seeking, particularly in parents with children who were disabled or had chronic health problems and were clinical in nature (Roche and Skinner, 2009). Few studies focused on parenting information seeking through the Internet, online support for parents and parents-to-be, or professionals' use of the Internet for providing education and information to parents.

According to RNCOS (2009)¹ research report "China Telecom Industry Forecast to 2012", the number of Internet users in China had grown nearly 39% during 2005-2008. The World Development Indicators by the World Bank Group also indicated that in 2008, 59% of the people in Hong Kong were Internet users. Thus it is meaningful to investigate whether the increasingly popular Internet has an impact on parenting information seeking in Mainland China and in Hong Kong. However, it is seen that most past research was conducted in North America (Plantin & Daneback, 2009), and little research has been done regarding online parenting information seeking in the Chinese context. There can be different parenting values and practices in specific contexts that can affect parental information seeking behaviors.

1 RNCOS, incorporated in the year 2002, is an industry research firm.

For instance, Chinese parents were higher in general authoritarianism, but lower in general authoritativeness compared to parents in the U.S. (Leung, Lau & Lam, 1998). Centrality of family, family interdependence, and parental control were all emphasized in the traditional Chinese parenting styles (Huntsinger, Jose, Liaw & Ching, 1997; Jose, Huntsinger, Huntsinger, & Liaw, 2000; Shek, 2008). More research should be done in the Chinese context with the particular parenting styles.

In view of the above research gap, this study examines how Chinese parents seek online parenting information and their perceived importance of the Internet as a source of parenting information. The role of Internet connectedness, expectancy value and needs in affecting parents' attitude and usage of the Internet for parenting information seeking will be the main focus here. The study mainly serves two aims: first, it attempts to provide a fuller elaboration on how parents seek different types of online parenting information, including information on health, child development, and early education; second, it examines parents' usage and perceived importance of online parenting information in the Chinese context.

Literature Review

Perceived Importance of Online Parenting Information

Past research showed that the Internet has become an important source of parenting information. Most parents who used the Internet reported that their primary source of information is through online search engines (Cotton & Gupta, 2004). They also participated in all kinds of chat rooms and online groups which were specifically designed for parents. In an online survey, Madge and O'Connor (2006) showed that 67% of the respondents visited the parenting web sites at least once a week, while 8% of the respondents even visited the web sites daily.

This research aims at examining parents' perceived importance of online parenting information and their usage in terms of three commonly-sought types, including information on health, child development, and early education. These three types of information cover

physical, psychological and academic aspects in childcare, which are parents' great concerns. Details of each type of information will be discussed below.

Health information. Previous literature showed parents sought online health-related and medical information more often than any other types of parenting information. Studies demonstrated that parents of young children primarily seek information regarding the diagnosis and treatment of childhood illnesses (Bernhardt & Felter, 2004). Among the four types of health or medical information sought by seekers in the study about Internet embeddedness and health information seeking (Leung, 2008), two types of information—(1) medical treatment which concerns information about treatment process and medicine and (2) health improvement which involves diet and nutrition—are most relevant in the context of parenthood.

Child development. Child development is another type of information that parents always seek. Many parents seek advice and confirmation about upbringing their children and seek reassurance that their problems regarding the children are normal (O'Connor and Madge, 2004). In the book *From Birth to Five Years*, five types of development were identified: gross motor development; vision and fine motor development; hearing and speech; emotion, behavior and play; and “red flag” information. Overall, child development includes physical and cognitive developments of young children, and concerns behavioral, emotional and social aspects as well (Williams, Mughal & Blair, 2008).

Early education. Studies have shown that Chinese parents emphasized academic achievement of children and would push their children intensively toward academic success (Leung, Lau & Lam, 1998). Therefore, early education information would also be important to parents in the Chinese context. We divide early education information into two subtypes, which are (1) *academic-related information*, including schooling; and (2) *non-academic information*, which includes all non-academic learning and interests groups.

Gratifications-sought from Online Parenting Information Seeking

Uses and gratifications theory suggests that users of a medium always actively make use of it to fulfill their expectations and needs. There have been a lot of uses and gratifications research on new media tools to identify the motives which predict active, goal-directed audience when they use the Internet and computer-mediated communication tools. The most commonly gratifications-sought are activity-related (i.e., fun, entertaining, exciting, or boredom-relieving activities), social (e.g., social interaction or communication), novel sensory (i.e., information seeking), and self-reactive gratifications (i.e., to relax or escape) (LaRose, Mastro & Eastin, 2001). Parker and Plank (2000) identified companionship and social relationship, surveillance and excitement, and relaxation and escape as the gratifications sought and obtained from online sources of information by college students. In our study, the categories of gratifications in online parenting information seeking are modified into three types of needs as being shown below:

Need for cognition. Parents, particularly mothers, need up-to-date parenting information for them to cope with rapid changes in a modern society. Parents with one child also generally have a limited parenting knowledge in the first few years, so they need parenting information from various sources. It is also particularly important for parents with disabled children or children with health problems to get more knowledge or information from other parents in similar situations (Roche & Skinner, 2009). Based on the previous literature, we propose cognitive need would be related to online parenting information in general and formulate the following hypotheses:

H_{1a}: The higher need for cognition the parents have, the more time they spend in seeking online parenting information.

H_{1b}: The higher need for cognition the parents have, the more important the Internet is in parenting information seeking.

Need for social networking. Past research shows that the underlying causes for parents to seek information online are related to the changing circumstances of parenthood such as mobilization of population, an increase in single-parent families and stepfamilies, and a reduction of support from parents' immediate family and friends (Plantin & Daneback, 2009). Nevertheless, with the Internet, it is possible for parents to make contact with other members in the society or to establish a relationship with a supporting group. It is important for parents to chat on parenting websites which provide them with valuable spaces to discuss parenting issue they are concerned. Online communication can also relieve or neutralize new mothers' feeling of isolation, especially parents living without a partner or people with lower educational and income levels who have more needs for social support. Other advantages of parenting information on the Internet include users being able to participate in interactive discussions, to get timely feedbacks, to stay in anonymous status, and to enjoy an open and supportive discussion climate (Plantin & Daneback, 2009). Based on the previous literature, we propose the following hypotheses:

H_{2a}: The more need for social networking the parents have, the more time they spend in seeking online parenting information.

H_{2b}: The more need for social networking the parents have, the more important the Internet is in parenting information seeking.

Psychological needs. Previous research has demonstrated that health information could help parents adjust to an uncertain condition, to fulfill a well-recognized responsibility to take care of their children's health and development, and to cope with the emotional impact of problems identified with their child (Roche & Skinner, 2009). Parents can get a second opinion on health issue through the Internet to complement the information provided by others, or to confirm their own ideas regarding the parenting strategies they adopt for their children so as to seek reassurance that children's development is normal. Virtual social

support from the Internet might increase mothers' confidence to cope with their new parental role and help them transit to the identity of motherhood. Thus, the following hypotheses are proposed:

H_{3a}: The more psychological needs the parents have, the more time they spend in seeking online parenting information.

H_{3b}: The more psychological needs the parents have, the more important the Internet is in parenting information seeking.

Expectancy Value

The expectancy-value theory emphasizes that people orient themselves by their own attitudes, which is perceived as a function of a complex combination of belief and evaluation (Littlejohn & Foss, 2005). In other words, people's tendency to act in a certain way is related to one's expectations about the consequences and the values attached to the perceived outcome of the action (Rosales, 2001). According to the theory, people use the Internet because they believe that it provides what they need and they evaluate it as beneficial. In the study of Internet embeddedness and online health information seeking (Leung, 2008), reliability, completeness, relevance, and interaction are suggested to measure the expectancy value of online health information.

Past studies found evidence related to expectancy value of online parenting information. Many parents are skeptical of online information, believing it to be misleading or wrong, so they use a wide variety of non-scientific methods when attempting to ascertain the reliability of the information on a given web site; for example, deducing the underlying motive of the websites where they find the information (Platin & Daneback, 2009). Completeness is attributed to high importance in some literature on health and medical information (Leung, 2008). Internet users need comprehensive information so that they do not need to search other offline sources for further enquiries. According to a study about the experience of parents with disabled children, the major problems from parents' experience of using the Internet is that too much time is needed to get information and they have difficulties in

finding the information needed (Blackburn and Read, 2005). To parents, it is important to search for what are relevant to them because their usage of the Internet is to cope with their particular circumstances and concerns. Interaction is highly valued by some parents because interactive websites like chat rooms and forums allow them to share experience and exchange information with people in similar situations (Platin & Daneback, 2009).

Readability and accessibility of online parenting information were shown to be important in previous studies. Readability tests the level of literacy required to understand the information presented in the websites (Williams, Mughal & Blair, 2008). It is a great concern as it is important whether the information presented online is at a suitable level of literacy or free from technical language as it is vital for parents to understand and remember the information (Williams, Mughal & Blair, 2008). Accessibility to the Internet, which means the easiness in using the Internet and the speed to acquire information when needed, is also an important factor for seeking online parenting information. As shown in the study of parents with disabled children in UK (Blackburn & Read, 2005), 74% of the responding parents regard slow computer or Internet connection as a barrier to use, and 15% of them think that costs associated with equipment and limited access to equipment are problems as well.

In this study, the dimensions of expectancy values of online parenting information will be explored to provide insights for defining expectancy values in the specific context of online parenting information seeking. Previous research findings support the theory that those who score high on expected value of online health information are more likely to seek health information from the Internet and are more likely to perceive online information that is important in their lives (Leung, 2008). Based on the previous literature, we extend the discussion from specific health information to parenting information in general with the following hypothesis and research question:

H₄: The higher expectancy values of online parenting information parents have, the more time parents spend in seeking online parenting information.

RQ₁: Are expectancy values of online parenting information correlated with perceived importance of the Internet in different types of parenting information seeking?

Internet Connectedness

Internet connectedness index (ICI) is a multidimensional construct first published in 2001 as an indicator of how people incorporate the Internet in their everyday lives (Jung, 2003). The development of the scale is based on the media system dependency theory. There were three factors in the construct, including *scope*, *intensity* and *centrality*. When it was first published, nine dimensions were used to measure the three factors. Later the index was revised into five factors: (1) *scope of Internet activities* involves whether a range of activities are done online including chatting, reading, and playing games; (2) *intensity of Internet activities* refers to the level of engagement in different online activities a person perceives in his/her daily life; (3) *time spent on Internet* asks a person to recall time spent online last week; (4) *computer miss* asks a person to imagine the degree of missing a computer if it disappears; (5) *Internet miss* involves an imagined situation that a person can no longer use the Internet and how much he or she would miss it. The *scope* dimension is measured by (1), while the *intensity* dimension is measured by (2) and (3), and the *centrality* dimension is measured by (4) and (5) (Jung, 2003).

With the concept of Internet connectedness, it is suggested that parents who perceive Internet as more central to their life, and use the Internet for a wider scope of activities and more intensively will use the Internet more for seeking parenting information. The following research hypotheses are thus proposed:

H_{5a}: The higher the level of the Internet connectedness of the parents is, the more time they will spend in seeking online parenting information.

H_{5b}: The higher the level of the Internet connectedness of the parents is, the more important the Internet is in parenting information seeking.

Demographics may also play a part in parenting information seeking patterns. Berkule-Silberman et al.'s (2010) study found that mothers with high school or higher education, having an immigrant, Latina, English-speaking, lower socioeconomic status, and having no other children are significantly associated with Internet as important sources of information. Based on the identified gratifications of online parenting information seeking, together

with the concepts of the Internet connectedness, the expectancy value framework, and demographics, two research questions are formulated:

RQ₂: To what extent can demographics, Internet connectedness, gratifications for online parenting information, and expectancy values of online parenting information predict the amount of the time parents spend in seeking online parenting information?

RQ₃: To what extent can demographics, Internet connectedness, gratifications for online parenting information, and expectancy values of online parenting information predict parents' perceived importance of the Internet in seeking different types of parenting information?

Methods

Sampling

The subjects in this exploratory study were parents who were Internet users with preschool children aged 0 to 6 years old. Literature shows that parents of very young children are more likely to seek parenting information (Khoo et al., 2008). Data were gathered through both online survey and distribution of paper questionnaires in 2009, after a pilot test and in-depth discussions with 10 parents with 0-to-6-year-old children which helped the clarity in the design of the questionnaire. The online survey was posted on the website my3q.com inviting eligible parents to participate. The web link to the online questionnaire was posted in blogs, discussion forums, and Facebook groups that are frequently visited by young parents. A total of 130 respondents successfully completed the online questionnaires. To broaden the reach of the survey, paper questionnaires were distributed to a convenient sample of parents with 0-to-6-year-old children through snowball sampling technique in Hong Kong and in urban cities of Mainland China, such as Beijing, Shanghai, Guangzhou, Shenzhen, and Zhuhai. Locations selected for questionnaire distribution were at places where young parents

can be easily found, including nine kindergartens, three children's goods stores, and three residential areas. As a result, the paper-based survey yielded 261 completes for a total of 391 young parents participated in the study, of which 78% were mothers and others were fathers or guardians. Preliminary analysis by T-tests revealed that respondents in online survey and paper-based survey did not differ significantly in demographic variables including gender, education level, age and number of children. Although respondents in online survey were significantly younger than those in paper-based survey ($t = 8.97, p < .001$) because younger people tend to be more reachable online, we decided to analyze data from both collection methods as a group so that parents from different age groups can be represented in this study.

Only 35% of the respondents were from Hong Kong, 43.2% were from Zhuhai, and the rest were from other big cities in China. The median age group of the respondents was between 31 and 35, and the median age group of the youngest child of the respondents was between 2 and 3. The median education level of the participants was university or college graduates. The median range of monthly household income was approximately US\$439-879 in Mainland China and approximately US\$2,321-3,481 in Hong Kong.

Measurements

Gratifications for online parenting information seeking. Broadly speaking, parents seek online parenting information were to satisfy their cognitive, social networking, and psychological needs. To assess need for cognition, respondents were asked to indicate their opinions on five items: (1) It is necessary for me to seek parenting information through the Internet; (2) I do not have enough knowledge in parenting; (3) I need to seek updated parenting information through the Internet; and (4) I want to know parenting experience of other parents through the Internet. The reliability alpha was at .78. Need for social networking was measured by another four items: (1) I need to communicate with other parents through the Internet; (2) I need to exchange information with other parents through the Internet; (3) Communicating with other parents through the Internet makes me feel not

alone; and (4) I want to become one member in the parents' community through the Internet, giving the reliability alpha high at .87. The three items used to measure psychological needs included: (1) I need to share my emotions in parenting process through the Internet; (2) Seeking online parenting information reassures me; and (3) Seeking online parenting information makes me confident in coping with the role of parents. The reliability alpha was also high at .83. All items were measured using a 5-point scale ranging from 1 = absolutely disagree to 5 = absolutely agree.

Expectancy values of parenting information seeking online. To measure the expectancy values of parenting information seeking on the Internet, respondents were asked for their opinion in 16 items using a 5-point scale, with 1 = absolutely disagree and 5 = absolutely agree. Principal component factor analysis yielded a four-factor structure. The three factors were named as: *operability*, *completeness* and *reliability*. *Operability* reflects mainly the *readability* dimension in the literature. It concerns whether the online functions are easy to operate so that the users can retrieve suitable and needed information. *Completeness* means that the information is comprehensive, easy-to-understand, and updated so that Internet users do not need to get other offline resources. *Reliability* suggests that the information is supplied by knowledgeable people and is accurate for decision-making compared to other channels of sources. As shown in Table 1, a principal components factor analysis with a Varimax rotation was run to determine the groupings of the 16 items. It yielded a three-factor structure with an eigenvalue greater than 1.0 and explains 53.17 percent of the variance. The factors were named *operability*, *completeness* and *reliability*. *Operability* reflects readability of the information and whether the online functions are easy to operate so that the users can retrieve suitable and needed information. It is also concerned with whether the information is accessible by users in terms of both hardware and content. The reliability of the nine items as indicated by Cronbach's alpha is high at .84. *Completeness* means that the information is comprehensive, easy-to-understand and updated so that Internet users do not need to get other offline resources. Cronbach's alpha is also high

at .80. *Reliability* suggests that the information is perceived to be supplied by knowledgeable people and accurate for decision-making when compared to other sources. Cronbach's alpha is moderately high at .73.

Table 1

Factor analysis of expectancy values of online parenting information

	Factors			Mean	SD
	1	2	3		
Operability					
1. Websites providing parenting information are easy to operate	.68			3.50	.80
2. Can seek help in parenting through the Internet	.66			3.70	.76
3. Online parenting information is easy to understand	.65			3.46	.79
4. Online parenting information is free of charge	.65			3.73	.80
5. Online searching functions can help seek parenting information	.62			3.70	.76
6. Online parenting information contains less difficult technical terms	.62			3.43	.77
7. Online parenting information fits users' needs	.57			3.49	.78
8. Wordings in online parenting information are easy to read	.56			3.31	.84
9. Outside home can seek parenting information conveniently through the Internet	.46			3.36	.84
Completeness					
1. Online parenting information updates quickly		.79		3.42	.88
2. Can understand online parenting information by myself		.74		3.54	.84
3. Online parenting information is completed		.72		3.10	.93
Reliability					
1. Internet can replace other channels for seeking parenting information			.82	2.74	1.02
2. Online parenting information is enough to make decisions			.72	2.92	.94
3. Online parenting information are reliable			.70	2.45	1.01
4. People who supply online parenting information have certain knowledge in the aspect			.52	3.23	.84
Eigenvalues	5.82	1.64	1.05		
Variances explained	36.37	10.24	6.56		
Cronbach's Alpha	.84	.80	.73		

Notes: Scale used: 1 = absolutely disagree, and 5 = absolutely agree. *N*=391

Internet connectedness. The Internet Connectedness Index (ICI) used in this study is a modification from the three dimensions (scope, intensity, and centrality of Internet use) originally developed by Jung (2003). To measure the scope, respondents were asked if they have used 11 different Internet activities with 1 = yes and 0 = no including (1) using instant messengers; (2) using social networking systems; (3) using email; (4) playing online games; (5) listening to music online; (6) watching television programs or videos online; (7) administering personal websites or blogs; (8) reading others' blogs; (9) talking through the Internet; (10) participating online forums of BBS; and (11) web surfing. If yes, how important these Internet activities are to the respondents' life. A five-point scale was used with 1 = totally not important to 5 = very important. To reflect the *centrality* dimension of ICI, respondents were asked how much they will miss (a) the Internet and (b) the computer if it vanished tomorrow using a 5-point scale ranging from 1 = absolutely disagree to 5 = absolutely agree. The dimension of *intensity* was measured by time spent on the Internet (not for work purpose) last week, which was coded into five levels: (1) below 3 hours; (2) 3-7 hours; (3) 8-17 hours; (4) 18-22 hours; and (5) over 22 hours. The scores of the four factors were added up together to form the ICI. The reliability alpha for the combined dimensions was high at .91.

Time spent and perceived importance of the Internet in online parenting information seeking. Respondents were asked how often they spent time on seeking parenting information online in the past week, with 1 = never seek parenting information from the Internet, 2 = 1 hour or less, 3 = 2-4 hours, 4 = 5-7 hours, 5 = 8-10 hours, and 6 = more than 10 hours. Respondents who chose 2 to 6 would then be asked to indicate the importance of the Internet for seeking different types of parenting information. Scale of importance ranged from 1 = totally not important to 5 = very important, with 0 coded as never seeking that type of information. Developed from the literature with two types of health information sought online, medical treatment and health improvement (Leung, 2008), *health information* is specified into five subtypes including (1) diagnosis of diseases; (2)

treatment of diseases or medicine; (3) prevention of diseases; (4) doctors or hospitals; and (5) nutrition and diets. Based on Williams, Mughal and Blair (2008), *child development information* includes another five subtypes of information, namely (1) physical development; (2) cognitive development; (3) behavioral problems; (4) emotional problems; and (5) social problems. *Early education information* consists of both academic and non-academic information, namely (1) schooling and (2) interest groups. Respondents were asked on a 5-point scale to report how important they perceive the twelve parenting information seeking online subtypes are. The reliability alphas were very high at .91, .95, and .90 respectively.

Demographics. Demographics of respondents were included as control variables: gender, present living location, age, education level, household income, and marital status. Information about the respondents' children was also sought, including number of 0-to-6-year-old children at home, age of the youngest child, and health status of the children. Due to the difference in income level between Hong Kong and Mainland China, different ranges of income were provided as options in the questionnaires.

Findings

Descriptive Statistics

Of the 391 respondents, 68.8% had sought parenting information through the Internet. Among them, 27.1% sought parenting information online for one hour or less and 26.6% sought parenting information for two to four hours in the past week.

Hypothesis Testing

As shown in Table 2, all three types of gratifications-sought in online parenting information, namely need for cognition ($r = .23, p < .001$), need for social networking ($r = .21, p < .001$), and psychological needs ($r = .23, p < .001$), were significantly correlated with time spent on parenting information seeking online. This indicated that the more parents'

cognitive, social networking and psychological needs were gratified, the more time they spent on using the Internet to seek parenting information. Thus, H_{1a} , H_{2a} , and H_{3a} were all supported. Similarly, all three gratifications-sought from seeking parenting information online were also correlated with perceived importance of the Internet for seeking the three types of parenting information with r ranged from .30 to .41 (see Table 2). These results supported H_{1b} , H_{2b} , and H_{3b} .

Results in Table 2 show that the three different dimensions of expectancy values, namely operability ($r = .36, p < .001$), completeness ($r = .35, p < .001$), and reliability ($r = .26, p < .001$), were significantly and positively correlated to the time spent on seeking parenting information on the Internet. Therefore, H_4 was also supported.

Likewise, correlation results in Table 2 also indicate that Internet connectedness (ICI) was significantly and positively correlated with the time spent on seeking parenting information on the Internet ($r = .22, p < .001$) and the perceived importance of the Internet in seeking the three types of parenting information, including health information ($r = .30, p < .001$), child development ($r = .25, p < .001$) and early education ($r = .22, p < .001$). Thus, H_{5a} and H_{5b} were all supported

Table 2

Correlations between Internet connectedness, expectancy value, and motivations and time spent and perceived importance in seeking online parenting information

	Time spent	Perceived Importance of Parenting Information Online		
		Health	Child development	Early education
Internet connectedness	.22***	.30***	.25***	.22***
Expectancy values of online parenting information				
Operability	.36***	.38***	.28***	.32***
Completeness	.35***	.23***	.17**	.26***
Reliability	.26***	.12*	.14*	.11
Gratifications of online parenting information seeking				
Cognition needs	.23***	.37***	.33***	.30***
Need for social networking	.21***	.36***	.38***	.36***
Psychological needs	.23***	.39***	.41***	.31***

*** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$; $N = 391$

Expectancy Values and Parenting Information Seeking Online

To answer RQ₁, bivariate relationships indicate that almost all of the three dimensions of expectancy values of parenting information seeking online were significantly correlated with the perceived importance of the Internet in seeking the three types of parenting information, with the only exception of the relationship between reliability and early education information (see Table 2). This suggests that the more parents found values and benefits from online parenting information seeking, the more they would seek parenting information online and perceived that the parenting information online is important asset and venue for parents to keep being informed and to be a better parent. As shown in Table 2, strengths of the correlation coefficients ranged from .12 to .38.

Predicting Seeking Parenting Information on the Internet

To examine how demographics, Internet connectedness, expectancy values, and gratifications of seeking online parenting information predict time spent and perceived importance of the Internet in seeking parenting information in RQ₂, four hierarchical regressions were run. Results in Table 3 indicate that parents who live in Hong Kong with young children, better educated, higher in Internet connectedness, with perceived parenting information retrieved online gratified higher need for social networking, and expected higher operable and reliable values of online parenting information will spend more time on seeking parenting information on the Internet. This hierarchical regression explained 23.5% of total variance.

RQ₃ is concerned with predicting perceived importance of the Internet in seeking three types of parenting information. Regression analyses reveal that respondents who live in Mainland China, have younger children, have higher Internet connectedness, perceive higher psychological needs to access online parenting information, perceive higher operability, and perceive lower reliability of online parenting information, will perceive the Internet as more important in seeking health information. This hierarchical regression explained 27% variance in total. A higher perceived importance of the Internet in searching child development information is predicted by living in Mainland China, with younger children, with higher Internet connectedness, with more psychological needs gratified, and with a higher perceived operability of online parenting information. A total of 25% variance was explained by this regression. Respondents who have younger children, have higher Internet connectedness, gratify more need for social networking by seeking online parenting information, and perceive a higher perceived operability of online parenting information, would predict a higher perceived importance of the Internet in seeking early education information. More than 16% of variance is explained by this regression in total.

Table 3

Hierarchical regression analyses of demographics, Internet connectedness, expectancy values and needs to predict time spent and perceived importance of the Internet in parenting information seeking online

Predictors	Time spent	Perceived Importance of Parenting Information Online		
		Health	Child development	Early education
		β	β	β
Block 1 : Demographics				
Education level	.18***	.00	-.05	.00
Age of children	-.21***	-.22***	-.16**	-.20***
Location (Hong Kong=1)	.19***	-.20***	-.29***	.06
ΔR^2	.12***	.09***	.12***	.04***
Block 2: Internet connectedness				
	.24***	.28***	.19***	.24***
ΔR^2	.05***	.07***	.03***	.05***
Block 3: Gratifications of Online Parenting Information Seeking				
Need for cognition	-.07	-.01	-.05	-.06
Need for social networking	.14**	-.01	.02	.28***
Psychological needs	-.04	.27***	.34***	-.05
ΔR^2	.01***	.05***	.08***	.06***
Block 4: Expectancy Value of Online Parenting Information				
Operability	.17**	.31***	.16*	.17**
Completeness	.08	-.01	-.04	.07
Reliability	.14**	-.14*	-.07	-.10
ΔR^2	.05***	.06**	.02***	.02***
R^2	.24	.28	.23	.18
Adjusted R^2	.23	.27	.25	.17

*** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$; $N = 391$

Conclusions and Discussions

Descriptive Analysis

Results show that more than two-third (68.8%) of respondents had sought parenting information and most of them (53.7%) sought parenting information below 4 hours per week.

This implies that parents are starting to use the Internet as a source of parenting information, though it might still not be the major source of information. Concerning the perceived importance of online parenting information, more than two-third (73.9%, 74.4%, and 68.0% respectively) of respondents answered that the Internet was “not particularly important,” “not important” or “totally not important” toward disease diagnosis, disease treatment and disease prevention information. This indicates that parents generally do not fully trust the Internet as the main source for health information, supporting previous research that the Internet is only useful as an additional resource for health information and parents still mostly use and trust traditional sources (Khoo et al., 2008). However, for information on the choice of doctors or hospitals and children’s diet, the Internet appeared to be more important to respondents in information seeking. Also, more than one-third (between 33.8% and 37%) of respondents valued online information about children’s development and early education as “important” or “very important.” It shows that the Internet is more important to parents in the aspects which do not require much professional knowledge.

Nearly 70% of the respondents in this study were mothers, which is compatible with our observation during the data collection process. On the Internet most of the participants of online parenting discussions in forums, QQ groups, or blogs were mothers. There were also more females than males picking up their children from kindergartens. Previous research has shown that mothers usually take more parenting duties of the children in daily life, so they may be more likely to seek health information online than fathers do (Allen & Rainie, 2002; Khoo et al., 2008; Na & Chia, 2008).

Explanatory Analysis

This study explores the application of expectancy-value theory in the area of online parenting information seeking. Findings indicate that both operability and reliability are significant predictors of attitude and behaviors of online parenting information seeking, suggesting that the choice of media does not only depend on the intrinsic nature of media channels but also the quality of sources associated with selected media channels. Expectancy

values of online parenting information are significantly correlated with perceived importance of the Internet in seeking all types of parenting information except completeness and, to some degree, reliability, indicating that the Internet may not be perceived as a complete, updated, and accurate source of information. However, the easier to use, to understand, to operate, and to fit the needs, and the less difficult technical terms are, the more parents perceive that it is important to seek parenting information online.

Findings also confirm the theory of uses and gratifications by establishing the linkage between different needs and perceived importance of online parenting information. The significance of psychological needs on the perceived importance of the Internet in seeking information on children's health and development speaks for parents' uncertain psychological status during their children's developmental process for their lack of parenting experience or knowledge (Khoo et al., 2008). The significance of need for social networking on the time spending and perceived importance of online early education information indicates that parents tend to exchange this type of information with others. The Internet can act as a social medium for parents to strengthen their social group identity (Harwood, 1999). Furthermore, parents tend to exchange information on early education since early education information is more general, completed, and easy to understand than information on health and children's development. Internet connectedness is shown to be a significant predictor of perceived importance of the Internet in parental information seeking, which is in line with the common belief that parents who are more connected to the Internet in term of scope, intensity and centrality are more likely to look for online information. Such findings imply that the Internet has been influencing users' habits of information seeking in such areas as childcare.

Our findings also indicate that the social and cultural context has an impact on the attitude and behavior of online parenting information seeking. On the one hand, respondents in Hong Kong generally spent more time in parenting information seeking than respondents in Mainland China. The possible reason may be the higher popularity of the Internet in Hong Kong as a more developed city than most cities in Mainland China. On the other hand,

perceived importance of online health information and children's development information were higher in Mainland China than in Hong Kong. One possible reason accounts for this result is that public service (including professional guide and information for parents) is generally better in Hong Kong than in mainland cities, so parents in Hong Kong feel less important to seek online parenting information by themselves. The Chinese culture and parenting style may impact the findings, too. Results showed that Chinese parents from both Hong Kong and Mainland China had similar patterns in early education information seeking. Compared to Western counterparts, Chinese parents are usually more authoritarian, controlling, and restrictive (Chen & Luster, 2002). To Chinese parents, family training is critical in facilitating their children's future achievement (Lau, Lee & Randell, 2007). Chinese parents tend to view "training" children as an important parental task because helping children succeed in school is a way of expressing their intense concern for children (Chen & Luster, 2002). The collectivist Chinese culture may explain the need for social networking which significantly predicts perceived importance of online parenting information in early education. People from collectivist culture rely on social support (Triandis, Leung, Villareal, & Clack, 1985). Social support may be what parents seek on the Internet when they face keen academic competitions in the Chinese society.

Regarding to demographic differences, it is interesting to see the relationship between gender and perceived importance and time spent in seeking online parenting information is not significant. This can be understood for two reasons: firstly, though males are usually seen to spend more time on the Internet than females, mothers tend to be more responsible than fathers in terms of daily childcare. Many of the parental information online are still traditionally gender-biased and are more likely to deal with mothers' needs, which make fathers feeling marginalized (Sarkadi & Bremberg, 2005). Secondly, the result that mothers and fathers did not differ in terms of perceived importance of the Internet in seeking parenting information speaks for their attitude rather than their behaviors, though they might undertake unequal parenting duties in real life.

In terms of the age of children, the results support previous research findings that

parents with less parenting experience or parents with younger children are more likely to seek online health information (Khoo et al., 2008). The possible reason might be that parents have to take the full responsibilities to take care of younger children while nursery schools or kindergartens will share part of the duty for caring older children. Moreover, more mothers choose to be full-time parents when their children are very young, so they have more time to seek parenting information.

Findings also confirmed our expectation that parents with higher education level tended to spend more time in seeking online parenting information, supporting previous research (e.g., Na & Chia, 2008; Roche & Skinner, 2009). It is not empirically supported that higher educated parents held higher perceived importance of online parenting information, which suggests that online parenting information may fit parents with varying education levels.

Conclusions, Limitations and Suggestions for Future Research

To conclude, this study contributes to the research on online information seeking in the following two aspects: firstly, this study empirically extends previous research topics from the confined area of health information to seeking of more general parenting information, including health information, child development, and early education. Secondly, this study enriches the discussions of the concepts of Internet connectedness and expectancy values, which can be applied to provide explanations to research questions regarding the Internet and parenthood.

There are several limitations of this study. Firstly online survey and convenience sampling were used for data collection. We failed to include kindergartens with high, middle and low fee charges during the sampling process to get a sample with demographics resembling the population. The resulting profile of respondents may not be representative. Therefore, further research should be done with random sampling to reduce sampling error.

Results suggest that location is a significant predicting factor on time spent on seeking online parenting information and perceived importance of the Internet in seeking information

on child development. Since this study is not a comparative one, how the social and cultural contexts affect parents' attitudes and usage of online parenting information is still unclear. Motives and expectancy values of online parenting information may vary among different contexts. Future studies may go further to understand online parenting information seeking in specific social and cultural contexts by conducting comparative studies of user attitudes and behaviors in different areas or countries.

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