Beliefs About eHealth Communication and Preferred eHealth Strategies Among Middle- and Older-Aged Adults in Taiwan

Su-I Hou, *College of Public Health, University of Georgia, Athens, GA*
Peng-Hsi Hou, *National Taipei University of Technology, Taiwan*

Abstract

Purpose: This study examined how beliefs about eHealth communication predict preferred eHealth communication strategies among middle- and older-aged adults in Taiwan and how age, gender, and education moderate these relationships. **Methods:** A validated eHealth communication belief inventory (eHealth-BI) was used among employees aged 40 to 64 in Taiwan. **Results:** A total of 533 employees participated. Data showed that participants who perceived higher eHealth benefits were more likely to endorse eHealth communication strategies, and those who perceived lower eHealth barriers were more likely to endorse webinar, downloadable information, and related Web links strategies. After adjusting for demographics, participants who perceived higher eHealth benefits were still more likely to endorse e-mail ($OR = 3.65$, $p < .001$), webinar ($OR = 2.21$, $p < .001$), video ($OR = 2.05$, $p < .001$), health assessment ($OR = 2.49$), downloadable materials ($OR = 3.74$, $p < .001$), and related links ($OR = 3.09$, $p < .001$). **Conclusion:** The study identified strategies that were perceived as most useful and has implications on using the eHealth-BI tool for targeted interventions.

Keywords

beliefs; Chinese; eHealth communication; middle- and older-aged adults; strategies

The "Graying" of the Internet and Social Media

A recent Pew Internet study examining U.S. older adults found that 90% of the participants aged 50 and older send or read e-mails and the majority of them exchange e-mail messages on a typical day (Madden, 2010). Although Internet searches and e-mail still top the list of most popular online activities for older adults, social networking site usage has been on the rise (Madden & Zickuhr, 2011). Social networking sites provide new opportunities to reconnect people and provide online support, as well as information and experience sharing. These network support systems could continuously play an important role of connecting people, especially individuals approaching the retirement stage. According to a phone interview study conducted by Princeton Survey Research Associates International among a representative sample of U.S. adults, over half of Internet users aged 50–64 use social networking sites (Madden & Zickuhr, 2011). Although the frequency of social networking site usage among the younger population is stable, the usage among older adults has rapidly increased.

The phenomena of the growing and graying Internet is not limited to the United States. In a large study conducted by the Taiwan Network Information Center (2005) among 3,000 residents in Taiwan, the random sample phone survey report showed that over 35% of middle-aged adults in their 40s and nearly 15% of those in their 50s use broadband Internet. A more recent consumer report in Taiwan further showed a rapid increase of Internet usage among older adults, with about 40% of those aged 50–64 using the Internet (Yang & Kao, 2013).

Effectiveness and Potential of Online Health Programs

Eight in 10 U.S. adult Internet users have looked online for health information (Fox, 2006). An increasing research effort has been devoted to examining strategies to facilitate exposure or effectiveness of Internet-delivered health interventions among targeted groups (Brouwer et al., 2011; Neuhauser & Kreps, 2010). Existing studies have shown the rapid acceptance and effectiveness of eHealth intervention strategies (Neuhauser & Kreps, 2010). Researchers reviewed the first 15 years of eHealth studies and concluded that eHealth intervention strategies not only have gained rapid acceptance worldwide but also have shown significant positive changes on health behaviors across health conditions and in diverse populations (Neuhauser & Kreps, 2010). As we enter the rapidly changing eHealth era, we need to rethink how to leverage the power of the Internet and technology and continue to improve access and acceptability to bridge the digital divide for older adults.

Beliefs About eHealth Communication
and Preferred Strategies

As the world population is rapidly aging at an unprecedented rate (United Nations, 2013), opportunities of eHealth communication and interventions among middle- and older-aged adults warrant increased attention. The challenges of rapid population aging in Asia are particularly acute (Chinese Academy of Social Sciences, Indian National Science Academy, Indonesian Academy of Sciences, National Research Council of the U.S. National Academies, & Science Council of Japan, 2011). China has the largest population in the world (Population Reference Bureau, 2012). However, few studies have examined beliefs about Internet health communication among Chinese adults. Previous studies identified that learners' fear of technology and insufficient computer skills influence their views toward online learning (Davis, 1993). The technology acceptance model hypothesizes that the overall affective attitude toward using a new system is a function of two cognitive beliefs: perceived usefulness and perceived ease of use (Davis, 1993). Yu and Yang (2006) are among the first to examine attitudes and intentions toward Web-based learning among public health nurses in Taiwan (Chen, Yang, Tang, Huang, & Yu, 2008; Yu & Yang, 2006). Pan and Jordan-Marsh (2010) found that perceived usefulness, ease of use, and subjective norm are key factors of Internet adoption among Chinese older adults. Despite increased Internet use among middle- and older-aged adults, little is known about beliefs of communicating health information delivered via the Internet or preferred eHealth communication strategies among Chinese adults (Hou, Hsiao, & Hou, 2012). With the rapidly aging population worldwide, researchers must fill the knowledge gap on eHealth communication beyond the U.S. population.

The current study examined beliefs about and preferred strategies of communications to assess the potential of eHealth communication programs among middle- and older-aged working adults before they reach and/or transit into senior or retirement age. Although most studies analyze the older population by age groups of 50–64 and 65+, early signs and symptoms of many chronic diseases may begin in the 40s (American Academy of Ophthalmology, n.d.; Mayo Foundation, n.d.). The younger middle-aged group warrants more attention. Thus, our current study aimed to include the younger middle-aged adults (aged 40–49), in addition to the older-aged group (aged 50–64). Specifically, this study examined (a) the preferred eHealth communication strategies by the two age groups, (b) how beliefs about eHealth communication (i.e., perceived usefulness [pros] and ease of use [cons]) predict preferred eHealth communication strategies, and (c) how age, gender, and education moderate these relationships among adults aged 40–64 in Taiwan. We hypothesized that the younger middle-aged and older-aged adults would have somewhat differ-

ent preferred communication strategies and that those who had more favorable beliefs about eHealth communication would have stronger preference about the eHealth communication strategies (see measurement description below). Results of the study have implications on identifying preferred eHealth communication strategies among younger middle-aged and older-aged adults, as well as how beliefs about eHealth communication and demographics influence the eHealth communication strategies that are perceived as most useful.

Methods

Participants

Convenience samples of adult aged 40–64 were recruited from two companies in Taiwan: a traditional industrial car company and a high-tech manufacturing company, both of which had ongoing employee health programs. A total of 533 middle-age adults participated, with half from each worksite company. These two sites were selected due to their active employee health and wellness programs and the history of collaboration with the researchers.

Data Collection

The eHealth communication survey was administered at the study sites. A previously validated eHealth communication belief inventory (eHealth-BI) with eHealth-BI pros (four items) and eHealth-BI cons (three items) subscales was used to assess participants' perceived usefulness (pros) and ease of use (cons) about eHealth communication (Hou & Hou, 2013). In addition, a list of preferred eHealth communication strategies and demographic variables were included in the survey. The survey took about 15 minutes to complete. The research team communicated with study site managers and nurses about the study purpose and consent procedures and collaboratively discussed ways to identify participants who meet the age eligibility criteria for the study. Site unit leaders and nurses assisted in recruitment, with study purpose and procedures explained during unit meetings. Employees aged 40–64 were given the self-administered paper–pencil questionnaire, with assistance being provided to those who had difficulty in reading the survey questions. The Institutional Review Board (IRB) at the University of Georgia, Athens, GA, approved this study.

Measurement (eHealth-BI)

This study used a theory-based eHealth Belief Inventory (eHealth-BI) to assess participants' beliefs about eHealth communication. The technology acceptance model (David, 1993) and related measurements from previous studies conducted in Taiwan (Chen et al., 2008; Yu & Yang, 2006) were used in developing this assessment tool. This seven-item eHealth-BI had been piloted

and validated in two samples of middle- and older-aged adults in Taiwan (Hou & Hou, 2013; Hou, Lui, & Wen, 2010). A list of preferred eHealth communication strategies was developed through reviewing existing studies (Baker, Wagner, Singer, & Bundorf, 2003; Brouwer et al., 2011; Fox, 2006; Yu & Yang, 2006), as well as identified via stakeholder interviews with the study site managers and coordinators and input from a small sample of middle- and older-aged adults. Short descriptions of key variables used in the current study are provided below.

Perceived eHealth pros. Four items were used to measure perceived usefulness of Web-based learning: Web-based health information enables one to learn more than would otherwise be possible, enables one to learn more quickly, enhances the effectiveness of communication, and enhances the quality of communication. Items were measured using a 5-point Likert scale from *strongly disagree* to *strongly agree*.

Perceived eHealth cons. Three items were used to measure perceived ease of use toward Web-based information delivery: health information communicated via Web-based channel is cumbersome to use, takes a lot of effort to become skillful to use, and lowers learning effect. Items were measured using a 5-point Likert scale from *strongly disagree* to *strongly agree*.

Preferred eHealth communication strategies. Eight preferred eHealth communication strategies were identified and measured: e-mail, webinar, experience sharing, online video, online health assessment survey, online support group, downloadable materials, and related resource Web links. Items were also measured using a 5-point Likert scale.

Data Analysis

Descriptive analyses were used to analyze demographic variables. The reliabilities of the eHealth pros (four items) and the eHealth cons (three items) measured by Cronbach's alphas were satisfactory in both age groups (40–49 and 50–64), demonstrating sufficient internal consistencies among items. The Cronbach's alpha of the eHealth pros (four items) was .89 in the 40–49 age group and .94 in the 50–64 age group, and Cronbach's alphas were .84 in both age groups for the eHealth cons (three items). Confirmatory factor analysis showed that all items were loaded significantly on these eHealth-BI subscales with good model fits, RMSEA = .072, 95% CI [.020, .095], NFI = .98, TLI = .97, CFI = .98, IFI = .98, GFI = .98.

Participants ranked the preferred eHealth communication strategies by beneficial level using a 5-point Likert scale, from *most beneficial* to *least beneficial*. However, due to a small number of participants choosing any of the preferred strategies as not beneficial, the fourth and fifth beneficial categories were merged together in the analysis. Chi-square tests were also used to compare each preferred strategy by the age groups (40–49 vs. 50–64) to examine

whether the younger middle- and older-aged adults had different preferences on eHealth communication strategies (see Table 1).

Table 1

Preferred eHealth Communication Strategy by Age Group

Participant Characteristic	Local	Percentage	NRG	Percentage
Gender				
Male	282	31%	9,997	35%
Female	616	65%	18,417	65%
Transgender	5	.6%	52	.2%
Age				
18-23 (Traditional)	741	80%	23,664	81%
24+ (Non-Traditional)	168	18%	4,667	16%
Residence				
On-Campus	572	64%	14,366	50%
Off-Campus	278	31%	12,519	44%
Other	49	5%	1,631	6%
Year In School				
1st Year	311	35%	9,670	34%
2nd Year	177	20%	5,598	20%
3rd Year	160	18%	5,488	19%
4th Year	102	11%	3,508	12%
5th Year	52	6%	1,247	4%
Graduate/Professional	88	10%	2,635	9%
Non-degree/Other	6	.6%	243	.9%
BMI				
Underweight	48	5%	1,562	6%
Desired Weight	484	54%	1,7411	62%
Overweight	201	23%	5,868	21%
Obese	161	18%	3,154	11%
Fruit/Vegetable Intake				
0 servings per day	76	8%	2,015	7%
1-2 servings per day	553	61%	17,677	61%
3-4 servings per day	248	27%	7,802	27%
5 or more servings per day	37	4%	1,381	5%
Trying to Change Weight				
Not trying to change	141	15%	4,176	15%
Stay the same	226	25%	7,631	26%
Lose weight	472	52%	14,312	50%
Gain weight	77	8%	2,752	10%
Received Information				
No	270	30%	12,574	44%
Yes	651	71%	16,275	56%
Interested in Information				
No	380	42%	11,982	42%
Yes	532	58%	16,429	58%

Bivariate analyses were conducted to assess whether participants with favorable eHealth-BI scores were more likely to prefer the eHealth communication strategies described above. To determine meaningful item (or scale) discrimination or differences, the cutoff points for higher versus lower eHealth pros and eHealth cons beliefs were determined by the scores of each scale: scores in the top one third versus the bottom one third of each scale (Hou, 2009; Hou & Luh, 2005, 2007). In the current study, the high versus low cutoff points for the eHealth-BI pros scale were those who scored 16 or higher versus those who scored 15 or lower. The high versus low cutoff points for the eHealth-BI cons scale were those who scored 9 or higher versus those who scored 7 or lower. Multiple logistic regressions were used to examine the associations between perceived eHealth-BIs and preferred strategy after adjusting for key demographic variables including age, gender, and education (see Table 2).

Results

Participants

A total of 533 adults participated (age: $M = 46.21$, $SD = 5.01$), and 87.3% were married. Nearly three fourths of the participants were aged 40–49. The age distributions were proportionate to that of the respective participating companies. No significant difference was found on gender between the two age groups. However, participants aged 50–64 were less likely to have college education (25.0% vs. 50.9%, $p < .001$). The majority of the participants reported Internet or e-mail usage; the prevalence was higher among those in the 40–49 (more than 80%) age group than those in the 50–64 (more than 60%) age group.

Preferred eHealth Communication Strategies by Age

Regarding the preferred eHealth communication, 32.9% rated regular e-mails on health information as the most beneficial, followed by providing links to health websites (22.7%), downloadable information (21.7%), personal testimonies or experience sharing (20.3%), or health-related videos (20.0%). The distributions of the most preferred eHealth communication were similar between the age groups. However, those aged 50–64 were more likely to rate health-related videos or health assessment as more beneficial.

eHealth-BI and Preferred eHealth Communication Strategies

The bivariate analyses showed that participants with higher eHealth pros scores were more likely to prefer the eHealth communication strategies than those with lower eHealth pros scores, and those with lower eHealth cons were

Table 2

Multiple Logistic Regression Analyses of Preferred eHealth Communication Strategies by Age, Gender, Education, and eHealth-BI

Dependent variable	Independent variable					
	Age	Gender	Education	eHealth pros 95% CI	eHealth cons 95% CI	Model statistics
E-mail	ns	ns	ns	OR = 3.65** [2.43, 5.48]	ns	$X^2_{(5)}$ = 49.89** 68.2% correct
Webinar	ns	ns	ns	OR = 2.21** [1.45, 3.38]e	OR = .54* [.46, .82]	$X^2_{(5)}$ = 26.55** 64.1% correct
Experience sharing	ns	ns	ns	ns	ns	$X^2_{(5)}$ = 18.02* 57.7% correct
Video	ns	ns	ns	OR = 2.05** [1.38, 3.05]	ns	$X^2_{(5)}$ = 21.81** 59.0% correct
Health assessment	ns	ns	ns	OR = 2.49** [1.64, 3.79]	ns	$X^2_{(5)}$ = 28.99** 63.6% correct
Online support	ns	ns	ns	ns	ns	ns
Downloadable materials	ns	ns	ns	OR = 3.74** [2.25, 5.05]	ns	$X^2_{(5)}$ = 44.63** 64.6% correct
Web links	ns	ns	ns	OR = 3.09** [2.07, 4.63]	ns	$X^2_{(5)}$ = 38.96** 63.8% correct

Note. CI = confidence interval. NS = not significant. *OR* = odds ratio.

a Age 50–64. b Female. c no college education

*.001 < *p* < .05. **p* < .001.

more likely to prefer webinar, downloadable information, and related Web links strategies than those with higher eHealth cons scores. After adjusting for age, gender, and education, participants with higher eHealth pros (scored 16 or higher) were still more likely to endorse the strategies: e-mail, $OR = 3.65$, 95% CI [2.43, 5.48], $p < .001$; webinar, $OR = 2.21$, 95% CI [1.45, 3.38], $p < .001$; video, $OR = 2.05$, 95% CI [1.38, 3.05], $p < .001$; health assessment, $OR = 2.49$, 95% CI [1.64, 3.79], $p < .001$; downloadable materials, $OR = 3.74$, 95% CI [2.25, 5.05], $p < .001$; and related links, $OR = 3.09$, 95% CI [2.07, 4.63], $p < .001$. The significances of eHealth cons, however, disappeared. Preferred strategies were not influenced by age, gender, or education.

Discussion

Our study showed that e-mails, Web links, downloadable information, experience sharing, and videos were the top five preferred eHealth communication strategies endorsed by the middle- and older-aged adults in the study, with a much higher percentage of participants indicating e-mails as the most beneficial strategy of communication. This result is consistent with findings from the recent Pew Internet study in the United States (Madden & Zickuhr, 2011) indicating that Internet search and e-mail still top the list of the most popular online activities. The distributions of these top five preferred strategies were, however, similar between those in the younger middle-aged (40–49 years) and older-aged (50–64 years) groups, except that those in the older-aged group significantly preferred video strategy. Although we had hypothesized somewhat different patterns on the preferred strategies by age group, our data showed more similarity than differences. As trend of "graying" of the Internet and social media continues, age may become less of a factor on preferred eHealth communication strategies (Madden, 2010; Madden & Zickuhr, 2011). Our data also showed that those aged 50–64 were more likely to endorse health assessment than those aged 40–49. Additional research may be needed to further explore possible reasons.

Online support group, on the other hand, was not a popularly endorsed strategy for eHealth communication. One reason may be that online support groups are still evolving. Kim and Kwon (2010) examined cancer "e-patients" who participated in the National Cancer Institute's Health Information National Trends Survey and found that only 5% of these online health consumers had participated in an online equivalent support group. Social networking sites or online groups offer the opportunity of participation irrespective of geographical location or time constraints; at the same time, concerns of confidentiality (Farmer, Bruckner, Cook, & Hearing, 2009) and a false sense of intimacy may need attention (Boyd, 2008). Social networking sites or online support groups are worth continued research as they may provide new opportunities of social support. A recent study showed that middle- and older-aged adults, who are more likely to live with chronic diseases, are more likely to reach out for

support online (Fox & Purcell, 2010). In addition, health interventions may potentially incorporate educational content into online social support groups (Perkins & LaMartin, 2012).

Regarding beliefs about eHealth communication, our data were consistent with our hypothesis that those who had more favorable beliefs about the usefulness of eHealth communication (eHealth-BI pros) would have higher endorsement on the eHealth communication strategies. The relationships observed were strong and consistent across eHealth communication strategies. However, we found it somewhat surprising that the significance of perceived barriers about eHealth communication (eHealth-BI cons) on preferred strategies disappeared after considering key demographic variables and perceived benefits. In addition, preferred strategies had no significant relationships with key demographic variables (age, gender, or education) when beliefs about eHealth communication were factored in the multiple regression models.

The current study identified strategies that were perceived as most useful among middle- and older-aged adults. Our data showed that perceived usefulness about eHealth communication (eHealth-BI pros) was a strong and consistent predictor for the preferred eHealth communication strategies. Results may help health researchers and practitioners better understand key factors related to ways of delivering eHealth communication interventions. Future studies are needed to identify and describe system design features that may influence participants' perceived usefulness and ease of use about eHealth communication interventions for promoting health behavior change. The study identified strategies that middle- and older-aged adults perceived as most useful for tailored eHealth promotion program planning. It also used the eHealth-BI tool to identify audiences who may be more likely to respond to the eHealth communication strategies for targeted interventions.

References

American Academy of Ophthalmology. (n.d.). *Get screened at 40.* Retrieved from http://www.geteyesmart.org/eyesmart/living/screening.cfm

Baker, L., Wagner, T. H., Singer, S., & Bundorf, K. (2003). Use of the Internet and email for healthcare information: Results from a national study. *Journal of the American Medical Association, 289*(18), 2400–2406.

Boyd, D. (2008). Facebook's privacy train wreck: Exposure, invasion, and social convergence. *Convergence: The International Journal of Research Into New Media Technologies, 14*, 13–20. doi:10.1177/1354856507084416

Brouwer, W., Kroeze, W., Crutzen, R., deNooijer, J., de Vries, N., Brug, J., & Oenema, A. (2011). Which intervention characteristics are related to more exposure to Internet-delivered healthy lifestyle promotion interventions? A systematic review. *Journal of Medical Internet Research, 13*(1), e2. doi:10.2196/jmir.1639

Chen, I. J., Yang, K. F., Tang, F. I., Huang, C. H., & Yu, S. (2008). Applying the technology acceptance model to explore public health nurses' intentions towards web-based learning: A cross-sectional questionnaire survey. *International Journal of Nursing Studies, 45*, 869–878.

Chinese Academy of Social Sciences, Indian National Science Academy, Indonesian Academy of Sciences, National Research Council of the U.S. National Academies, & Science Council of Japan. (2011). *Preparing for the challenges of population aging in Asia: Strengthening the scientific basis of policy development.* Washington, DC: National Academies Press.

Davis, F. G. (1993). User acceptance of information technology: System characteristics, user perceptions and behavioral impacts. *International Journal of Man-Machine Studies, 38*, 475–487.

Farmer, A. D., Bruckner, H. C. E., Cook, M. J., & Hearing, S. D. (2009). Social networking sites: A novel portal for communication. *Postgraduate Medical Journal, 85*(1007), 455–459. doi:10.1136/pgmj.2008.074674

Fox, S. (2006). *Online health search 2006.* Retrieved from Pew Internet and American Life Project website: http://www.pewinternet.org/2006/10/29/online-health-search-2006/

Fox, S., & Purcell, K. (2010). *Chronic disease and the Internet.* Retrieved from Pew Internet and American Life Project website: http://www.pewinternet.org/Reports/2010/Chronic-Disease/Part-3.aspx?view=all

Hou, S. (2009). Extending the use of the web-based HIV testing belief inventory (wHITBI) to students attending historically black colleges and universities (HBCUs): An examination of reliability and validity. *AIDS Education & Prevention, 21*(1), 80–90.

Hou, S., & Hou, P. H. (2013). Developing and validating an eHealth communication belief inventory (eHealth-BI) among Chinese adults. *Universal Journal of Public Health, 1*(3), 103–109. doi:10.13189/ujph.2013.010309

Hou, S., Hsiao, T. J., & Hou, P. H. (2012). Online health information (OHI) utilization among employees age 40+. *International Electronic Journal of Health Education, 15*, 99–111.

Hou, S., & Luh, W. (2005). Psychometric properties of the cervical smear belief inventory (CSBI) for Chinese women. *International Journal of Behavior Medicine, 12*(3), 180–191.

Hou, S., & Luh, W. (2007). The structure of a web-based HIV testing belief inventory (wHITBI) for college students: The evidence of construct validation. *Medical Informatics and the Internet in Medicine, 32*(2), 83–92. doi:10.1080/14639230601125134

Hou, S., Lui, L., & Wen, M. J. (2010). *Internet utilization and beliefs toward eHealth communication among Chinese middle-age adults from a community college in Taiwan.* Poster presented at the 138th Annual Meeting of the American Public Health Association, Denver, CO.

Kim, K., & Kwon, N. (2010). Profile of e-patients: Analysis of their cancer information seeking from a national survey. *Journal of Health Communication, 15*, 712–733.

Madden, M. (2010). *Older adults and social media*. Retrieved from Pew Internet and American Life Project website: http://www.pewinternet.org/Reports/2010/Older-Adults-and-Social-Media/Report.aspx?view=all

Madden, M., & Zickuhr, K. (2011). *Health information online*. Retrieved from Pew Internet and American Life Project website: http://pewinternet.org/Reports/2011/Social-Networking-Sites.aspx

Mayo Foundation for Medical Education and Research. (n.d.). *Heart disease in women: Understand symptoms and risk factors*. Retrieved from http://www.mayoclinic.com/health/heart-disease/HB00040

Neuhauser, L., & Kreps, G. L. (2010). eHealth communication and behavior change: Promise and performance. *Social Semiotics, 20*(1), 9–27. doi:10.1080/10350330903438386

Pan, S., & Jordan-Marsh, M. (2010). Internet use intention and adoption among Chinese older adults from the expanded technology acceptance model perspective. *Computers in Human Behavior, 26*(5), 1111–1119.

Perkins, E. A., & LaMartin, K. M. (2012). The Internet as social support for older caregivers of adults with intellectual disabilities. *Journal of Policy and Practice in Intellectual Disabilities, 9*(1), 53–62.

Population Reference Bureau. (2012). 2012 world population data sheet. Retrieved from http://www.prb.org/pdf12/2012-population-data-sheet_eng.pdf

Taiwan Network Information Center. (2005). *Internet broadband usage in Taiwan*. Retrieved from http://www.twnic.net.tw/download/200307/0502f.doc

United Nations. (2013). *World population ageing: 1950–2050*. Retrieved from Department of Economic and Social Affairs, Population Division website: http://www.un.org/esa/population/publications/worldageing19502050/

Yang, S., & Kao, Y. (2013). *Focus Taiwan News Channel: Internet influence on consumer trends expected to increase: Poll*. Retrieved from http://focustaiwan.tw/news/asoc/201312180035.aspx

Yu, S., & Yang, K. F. (2006). Attitudes toward Web-based distance learning among public health nurses in Taiwan: A questionnaire survey. *International Journal of Nursing Studies, 43*(6), 767–774.