Predictive Factors of Communicating Health-related Information through the Internet in Korean Adults: A Cross-Sectional Study

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INTRODUCTION

❖ Health-related information (HRI) is defined as information related to health including disease, drugs, foods, nutrition and exercise.
❖ With the advancement of interactive communication technologies, HRI has been widely shared with multi-party stakeholders.
❖ As inaccurate or unverified information has been circulated, the self-efficacy and their capacity to discriminate the information by the individuals became an important issue.
❖The concept of media health literacy (MHL) has emerged referring the ability to appropriately find, critically evaluate, and communicate HRI.
❖ The Media Health Literacy Scale (MHLS) was developed including 27 items in 3 domains (*Access, Critical evaluation* and *Communication*) to evaluate media health literacy.

OBJECTIVES

❖ To measure the MHL scores in Korean adults and assess the scores by domain.
❖ To evaluate the association between the overall MHLS scores and the characteristics of the Internet users.
❖ To evaluate the association between the level of *Communication* and the characteristics of the Internet users.

METHODS

Study design and Data source
❖A cross-sectional study including survey participants from a commercial panel.
Study population
❖ A total of 1,000 participants stratified by sex and age was recruited.
❖ Age over 19 and people who have searched and conveyed “health-related information were included.
Statistical analysis
❖ Descriptive statistics were used to evaluate demographic characteristics.
❖ The range of the total MHLS scores was between 27 points and 135 points.
❖ The minimum/maximum scores of three domains were 10/50 points in *Access*, 9/45 points in *Critical Evaluation* and 8/40 points in *Communication,* respectively.
❖ The average scores of MHLS and the scores by three domains were compared using T-test and one way analysis of variance (ANOVA) followed by Tuckey test.
❖ Multivariate analysis was performed using multiple linear regression analysis with stepwise method using IBM SPSS ver. 26.

RESULTS

❖Table 1. Mean MHLS score of the study participants by characteristics (n=1,000)

Characteristics	n (%)	MHLS score (Mean ± SD)	P-value
Total	1000 (100)	103.5 ± 11.81	
Gender			
Male	544 (54.4)	103.56 ± 11.67	0.864
Female	456 (45.6)	103.43 ± 11.98	
Education level			
≤ High school	163 (16.3)	100.71 ± 12.25	< 0.05
≥ College graduate	837 (83.7)	104.05 ± 11.65	
Employment			
Unemployed	218 (21.8)	101.88 ± 10.86	< 0.05
Employed	782 (78.2)	103.96 ± 12.03	
Age			
20-29	207 (20.7)	102.84 ± 11.51	0.159
30-39	234 (23.4)	104.83 ± 12.61	
40-49	251 (25.1)	103.91 ± 12.24	
50-59	208 (20.8)	103.07 ± 10.85	
60-	100 (10.0)	101.66 ± 11.12	
Average monthly income			
5th quintile*	98 (9.8)	100.10 ± 13.48	< 0.05
4th quintile	152 (15.2)	100.20 ± 10.76	
3rd quintile	262 (26.2)	102.72 ± 12.23	
2nd quintile	285 (28.5)	105.32 ± 11.16	
1st quintile**	203 (20.3)	106.07 ± 11.01	

*lowest **highest

❖ Mean MHLS scores were higher in
✓ college graduate or higher (vs. high school graduates or lower).
✓ the employed (vs. the unemployed).
✓ average monthly income 1st quintile (vs. 3rd, 4th and 5th).
✓ average monthly income 2nd quintile (vs 4th and 5th).

❖Table 2. Mean MHLS score of three domains by the characteristics (n=1,000)

Characteristics	Access (Mean ± SD)	Critical Evaluation (Mean ± SD)	Communication (Mean ± SD)
Total	41.08 ± 4.94	34.38 ± 4.73	28.04 ± 5.00
Gender			
Male	40.85 ± 4.82	34.38 ± 4.74	**28.33 ± 4.85**¶
Female	41.36 ± 5.06	34.38 ± 4.71	**27.69 ± 5.16**¶
Education level			
≤ Highschool graduate	**39.91 ± 4.98**¶	**33.61 ± 5.08**¶	**27.18 ± 5.15**¶
≥ College graduate	**41.31 ± 4.89**¶	**34.53 ± 4.65**¶	**28.20 ± 4.96**¶

RESULTS

❖Table 2. Continue'd

Characteristics	Access	Critical Evaluation	Communication
Employment			
Unemployed	41.34 ± 4.86	33.85 ± 4.59	**26.68 ± 4.90**¶
Employed	41.01 ± 4.96	34.53 ± 4.76	**28.41 ± 4.97**¶
Age			
20-29	40.81 ± 5.16	33.90 ± 4.74	28.14 ± 5.08
30-39	40.99 ± 5.21	34.99 ± 4.91	**28.85 ± 5.16**
40-49	41.24 ± 5.02	34.45 ± 4.74	28.22 ± 5.10
50-59	41.46 ± 4.65	34.13 ± 4.63	**27.48 ± 4.52**
60-	40.72 ± 4.14	34.31 ± 4.40	**26.63 ± 4.86**¶
Average monthly income			
5th quintile*	40.79 ± 5.33	**32.93 ± 5.61**	**26.39 ± 5.69**
4th quintile	**39.90 ± 5.14**	**33.24 ± 4.11**	**27.05 ± 4.37**
3rd quintile	40.48 ± 4.88	**34.03 ± 4.97**	**28.21 ± 5.08**
2nd quintile	**41.63 ± 4.67**	**35.15 ± 4.44**	**28.55 ± 4.89**
1st quintile**	**42.12 ± 4.73**¶	**35.32 ± 4.41**¶	**28.63 ± 4.92**¶

*lowest, **highest, ¶p < 0.05

❖ Male and employed status showed significantly higher score in *Communication*.
❖ Age over 60 and 50-59 group showed significantly lower score in *Communication* comparing age 30-39 group.
❖ Each 1st and 2nd quintile showed significantly higher *Communication* score than 5th and 4th quintile, and 3rd quintile showed significantly higher *Communication* score than 5th quintile.

❖Table 3. Mutliple linear regression of *Communication* score and related characteristics.

Characteristics	B	Standard Error	Beta	T	Significance
Constant	9.524	1.510		6.307	0.000
Employment	1.381	0.332	0.114	4.163	0.000
Age	-0.034	0.012	-0.084	-2.830	0.005
Average monthly income	0.271	0.116	0.067	2.343	0.019
Having chronic disease	0.575	0.285	0.058	2.015	0.044
Positive perception on own health	1.391	0.206	0.199	6.741	0.000
Having interests on own health	0.557	0.233	0.076	2.393	0.017
Positive perception about HRI on the internet	0.648	0.084	0.241	7.722	0.000
General searching time on the Internet	-0.002	0.001	-0.056	-1.971	0.049
HRI searching time on the Internet	0.019	0.002	0.241	8.448	0.000

❖ Adjusted R-square of multiple linear regression of *Communication* score was 0.264.
❖ Participants who were employed and had chronic disease, and people having higher interests on own health, average monthly income and positive perception to HRI on the internet showed higher *Communication* score.

❖Table 4. Multiple linear regression between MHLS scores and haracteristics.

Characteristics	B	Standard Error	Beta	T	Significance
Constant	40.945	2.845		14.392	0.000
Age	-0.059	0.025	-0.061	-2.321	0.020
Average monthly income	0.921	0.249	0.096	3.704	0.000
Positive perception on own health	1.755	0.435	0.106	4.031	0.000
Having interests on own health	3.078	0.503	0.178	6.115	0.000
Positive perception about HRI on the internet	2.746	0.182	0.433	15.107	0.000
HRI searching time on the internet	0.022	0.005	0.122	4.783	0.000

❖ Adjusted R-square of multiple linear regression of *Communication* score was 0.382.
❖ Participants with higher average monthly income, positive perception to HRI on the internet, and having interests on own health showed higher MHLS scores.

CONCLUSIONS

❖ Higher education level, employed status and higher average monthly income were associated with higher MHLS scores
❖ Male gender, younger age, higher education level, employed status and higher average monthly income showed higher score in the *Communication* domain.
❖ Employed status, younger age, higher average monthly income, presence of chronic disease, positive perception on own health, having interests on own health, positive perception about HRI on the internet, and higher HRI searching time on the internet were associated with high *Communication* score.

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