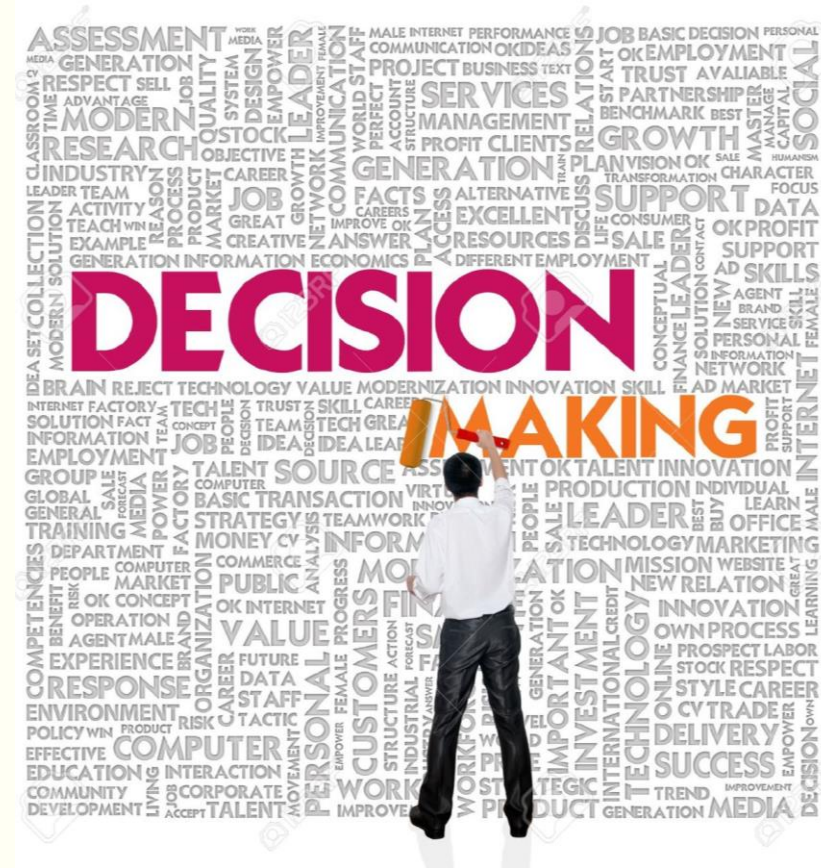


The Roles of Information Seeking and Information Evaluation for Decision Making Behaviors

Pui-Yi Veronica Chiu
Chi-Keung Alex Chan
Hong Kong Shue Yan University



Paper Presentation at the HKAECT-AECT 2017
Summer International Research Symposium
15-17 June 2017, The University of Hong Kong

Research Problem

- While technology makes our lives become convenient to seek information through the Internet
- There are people who ask questions as little as jokes and riddles, and as big as information about pregnancy

(Liu, Zhang, Cao & Zhang, 2014; Tae-Hee, Hae-Hyeog & Soo-Ho, 2014)

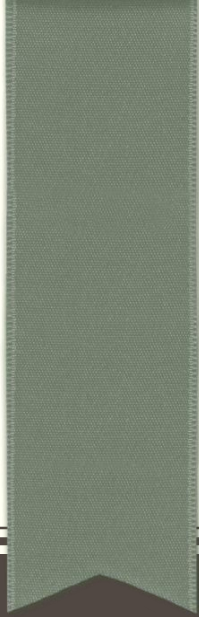
- Younger generation prefers to **seek information on the Internet instead of** seeking the information in traditional ways, such as via **social interactions**

(Warwick, Rimmer, Blandford, Gow, & Buchanan, 2009)

Purposes

- This study aims to find out...
 - whether people's evaluation of the acquired information has an important role on their decision making behaviors
 - the roles of information seeking and information evaluation in decision making behaviors across different types of tasks





LITERATURE REVIEW

Information Behavior Models

Ellis's Model of Information Seeking

(1) Starting



(2) Chaining



(3) Browsing



(4) Differentiating



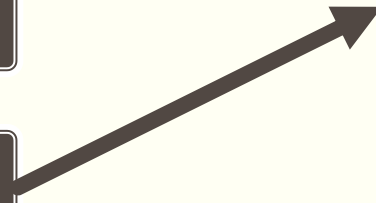
(5) Monitoring



(6) Extracting

Information Evaluation

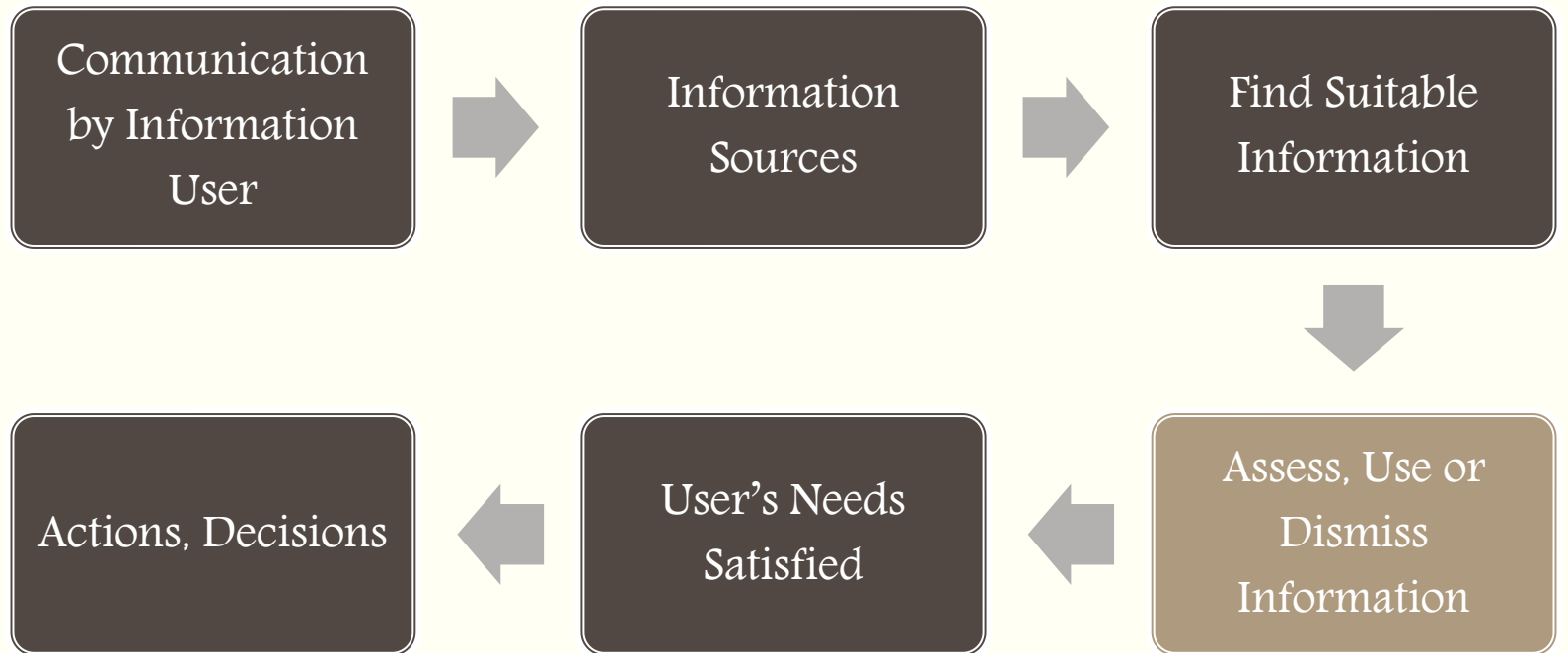
Filtering sources by judging their quality, relevance and other characteristics.



(As cited in Robson & Robinson, 2013)

Information Behavior Models (Con't)

Information-seeking and Communication Model (ISCM) (Simplified)



**Information
Evaluation**

(Robson & Robinson, 2013)

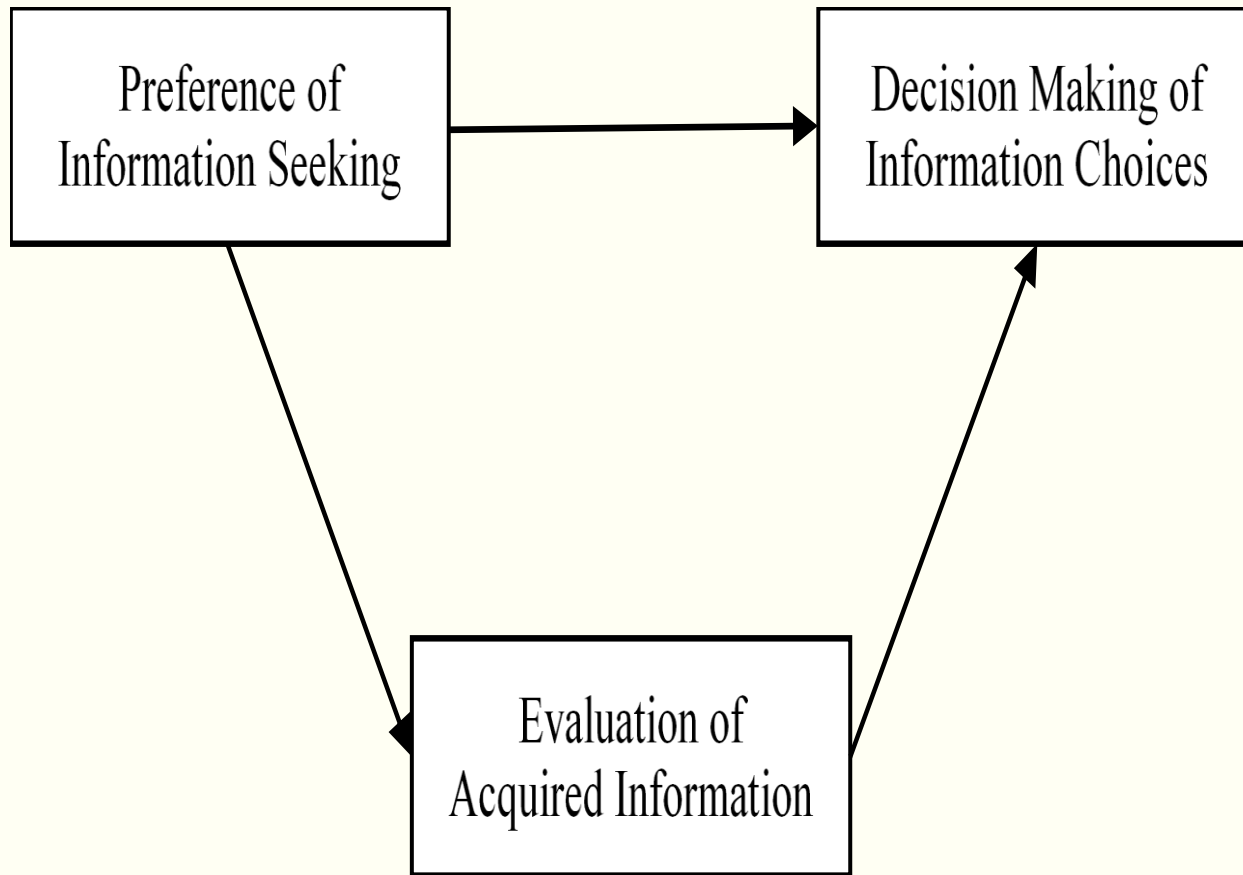
Information Evaluation

- Utility and credibility are **key influencers** affecting a user's choice of sources and judgment of the information obtained
- Utility:
 - Usefulness
 - Relevance
 - Timeliness
 - Accessibility
 - Ease-of-use of information or of a source
- Credibility:
 - Perceived trustworthiness
 - Authority
 - Reliability
 - Lack of bias



(Robson & Robinson, 2013)

Conceptual Framework



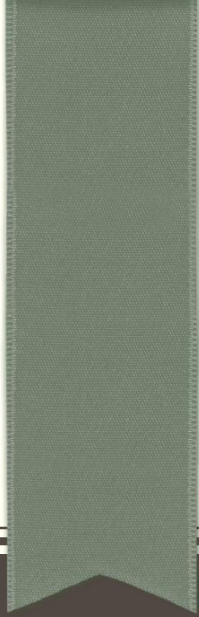
Research Questions

- How do people seek and evaluate information when doing different types of tasks?
- Do people prefer seeking information from Internet always choose Internet information in their decision making?
- On the contrary, do people who tend to communicate with others in information seeking always make decision based on acquired information from people?



Hypotheses

1. The preference of information seeking (via internet or human interactions) significantly predict decision making behaviors.
2. There are different preferences in information seeking across different types of tasks.
3. There is a mediation effect of information evaluation on the relationship between information seeking and decision making.
4. The mediation effect of information evaluation on the relationship between information seeking and decision making varies across different types of tasks (academic, affective, and life-related event).



METHODS

Participants

- 25 students from a university in HK
 - were required to do all **three** tasks
 - 7 males (28%) and 18 females (72%)
 - The age range was 17 to 21
($M = 18.60$, $SD_{age} = 1.12$)
- Came to the experiment with a peer
 - They **MUST** know each other prior to the experiment
 - to encourage interpersonal interactions

Measures

- Three sets of self-developed tasks
 - an academic task
 - an affective task
 - a life event-related task
- Measurements:

Information Seeking Preference	Evaluation of Acquired Information	Decision Making (Choice of Information Sources)
Observation	Worksheet	Worksheet and Answer Sheet

Information Evaluation

For information evaluation, participants jotted down what information they had sought from their sources via Internet and human interactions (with another participant) – and rated for the relevance of information from both sources on a 10-point scale. This indicated how they valued the information they sought. Then, the average rates of two types of information sources were compared by the following equation. The range for the composite score of information evaluation was from 10 to -10 for each task.

$$\frac{\textit{Total Rating Scores of Internet Info}}{\textit{Number of Internet Info}} - \frac{\textit{Total Rating Scores of Human Interaction Info}}{\textit{Number of Human Interaction Info}}$$

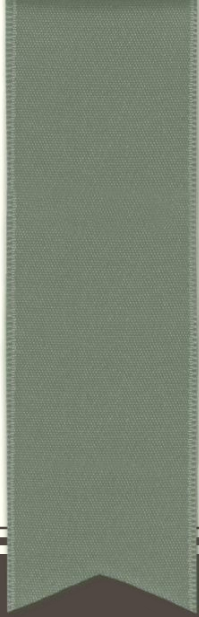
Decision Making

For decision making of information choices, the experimenter matched the keywords in jotted notes from the participants and their final decision of information choices for each task. The number of matched keywords between the jotted notes and the final decision indicated what information source (via internet or human interactions) a participant relied on. By matching the keywords, the number of used and acquired information from each source (Internet or human interactions) were computed and compared with the following formula. The range of scores were from 1 (purely from Internet) to -1 (purely from human interactions).

$$\frac{\textit{Used Info from Internet}}{\textit{Acquired Info from Internet}} - \frac{\textit{Used Info from Human Internactions}}{\textit{Acquired Info from Human Interactions}}$$

Procedures

- Participants joined the experiment with a peer
- **Deception:** experimenter told the participants that this study was about how people processing information in problem solving
- Each participant received a same assigned task, a worksheet and an answer sheet
- They were given a time of 15 minutes for solving each task and writing down their decisions with supporting information on the answer sheets
- They were encouraged to discuss with each other during the experiment and use the laptop for searching information on the internet
- Once they had finished the first task, the second task was distributed to them. The order of the tasks are balanced to avoid order effect.
- The above procedures were replied until all three tasks had been finished.
- At the end of the experiment, there was a debriefing about the real purpose of the study



RESULTS

Hypothesis 1

Table 1

Correlations between Information Seeking and Decision Making in General, Academic Task, Affective Task and Life-Event Related Task

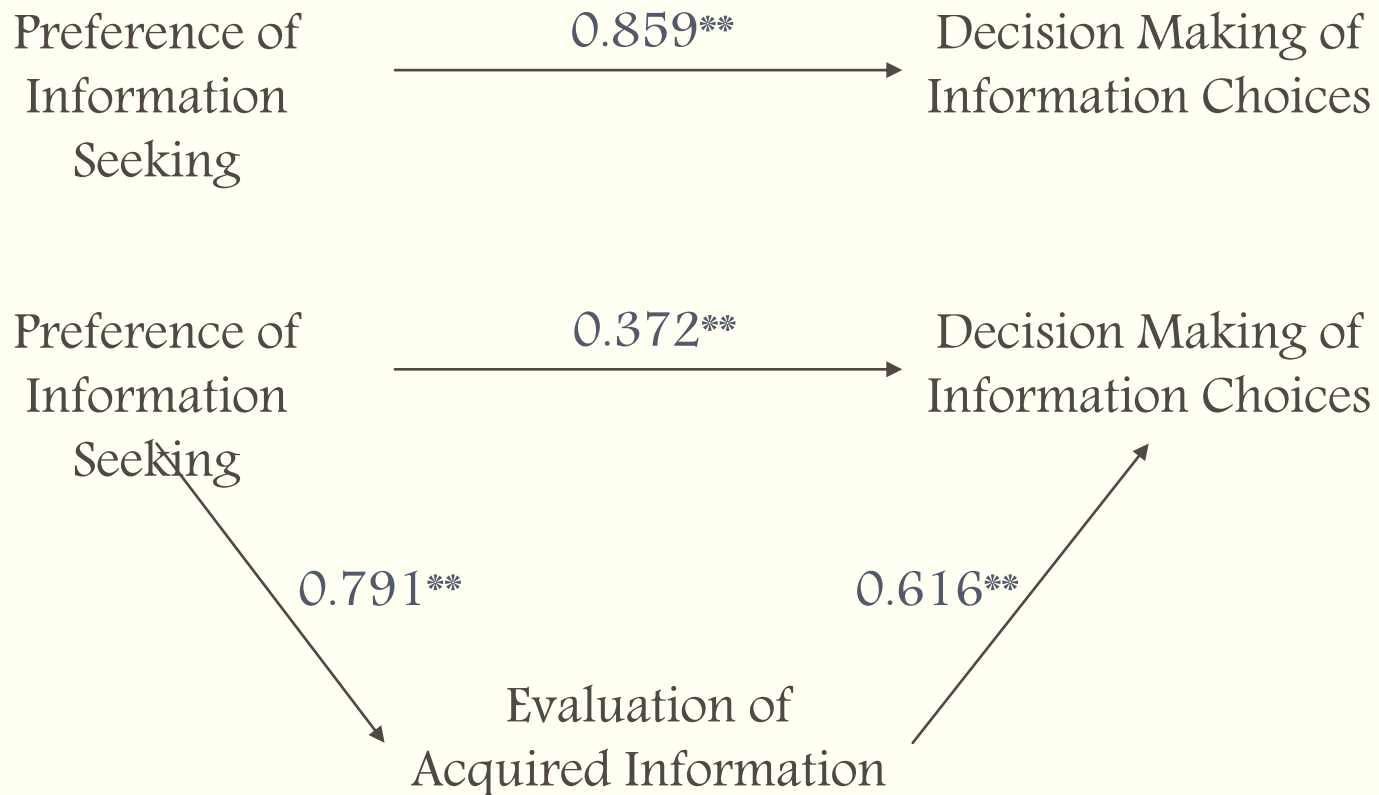
	Measure	<i>M</i>	<i>SD</i>	Point-biserial Correlation Information Seeking
General	Information Seeking	.31	.46	
	Decision Making	.24	.92	.86***
Academic Task	Information Seeking	.40	.50	
	Decision Making	.024	1.01	.85***
Affective Task	Information Seeking	.20	.41	
	Decision Making	.39	.81	.87***
Life-Event Related Task	Information Seeking	.32	.48	
	Decision Making	.32	.93	.86***

* $p < .05$. ** $p < .01$. *** $p < .001$.

Hypothesis 2

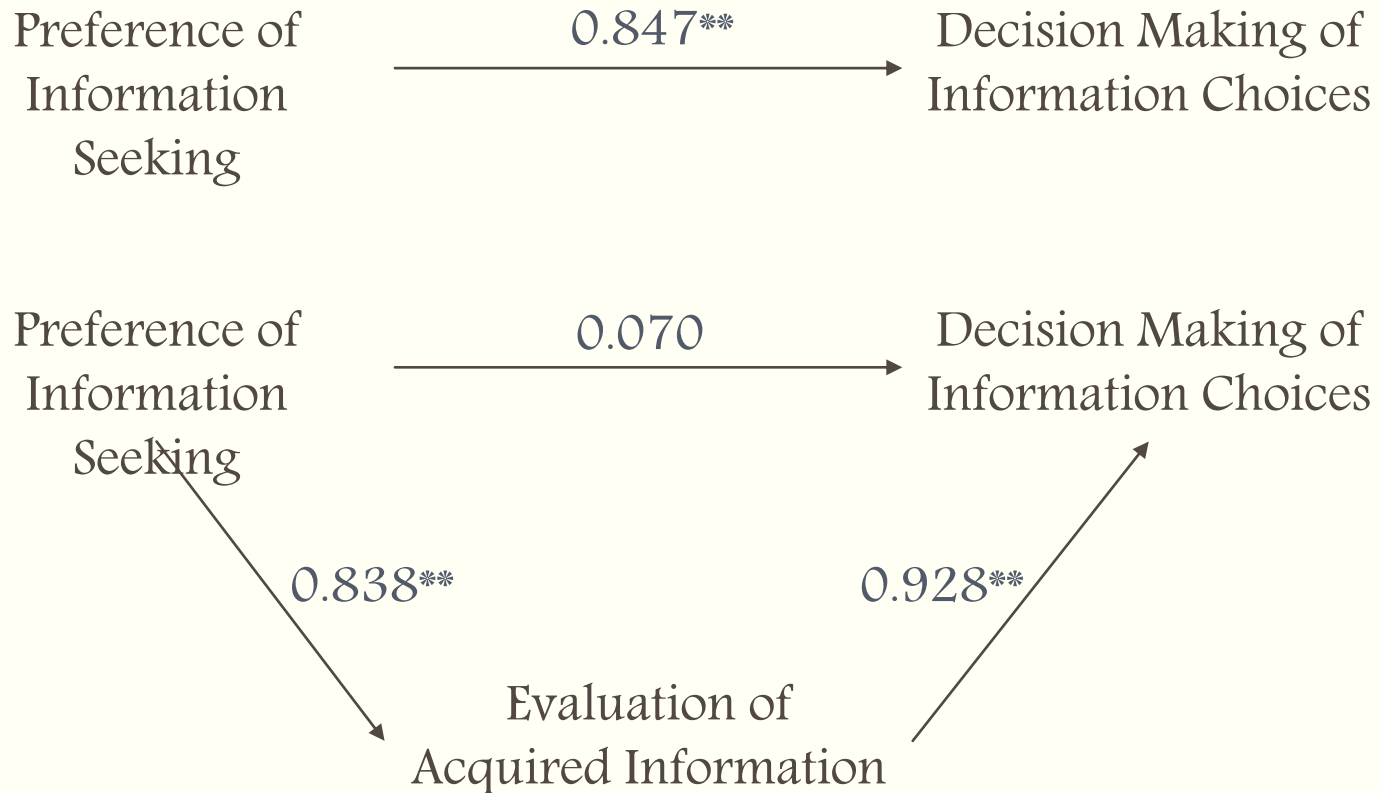
Hypothesis 2 assumed that people have different preferences of information sources in different types of tasks. One-way ANOVA was conducted to test whether there was significant differences in information seeking between different types of tasks. From the results, there was no statistically significant differences between group means between the three tasks, $F(2, 72) = 1.18, p = .313$. Therefore, hypothesis 2 was not supported.

Hypothesis 3



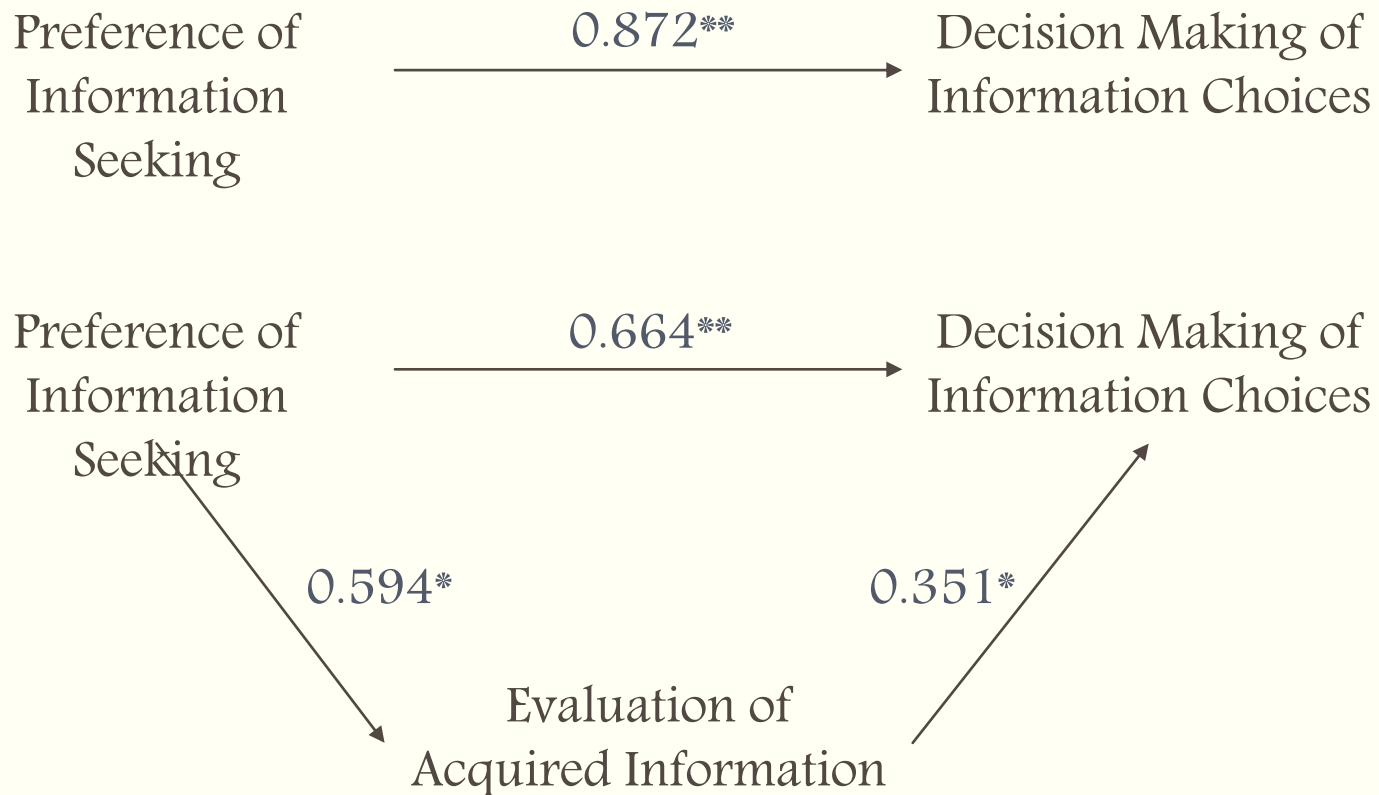
- The preference of information seeking affected decision making
- There was a partial mediation effect of information evaluation on the relationship between information seeking and decision making

Hypothesis 4 – Academic Task



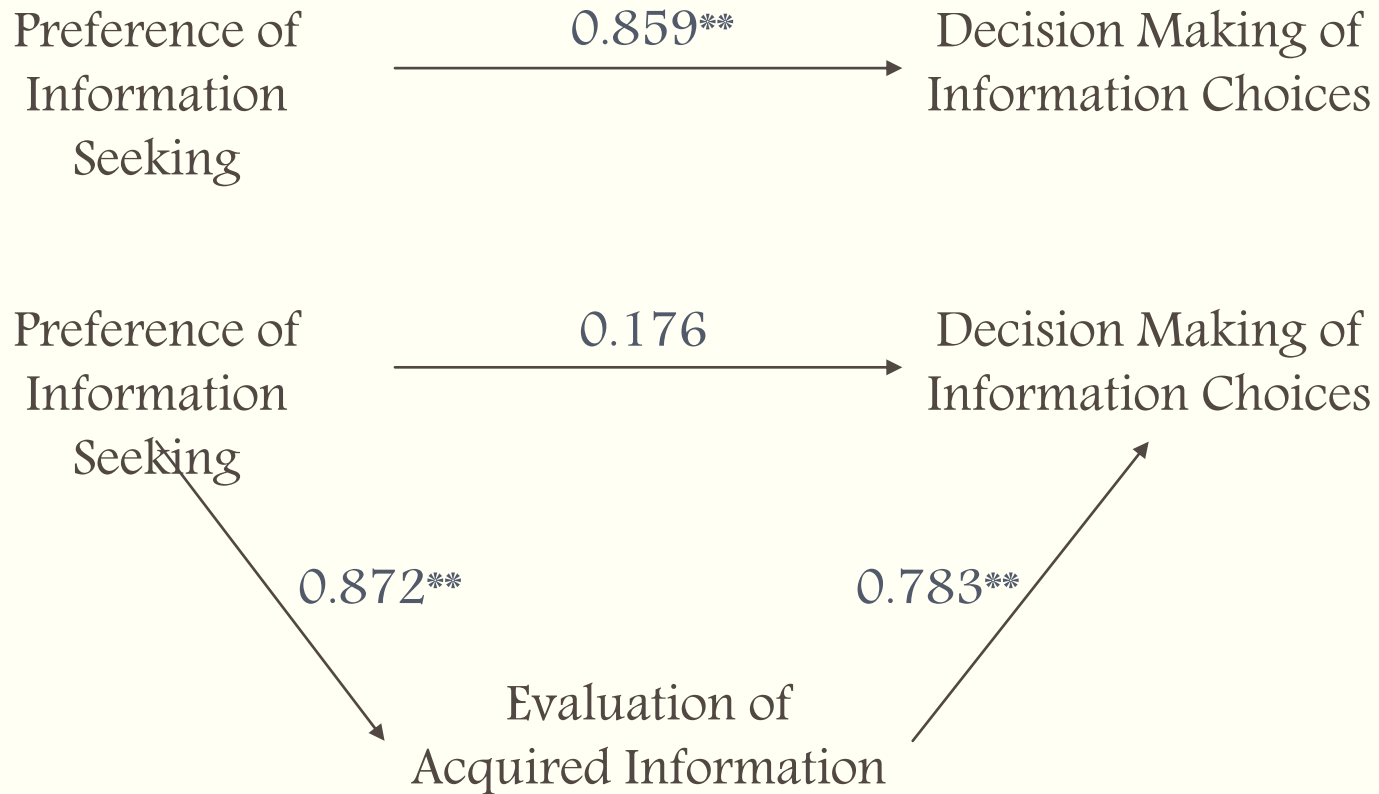
- The preference of information seeking affected decision making in academic task
- There was a full mediation effect of information evaluation on the relationship between information seeking and decision making in academic task

Hypothesis 4 – Affective Task



- The preference of information seeking affected decision making in affective task
- There was a partial mediation effect of information evaluation on the relationship between information seeking and decision making in affective task

Hypothesis 4 – Life-Event Related Task



- The preference of information seeking affected decision making in life-event related task
- There was a full mediation effect of information evaluation on the relationship between information seeking and decision making in life-event related task

Discussion

- Generally, participants tended to choose the information for decision making based on their information seeking preference (via Internet or social interactions).
- From the mediation analyses, participants focused more on
 - quality of the information
(*Information Evaluation*)
 - but *not* where the information comes from
(*Information Seeking Preference*)

Discussion (Con't)

- In academic and life–event related task, the mediation effect was relatively stronger than affective task
 - Possible explanation:
 - People tend to doubt the quality and the content of the obtained information rather than believing the credibility of the information sources, judging the when it comes to some topics/tasks which have relatively objective and information–based answers
(Gross & Latham, 2011)
 - *“...I would say for school, looking for things. I spend a whole lot more time looking for it because I want to make sure that I get the right information, make sure it's good, make sure it's clear enough for me to do the work that I need to do...”*
 - *“...you could choose what you want...but you can't just put anything you want, you can't just pick anything you want, and say whatever you want.”*

Discussion (Con't)

- In affective task, the mediation effect was relatively weaker than the other two tasks
 - Possible explanation:
 - People tend to believe the credibility of the information sources, rather than judging the obtained information when it comes to some topics with relatively subjective and social-based answers or references, e.g. relationship topics.

(Marshall, West & Aitken, 2013)
 - *“...preferentially used colleagues as a source of information when faced with uncertainty...”*
 - *“most participants placed greater emphasis on evaluating the individual providing the information rather than on evaluating the information itself...”*

Limitations and Recommendations

- Enhance the validity and reliability of the self-developed tasks
- Balance the gender ratio of participants
- Future studies can focus on...
 - The role of information evaluation on decision making in information behaviors with more types of tasks.

References

- Gross, M., & Latham, D. (2011). Experiences with and Perceptions of Information: A Phenomenographic Study of First-Year College Students. *Library Quarterly*, *81*(2), 161-186.
- Liu, T., Zhang, W., Cao, L., & Zhang, Y. (2014). Question Popularity Analysis and Prediction in Community Question Answering Services. *Plos ONE*, *9*(5), 1-12. doi:10.1371/journal.pone.0085236
- Marshall, A. P., West, S. H., & Aitken, L. M. (2013). Clinical credibility and trustworthiness are key characteristics used to identify colleagues from whom to seek information. *Journal Of Clinical Nursing*, *22* (9/10), 1424-1433. doi:10.1111/jocn.12070
- Robson, A., & Robinson, L. (2013). Building on models of information behaviour: Linking information seeking and communication. *Journal of Documentation*, *69* (2), 169-193.
- Tae-Hee, K., Hae-Hyeog, L., & Soo-Ho, C. (2014). The attitude of South Korean people regarding usage of the internet perinatal consultation. *International Journal of Fertility & Sterility*, *8* (3), 299-302.
- Warwick, C., Rimmer, J., Blandford, A., Gow, J., & Buchanan, G. (2009). Cognitive economy and satisficing in information seeking: A longitudinal study of undergraduate information behavior. *Journal of the American Society for Information Science and Technology*, *60* (12), 2402-2415.