

Investigating Relations of Information Seeking Outcomes to the Selection and Use of Information Sources

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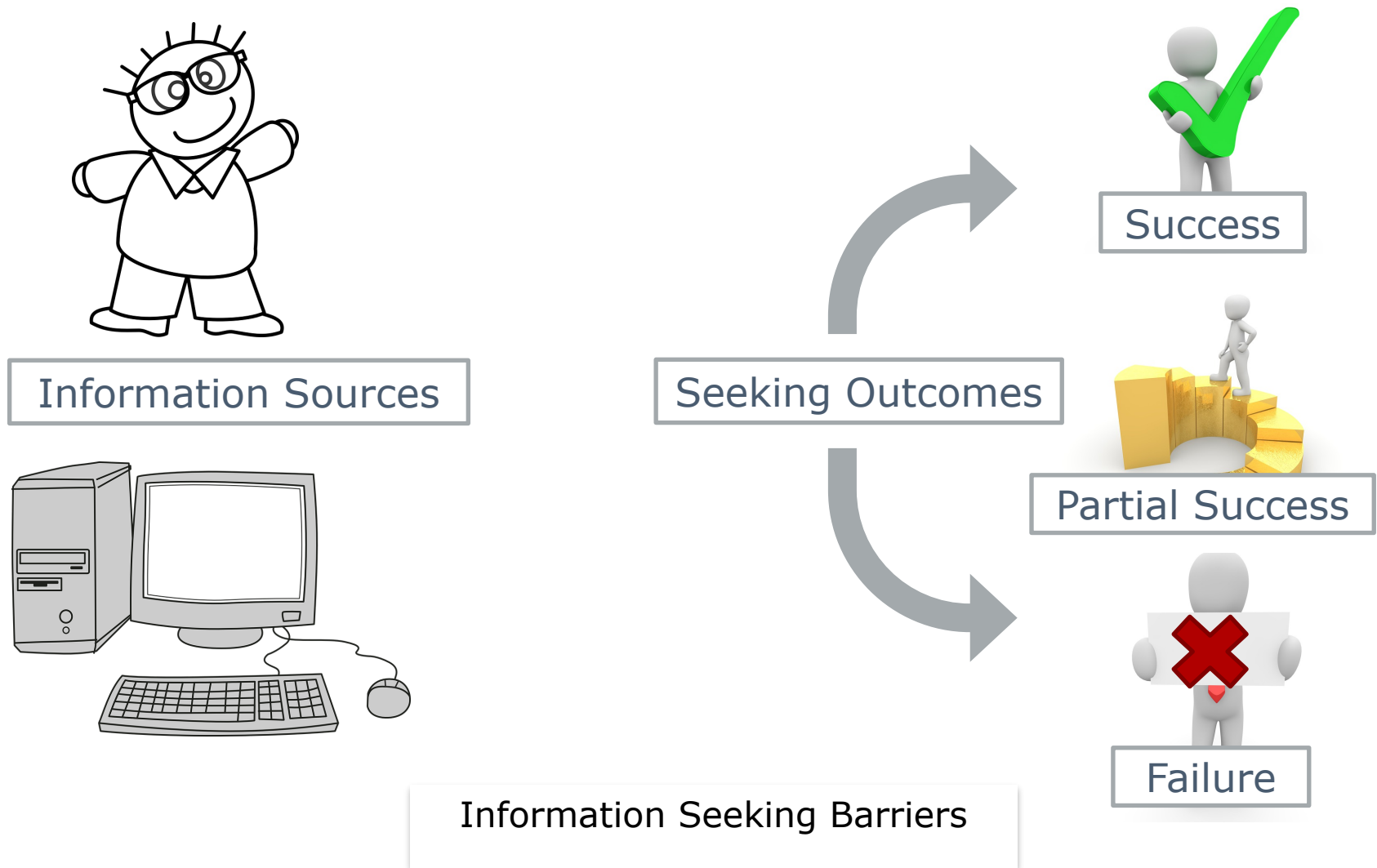
Rutgers, The State University of New Jersey

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Overview

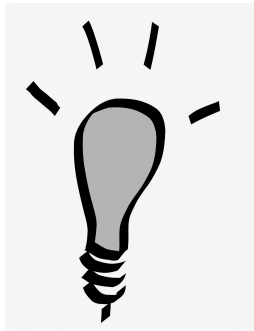
Education/Knowledge, Cognitive/Emotional characteristics, & Social role



Background



Information seeking is a **complex activity**.



Outcomes influence seekers' decisions to continue seeking information, reformulate strategies, or abandon the search process.



Seekers often **experience difficulties** when they seek information and **fail** to retrieve desired information.

Objectives



Obtaining an in-depth understanding of information seeking outcomes and their relationship to individuals' selection of information sources.



Procuring a broader picture of going beyond heavy information users and professional contexts.

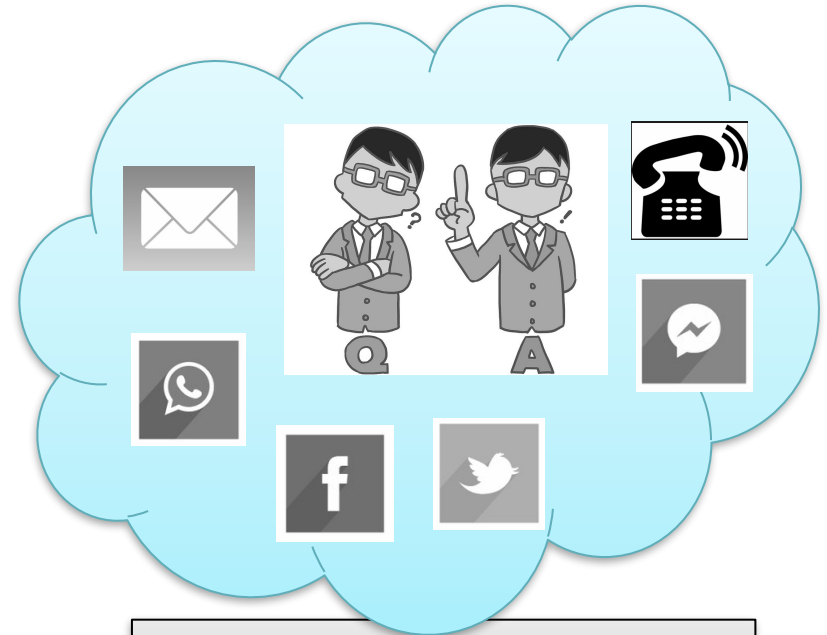
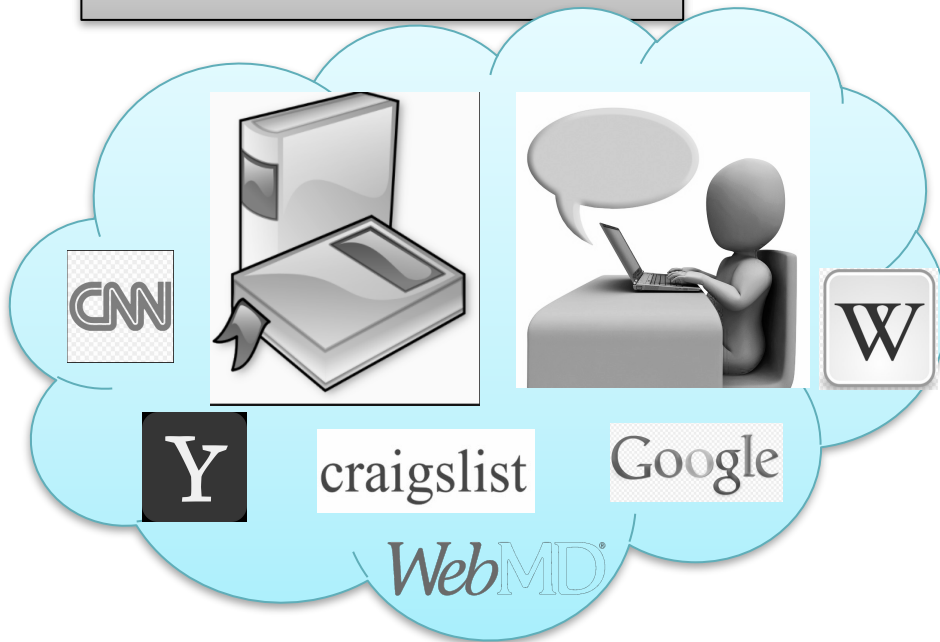


Comparing online and offline information seeking.

Information Source

Non-human sources where information seekers do **not** have any **direct interaction** with a **person** to get information. It is **passive** and one-directional.

Impersonal Source



Interpersonal Source

Human sources where information seekers get information from a **person** through a **direct both-way communication**.

Information Seeking Outcome



Success



The user **finds** desired information that fulfills their information needs.



Partial Success



The user **finds some** information that fulfils part of their information need.



Failure



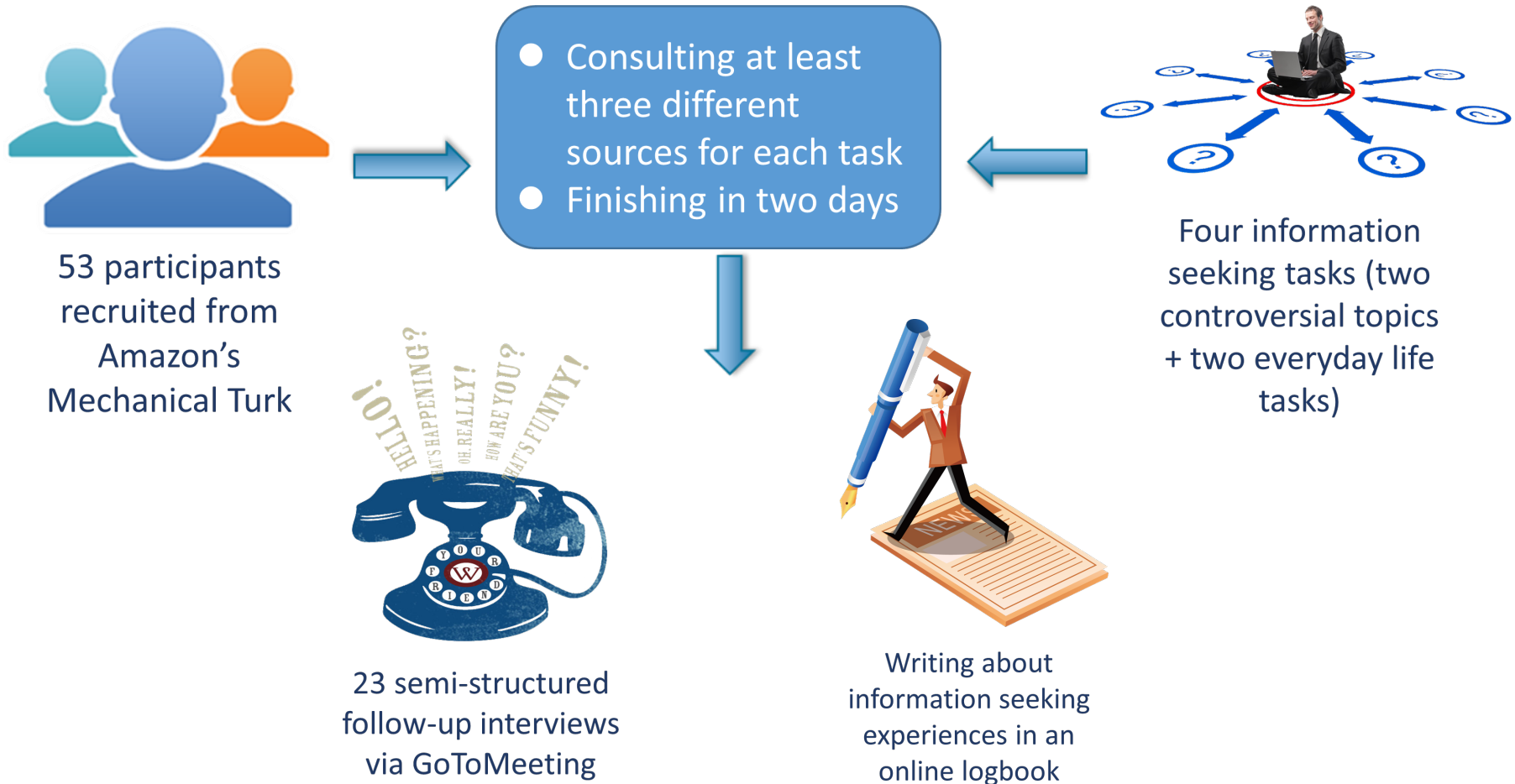
The user is **unable to find** information that fulfills their information needs.

Research Question



What is the **relationship** between individuals' selection and use of **information sources** and their information **seeking outcomes** in the **context of** their information seeking **barriers** as well as factors such as **cognitive, emotional, and social**?

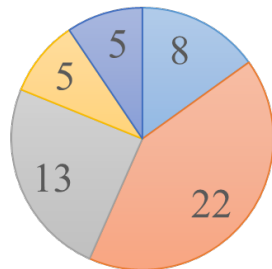
Study Design



Participants



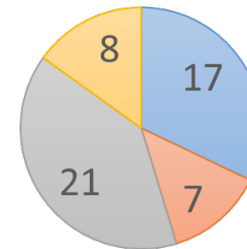
Age



■ 18-25 ■ 26-35
■ 36-45 ■ 46-55



Education



■ High School ■ Associate
■ Bachelor ■ Graduate



Survey Tasks & Questions

Task One (T1): Find at least five arguments that support legalizing abortion and five arguments that oppose legalizing abortion.

Task Two (T2): Please find a hybrid car model that fits your budget and requirement.

Task Three (T3): Please find at least five arguments to support that cell phones are safe and five arguments to oppose it.

Task Four (T4): Please find at least two apartments (under \$1000/month) in the city of Providence, Rhode Islands that satisfy your requirements.

- Please describe step-by-step the first strategy you adopted to look for information, including but not limited to the sources you consulted (e.g., people, websites) and the questions asked or keywords entered if it was an online search.
- What difficulties did you encounter when using this strategy?
- What did you find out?
- Do you think you succeeded in finding the information you needed with this strategy? Why?

- Regarding your response to the first task about abortion, you said, "some sites are more opinion than facts." Is that the reason you rate accuracy and trustworthiness pretty low?
- What do you mean by facts? Could you give me an example?
- Regarding your response to the third task, cellphone and safety, you did a Google search as your second strategy, and gave high ratings because "a lot of information was from very reputable sources." How do you define "reputable sources"?
- ...

Data Analysis: Qualitative

- Information is not available
- Unreliable Information
- Lack of help from people
- Time Constraint
- Ads and Spams
- Technical Problems

Chowdhury, Gibb, & Landoni
2011; Mansourian & Ford,
2007; Savolainen, 2015;
Świgoń, 2011

Wilson,
1999

- Social Role & Network
- Knowledge/ Education
- Environment
- Emotional/Cognitive

- Websites
- Search engines
- Online Posts
- Chatting & Texting
- Phone
- Posting on online forums
- Face to Face

Agarwal,
2011

Lamm, Mandl,
& Koellex,
2009;
Mansourian,
2006

- Success
- Partial Success
- Failure

Data Analysis: Quantitative



Frequency analysis



2x2 contingency table for each pair of variables



Pearson's *Chi*-Square test (if the expected frequencies for the variable was larger than 5)



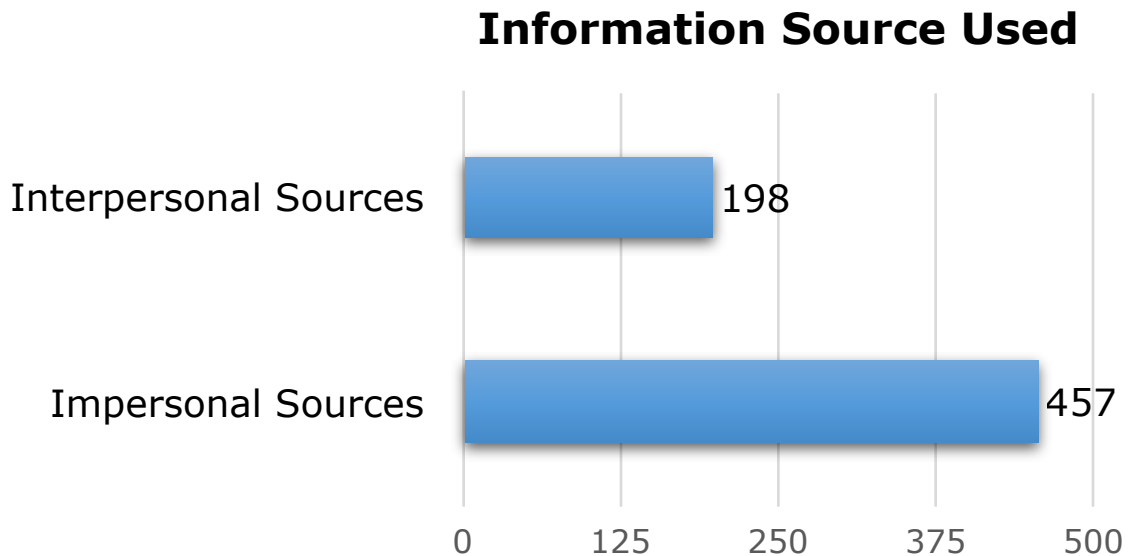
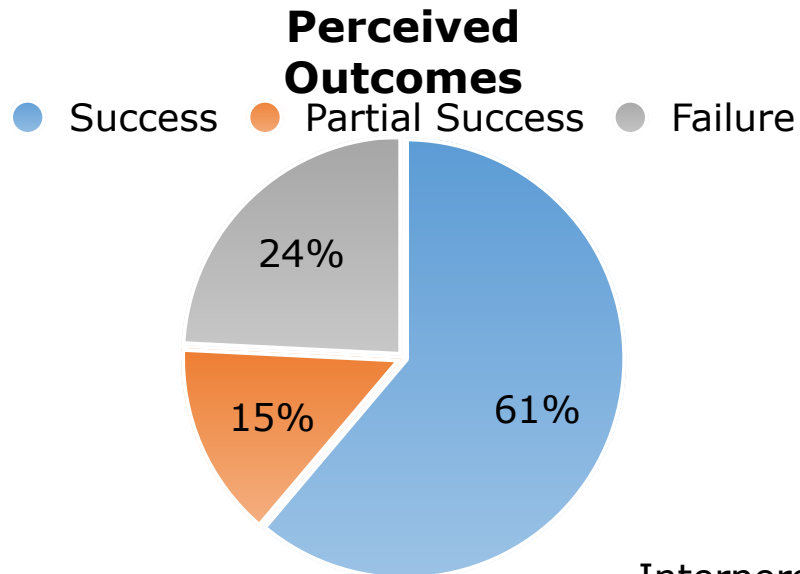
Fisher's *Exact* test (if the expected frequencies in a cell was smaller than 5)

Data Analysis: Coding Snippets

Impersonal_sources	Interpersonal_sources	Strategy
0	1	I asked my husband about his thoughts on cell phone safety.
1	0	I went to a website called abortionfacts.com that I found through the google search page, i clicked the link directly off of the web page.
1	0	I did a search on Google for cell phones and health risks. I chose a website: http://source.southuniversity.edu/health-risks-of-using-mobile-phones-137310.aspx from Southern University.
1	0	Google search for " Statistics for emotional problems in women that have had abortions and is the abortion in itself the cause." / / I followed a link to - http://afterabortion.org/2011/abortion-risks-a-list-of-major-psychological-complications-related-to-abortion/ / / I followed a link to - https://www.guttmacher.org/about/gpr/2006/08/abortion-and-mental-health-myths-and-realities
0	1	I sent a message over Steam to a gaming friend of mine who uses his phone often. I asked if he thought cell phones are safe to use and we had a short conversation.
0	1	I called both the local Toyota and Honda dealerships and spoke with a salesman from each.
0	1	I called my dad and asked his opinion on different makes of hybrid cars.

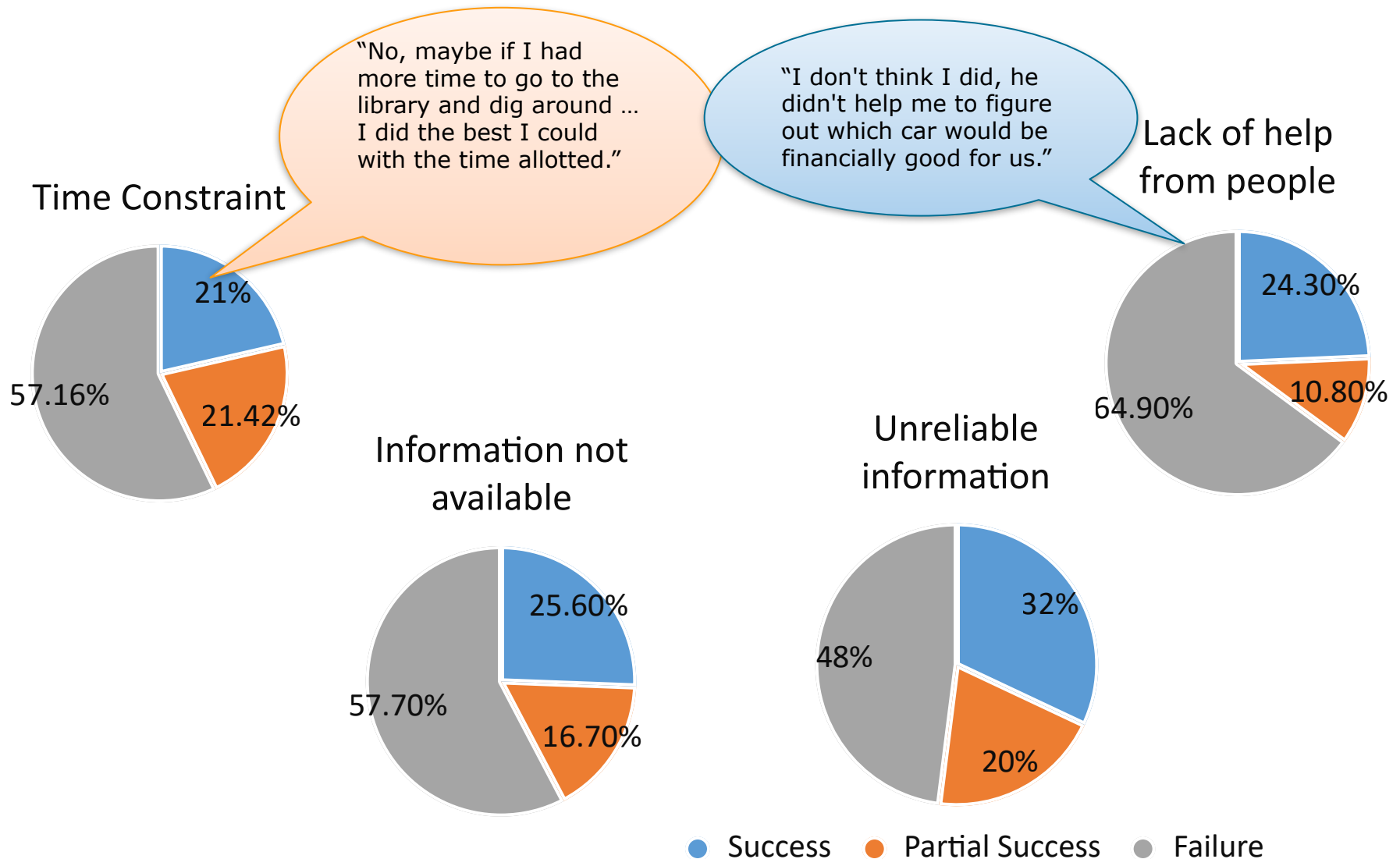
Results

53 participants submitted a total of **636** information seeking episodes



Results (contd.)

- Seekers' social roles and networks as contextual factor, was statistically significant in relation to seeking outcomes.

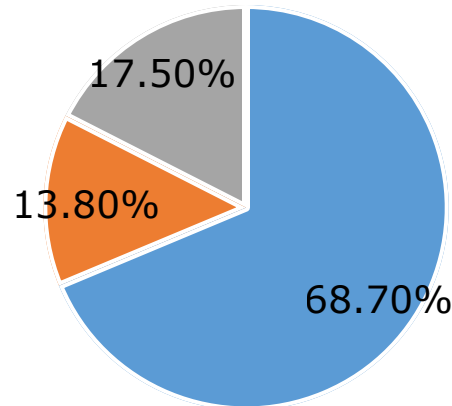


Results (contd.)

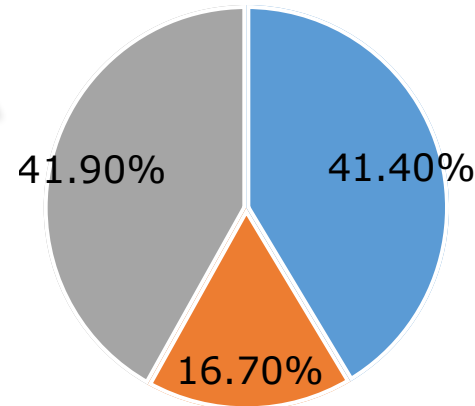
- Many participants encountered difficulties (i.e. human source did not have the needed information, could not find or contact a human source) while interacting with interpersonal sources.

"I do not think I succeeded with this strategy, because it was based off opinions and not statistics or fact as the others were. For that reason I do not find it beneficial."

Impersonal Sources



Interpersonal Sources



● Success ● Partial Success ● Failure

● Success ● Partial Success ● Failure

Conclusions

-  Users who selected and used impersonal sources had a higher probability of success, mostly because the information within impersonal sources and the sources themselves are easily accessible anytime.
-  Although interpersonal sources provided better understanding of information seeking context, they did increase searchers' chances of failure in finding the information.
-  Individuals' social role and network affect their chances of getting help from interpersonal sources and success in finding information they needed.
-  Constraints such as, lack of help from people, unreliable information, and especially time limitation that did influence seeking outcomes and increase the chances of unsuccessful results.

Limitations



Simulated search tasks are not related to participants' daily lives



Participants were not required to complete the tasks

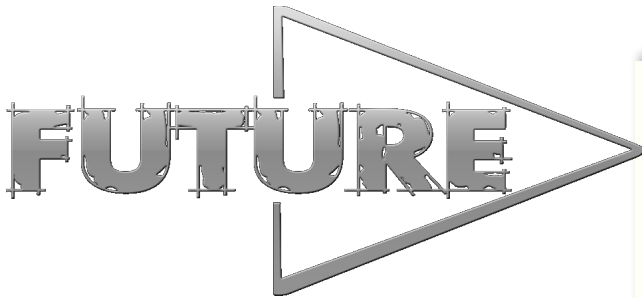


Self-reported data

Implications & Future Work

Result in the improvement of information services

Contribute to the general understanding of information seeking behavior.



Continue to work in this line of research by further analyzing the partial successes and failures and also the task or goal characteristics in relation to seeking outcomes.

RUTGERS

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and Information



<http://infoseeking.org/>

Thank You

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