University of San Diego

# Digital USD

8-2020

# Uncertainty Reduction in Initial Interactions

Melissa Cabrera
mcabrera@sandiego.edu

Introduction

Uncertainty reduction strategies are among the most fundamental motivations for human communication. When interacting with new people, uncertainty reduction is a crucial tool that people use to learn about another person and determine what their future relationship may be like. Research related to the strategies that humans use to reduce uncertainty typically focus on initial interactions and the early stages of relationships. Many recent studies tend to focus on the comparison between computer mediated communication and in-person interactions. In contrast, the current project focuses on the strategies people are most likely to employ when they are working to reduce uncertainty in face-to-face interactions, with attention to the way demographics (e.g., race or gender) might impact the choice of strategies an individual is most inclined to select. While there has been some research relating to the ways demographics might impact uncertainty reduction, specific strategies of uncertainty reduction are relatively unexplored from a demographic perspective.

Literature Review

Uncertainty Reduction Theory was conceptualized by Charles Berger to explain how we try to learn more about people when we first meet them, specifically so we may learn to understand and predict their behavior. Berger also theorized that we may use different uncertainty reduction strategies when interacting with new people (Griffin, Ledbetter, Sparks, 2019). These include *passive* strategies, which is when people gather information to reduce uncertainty by observing targets interacting with others like they normally would, and *active* strategies, which involve people asking third parties about the other person. Other strategies are

*interactive*- which occur when the people have a face-to- face conversation - and *extractive*, which involve collecting information about the target online (*ibid*). We also use forms of verbal and non-verbal communication to reduce uncertainty. Berger specified possible uncertainty reduction strategies when outlining axioms to predict how effective those strategies would be at reducing uncertainty (Berger & Calabrese, 1975).

Some scholars have expanded the model of uncertainty reduction to take into account the ways that intercultural communication can alter the outcomes (Gudykunst, 1985). In so doing, we learn aspects of intercultural communication that can impact the interaction, such as the similarity or dissimilarity of cultures, language competence, and whether or not an individual has previous experience with people from the other culture.The use of uncertainty reduction strategies, in this case using interactive strategies, is increased when the individuals share networks and language, have a close relationship, and are culturally similar to one another (*ibid)*. These conclusions impact predictions about demographic patterns, as Gudykunst's research takes into account the demographics of those whom the participants are interacting with, showing that the strategies vary from culture to culture. If similar demographics such as race do align with cultural behaviors, then it stands to reason that demographics may indeed have an impact on the uncertainty reduction strategies that participants report.

Self-disclosure is an important tool relating to uncertainty reduction. During the process of self-disclosure, an individual communicates information about themself to someone else (Jourard & Lasakow, 1958). Consequently, information about their thoughts and behavior are also revealed to that person. The content and extent of the personal information shared often differs depending on with whom the information is being shared (*ibid*). Research has further

shown that self-disclosure is impacted by the level of time, depth, and honesty relating to what was shared, as well as how much actual information was disclosed (Wheeless & Grotz, 1976).

As an interactive strategy, self-disclosure can be used during initial interactions to reveal more about the person one is interacting with through reciprocity. After sharing personal information with someone else, many people expect to hear personal information about the other person in return. Research has shown that self-disclosure is very likely to be reciprocated at low and medium levels of disclosure during initial interactions (Cozby, 1972). Because they are linked in this way, the use of self-disclosure leads to one person learning more about the other person. When both people are revealing information about themselves, they can begin to establish an understanding of who the other person is through the experiences, identities, or thoughts they share. Self-disclosure encourages establishing an honest relationship between conversational participants and can also uncover similarities they have.

Later research found females were more likely to disclose personal information to reduce uncertainty (Gudykunst & Hammer, 1987), while other studies did not see differences between male and female disclosure. The study *does* indicate that other factors such as the sex of a partner can impact the amount of uncertainty reduction someone is involved in. Self-identified women were more likely to disclose information and to demonstrate intimacy when their partner was also female (Gudykunst & Hammer, 1987), showing how the demographics of the person with which the participants are interacting influence interaction processes. Perhaps one may expect to find a higher rate of uncertainty reduction strategies among self-identified women that involve interactive strategies, including self-disclosure, asking questions, and a longer length of time talking to the other person than self-identified men.

Indeed, self-disclosure is a significant strategy used in reducing uncertainty, as it can lead people to feel a more intimate connection to someone else, as well as lead to learning more about that person in return. To measure this sort of information sharing, scholars created a numerical self-disclosure rating scale to measure the extent to which the participants tell others about themselves (Jourard & Lasakow, 1958). This scale contained sections with subjects relating to personality, attitudes, interests, money, work, and their body. Participants then used the scale to indicate the degree to which they discussed something related to that topic with others. Results highlighted differences in the ways gender and race impact self-disclosure. Interestingly, women are more likely to self-disclose to another person, whether it is a relative or a friend (*ibid)*. Seemingly, one expects that women will be more likely to use self-disclosure as a strategy to reduce uncertainty as well. Race was also analyzed in the results of the study, however only two races -white and black- were represented. This offers a limited understanding of the possible differences of self-disclosure that a larger range of races could have provided. The researchers concluded that both white men and white women were more likely to self-disclose to others than black men and black women. Within both races, women still had higher rates of self-disclosure.

More recently, self-disclosure in uncertainty reduction has been researched in the context of online relationships. Although the present study focuses on in-person interactions, analyzing patterns of self-disclosure as an uncertainty reduction strategy is essential, even if it is within the context of online relationships. In one project, scholars examined how strategies used to reduce uncertainty eventually impact online relationships. They describe a model of uncertainty reduction strategies and self-disclosure that connect to the set of concerns people engaging in online interactions have with privacy, recognition and misrepresentation (Gibbs, Ellison, & Lai,

2011). The study focused on whether increased levels of uncertainty reduction strategies lead to higher levels of self-disclosure, and also whether it lessens the concerns with self-efficacy, the internet experience, and the issues listed above. Indeed, when the participants used uncertainty reduction strategies more frequently, there was a positive effect in their self-disclosure levels and they were more likely to use self-disclosure in their interactions (*ibid)*. This research also found that self-disclosure levels were higher among women and those who reported having more online trust than other participants. Although this study centers around online dating, it reflects conclusions from other research that gender can impact the level of self-disclosure and other strategies for uncertainty reduction that you use.

Later scholars have also investigated how self-disclosure, question asking, and related intimacy are used when nonverbal cues are not present, comparing strategies used between CMC and face-to-face interactions (Peter, Antheunis, & Valkenburg, 2012). Conditions of initial interaction can have an impact on reducing uncertainty and establishing a relationship with the other person, where subjects who used CMC were found to have asked more questions and often asked about topics that were more intimate. Individuals using CMC ask more questions to reduce their uncertainty, but do not necessarily use self-disclosure more (*ibid*).

Rationale

From previous research and analysis, we can see how the context of interactions impacts uncertainty reduction strategies. Some research reports individuals who participate in CMC are reported to use less self-disclosure (Peter, Antheunis, & Valkenburg, 2012). Other research concludes those who interact through the internet are more likely to use self-disclosure when

they use other uncertainty reduction strategies (Gibbs, Ellison, & Lai, 2011). This shows that in-person interactions impact how comfortable most people are to use certain strategies, including self-disclosure.

> Hypothesis 1: Due to reflections on in-person interactions, participants will report higher levels of interactive strategies than both passive or extractive strategies.

Past research about demographic characteristics concludes that there is a difference in the ways people from different cultures approach uncertainty reduction (Gudykunst, 1985). Therefore we can predict demographics that impact the formation of culture, such as race and age, will likely have different approaches to uncertainty reduction.

> Hypothesis 2: Strategies (i.e., interactive vs. passive or extractive) used most often will be similar to other participants from the same racial identities as them.

> Hypothesis 3a: Participants age 18-30 will be more likely to use both passive or extractive strategies than participants age 30 and older.
> Hypothesis 3b: Participants age 30 and older will be more likely to use both interactive strategies than participants age 18-30.

Research relating to self-disclosure shows that women are more likely to use self-disclosure when interacting with others (Gudykunst & Hammer, 1987). From this conclusion, we can assume the amount of self disclosure women use will also be greater as they employ it as an uncertainty reduction strategy during initial interactions.

> Hypothesis 4: Women are more likely to use self-disclosure as a strategy to reduce uncertainty than men.

Methods

*Procedure*

To collect data for this study, an online survey was conducted using the Qualtrics©

platform. The survey took about 10-15 minutes for participants to complete and consisted of 26

questions. Due to the nature of an online survey, participants were able to complete the

questionnaire at any time using their own computer or device. The survey was posted as an

assignment on Amazon's Mechanical Turk (mTurk) website. Participants were able to log in,

read a brief description of the purpose of the study and the task, and finally receive information

regarding consent before clicking the link to participate. The participants were required to be at

least 18 years old and have status as a "Master" worker on MTurk.com in order to view the

assignment. Upon completion of the survey, participants received approximately $1 in Amazon

credit as compensation.

*Participants and Demographics*

In total 190 participants completed the online survey. The survey began with five

questions relating to demographic identities of the participants, including age, gender, ethnicity,

socioeconomic status, and regional location in the United States. Participants ranged from age

21-76, with an average age of 39.4 years. In addition, 57.4% of participants identified as white,

while the other 42.6% identified with minority ethnicities including Black, Latinx, Asian, Native

American, and Middle Eastern. 58.9% of the participants identified as male and 41.1% identified

as female. These demographics were used to test the hypotheses relating to demographic

differences in strategies to reduce uncertainty. The survey asked participants about uncertainty

reduction experiences, strategies including self disclosure, and perceived closeness of the

subsequent relationship. Before answering these questions, participants were prompted to think

about the questions in context of meeting a stranger and the initial interactions they might have with that person.

*Uncertainty Reduction- Background*

Seven questions related to the participants' previous experience with uncertainty reduction, and how they approach uncertainty reduction in general. This included questions about how much they expect to learn and share with someone, and how confident they are in predicting their behavior. Being able to predict the other's behavior is an indicator of knowing someone well. Questions were also asked regarding the participants motivation to reduce uncertainty, as drawn from Berger's theory of uncertainty reduction. Potential motivations included, for example, knowing you will see that person again or knowing that person can give you something you want. For example, the question "When you first meet someone, how important are the following in determining your motivation for learning more about that person?" can be answered using a 7-point scale ranging from "Not Important" to "Very Important". Reflecting on their past interactions, these questions provide an understanding of how effective their uncertainty reduction strategies have been perceived in the past.

*Strategies*

The next section of questions asked participants about specific strategies they use when trying to reduce uncertainty. Participants were asked to use a 7-point scale to indicate how often they use a specific strategy, ranging from "never" to "always". An example of these strategies might include "Observe their behavior from a distance" or "Talk to them face-to-face". The strategies included were examples of passive, active, and interactive strategies. Including a combination of examples from the multiple possible strategies allowed the participants to

indicate which strategy was actually the closest to what they might do. The data from these

questions provided participant perceptions about how they believe they behave when interacting

with someone new and are trying to learn more about that person.

*Self-Disclosure*

It is important to also consider how self disclosure is used as an uncertainty reduction

strategy even though it is not directly focused on learning about the other person. Therefore,

specific questions relating to self disclosure were included in the study. Specifically, participants

reflected on what they share during initial interactions and indicated whether they are likely to

use self disclosure as a strategy. The participants were asked "How likely are you to share

personal information with someone if they are sharing personal information about themselves

with you?" and "How likely are you to share personal information with someone if they have not

shared anything personal about themselves with you?". Participants could answer on a 7-point

scale from "Not Likely" to "Very Likely". The results from these questions provide insight into

the amount that the participant might use self disclosure depending on whether or not they have

reduced some uncertainty about the person they are interacting with.

*Results of Uncertainty Reduction*

Finally, the survey includes some questions to assess how confident the participant is

with the strategies they use. If they indicate a closer relationship to the new person, that can

show they are happy with the strategies they indicated they use and are likely to use them often.

Participants chose to indicate how they feel about the relationship by selecting a visual from an

image containing seven venn diagrams. The venn diagrams had increasing degrees of overlap,

which were designed to reflect how intimate the participants feel with the new person (Aron,

Aron & Smollan, 1992). Participants were also asked whether they were thinking of the questions in relation to meeting a new friend, a potential romantic partner, or neither. This question was used to be able to indicate potential differences in the way participants were thinking about the questions, and might explain any gaps in the way certain participants' answers varied from others.

<div align="center">Results</div>

*Hypothesis 1*

Hypothesis One predicted that participants will report higher levels of interactive strategies than both passive or extractive strategies. In order to compare interactive and extractive strategies, two composite scalar items were created. The *interactive* scale was a combination of two items measuring interactive strategies and self-disclosure, with a Chronbach's Alpha score of a = 0.719. The *passive/extractive* scale was a combination of five items measuring passive strategies and observation, with a Chronbach's Alpha score of a = 0.785. Consistent with predictions, participants reported higher levels of interactive strategies ($m = 3.54$, $sd = 0.85$) than passive or extractive strategies ($m = 2.80$, $sd = 0.81$) using a paired samples t-test ($t = 10.28$, $p = .000$).

*Hypothesis 2*

Hypothesis Two predicted that the most commonly used strategies (i.e., interactive vs. passive or extractive) by participants will be similar to other participants from the same racial identities as them. Using the same *interactive* and *passive/extractive* scales created in *Hypothesis One,* two one-way analyses of variance (ANOVA) were conducted to look at the differences in strategy usage by racial background. Consistent with predictions, there were significant differences by self-identified race in participants' uses of both active strategies ($F = 2.42$, $p = .028$) and passive/extractive strategies ($F = 4.26$, $p = .000$).

*Hypothesis 3a*

The first part of *Hypothesis Three* predicted that participants age 18-30 would be more likely to use both passive or extractive strategies than participants age 30 and older. Consistent with predictions, those younger participants were more likely to use those passive or extractive strategies ($m = 3.15$, $sd = 0.91$) than were older participants ($m = 2.71$, $sd = 0.77$), using a one-way analysis of variance ($F = 9.68$, $p = .002$).

*Hypothesis 3b*

The second part of *Hypothesis Three* predicted a difference by age in the use of interactive strategies. Counter to prediction, there was no difference between participants age 30 and older ($m = 3.51$, $sd = 0.84$) as compared to participants age 18-30 ($m = 3.76$, $sd = 0.89$) in their use of interactive strategies ($F = 2.91$, $p = .090$).

*Hypothesis 4*

The final hypothesis predicted that women are more likely to use self-disclosure as a strategy to reduce uncertainty than men. Counter to predictions, women were not more likely to share personal information with someone if they were sharing information with them ($F = 1.69$, $p = .196$), not more likely to share personal information with someone if they were not sharing information with them ($F = 0.12$, $p = .727$), and finally not more likely to share personal information with someone to try to get them to share information as well ($F = 0.64$, $p = .427$).

## Discussion

The ability to reduce uncertainty during initial interactions allows people to learn about each other, and also to establish a foundation for the kind of relationship they plan to have - if any - in the future. The examination of uncertainty reduction strategies allows us to understand the actions that some take in order to get to know another person. There are multiple strategies included in this theory as well as more specific actions that fit into each strategy type. This research sought to examine how certain demographic groups might prefer to use one strategy over others, and how that compares to other groups in that demographic category. Data was

collected through a survey that was distributed online. The survey asked participants about the levels of uncertainty reduction they usually experience, including their motivation for wanting to reduce uncertainty. They were told to rank certain strategies and indicate how often they used them. The resulting data was used to analyze possible patterns of strategy use among participants with certain demographics.

The accessible online format of the survey allowed for a fairly large number of participants to take part in this research. The survey was not limited to a certain population and provided a variety of demographic identities to be represented in the results. The representation of different populations not only allowed the analysis of those groups but also the comparison of certain groups to one another. In some cases, multiple groups were analyzed together in comparison of a group with a large number of participants. For example, the majority of participants identified as white. The participants who had other racial identities were analyzed together as the minority group and then compared to the responses of the white participants. In future research, perhaps with a focus on soley participants of color, the differences within or between racial minority groups can be examined more closely.

Moving forward, research can also be adjusted to account for intersectionality among the participants. There are many identities that can possibly impact the use of certain strategies, and it is important to take into account how focusing on one identity at a time may have an impact on the significance of the results. Another factor to account for in future studies is the type of relationship the participant had in mind while filling out the questionnaire. Participants in this study were asked retrospectively whether they were thinking of the questions in relation to a new friend, potential romantic partner, or neither. Although there was no analysis specific to the

influence these perspectives can have on the participants' results, researchers going forward may specify up front which type of interaction the participants should be referring to, and using a comparative approach be able to analyze whether it impacts the choices made by participants.

The results from the current study were able to provide insight into how demographic groups used certain strategies to reduce their uncertainty about someone they just met. The first hypothesis that was made predicted the participants would report using interactive strategies more frequently than passive or extractive strategies. This assumption stemmed from previous research which had concluded that self-disclosure is more likely to be used during in person interactions, which is what this study is centered around. This hypothesis was supported by the data collected from the survey. In total, higher levels of interactive strategies were reported to be used than passive or extractive strategy. From these results, we many confirm the assumption that participants are more likely to use interactive strategy during initial interactions that are in-person. It is important to note that although the average for interactive strategy was higher than other strategies, there was only an average score of 3.54 out of 7 when the participants were asked how likely they would be to use interactive strategies.

Hypothesis two predicted that participants would be more likely to use similar strategies to those in their shared self-identified racial group. Consistent with predictions, participants who were likely to use interactive strategy over passive or extractive strategy shared similar responses to those in the same racial group. Although there was no analysis specifying whether groups of minority races were more likely to use a certain strategy compared to those who are white, participants of the same racial groups behaved more similarly to each other than to participants from other racial groups.

Hypothesis 3a predicted that participants age 18-30 would be more likely to use passive or extractive strategies than participants 30 years or older. This hypothesis was formed to once again reflect whether or not people from similar demographic groups would use similar strategies. The data from the survey supports this hypothesis. Participants in the 18-30 range were more likely to use extractive and passive strategies, while participants who were at least 30 less likely to use passive and extractive strategies. However, there was not a big difference found among these age groups for the use of interactive strategies. Hypothesis 3b predicted a difference between the use of interactive strategies between 18 to 30 year-old participants and those who were older. The data did not support this prediction. There was no difference found in the likelihood that older participants would use interactive strategies compared to young participants. This discrepancy may be caused by the motivation of the 18 to 30 year-old group to reduce uncertainty. Both age groups use interactive strategies while interacting with a new person, but if participants in the younger age group were more motivated to reduce their uncertainty about the other person, they would also be more likely to employ passive and extractive strategies during those interactions while older participants would not find it necessary.

The final hypothesis predicted a difference in the strategies used by participants of certain gender identities. Previous research that looks particularly at self-disclosure - which is an interactive strategy - has indicated a difference in gender when it comes to the use of self-disclosure. Specifically, these studies found that women were likely to use higher levels of self-disclosure than men. Based on these conclusions, hypothesis four predicted women would report higher likelihood of using self-disclosure than men. All participants in this study identified as a woman or man, therefore these groups were used to make comparisons between gender

identities. The results found no difference in the way these two groups reported using self-disclosure as an uncertainty reduction strategy. Women did not indicate they used self-disclosure more often than men did, whether or not the person they were interacting with was also sharing personal information. Women and men were equally likely to use self-disclosure in an attempt to get the other person to share personal information with them. Here, the results may differ from the hypothesis due to the outdatedness of the studies the hypothesis was based on. Because these studies were conducted over thirty years ago, it is likely a large social shift has occurred since that time that would impact the results. Recently society is characterized as moving towards debunking or minimizing gender stereotypes and gender roles, including views that men who open up to others should fear being considered feminine. It is likely men may now feel more comfortable sharing personal information with others and also admitting to opening up to people.

     After analyzing which strategies participants were likely to use, it also seemed important to note how effective participants feel the strategies they chose were. At the end of the survey, participants were asked about relational closeness. By selecting a venn diagram from a range of increasing degrees of overlap, they indicated how close they would feel to the new person they are interacting with. The degree of closeness they feel can be indicative of whether or not the uncertainty reduction strategies they use are effective. It is also important to consider how the same demographics that were considered when comparing strategies of uncertainty reduction- race, gender, and age- can affect the level of closeness participants felt, as seen in *Appendix One*. For example, white participants responses showed that they were less likely to feel a higher level of relational closeness than non-white participants. On average, participants who were 18 to 30

years old reported a higher degree of relational closeness than participants over age 30. Participants who identified as women indicated a lower degree of closeness than participants who identified as men.

Overall, this study was successful in comparing the ways demographic groups approach uncertainty reduction. Strategies used during initial interactions are significant to the development of those relationships, and it is important to examine how demographic identities can impact their use. Additionally, there are further variations of this research that can be explored and in the future to advance understanding of the role of uncertainty reduction strategies.

References

Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of personality and social psychology*, *63*(4), 596.

Antheunis, M. L., Schouten, A. P., Valkenburg, P. M., & Peter, J. (2012). Interactive Uncertainty Reduction Strategies and Verbal Affection in Computer-Mediated Communication. *Communication Research*, *39*(6), 757–780.

Berger, C.R., Calabrese, R.J. (1975). Some Explorations in Initial Interactions and Beyond: Toward a Developmental Theory of Interpersonal Communication. *Human Communication Research,* 1(2), 99-112.

Cozby, P. (1972). Self-Disclosure, Reciprocity and Liking. *Sociometry, 35*(1), 151-160.

Gibbs, J.L., Ellison, N.B. & Lai, C.-H. (2011). First Comes Love, Then Come Google: An Investigation of Uncertainty Reduction Strategies and Self-Disclosure in Online Dating. *Communication Research*, 38(1), 70-100.

Griffin, E., Ledbetter, A., & Sparks, G. (2019). *A First Look at Communication Theory* (10th ed.). New York, NY: McGraw-Hill Education.

Gudykunst, W. B. (1985). A Model of Uncertainty Reduction in Intercultural Encounters. *Journal of Language and Social Psychology, 4(2)* 79-98.

Gudykunst, W. B., & Hammer, M. R. (1987). The Influence of Ethnicity, Gender, and Dyadic Composition on Uncertainty Reduction in Initial Interactions. *Journal of Black Studies*, *18* (2), 191–214.

Jourard, S.M. & Lasakow, P. (1958). Some factors in self-disclosure. *Journal of Abnormal and Social Psychology*, 56(1), 91-98.

Wheeless, L.R. & Grotz, J. (1976). Conceptualization and Measurement of Reported Self-Disclosure. *Human Communication Research*, 2, 338-346.

Appendix One: Table of Demographics and Relational Closeness

**Sex/Gender by Relational Closeness**

| | Mean (m) | Standard Deviation (sd) | Total Participants (N) |
|---|---|---|---|
| Male-Identified | 3.30 | 1.49 | 112 |
| Female-Identified | 2.78 | 1.42 | 78 |
| Total | 3.09 | 1.48 | 190 |

**Age by Relational Closeness**

| | Mean (m) | Standard Deviation (sd) | Total Participants (N) |
|---|---|---|---|
| 18-30 years old | 3.72 | 1.65 | 39 |
| Over 30 years old | 2.93 | 1.40 | 151 |
| Total | 3.09 | 1.48 | 190 |

**Race by Relational Closeness**

| | Mean (m) | Standard Deviation (sd) | Total Participants (N) |
|---|---|---|---|
| White | 2.73 | 1.37 | 109 |
| Non-White | 3.57 | 1.63 | 81 |
| Total | 3.09 | 1.48 | 190 |