

EFFECTS OF CULTURAL DIFFERENCES IN VISUAL PERCEPTION AND VERBAL  
COMMUNICATION ON CONVERSATION DYNAMICS, LANGUAGE USE AND  
FIRST IMPRESSION FORMATION DURING VIDEO-MEDIATED COMMUNICATION

A Dissertation

Presented to the Faculty of the Graduate School

of Cornell University

In Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

By

Jin Liu

August 2016

© 2016 Jin Liu

EFFECTS OF CULTURAL DIFFERENCES IN VISUAL PERCEPTION AND VERBAL  
COMMUNICATION ON CONVERSATION DYNAMICS, LANGUAGE USE AND  
FIRST IMPRESSION FORMATION DURING VIDEO-MEDIATED COMMUNICATION

Jin Liu, Ph.D.

Cornell University 2016

This dissertation investigates how Americans and Chinese communicate with each other during video conferencing and whether cultural differences in their visual perception and verbal communication patterns can affect their video-mediated interactions. In this study, I attempt to build a theoretical framework of interpersonal perception by exploring how culture and environmental cues can influence conversation dynamics and how language use during a conversation can affect first impression formation.

Previous research indicates Americans tend to focus more on the focal object in the foreground when viewing a visual scene, whereas Chinese are inclined to pay more attention to the background context and the relation between the focal object and the background. It is likely that Americans and Chinese may also differ in the way they perceive contextual information during video conferencing, which may have various impacts on their communicative behaviors. To examine these hypotheses, I conducted lab experiments with 32 pairs of participants who had Skype video chats with one another. They were randomly assigned into different culture and background conditions. Audio records of the video chats were transcribed, coded, and analyzed. Although no interaction effect of culture and background manipulation on conversation dynamics was found, the results suggest the presence of background items irrelevant to the topics of conversation was distracting to both American and Chinese participants, leading to lower talkativeness and fewer self-disclosures.

Cultural differences in verbal communication patterns were also found between the two cultures. Previous research indicates that Chinese tend to be high-context and relationship-oriented, while Americans are considered as low-context and task-oriented during conversations. In this study, it is hypothesized that such cultural differences may affect the talkativeness level, self-disclosing behavior and the use of social words and emotion expression words of participants from the two cultures. The hypothesis on cultural difference in emotion expression is supported by the results, suggesting that Chinese use fewer positive emotion words than do American participants.

In addition, this study also examines whether interpersonal impressions can be influenced by conversation dynamics and language usage. To examine these questions, participants were asked to complete a survey after the video chat to report their impressions of the Big-Five personality traits of the partner, how much they trusted the partner, and how much they want to engage in social interaction with the partner. The results reveal that the more one talks, the more extraverted he/she will be considered, and the more affective trust he/she will receive. The more self-disclosure one makes, the more affective trust he/she is likely to receive from the partner. The more social words one uses, the more extraverted he/she is considered by the partner, which also appears to lead to higher intention to engage in social activities.

Based on the results, an interpersonal perception framework was constructed to illustrate the chain effects of background and culture on conversation dynamics, language use, personality inference, trust formation and social behavioral intention, as shown in Figure 10. This work opens a discussion on the effect of environmental cues on cross-cultural video-mediated communication and provides implications for the design of video-chat tools for users in general and for users who lack common ground with their partners.

## BIOGRAPHICAL SKETCH

Jin Liu was born and raised in Beijing, China. She loves writing, painting and performing poetry. Before she came to the US, she received with dual degrees of BA in Broadcasting Journalism and BS in Economics from Peking University. Her passion for television production led her to become a news reporter and a television host at Beida TV Station for three years during college. She got the opportunity to interview Kofi Annan in 2006, the Secretary-General of United Nations at the time. As she was editing and producing TV programs, Jin discovered her passion for visual design and decided to pursue her MA in Professional Communication at Clemson University, where she served as the president of International Student Association.

Her fascination with customizing user experience design for different cultures led her to the quest for PhD in Communication at Cornell University to become a scholar in Human-Computer Interaction and Cultural Psychology. Jin studied how the cultural differences in visual perception and verbal communication can affect people's interpersonal perception and interaction experience during video-mediated communication and explored the design opportunities for video-conferencing tools to fulfill the diverse needs and expectations of users from different cultures.

As an ambitious adventurer, Jin always dreams of travelling the world and bringing people together through technology innovations. Upon receiving her PhD degree, she is ready to work in the industry of UX design and research to make her dreams come true.

*To Anna, Bing, Mom, Dad, Grandma and Grandpa*

## ACKNOWLEDGEMENTS

I would like to extend my gratitude to my advisor, Susan Fussell, for her support and mentorship over the last seven years. She introduced me to the field of intercultural and interpersonal computer-mediated communication and led me to the quest for knowledge and self-discovery as a scholar. Her work never ceases to inspire me and to expand my horizon. I am grateful for having her as my advisor, my colleague and my friend. Also, I am fortunate to have Poppy McLeod, Jeff Hancock, and Qi Wang on my committee, who helped me explore the topics of my passion and supported my decision to work remotely on the doctoral dissertation while taking care of my newborn daughter.

Most of all, I owe my success to my parents and my grandparents who taught me to dream big and work hard, to my amazing husband who is my rock and my soul mate, and to my dear daughter who gives me new purpose in life.

## TABLE OF CONTENTS

Biographical Sketch .....	iii
Dedication .....	iv
Acknowledgements .....	v
List of figures .....	vii
List of tables .....	viii
Chapter 1: Introduction .....	1
Chapter 2: Theoretical Basis .....	7
Chapter 3: Effects of Cultural Differences on Conversation Dynamics.....	27
Chapter 4: Effects of Conversation Dynamics on Impression Formation.....	43
Chapter 5: General Discussion and Conclusion .....	51
Appendices .....	62
References .....	71



## LIST OF FIGURES

Figure 1: A theoretical framework of background and cultural effects on conversation and interpersonal perception .....	25
Figure 2: An interpersonal perception framework: background and cultural effects on linguistic patterns during conversations .....	27
Figure 3: Self-disclosure by culture and background .....	37
Figure 4: Talkativeness by culture and partner culture .....	37
Figure 5: Self-disclosure by cultural pairs .....	38
Figure 6: Use of positive emotion words by cultural pairs .....	39
Figure 7: A tested interpersonal perception framework: background and cultural effects on linguistic patterns during conversations .....	40
Figure 8: An interpersonal perception framework: effects of linguistic cues on interpersonal impression formation and behavioral intentions .....	43
Figure 9: A tested interpersonal perception framework: effects of linguistic cues on interpersonal impression formation and behavioral intentions .....	49
Figure 10: A tested interpersonal perception framework: effects of linguistic cues on interpersonal impression formation and behavioral intentions .....	51

## LIST OF TABLES

Table 1: Conversation examples of difference in talkativeness.....	56
Table 2: Conversation examples of difference in emotion expression.....	57

## CHAPTER ONE

### INTRODUCTION

Video conferencing is a communication tool that allows two or more people in multiple locations to converse by simultaneous two-way video and audio transmissions. As video conferencing provides a face-to-face experience without the interlocutors having to be together, it has become more and more popular for geographically distributed groups and individuals due to its low cost in time and money. Video chat tools such as Skype, Google Hangouts, Facebook Messenger, etc., have been widely used in both business and personal contexts. By connecting people in different locations, video conferencing technology increases the opportunity for people from different cultures to communicate and collaborate. Therefore, it is important to investigate how people from different cultures communicate with each other and whether cultural differences in their communication patterns can affect their interactions during video conferencing. This dissertation research focuses on how cultural differences in visual perception and verbal communication between Chinese and Americans influence their conversation dynamics, language usage, first impression formation, and interaction intention formation during video-mediated communication.

To address these questions, I conducted inquiries on three main effects: a) effects of cultural differences in visual perception on conversation dynamics and language usage, b) effects of cultural differences in verbal communication on conversation dynamics and language usage, and c) effects of language usage on first impression formation.

#### **Effects of Cultural Differences in Visual Perception**

It is a robust finding that people from different cultures tend to perceive visual scenes in different patterns. Specifically, Americans tend to focus more on the focal object in the

foreground, whereas Chinese are inclined to pay more attention to the background context and the relation between the focal object and the background (e.g., Ji et al., 2000; Masuda & Nisbett, 2001, 2006; Chua et al., 2005; Hedden et al., 2008). It is very likely that Americans and Chinese also differ in the way they perceive contextual information during video conferencing, which may have various impacts on their communicative behaviors (Liu & Fussell, 2012). However, little research has been done on the effect of cultural variation in visual perception on the conversation dynamics and the use of words during video conferencing. In this study, I examine whether Chinese pairs' conversations during video-mediated communication are more likely to be affected by the presence or absence of objects in the background in the video-chat window than are American pairs' conversations.

To examine these questions, I conducted lab experiments in which 32 pairs of participants had Skype video chats with one another. They were randomly assigned into different culture and background conditions. Audio records of the video chats were transcribed, coded, and analyzed. No interaction effect of culture and background manipulation was found. However, the results suggest a main effect of background manipulation on conversation dynamics. The presence of background items irrelevant to the topics of conversation was found to be distracting to both American and Chinese participants. Those who were in the 'Item Condition', in which background items were visible in the video-chat window, were less talkative and made fewer self-disclosures than did those who had no background items visible. The distracting effect was more significant in American-Chinese pairs, who rely more on nonverbal cues (e.g., gaze, facial expression, gesture, etc.) to understand each other due to their lack of common ground, as previous research suggests (Veinott et al., 1999; Vertegaal et al., 2001; Gu & Badler, 2006). They appeared to be more distracted as they engaged in self-

disclosure conversation (i.e., recalling previous experience about movies, friends, weekends, etc.), which tends to require higher attentional capacity than does non-disclosure conversation.

### **Effects of Cultural Differences in Verbal Communication**

Intercultural researchers have discovered cultural differences in several aspects of verbal communication. People from East Asian cultures are found to be high-context and relationship-oriented, while those from Western cultures are shown to be low-context and task-oriented. Chinese often communicate in ways that camouflage and conceal speakers' true intentions for social purposes. They are usually implicit about what they really want to express and talk around the point, expecting their partners to figure out their intentions and emotions (Hall, 1976; Gudykunst & Ting-Toomey, 1988; Bond, 1993; Gudykunst et al., 1996). In addition, Chinese and Americans seem to have different agendas during conversations. Americans tend to focus on finishing the task at hand, while Chinese tend to place greater importance on relationship building and face management apart from task completion (Walls, 1993; Trandis, 1995; Ting Toomey, 2005; Setlock et al., 2007).

Therefore, Chinese participants are hypothesized to be less talkative, to make less self-disclosure, to use more social words, and to be more reluctant to express their emotions than Americans. In this study, only the hypothesis on cultural difference in emotion expression is supported by the results, suggesting that Chinese use fewer positive emotion words than do American participants. Such cultural difference is most salient between AA pairs and CC pairs. In AA pairs, participants tend to be more interested in knowing how their interlocutor feels about the experience, which they try to determine by asking about how their partner likes the place. However, CC pairs seem to focus more on describing the facts rather than on subjective perceptions.

## **Effects of Language Usage on Impression Formation**

As previous research suggests, personality impressions are found to be strongly shaped by language and word use during both face-to-face and online communications, and such judgments are usually consistent and accurate (e.g., Mehl et al., 2006; Biel et al., 2013). In this study, I examine whether interpersonal impressions can be influenced by the level of talkativeness, the amount of self-disclosure, and the use of social words and positive emotion words. To examine these questions, participants were asked to complete a survey after the video chat to report their impressions of the Big-Five personality traits of the partner, how much they trusted the partner, how much they want to engage in social interaction with the partner, and their demographic information. The ratings of first impressions were analyzed in relation to the conversation data collected during the video chats.

The results suggest that talkativeness and self-disclosure can have positive effects on perceptions of extraversion and affective trust. In other words, the more one talks, the more extraverted he/she will be considered, and the more affective trust he/she will receive. The more self-disclosure one makes, the more affective trust he/she is likely to receive from the partner. In addition, the use of social words seems to be positively associated with the impression of extraversion and the formation of social behavioral intention. Specifically, the more social words one uses, the more extraverted he/she is considered by the partner, which also appears to lead to higher intention to engage in social activities.

## **Key Contributions**

With the present research, I will attempt to build a theoretical framework of interpersonal perception by exploring how culture and environmental cues can influence conversation dynamics and how language use during a conversation can affect first impression formation. My

investigation of the effects of background manipulation on video-mediated conversations in this study has opened a discussion on the effect of environmental cues on conversation dynamics and word usage, which has not yet been studied by previous researchers.

The findings of this study may have some implications for the design of video-chat tools for users in general and for users who lack common ground with their partners. As the results suggest, background items in video-chat windows may be distracting during video-mediated communication. Specifically, the presence of background items may decrease how much people talk and how much self-disclosure they make. This effect is more salient among intercultural pairs (American-Chinese pairs) who share less common ground with their partners. As a result, they tend to be more reliant on nonverbal cues to understand each other. Therefore, seeing irrelevant items in the background of video-chat windows may lead to even lower talkativeness and fewer self-disclosures compared to same-culture pairs. Considering that people tend to have video chats in places that often do have items in the background, CMC designer may want to develop a video-chat tool that automatically focuses on the person in the window while blurring the background, which may lead to more engaging conversations. Such a feature is expected to be especially beneficial for intercultural pairs who are more dependent on nonverbal cues during video-mediated communication due to their lack of common ground.

## **Structure of the Dissertation**

In this introductory chapter, I describe the research questions. In Chapter 2, I provide an extensive literature review on cultural differences in visual perception and verbal communication, and on interpersonal impression formation. On the basis of this review, I constructed a theoretical framework of interpersonal perception. In Chapter 3, I examine the left part of the framework by presenting an analysis of how background and culture affect conversation. In Chapter 4, I

examine the right part of the framework by presenting an analysis of how conversation affects impression formation. In Chapter 5, I discuss the findings reported in Chapters 3 and 4, as well as the limitations and implications of this study.



## CHAPTER TWO

### THEORETICAL BASIS

Previous research demonstrates substantial differences in visual perception patterns between Chinese and Americans. People with a Chinese cultural background tend to view visual scenes holistically, as a unified scene, whereas those with an American cultural background tend to view them analytically, in terms of separate components. In addition, compared to Americans, Chinese are more likely to notice items in the background and their perception of the visual scene is more likely to be influenced by the contextual cues in the background (e.g., Ji et al., 2000; Masuda & Nisbett, 2001, 2006; Chua et al., 2005; Masuda et al., 2008). During video conferences, people are often seated in a way that allows some objects in the environment, such as books, posters, and family photos, to be visible in the background. Cultural differences in perceptual strategies may lead people to have different perceptions of the visual scenes in video-chat windows, which may in turn influence the conversations.

Previous research has also identified a number of cultural variations between Chinese and Americans. During verbal communications, Chinese culture is typically characterized as high-context and relationship-oriented, whereas American culture is considered as low-context and task-oriented. Such cultural differences are manifested in various aspects of conversation dynamics, as revealed in previous theoretical and empirical studies (e.g., Hall, 1976; Hofstede, 1983; Nisbett, 2003; Triandis, 1989). As interpersonal impressions (e.g., personality perception and trust formation) appear to be affected by verbal cues during conversations, cultural variations in verbal communication patterns are likely to influence interpersonal impression formation and even behavioral intentions (Biel et al., 2013; Tskhay & Rule, 2014; Mehl et al., 2006; Gosling et al., 2002; Liu & Fussell, 2012).

The remainder of this chapter is dedicated to presenting empirical evidence on cultural differences in visual perception and verbal communication patterns between Chinese and Americans. This is followed by a review of extant literature on interpersonal impression formation, based on which a theoretical framework of the possible effects of environmental cues and cultural background of participants on conversation components, personality perception, trust formation, and behavioral intention formation during video-mediated communication is proposed.

### **Cultural Differences in Visual Perception Patterns**

It is a robust finding in cultural psychology literature that East Asians and European Americans tend to perceive and process visual information in different ways. East Asians' visual perception style is considered as "field-dependent," whereby they are inclined to pay more attention to the background part of a picture and rely more on the background context in interpreting the visual scene. In contrast, Americans are found to be "object-focused" viewers, meaning they tend to focus more on the focal objects in a picture and are likely to process the information of focal objects independent from the background environment (e.g., Ji et al., 2000; Masuda & Nisbett, 2001; Kitayama et al., 2003; Hedden et al., 2008). Empirical evidence of such cultural differences in visual perception has been identified in visual scenarios, such as attention allocation, perceptual processing, visual presentations, etc. (Ji et al., 2000; Masuda & Nisbett, 2001, 2006; Kitayama et al., 2003; Gutchess et al., 2006; Goh et al., 2007; Hedden et al., 2008; Duff et al., 2009). In this section, a review of pertinent literature on the aforementioned cultural differences in visual perception between the two cultures is presented.

**Attention allocation.** Using eye-tracking technology, researchers have revealed significant correlations between culture and visual attention allocation (Chua et al, 2005). When

presented with pictures of an object placed in an environment (e.g., a tiger in a jungle), American participants appeared to direct their gaze at the focal object sooner and fixated on it for longer periods. Conversely, Chinese participants' attention was oriented away from focal objects and towards the background scene. This finding suggests that Americans are more attentive to focal objects when viewing a visual scene, whereas East Asians are inclined to turn their attention towards the field and the relationship between objects and the field.

Similar patterns of visual perception were also found in information recall tasks, in which participants were asked to describe pictures they just saw (Masuda & Nisbett, 2001). Researchers found that East Asian participants were more likely to mention relatively peripheral, non-salient, or background information than American participants were. East Asians also made a greater number of statements about the relationship between the focal objects and the background, suggesting that they are more attentive than Americans are to the background part of visual scenes and its relation with the focal objects. This notion was confirmed by Goto and his colleagues (2010). They showed participants a series of pictures of focal objects superimposed on the center of various scenes. Some of the backgrounds were congruous with the focal object (e.g., a crab on the beach), while others were not (e.g., a crab on a parking lot). In this task, participants were asked to determine whether the pictures were animated or not. East Asians appeared to be more prone to detecting incongruities between the background and focal objects than American participants were, indicating cultural differences in sensitivity to contextual information.

**Perceptual processing.** A variety of studies suggest that East Asians not only perceive, but also subsequently process objects in relation to the contexts to a greater degree than Americans do (Ji et al., 2000; Kitayama et al., 2003; Masuda & Nisbett, 2001, 2006; Goh et al.,

2007; Hedden et al., 2008). In the Rod-and-Frame tasks, participants were instructed to determine the orientation of a rod situated within a frame that rotates independently of the rod. This task requires field independence in perceptual processing, i.e., the ability to view a focal object (the rod) separately from the field (the frame). The results revealed that Americans were faster and more accurate than East Asians (Chinese, Korean and Japanese) were in judging the rod's orientation, indicating that East Asians tend to interpret an object in relation to its environment (Ji et al., 2000).

Such cultural variation in field dependence was also found in picture recognition tasks (Masuda & Nisbett, 2001). In the study, participants were presented with a sequence of pictures that showed a series of fish underwater, with seaweed, frogs, seashells, etc. in the background. Then they were asked to find the fish they just saw in another sequence of fish pictures. Researchers found that East Asians were faster and better at recognizing previously seen fish when the fish were placed in the original background than when they were placed in a different background. On the other hand, American participants' performance did not differ across the two conditions. Researchers explained that East Asians tend to use a "binding" strategy by memorizing the focal objects and the context as a whole. As a result, when they see the background of a picture, they find it easier to recall the focal objects in the picture (Masuda et al., 2001; Goh et al., 2007; Gutchess et al., 2006). These studies suggest that East Asians and Americans tend to process objects and scenes differently when encoding them into memory. While East Asians appear to interpret and memorize an object as a part of the contextual scene it is imbedded in, Americans tend to memorize an object by recalling its own properties, i.e., independently from the context.

**Visual presentations.** Similar pattern of cultural differences was also found in a variety of visual displays, such as paintings, drawings, photographs, television commercials, and even Facebook profile pictures (Masuda et al., 2008; Liu & Fussell, 2011; Huang & Park, 2012). Through extensive comparisons, Masuda and his colleagues (2008) demonstrated systematic differences between East Asian and Western cultures in the choice of perspectives and construction in various visual presentations, including landscape paintings, portraiture, drawings, and photographs in both ancient and contemporary times. For instance, they found that, on average, the horizon location in East Asian landscapes was significantly higher than that of Western landscapes. Asian artists tended to depict the landscape with a “bird’s eye view” that places the artist’s standpoint in the sky, whereas Western artists typically locate their viewpoint at the level that coincides with that of the subject of the painting. The unrealistically high horizon of Asian landscapes allows artists to portray both focal objects (e.g., people, animals) and the background field (e.g., mountains, rivers). The lower horizon of Western paintings, in contrast, allows for only a partial view of the background field.

In addition, ancient East Asian portraiture was also found to include a much greater proportion of field information relative to their Western counterparts. In Western portraits, the models tend to occupy the majority of the picture, whereas in Asian portraits, the size of the model is relatively small, “as if the model is embedded in an important background scene” (Masuda et al., 2008, p. 1263). In addition, the open space is often filled with rich and varied visual information, such as a mattress, a folding screen, and a window shadow. As a result, the ratio of the size of the model’s face to the size of the entire visual field is substantially smaller in the East Asian portraits than in the Western ones. This finding suggests that East Asian painters

tend to portray the focal object (model) as part of the background environment to a greater extent than Western painters do.

Similar cultural variations have also been found in the landscape drawings and portrait photographs produced by East Asian and American college students in contemporary times. When participants were given instructions to draw a landscape picture that included at a least a house, a tree, a river, a person, and a horizon, within five minutes, majority of the Asians participants used elevated viewpoints in their drawings, whereas American students used a significantly lower viewpoint, typically at the ground level. Asian participants were also found to include significantly more information when depicting the background, such as buildings, trees, people, weeds, clouds, and puffs of smoke than did Americans. Similar results were yielded by a photograph-taking task, in which all participants were asked to take a photo of the same person in the same setting. East Asians tended to take the photo from a more distant perspective. As a result, the size of the model in the photographs taken by East Asian participants was only 35% of that in photographs produced by Americans, which is consistent with the convention reflected in ancient portraits. These findings suggest that East Asians tend to present objects or human figures in the relation to the surrounding environment, whereas Westerners usually present focal objects independent of the environment. Images or videos that include a large proportion of field information are considered “context-inclusive,” whereas those emphasizing on the properties of the focal objects alone are considered “object focused” (Masuda et al., 2008).

Liu and Fussell (2011) investigated the context-inclusiveness in moving images. The authors discovered similar cultural differences in the cinematic patterns of Chinese and US versions of television commercials for the same brands. Chinese versions were found to switch from one scene to another more frequently than the US versions did, allowing the former to

include a greater variety of background scenes. In addition, the images in Chinese commercials also appeared to include smaller percentage of blank spaces compared to the US versions, resulting in greater field information intensity. Finally, US commercials were found to include a greater number of close shots that present the focal objects in detail, thus preventing rich depiction of the background context. These variations in cinematic characteristics indicate that Chinese and US commercials reflect similar aesthetic preferences for context as researchers found in static images in the two cultures.

Moreover, East Asians and Americans seem to have similar cultural preferences with respect to the choice of Facebook profile pictures. In the study conducted by Huang and Park (2012), East Asians were also found to be more likely to use context-inclusive pictures as the profile photo on Facebook compared to American users. Using thousands of randomly selected profile pictures, the researchers examined cultural differences in face/frame ratios. They found that East Asians (from Hong Kong, Singapore, and Taiwan) were more likely to deemphasize their faces compared to Americans by using pictures of relatively smaller faces and larger background, whereas Americans tended to prioritize their focal face at the expense of the background. The results yielded by this study extended previous findings of cultural preferences in context-inclusive styles versus object-focused styles in East Asian and American cultures to online communication domains.

**Effect on interpersonal impressions.** As a result of cultural differences in perceiving visual cues in the background, compared to Americans, East Asians appear to be more dependent on environmental cues in the background when forming impressions of another person. Empirical evidence indicates East Asians are more likely to interpret the focal object in relation to the information in the background. Masuda et al. (2008) found that Japanese viewers tend to

rely more on the context in the assessment of emotions than do Americans. Participants in their study were shown cartoon images of a group of people with inconsistent facial expressions and asked to evaluate the emotion of the person in the middle. For instance, in one picture, the central person was smiling while the four people in the background looked sad. Masuda and colleagues revealed that the judgment of Japanese participants was more affected by the mismatching background than that demonstrated by Americans.

Similarly, Liu and Fussell (2012) found that the impressions of personality traits and trustworthiness rated by East Asians were more likely to be affected by the background manipulation compared to the impressions reported by North Americans. When asked to form an opinion of a person based on a picture of his/her office, East Asians were more likely to make judgments based on the environmental cues shown in the background, such as family photos and professional certificates, while Americans' judgments were not affected by the background at all. The authors also found that the distinction in first impressions appeared to significantly influence various interaction intentions with the space occupant the participants never met. For instance, when East Asians saw family photos in someone's office, they were more likely to consider this person more conscientious compared to those who put diplomas and award certificates on the office. East Asian participants also appeared to have higher trust toward the person with family photos and expressed higher intentions to socialize with him/her. However, background items did not seem to have such effects on personality perception, trust formation, or social intention of American participants. The present study will continue to explore the possible effects of cultural variations in visual perception patterns on interpersonal perceptions and behavioral intentions.



## **Cultural Differences in Verbal Communication**

Chinese and Americans differ in the ways they express themselves and perceive others in verbal communication. Intercultural scholars have been exploring the cultural differences in the verbal communication styles of East Asian and Western cultures for the last few decades. A number of variations have been identified via theoretical and empirical inquiries. Specifically, Chinese culture is typically characterized as high-context and relationship-oriented, whereas American culture is considered as low-context and task-oriented (e.g., Hall, 1976; Hofstede, 1983; Nisbett, 2003; Triandis, 1989). Such cultural differences are likely to influence talkativeness, self-disclosure, and word usage during conversations, which may in turn affect impression formation, such as personality traits, interpersonal trust, and even behavioral intentions. In this session, I conduct a literature review on two specific aspects of cultural differences in verbal communication between Chinese and American cultures, that is, high-context vs. low-context and relationship-oriented vs. task-oriented communication styles, based on which possible effects of such cultural differences on conversation dynamics and interpersonal impression formation are discussed.

**High-context vs. low-context.** East Asian and Western cultures have been classified by Hall (1967) as high-context and low-context because of their distinct dependence on the “context” during communication. In a conversation, “context” pertains to the understanding of what has been said and what has been previously agreed on, both related and unrelated to the topic of interest between the communicators. It can also refer to the socially constructed criteria of what is appropriate / inappropriate in a particular situation. High-context individuals are likely to interpret each other’s messages holistically based on all aforementioned types of contextual information, whereas people from low-context cultures tend to understand a message based on

the most relevant part of contextual information, independent of the broader context. Based on the degree of context dependence, Copeland and Griggs (1985) rated a variety of cultures on the continuum from high-context to low-context, in which Chinese, Japanese, and other East Asian cultures were labeled as high-context, whereas American, German, and other Western cultures were marked as low-context.

In East Asian countries, such as China, people tend to highly rely on the conversational context when attempting to understand each other, while “very little is in the coded, explicit, transmitted part of the message” (Hall, 1976, p. 79). When talking about something that is on their mind, they are often implicit about what they really want and tend to talk around the point, expecting their conversational partners to infer their intentions (Hall, 1976; Gudykunst et al., 1996). High-context speakers are expected to communicate in ways that camouflage and conceal speakers’ true intentions for social purposes (Gudykunst & Ting-Toomey, 1988; Gudykunst et al., 1996; Bond, 1993). On the other hand, in Western countries, such as the United States, people tend to focus more on the subject matter. They are often more explicit and specific about their interests when conversing with their partners, instead of making the conversation a guessing game. Thus, compared to those who are from high-context cultures, low-context communicators appear to be more likely to disclose personal wants, needs, desires, and goals directly and explicitly in spoken messages (Jandt, 2015). Furthermore, speaking directly about what is on one’s mind is considered to indicate sincerity and honesty in low-context cultures (Gudykunst et al., 1996).

Such cultural differences in the degree of openness, directness, and explicitness in verbal communication may lead to different levels of talkativeness and self-disclosure between Chinese and American speakers during video-mediated conversations. Chinese may be less talkative as

they tend to embed the meanings and intentions in the context. In addition, they may be less likely to provide explicit descriptions and explanations about their life experiences, emotions, attitudes, etc., in an attempt to mask their intentions. On the other hand, as low-context communicators, Americans may be more talkative and more likely to disclose personal information, such as their life stories, opinions, and feelings, through explicit verbal expressions.

**Task-oriented vs. relationship-oriented.** As previous research suggests, Chinese and Americans appear to place emphasis on different agendas during conversations. American people tend to be task-oriented, focusing on finishing the task at hand. East Asians, however, tend to be relationship-oriented, placing greater importance on relationship building and face management, apart from task completion (Walls, 1993; Trandis, 1995; Ting Toomey, 2005; Setlock et al., 2007). For instance, as Walls (1993) observed, during business negotiations, Japanese teams usually “make frequent references to superordinate community and their enduring relationship patterns prior to making any significant commitment” (p. 156), whereas American teams tend to emphasize more on negotiating contract terms and getting the contract signed. In addition, to build rapport and avoid conflicts, East Asians often use a less direct approach than Americans do. Rojjanaprapayon et al. (2004) found that Thais do not use specific names when expressing negative feelings and they tend to rely on words and phrases, such as “maybe,” “probably,” “sometimes,” etc., to appear less certain in their statements.

Empirical studies suggest that such cultural differences also extend to word usage in verbal communication. Setlock et al. (2007) found that the relationship-oriented Chinese participants used more “we” and more social language than Americans, as an effort to build relationships with their partners. On the other hand, American-American (AA) pairs were more interested in finishing a task as they were the most efficient, requiring fewer speaking turns to

complete the task. In addition, during the problem solving task in Setlock et al.'s (2007) study, Chinese-Chinese (CC) pairs attempted to build relationships with each other by offering supportive statements about their task progress, such as "OK, we have made the first choice! Congratulations!" and "Totally agree." However, this type of encouragement messages was not observed among AA pairs or AC pairs.

### **Interpersonal Impression Formation**

Previous research suggests that vocabulary people habitually use to express themselves is a stylistic behavior. People's verbal communication strategies tend to indicate their underlying motives, intentions, and mental states. Decades of text analysis studies have shown that linguistic cues in both spoken and written contexts are predictive of people's Big-Five personality traits (e.g., Furnham, 1990; Pennebaker & King, 1999; Yarkoni, 2010). Moreover, personality impressions have been found to be strongly shaped by the language and word use during both face-to-face and online communications, and such judgments are usually consistent and accurate when relevant cues are detected and utilized properly (e.g., Mehl et al., 2006; Biel et al., 2013; Funder, 2012). Recent studies suggest that environmental cues in one's personal space can also convey information regarding his/her personality traits. For instance, organized space is often perceived as a signal of conscientiousness, and skating photos may indicate a person is adventurous and open to new experience.

In addition, linguistic cues have also been found to be associated with the formation of interpersonal trust. During computer-mediated communication devoid of social presence, people are able to evaluate others' trustworthiness through language features, such as message lengthiness, linguistic mimicry, specific word use, etc. (Hancock & Dunham, 2001; Flanagain, 2007; Larrimore, 2011). This section provides a summary of previous empirical findings on how

linguistic cues influence trust formation, and how language use and environmental cues affect personality inference. Based on such literature review, a theoretical framework on the effects of linguistic and environmental cues on personality perception and trust formation is proposed.

**Personality perception.** Previous studies have shown that personality can be accurately perceived at zero-acquaintance based on verbal cues (e.g., writing style, conversation dynamics, specific word use), nonverbal cues (e.g., gestures, body movements, tone of voice, facial expressions, physical attractiveness, neatness in dress and grooming), and even environmental cues (e.g., family photos, posters on the wall, CD collections) (Albright, Kenny & Malloy, 1988; Kenny et al., 1992; Levesque & Kenny, 1993; Biel et al., 2013; Tskhay & Rule, 2014; Mehl et al., 2006; Gosling et al., 2002; Liu & Fussell, 2012). Extensive work has been conducted on personality prediction through manual and automatic text analyses on the verbal content of online communications, such as blogs, emails, text messages, Facebook profiles, YouTube videos, etc. (Nowson, 2006; Yarkoni, 2010; Yee et al., 2011; Golbeck et al., 2011; Biel et al., 2013), suggesting linguistic cues as a reliable predictor of the Big-Five traits. In this session, I summarize the word categories and conversation components that are likely to affect people's perception of personality traits as suggested in previous research.

*Linguistic cues.* As previous research suggests, the vocabulary that people habitually use to express themselves is a stylistic behavior, which reveals important information about them. People are fairly accurate at judging strangers' Big-Five personality traits from linguistic cues (Kenny & Albright, 1987; Borkenau & Liebler, 1992; Vazire & Gosling, 2004). For instance, the character of extraversion is associated with the eagerness to share knowledge and is usually manifested in outgoing, talkative, and energetic behavior (Levesque & Kenny, 1993; Gosling et al., 2003; De Vries et al., 2006; Thompson, 2008). Previous research suggests that the usage of

positive and negative emotion words leads to judgments of higher extraversion. People who use words related to interpersonal intention (e.g., *you, mate, talk, they, child*) are also likely to be considered extraverted (Mehl et al., 2006; Biel et al., 2013). People who score high on extraversion tend to be more talkative and were found to use a greater number of social words and more references to themselves and others (Biel et al., 2013). They are also more likely to use positive emotion words (e.g., *great, fun*), sexuality words (e.g., *breast, butt, nude*) and express greater certainty (e.g., *absolutely, guarantee, sure*) (Oberlander and Gill, 2006; Pennebaker & King, 1999; Fast & Funder, 2008; Li & Chignell, 2010).

The agreeableness trait is reflected in relatively high desire for social harmony. People who score high in this dimension are usually perceived as kind, sympathetic, cooperative, warm, and considerate (Thompson, 2008; Graziano & Eisenberg, 1997). Agreeable individuals were found to use more positive emotion words, more insight words (e.g., *analyze, confess*), fewer negative emotion words, fewer articles, and fewer swear words (Pennebaker & King, 1999; Mehl et al., 2006; Biel et al., 2013). The use of first-person nouns such as “I,” “me,” and “myself” appears to lead to the perception of lower agreeableness (Mehl et al., 2006; Pennebaker et al., 2003).

Individuals who are considered conscientious tend to exhibit carefulness, thoroughness, and deliberation. They are typically deemed highly organized and dependable (Thompson, 2008; Dudley et al., 2006; Marinova et al., 2013). People who are careful with choice of words and tend to use longer words are often considered conscientious (Mehl et al., 2006; Biel et al., 2013). The perception of higher conscientiousness is also associated with the increased use of insight words (e.g., *analyze, confess*), preposition words (e.g., *before, after, from, with*), and words related to occupation and achievement (Mehl et al., 2006; Biel et al., 2013). In addition,

conscientious individuals tend to use more positive emotion words, and fewer negative emotion, causation, exclusive words, and discrepancy words (Pennebaker & King, 1999).

Openness to experience includes several aspects of individual traits, such as intellectual curiosity, aesthetic sensitivity, liberal values, and emotional differentiation. Those who are rated high in this dimension tend to be curious for new knowledge, creative, and divergent in their way of thinking (McCrae, 1987; Goldberg, 1993). High level of openness is usually associated with the elevated use of longer words, insight words (e.g., *analyze, confess*), words related to hearing, motion, and leisure activities, positive emotion words, and inclusive words (Mehl et al., 2006; Biel et al., 2013; Pennebaker & King, 1999). People who use fewer negative emotion words and fewer non-fluencies (e.g., *er, hm, um, umm*) are typically perceived by others as more open (Biel et al., 2013).

Emotional stability is the opposite of neuroticism. Individuals who are deemed emotionally stable appear to be calm and less likely to feel tense or depressed under stress (Costa & McCrae, 1992; Gosling et al., 2003). People who are rated high in this dimension appear to be more talkative (Mehl et al., 2006). They also tend to use more nouns and adverbs, and show preference for words that reflect positive social relationships (e.g., *team, game, success*) and activities that could improve life balance (e.g., *blessed, beach, sports*) (Nowson, 2006; Oberlander & Gill, 2006; Kern, 2014). Individuals who score low in emotional stability tend to use more first-person singular nouns (e.g., *I, me, my, mine*), more sexuality words (e.g., *breast, butt, nude*) and more negative emotion words (words related to anxiety, fear, sadness, anger, etc.) (Pennebaker & King, 1999; Mairesse et al., 2007; Fast & Funder, 2008; Yarkoni, 2010).

*Environmental cues.* People's personal environments, such as their offices or bedrooms, usually contain cues of the occupant's interests, values, and experiences, as they tend to decorate

the space with artifacts that demonstrate personal information. According to Brunswik (1956), elements in the environment can serve as a kind of lens through which observers indirectly perceive underlying characteristics of a person. For example, from an organized desk, an observer may assume that its owner can keep his/her possessions in order and he/she may be a conscientious person at work. Furthermore, one can put photos of family and friends, degree certificates, souvenirs, and awards on the wall, place mementos on the table, and so forth. A quick glance at these personalized spaces would allow an observer to infer personal characteristics, such as family structure (e.g., number of children or grandchildren in pictures), values (e.g., photos of the environment, family, exotic locations), or occupation (e.g., certificates, mugs, pens).

Gosling et al. (2002) demonstrated that people infer personality traits about a person from the environment he/she inhabits. In the study, the researchers asked participants to visit five offices, the environmental features of which had been coded, and rate the impressions of the occupants' personality traits on the Big Five personality dimensions of Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (Emotional Instability). The results indicated that personality impressions were significantly correlated with some of the environmental features. For instance, conscientiousness was positively correlated with "good use of space," "clean," "organized," and "cluttered." Openness was positively correlated with "distinctiveness of the spaces," "level of decoration," "quantity of magazines," and "quantity and variety of books and compact CDs." Though not all of these impressions were accurate reflections of the space occupant's real personality, Gosling et al.'s study suggests that trait impressions can be generated from the environmental features in a person's workspace. Similarly, Liu and Fussell (2012) revealed that the impressions of personality traits could be



affected by specific items placed in an environment, such as family photos and professional certificates on the office back wall. Such effect appears to be more pronounced among East Asians compared to American participants. For instance, when East Asians see family photos in someone's office, they are more likely to consider this person more conscientious relative to those who put diplomas and award certificates on the office wall.

### **Interpersonal Trust Formation**

Trust has been identified as the willingness to be in a vulnerable position to another person based on the positive expectation that he or she will perform a particular action without the ability to monitor or control the trusted party (Mayer et al., 1995; Rousseau et al., 1998; McKnight & Chervany, 2002). Trust often requires judgments of a person's characteristics and predictions of his/her future behaviors given limited information. It is particularly challenging to determine if someone can be trusted in computer-mediated communication (CMC) given the lack of social presence and long-term interactions. Previous studies suggest people are able to evaluate others' trustworthiness by utilizing verbal cues (e.g., talkativeness, word usage, linguistic mimicry, etc.) and nonverbal cues (e.g., smiling, gaze, gestures, etc.) (Walther, 1996; Hancock & Dunham, 2001; Gosling et al., 2002; Bar et al., 2006; Flanagain, 2007; Larrimore, 2011). This section provides a literature review on how people form interpersonal trust in online communication through verbal cues.

*Lengthiness.* General characteristics of verbal messages such as lengthiness and speech clarity appear to increase online trust as previous research indicates. Flanagain (2007) suggests that products with longer descriptions tend to receive more bids and higher selling prices on eBay auctions. Lengthier online loan requests appear to be more persuasive, resulting in higher success in fundraising from online lenders (Larrimore, 2011). Similar results were also found in

online dating sites, where longer self-descriptions (i.e., “about me” sections) were generally perceived as more trustworthy (Toma & Hancock, 2012).

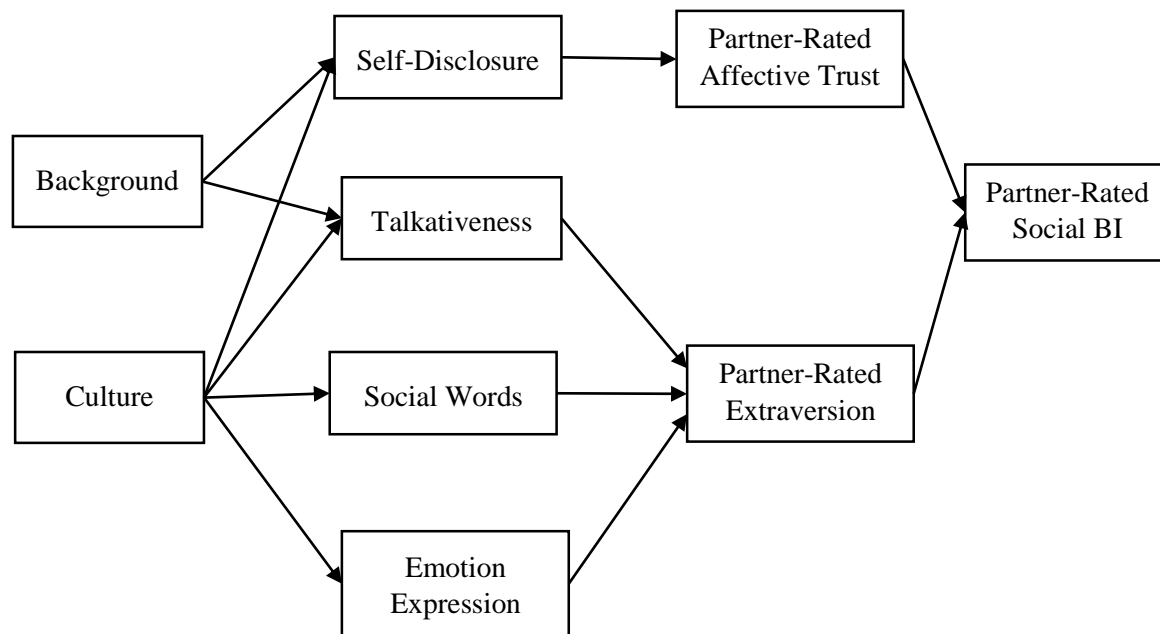
*Speech clarity.* How clearly a message is conveyed is another factor in trust formation. It is important to use language that is easy to follow. As Elsbach (2004) suggests, writings that contain technical jargon are difficult to follow and are likely to elicit irritation and even distrust. The use of simple and colloquial terms appears to increase speech clarity and leads to higher perception of trustworthiness in the speakers (Elsbach & Elofson, 2000). Toma and Hancock (2012) suggests speech clarity can be achieved by using shorter sentences. They found that online dating profiles that contain fewer words per sentence are perceived to be more trustworthy. In addition, the usage of concrete language can also make texts easier to follow. In a study of online P2P loan requests, Larrimore et al. (2011) found that loan requests containing more concrete words, such as articles (e.g., *an, a, the*) and quantifiers (e.g., *few, many, much*), tend to receive more money from lenders. Similarly, elevated use of articles in online dating profiles was also found to be associated with higher ratings of trustworthiness (Toma & Hancock, 2012).

*Specific word usage.* A number of studies indicate that the usage of second-person plural pronouns (i.e., *you, your, thou*) tends to signal interpersonal distance and make the readers feel like out-group members, which may lead to negative outcomes in interpersonal relationships (Hahlweg et al., 1984; Fiske & Taylor, 1991; Scherer, 1979; Simmons et al., 2005). For instance, online dating profiles with more second-person pronouns tend to result in lower trustworthiness perception (Toma & Hancock, 2012). In addition, similarity in certain word usage during investment games is found to be associated with higher trusting behaviors. Scissors et al. (2008) found that pairs who trust each other in the game tend to mimic each other more at the lexical

level, that is, repetition of words or word phrases by both partners. They also appeared to have higher similarity in the use of occupation words (e.g., *work, class, boss*), leisure words (e.g., *house, TV, music*), past tense verbs (e.g., *walked, were, had*), future tense verbs (e.g., *will, might, shall*), and emoticon entrainment (e.g., :- ) :-( ;-) :P). High-trust pairs also appeared to use similar text-chat abbreviations more frequently, such as “u” instead of “you.” Interestingly, pairs exhibiting lower trust were found to use more negative emotion words (e.g., *hate, worthless, enemy*) and show more similarity in their use of money related words (e.g., *cash, taxes, income*) than high-trusting pairs.

### **A Theoretical Model**

Based on the previous research findings on cultural variations in visual perception and verbal communication and the effects of verbal cues on interpersonal impression formation, I propose a framework elucidating how such cultural variations can lead to differences in conversation dynamics (i.e., self-disclosure, talkativeness) and specific word use (i.e., social words, emotion expression), which in turn may result in distinct perceptions of trustworthiness and personality attributions, as illustrated in Figure 1 below.



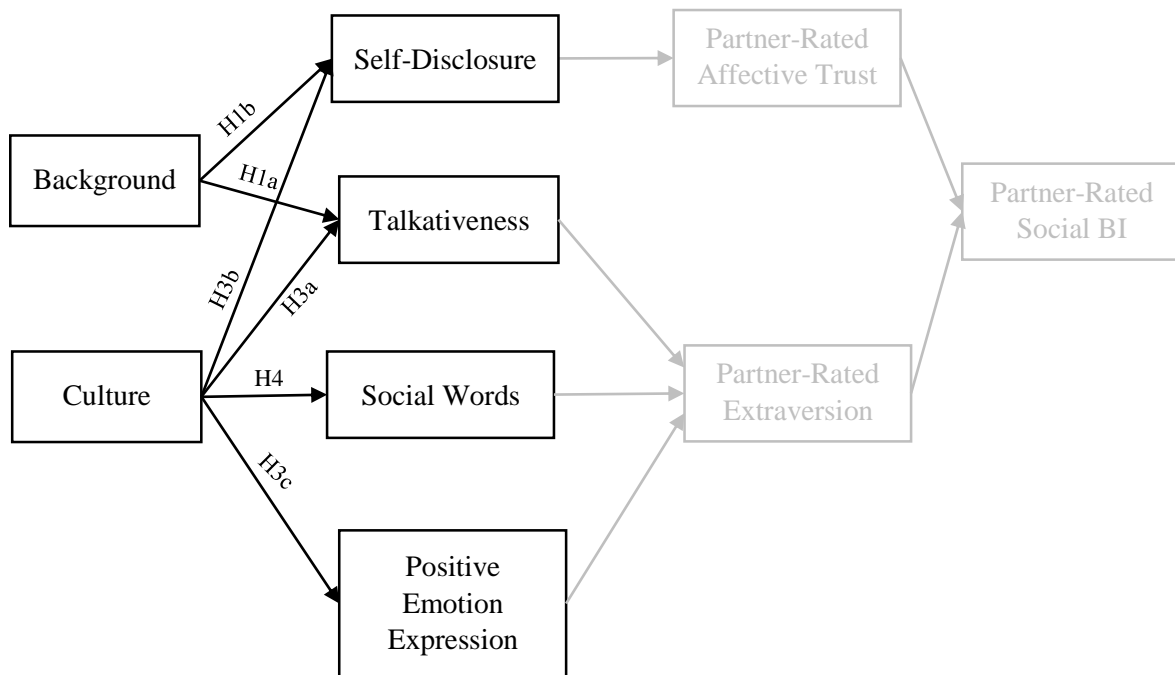
*Figure 1: A theoretical framework of background and cultural effects on conversation and interpersonal perception*

This framework depicts two major predictions of this dissertation study, namely a) the possible effects of culture and background on conversation dynamics (i.e., self-disclosure, talkativeness, use of social words, positive emotion expression), and b) the potential influence of such language use on interpersonal impression (i.e., affective trust, extraversion, social behavioral intention). Chapter 3 will examine the first prediction on the linkage between culture/background and verbal communication patterns among Chinese and American participants. Chapter 4 will investigate the second prediction on the association between language use on personality inference, trust formation, and social behavior intention.

## CHAPTER THREE

### EFFECTS OF CULTURAL DIFFERENCES ON CONVERSATION DYNAMICS

In this chapter, I examine the first major prediction proposed in Chapter 2, that is, the effects of background and culture on different conversation components, including talkativeness, self-disclosure, the use of social words and positive emotion expression, as highlighted in Figure 2 below. Each linkage suggested in the framework is specified as a hypothesis subject to examination. This chapter begins with explanations of the hypotheses, followed by a description of the lab experiment method. Analysis results are then presented to test each hypothesis. Finally, the findings and their implications are discussed.



*Figure 2: An interpersonal perception framework: background and cultural effects on linguistic patterns during conversations*

## Hypotheses

**Background effect.** As discussed in Chapter 2, the environmental cues in one's personal space can convey a great deal of personal information. A concert poster on one's bedroom wall may indicate his/her favorite singer and music preference. A family photo in a person's office may hint at whether the person is married or not and the number of children he/she has, if any. Book collections on a bookshelf demonstrate the owner's passion for reading and may reveal his/her fields of interests. The presence of such background items in video-chat windows during video-mediated communication may help people to learn about each other. When they are relevant to the topic of the conversation task, background items can become conversation starters. For instance, when two people are talking about travel experiences and one of them notices a travel photo on the partner's background wall, the person may ask about that photo and talk about that specific trip. Having more material to talk about, the pair may become more talkative, disclosing more details about their travel experiences.

Self-disclosure may also be affected by the presence or absence of objects in the background. For instance, noticing a family photo on the back wall of the partner's side may prompt a person to ask about the family members in the photo. This may result in acquiring more personal information about the partner, such as where his/her family is located, whether he/she is married, whether he/she has siblings, whether he/she has children, etc. These topics may not have come up in the conversation if the family photo hadn't been seen in the first place. Therefore, background items may lead to more self-disclosure during a conversation.

On the other hand, if background items are not relevant to the conversation, noticing them may not affect the conversation, and may even be distracting. In light of the significance of nonverbal cues in video-mediated communication suggested by previous research (Veinott et al.,

1999; Vertegaal et al., 2001; Gu & Badler, 2006), it is possible that one will perceive fewer nonverbal cues from a partner who is paying attention to the background information. If this is the case, the presence of background items in video-chat windows may decrease both the level of talkativeness and the amount of self-disclosure. Although the direction of background effect on video-mediated conversation is not clear, hypotheses on the effects of background manipulation on talkativeness and self-disclosing behavior can be proposed, as H1a and H1b state:

*H1a: The presence of objects in the background will affect talkativeness during conversations.*

*H1b: The presence of objects in the background will affect self-disclosure during conversations.*

**Interaction effect of background and culture.** Due to cultural differences in perceiving visual cues in the background, East Asians appear more dependent on environmental cues in the background, in their perception of another person, than do Americans. Empirical evidence indicates that East Asians are more likely to interpret the focal object in relation to the information present in the background. Masuda et al. (2008) found that, in judging emotions, Japanese viewers tend to rely more on the context than do Americans. Participants were shown cartoon images of a group of people with inconsistent facial expressions and asked to judge the emotion of the person in the middle. For instance, in one picture, the central person was smiling while the four people in the background looked sad. Masuda et al. (2008) revealed that the judgment of Japanese participants was more affected by the mismatched background than that of Americans.

Similarly, Liu & Fussell (2012) found that East Asians' perceptions of their partners were more likely to be affected by background manipulation than those of North Americans. When

asked to give their opinions of a person on the basis of a picture of his/her office, East Asians were more likely to make judgments based on the environmental cues in the background of the picture, such as family photos and professional certificates, while the North Americans' judgments were not affected by the background at all. They also found that the distinction in first impressions appeared to significantly influence various interaction intentions with the space occupant whom they never met. For instance, East Asians tend to consider someone who has family photos in their office more conscientious than someone who displays diplomas and award certificates instead. East Asian participants also appeared to have more trust in the person with family photos and expressed higher intentions to socialize with him/her. Thus, Chinese participants may pay more attention to environmental cues during video chats with their partners. The effects of background manipulation on talkativeness and self-disclosure may be more salient among Chinese participants than among American participants, as H2a and H2b predict:

*H2a: The talkativeness of Chinese participants is more likely to be affected by the presence of objects in the background than that of American participants.*

*H2b: Self-disclosure by Chinese participants is more likely to be affected by the presence or absence of objects in the background than self-disclosure by American participants.*

**Cultural effect.** As reviewed in Chapter 2, Chinese culture is typically characterized as a high-context culture, where people are usually expected to communicate implicitly and are less likely to speak out their minds, relying on the conversational context to understand one another. Conversely, North American culture is considered low-context, where direct and explicit expressions of one's thoughts are encouraged and appreciated (Hall 1976; Copeland & Griggs, 1985; Gudykunst & Ting-Toomey, 1988; Bond, 1993; Gudykunst et al., 1996; Jandt, 2015). During video-mediated conversations, such cultural differences in verbal communication style may lead to different levels of



talkativeness and self-disclosure between Chinese and American speakers. Because they tend to embed meanings and intentions in the context, Chinese speakers may be less talkative than American speakers. Also, in attempt to mask their intentions, they may be less likely to provide explicit descriptions and explanations concerning their life experiences, emotions, attitudes, etc. On the other hand, as low-context communicators, Americans may be more talkative and more likely to share their stories, emotions and opinions, through explicit verbal expressions, as predicted in H3a, H3b and H3c:

*H3a: Chinese participants will be less talkative during conversations.*

*H3b: Chinese participants will make less self-disclosure during conversations.*

*H3c: Chinese participants will be less likely to use positive emotion words than will American participants.*

Another cultural difference between Chinese and Americans is reflected in the emphasis placed on task and relationship. Americans are categorized as task-oriented that focus on completing the task at hand. Chinese, however, are considered relationship-oriented; apart from task completion, they tend to place greater importance on relationship building and face management (Walls, 1993; Trandis, 1995; Ting Toomey, 2005). During verbal communication, such cultural variations appear to result in a difference in word usage between Chinese and Americans speakers. In an effort to build relationships with their partners, Chinese participants tend to make more use of the pronoun “we” and to employ more social language than do Americans during collaboration tasks. Chinese pairs even encourage and compliment one another as they make progress together. Meanwhile, Americans focus more on completing a task and try to be as efficient as possible. They require fewer speaking turns to complete a given task and they

are less interested in building relationships with their partners (Setlock et al., 2007). Therefore, Chinese and American speakers may differ in their use of social words, as described in H4:

*H4: Chinese will be more likely to use social words than will Americans.*

## **Method**

This study instructed pairs to engage in an informal conversation via Skype video chat, during which they were instructed to introduce themselves and to learn at least three things about their partners. After the video chat, participants were asked to fill out a survey regarding their impressions of their partners and their experience with the conversation. The video and audio of the conversations were recorded for further analysis.

**Participants.** Thirty-two pairs of students attending a large, culturally diverse university in the northeastern U.S. participated in the study, for pay. Ten pairs were American-American dyads (AA), ten pairs were American-Chinese dyads (AC), and twelve pairs were Chinese-Chinese dyads (CC). AA pairs and AC pairs spoke English and CC pairs conversed in Mandarin. Three of the CC pairs self-reported to be acquainted with their partners before they participated in the study. All the other pairs self-reported to be strangers before the experiment.

**Materials and procedure.** Pairs were randomly assigned to two background conditions: ‘Blank Condition’ (pairs had a white divider in background) and ‘Item Condition’ (pairs put their personal belongings, such as bags, coats, scarves, laptops and water bottles, in the background). In order for them to be incorporated into the conversations and not be identified as planted items, the objects had to actually belong to the participants.

During the experiment, participants were asked to video-chat with their partners via Skype. They were instructed to introduce themselves and learn things about their partners. They were told that they could discuss anything about themselves, including but not limited to the

following topics: places they'd travelled to, favorite movies, favorite actors/actresses, summer experiences, dream careers and weekend activities. They were asked to speak of at least three things about themselves and to recall at least things about their partners after the conversation. The video and audio of the conversations were recorded for analysis. After the video chat, participants completed a survey about their impressions of the Big-Five personality traits of the partner, how much they trust the partner and their demographic information. To encourage engagement in the conversation, the survey also asked participants to recall at least three things about the partner.

**Linguistic analysis tool.** Linguistic Inquiry and Word Count (LIWC 2007) was used to code and analyze dialogue data from the video-chat conversations. LIWC is a text analysis software program designed by James W. Pennebaker, Roger J. Booth, and Marthas E. Francis. This software is able to calculate the degree to which people use many different categories of words, such as social words, positive emotion words, cognitive mechanism words, etc. The conversation texts were divided into various word categories. The software calculated the percentage of each word category.

**Measures.** Audio recordings of the conversations were transcribed and coded to determine talkativeness and self-disclosure, as described below. After the video chat, participants were asked to take a survey to rate their impressions of the partner's extraversion and their affective trust towards the partner. Responses to questions were provided on 7-point scales (1 = strongly disagree; 7= strongly agree).

***Talkativeness.*** Talkativeness was determined by the number of words uttered by each participant.

**Self-disclosure.** Conversations were coded as self-disclosure and non-self-disclosure according to a coding scheme developed by the researchers. Self-disclosure was defined as “giving out or asking for information about oneself, giving out or asking for one's own opinions, experience, private conversations, etc.” Examples such as “My name is Cindy,” “I’m from New York City,” and “My favorite movie is actually uh Total Recall, the one that just came out” were given to the coders as examples of self-disclosure. The amount of self-disclosure was determined by the number of words in the lines that were categorized as self-disclosure. To assess reliability, two independent coders coded the conversations of fourteen randomly chosen pairs out of the thirty-two pairs (43.75% of the data). Minor adjustment on the coding scheme was made when the inter-coder agreement was lower than 70%. After the adjustment, the intercoder reliability was very good (94.28% agreement, Cohen’s  $\kappa=0.86$ ).

**Social words.** According to Pennebaker et al. (2007), social words include a large group of words that denote social processes, including all non-first-person-singular personal pronouns as well as verbs that suggest human interaction (talking, sharing). Words relating to family (i.e., *daughter, husband, aunt*, etc.), friends (i.e., *buddy, friend, neighbor*, etc.) and humans (i.e., *adult, baby, boy*, etc.) are considered social words. The usage of social words was measured by the percentage of the numbers of social words in the total word count of a conversation.

**Emotion expression.** Pennebaker et al. (2007) categorized words of emotion expression into positive emotion words (i.e. *love, nice, sweet*, etc.) and negative emotion words (i.e. *hurt, ugly, nasty*, etc.). However, due to the positive nature of the topic setting of the conversation task, participants rarely expressed negative emotions in the course of the experiment, resulting in very low numbers of negative emotion words. As a result, the measure of negative emotion words was dropped, and only positive emotion expression words were used to measure emotion

expression. As in the case of social word usage, the usage of positive emotion words was measured by the percentage of the numbers of positive emotion words in the total word count of a conversation.

The word usage data of negative emotion expression was severely screwed. Therefore, it was not included in the analysis.

## **Results**

Through extensive literature review on cultural differences between Chinese and American viewers in visual perception patterns, the possible effects of such variation on conversation dynamics and interpersonal impression formation during video-mediated communication were discussed, based on which four hypotheses regarding talkativeness, self-disclosing behavior, perceptions of extraversion and affective trust were proposed. In this chapter, each proposed hypothesis is examined via statistical analysis.

Specifically, linear mixed models were constructed to examine the effects of culture, partner culture and background manipulation on talkativeness and self-disclosure, with participant number nested in pair number. Linear mixed models were also constructed to examine the effects of talkativeness and self-disclosure on extraversion and affective trust. Each hypothesis was tested using mixed model analysis with participant number nested in pair number. The remainder of this chapter presents the results regarding the four hypotheses proposed in Chapter 2. This is followed by a discussion of the findings revealed in the statistical analyses in the context of interpersonal perception during video-mediated communication. A review of the potential implications of this study on future research and CMC designs concludes the chapter.

**Background effect.** H1a proposed a main effect of background manipulation on talkativeness, which is supported. The presence of background items appears to have a significant negative effect on how much a person talks during a video-mediated conversation ( $F(1, 56)=8.54$ ,  $p=.005$ ). People appeared to be more talkative in the ‘Blank Condition’ than in the ‘Item Condition’ regardless of culture.

H1b proposed a main effect of background manipulation on the amount of self-disclosure, which is partially supported. The presence of background items seems to be a distracting factor during the conversation ( $F(1, 55)=2.98$ ,  $p=.09$ ). People in the ‘Blank Condition’ disclosed more about themselves than those in the ‘Item Condition’.

**Interaction effect of background and culture.** H2a predicted an interaction effect of culture and background manipulation on talkativeness. I proposed that Chinese participants’ talkativeness may show more significant variation across the Blank and Item conditions than that of American participants. This hypothesis was not supported.

H2b predicted an interaction effect of culture and background manipulation, that is, Chinese participants’ self-disclosing behaviors may be more affected by the background than are those of American participants. This hypothesis was not supported. However, an interaction effect of pair’s culture and background condition is observed ( $F(1, 55)=4.95$ ,  $p=.03$ ).

Background manipulation appears to have a more significant effect on intercultural pairs than on same cultural pairs ( $F(1, 55)=17.55$ ,  $p<.001$ ). AC and CA pairs in the ‘Blank Condition’ disclosed more than the AC and CA pairs in the ‘Item Condition’ (AC pairs: Mean Difference=163.78, Std. Error = 62.01,  $p=.01$ ; CA pairs: Mean Difference=126.88, Std. Error =54.74,  $p=.02$ ), as indicated in Figure 3.

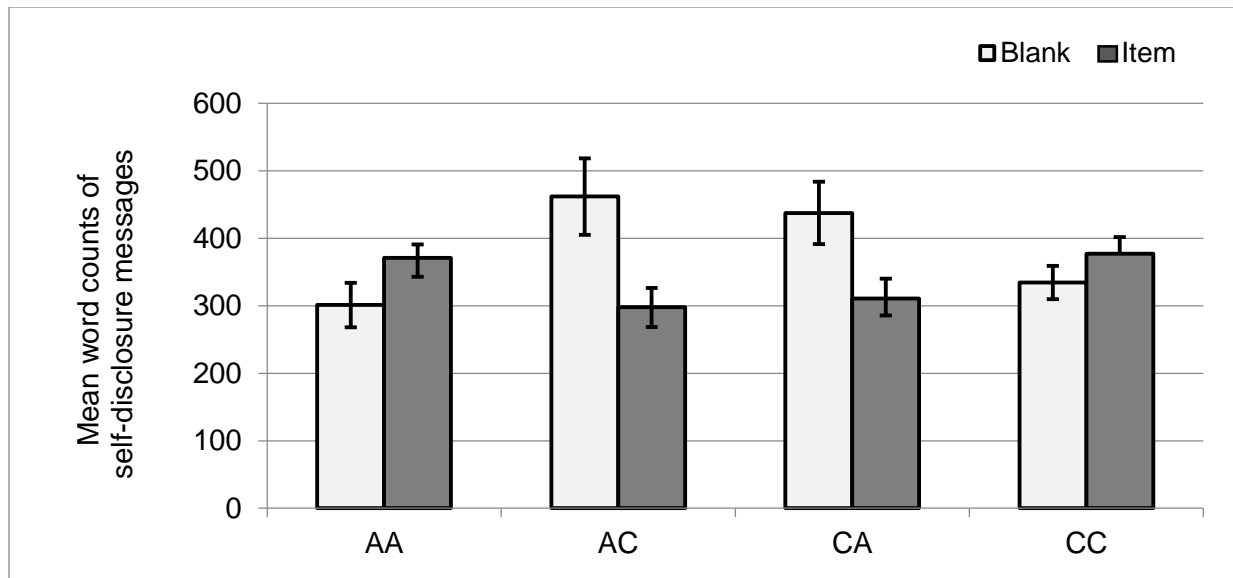


Figure 3: Self-disclosure by culture and background

**Cultural effect.** H3a proposed a main effect of culture on talkativeness, predicting that Chinese participants will be less talkative during conversations, which is not supported. Interestingly, an interaction effect of culture and partner culture was also revealed ( $F(1, 56)=6.04, p=.02$ ). American participants tend to talk more with Chinese partners than with American partners (Mean Difference=316.22, Std. Error =167.38,  $p=.06$ ), as shown in Fig. 4.

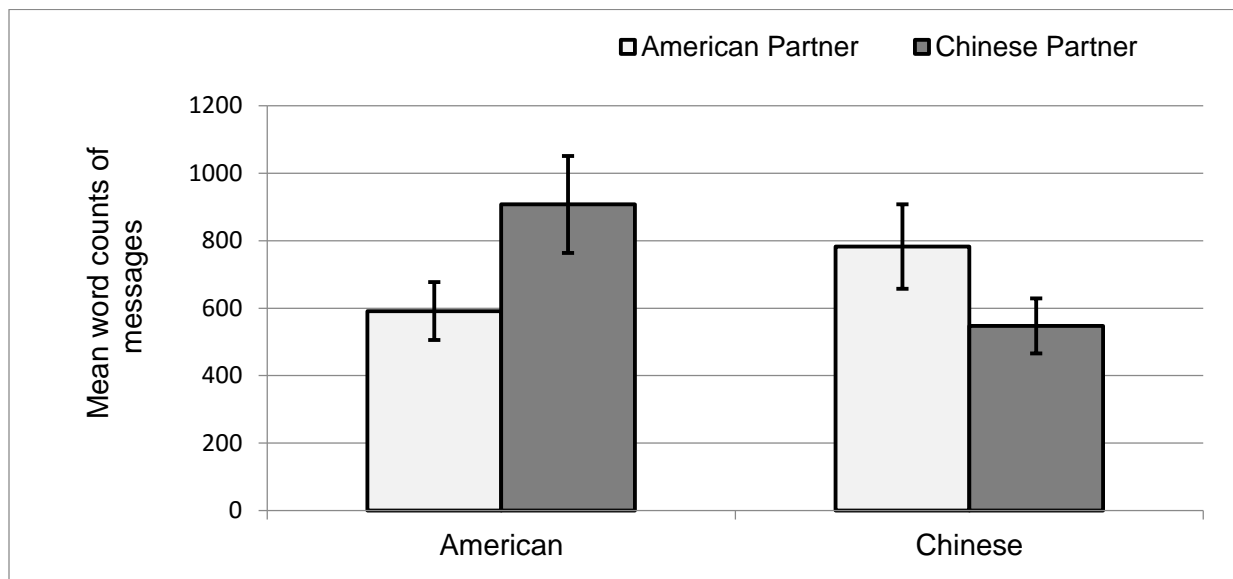


Figure 4: Talkativeness by culture and partner culture

H3b proposed a main effect of culture on self-disclosing behavior, suggesting that Chinese participants will disclose less about themselves than will American participants, which is not supported. However, an interesting borderline interaction effect of participant's culture and partner's culture is revealed ( $F(1, 55)=3.038, p=.087$ ). Participants seem to be more willing to share personal life stories with partners from a different country. CC pairs made slightly less self-disclosure than AC pairs (Mean Difference=122.782, Std. Error = 41.311,  $p=.066$ ), as illustrated in Figure 5.

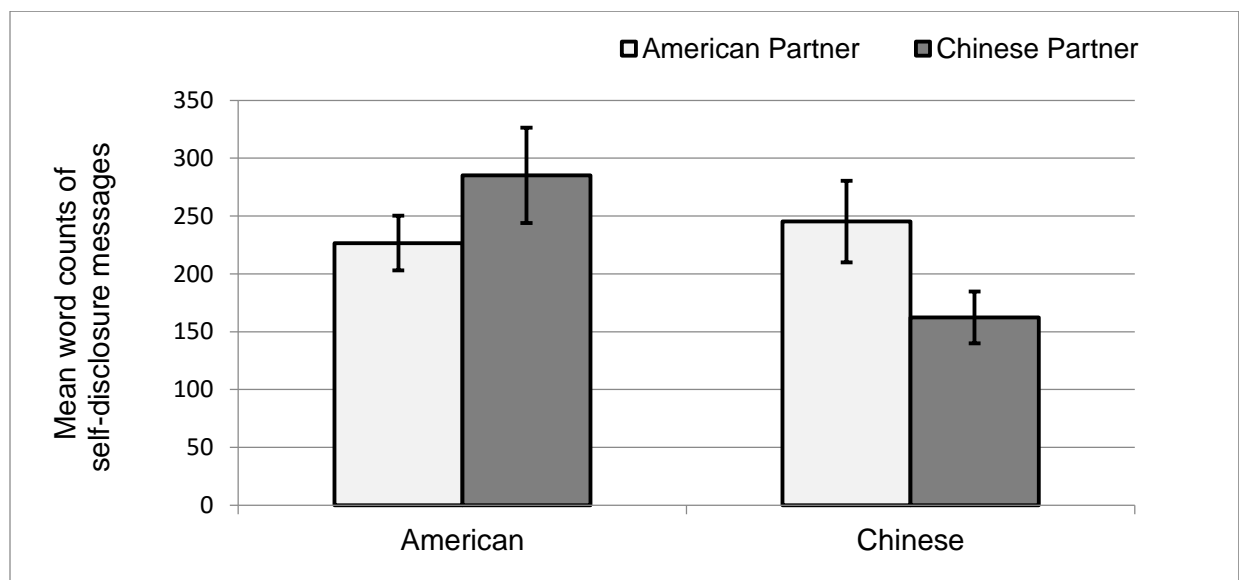


Figure 5: Self-disclosure by cultural pairs

H3c proposed a main effect of culture on positive emotion expressions during conversations, predicting that Chinese participants will be less likely to express their emotions than will American participants, which is supported. Chinese participants appeared to use fewer positive emotion expression words (e.g., *active*, *passion*, *perfect*, *joy*, *love*) than Americans ( $t=6.161, p<.001$ ). In addition, participants were also less likely to express positive emotions when their partners were Chinese. As illustrated in Figure 6, AA pairs seemed to be more straightforward than AC pairs and CC pairs when expressing emotions ( $t=2.909, p=.005$ ).



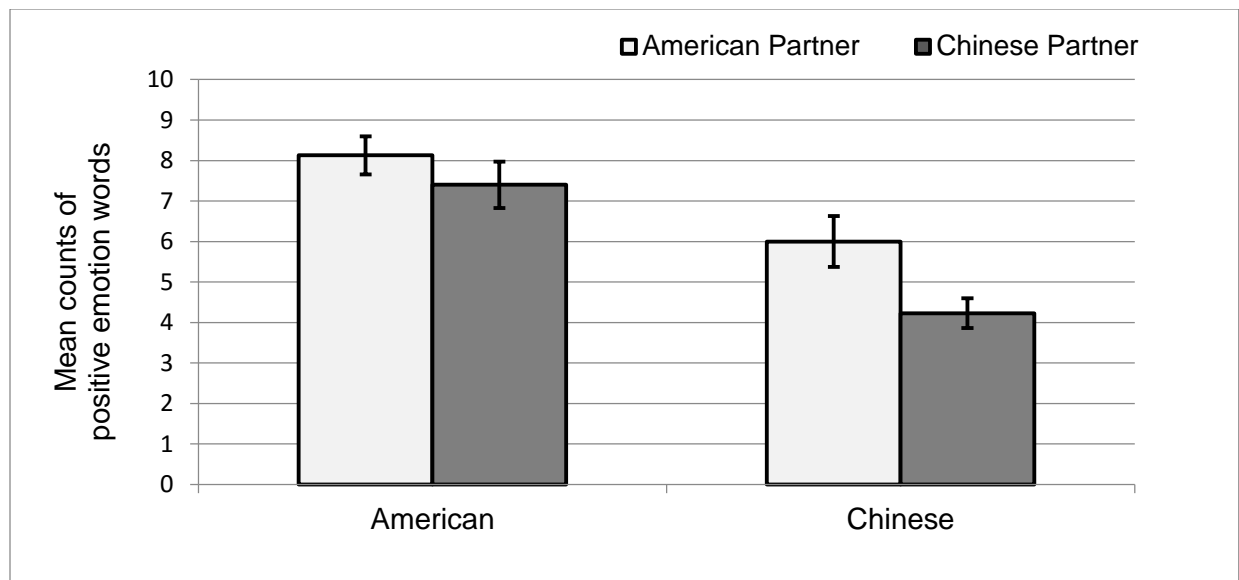


Figure 6: Use of positive emotion words by cultural pairs

H4 predicted a main effect of culture on the use of social language, that is, Chinese will be more likely to use social language than will Americans. This hypothesis is not supported by the result of ANOVA linear regression analysis. However, an interesting borderline significant effect of partner's culture on the use of social words was observed ( $t=1.928$ ,  $p=.059$ ). Participants tended to use more social words (e.g., *share*, *reply*, *family*, *colleague*, *gossip*) when they were speaking to Chinese partners.

## Discussion

This chapter examined whether the cultural differences between Chinese and Americans regarding visual perception patterns and verbal communication styles lead to different language usage during video chats. I didn't find the proposed interaction effects of Culture and Background that were predicted. However, I found an interesting main effect of background manipulation on talkativeness and self-disclosure. Participants tend to talk more and disclose more about themselves in the 'Blank Condition' than in the 'Item Condition', suggesting that the background items in video-chat windows may serve as a distracting factor during video-mediated

conversation. As predicted, culture appears to have a main effect on the use of positive emotion words. Chinese participants proved to be much less likely to express their emotions during the conversation, which corresponds with the previous finding concerning the direct communication pattern of Chinese participants. Supported linkages are illustrated in Figure 7 below.

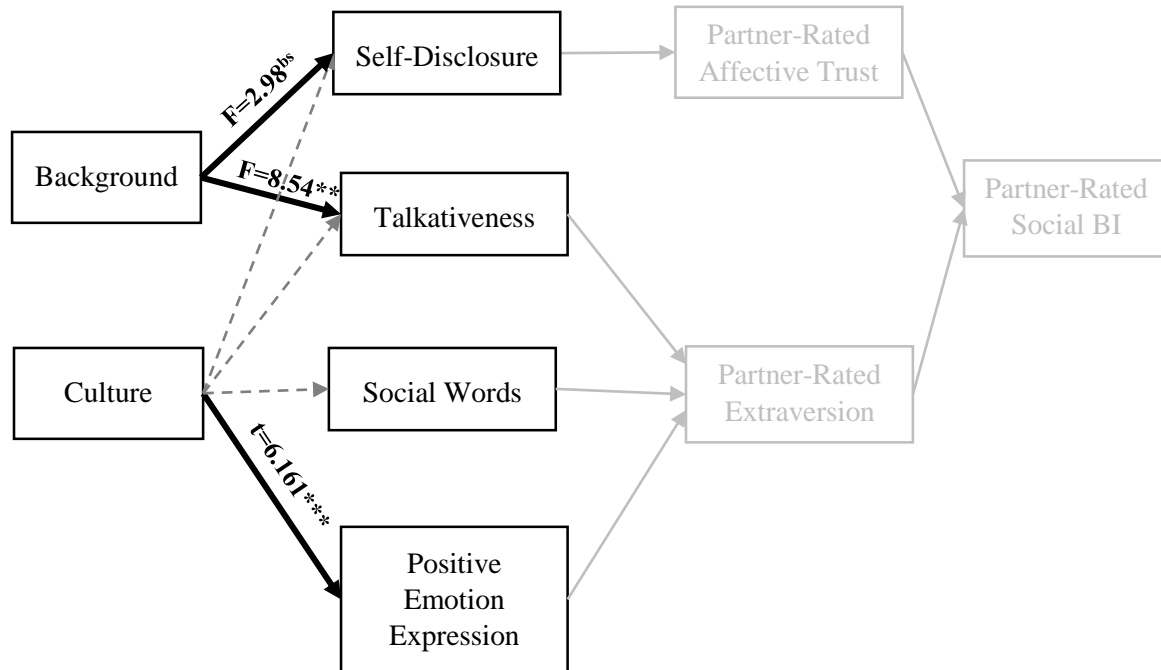


Figure 7: A tested interpersonal perception framework: background and cultural effects on linguistic patterns during conversations (Note: bs means to  $.10 > p > .05$ , \* means  $p \leq .05$ , \*\* means  $p \leq .01$ , \*\*\* means  $p \leq .001$ )

As previous research suggests, personal items in a personal space, such as a bedroom or an office, tend to serve as behavioral residuals that reveal the occupants' personal information, which may become conversation material for pairs. Interestingly, in this study, the presence of personal belongings in the background of video-chat windows appeared to be distracting, for both Chinese and American participants. This is probably because the items that participants brought with

them, such as bags, scarves, water bottles, etc., had little to do with the conversation task. Moreover, this result suggests that both Chinese and American participants tend to pay a considerable amount of attention to the background of the video-chat window during video conferencing. If environmental cues relevant to the conversation task are put in the background, participants' conversation performance, including talkativeness and self-disclosure, is likely to be improved.

On the other hand, the interaction effect of culture and background manipulation was not supported. The cultural differences in visual perception were not shown in this study, probably because participants were exposed to the background items for the duration of the conversations (about 15-20 minutes), whereas in most previous studies examining the cultural differences in visual attention allocation visual stimuli were shown for less than one second. Such difference between Chinese and American participants may be most salient in the first few seconds of exposure, after which American participants are likely to shift their eyes to other parts of the visual scene and to notice additional information that hadn't come into view earlier. Thus, it appears that, given prolonged visual exposure to environmental cues, cultural differences in visual perception are not likely to influence people's perceptions and how much they talk.

In addition, the results suggest culture has a main effect on the usage of positive emotion words, as predicted. Chinese participants were found to be less likely to use words, such as *love*, *nice*, *sweet*, *best*, *warm*, *etc.*, to express positive emotions. This finding corresponds with previous research on the indirect verbal communication style of Chinese culture (Hall, 1976; Gudykunst et al., 1996). As high-context communicators, Chinese participants are expected to communicate in ways that camouflage and conceal speakers' true intentions for social purposes, whereas American participants, who come from a low-context culture, are used to disclosing personal

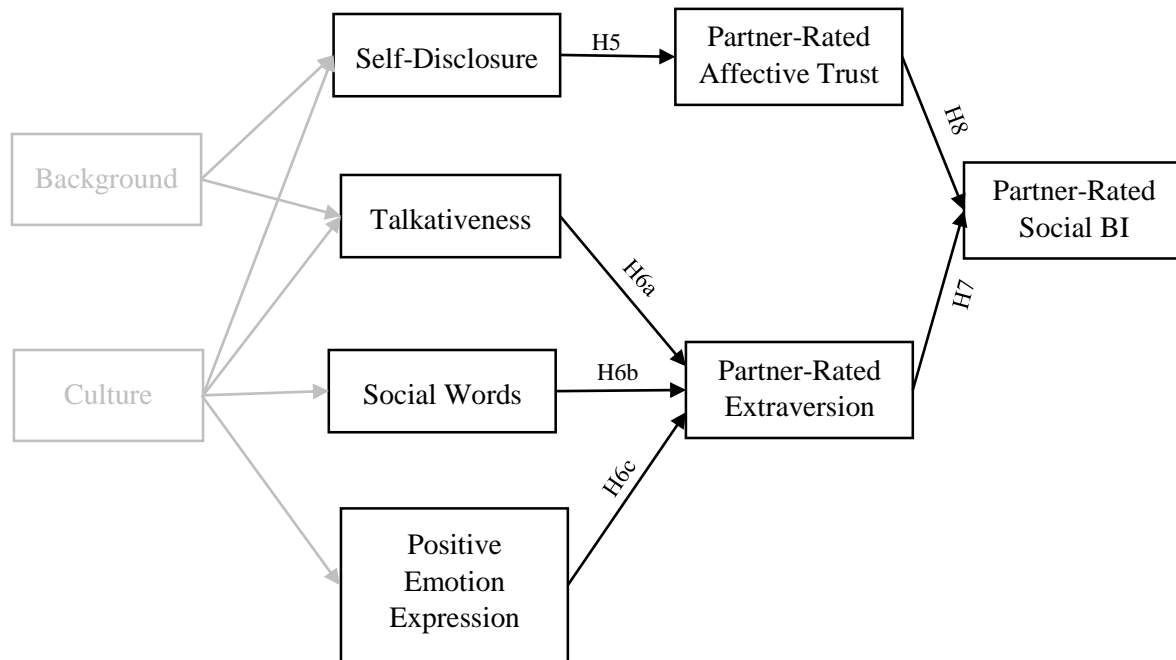
wants, needs, desires and goals directly and explicitly in spoken messages (Gudykunst & Ting-Toomey, 1988; Gudykunst et al., 1996; Bond, 1993; Jandt, 2015).

This chapter described the first part of the study that investigates how culture and background manipulation affect conversation performance. The coming chapter will explain the second part of the study, which examines the linkages in the other part of the framework as shown in Figure 2, by exploring how the formation of interpersonal impressions is influenced by talkativeness, self-disclosure and the use of social and positive emotion words.

## CHAPTER FOUR

### EFFECTS OF CONVERSATION DYNAMICS ON IMPRESSION FORMATION

This chapter addresses the second major prediction proposed in Chapter 2, that is, the effects of conversation components on interpersonal perceptions, including the ratings of affective trust, extraversion and social behavioral intention, as highlighted in the framework below (Figure 8). Each linkage presented in the framework is specified as a hypothesis and examined by empirical evidence collected in this study. In this chapter, I outline the hypotheses, report the results and present the findings in regards to each hypothesis. I conclude the chapter with a discussion of the implications of these findings for future intercultural computer-mediated communication research.



*Figure 8: An interpersonal perception framework: effects of linguistic cues on interpersonal impression formation and behavioral intentions*

## Hypotheses

**Affective trust.** As previous research suggests, affective trust is grounded in reciprocated interpersonal care and concern (Johnson-George & Swap, 1982; McAllister, 1995; Chen et al., 1998). When people share their passions and dreams (places they have been to, singers they are fond of and future career plans etc.), they are likely to know more about their partners and feel closer to one another. Such processes of self-disclosure tend to be reciprocal and can lead to greater interpersonal intimacy, as social penetration theory indicates (Taylor & Altman, 1987; Gibbs et al., 2006). Therefore, the amount of self-disclosure a person makes during a conversation is likely to positively affect the degree of affective trust they receive from their partner, as H5 states:

*H5: Participants who make more self-disclosures will receive higher ratings of affective trust from their partners.*

**Extraversion.** As discussed in Chapter 2, a number of linguistic cues may affect the impression of Extraversion. The character of Extraversion is associated with the eagerness to share knowledge and is usually manifested in outgoing, talkative, energetic behavior, whereas introversion is associated with more reserved and solitary behavior (Gosling et al., 2003; De Vries et al., 2006; Thompson, 2008). In keeping with previous studies (i.e., Fleenor, 2001; Ashton & Lee, 2008), I hypothesize that the level of talkativeness in video-mediated communication may have a positive effect on how Extraverted one is perceived to be, as H6a states:

*H6a: Participants who are more talkative in the conversation will be considered more extraverted.*

In addition, people who score high in Extraversion tend to demonstrate stronger preference for social and emotional language. As previous research suggests, Extraverts usually have higher interests in engaging in social interaction and tend to provide more positive responses during social interactions (Argyle & Lu, 1990; Srivastava et al., 2008; Tausczik & Pennebaker, 2010). Extraverts were found to use more words related to interpersonal interactions (e.g., *you, they, mate, talk, child*, etc.) and more positive emotion words (e.g., *great, fun, benefit, like, opportunity*, etc.) (Pennebaker & King, 1999; Gill et al., 2009; Biel et al., 2013). Therefore, I predict that the usage of social words and positive emotion words may lead to the judgment of Extraversion, as H6b and H6c state:

*H6b: Participants who use more social words will be rated more extraverted.*

*H6c: Participants who express positive emotions more will be rated more extraverted.*

**Social behavioral intention.** Interpersonal impressions may eventually have effects on people's interaction intentions. For instance, if a person is perceived to be extraverted, he/she may be considered to have a stronger interest in communicating with others and to be more open to establishing social relationships. As a result, people may have stronger social behavioral intentions towards those whom they consider extraverted. For instance, they may be more likely to hang out with the person, invite him/her to home parties or introduce him/her to their friends. Therefore, I predict that the impression of extraversion will have a main effect on social behavioral intention, as H7a states:

*H7: Participants who are considered more extraverted will be likely to receive higher ratings of social behavioral intention from their partners.*

In addition, affective trust is built upon the perception of a trustee's interpersonal care and benevolence, indicating the belief that the trustee will have the goodwill to act in the

trustor's best interest (Johnson-George & Swap, 1982; McAllister, 1995; Chen et al., 1998).

When people believe that their partners care about them and have their best interests at heart, they may be more likely to initiate social interactions with them. Therefore, the amount of affective trust one receives may have a main effect on how much his/her partner would like to engage in social interactions with him/her, as H7b states:

*H8: Participants who receive higher ratings of affective trust will be likely to receive higher ratings of social behavioral intention from their partners.*

## **Method**

The conversation data collected in the study as described in Chapter 3 is analyzed here to explore the effects of language use on interpersonal impression formation. The data collection method is the same as that described in the Method section of Chapter 3. In this section, I will explain the definitions and the empirical operationalization of each impression measure.

**Measures.** After the video chat, participants were asked to take an online survey to rate their impressions of the partner's extraversion, their affective trust towards the partner and their social behavioral intention towards the partner. Responses to questions were provided on 7-point scales (1 = strongly disagree; 7= strongly agree).

**Extraversion.** Two questions from the Ten-Item Personality Inventory developed by Gosling et al. (2003) were used to assess the impression of extraversion. Participants were asked to what extent they agree with these two statements: "I see my partner as extraverted, enthusiastic" and "I see my partner as reserved, quiet." The score of the second question was reversed. The two questions formed a reliable scale (Cronbach's  $\alpha = .58$ ). The score of the first question and the reversed score of the second question were averaged to create a measure of extraversion.



***Affective trust.*** Affective trust was assessed by four questions from the Specific Interpersonal Trust Scale (Johnson-George & Swap, 1982): a) “The coworker would never intentionally misrepresent my point of view to others”; b) “If I told the coworker the things I worry about, he or she would not discuss my concerns with others”; c) “I would be able to confide in the coworker and know that he or she would not discuss my concerns with others” and d) “If the coworker didn’t think I had handled a certain situation very well, he or she would not criticize me in front of other people.” The four questions formed a reliable scale (Cronbach’s  $\alpha = .83$ ) and responses were averaged to create a measure of affective trust.

***Social behavioral intention.*** The concept of social behavioral intention refers to the interest in engaging in social activities with a person. It was assessed by eight questions proposed by the author: a) “I would like to invite my partner to new places”; b) “I feel comfortable sharing unconventional beliefs with my partner”; c) “I would like to hang out with my partner”; d) “I would like to go on a business trip with my partner”; e) “I would like to talk about my family with my partner”; f) “If I had a home party, I would like to invite my partner”; g) “I would like to introduce my partner to my friends” and h) “I feel comfortable expressing different opinions to my partner.” These questions formed a fairly reliable scale (Cronbach’s  $\alpha = .91$ ) and responses were averaged to create a measure of social behavioral intention.

The ratings of agreeableness, conscientiousness, openness and emotional stability were also collected in the survey, but their values of Cronbach’s  $\alpha$  were fairly low. Therefore, they were not included in the analysis.

## **Results**

**Formation of affective trust.** H5 predicted that participants who disclose more about themselves will receive higher ratings of affective trust from their partners, which is supported.

The amount of self-disclosure had a significant effect on how much a person was trusted affectively ( $F(1, 54)=4.09, p=.048$ ). In addition, participants' level of talkativeness also has a significant effect on the formation of affective trust ( $F(1, 54)=5.74, p=.02$ ). Participants who talked more about themselves during the self-introduction task were granted more affect trust.

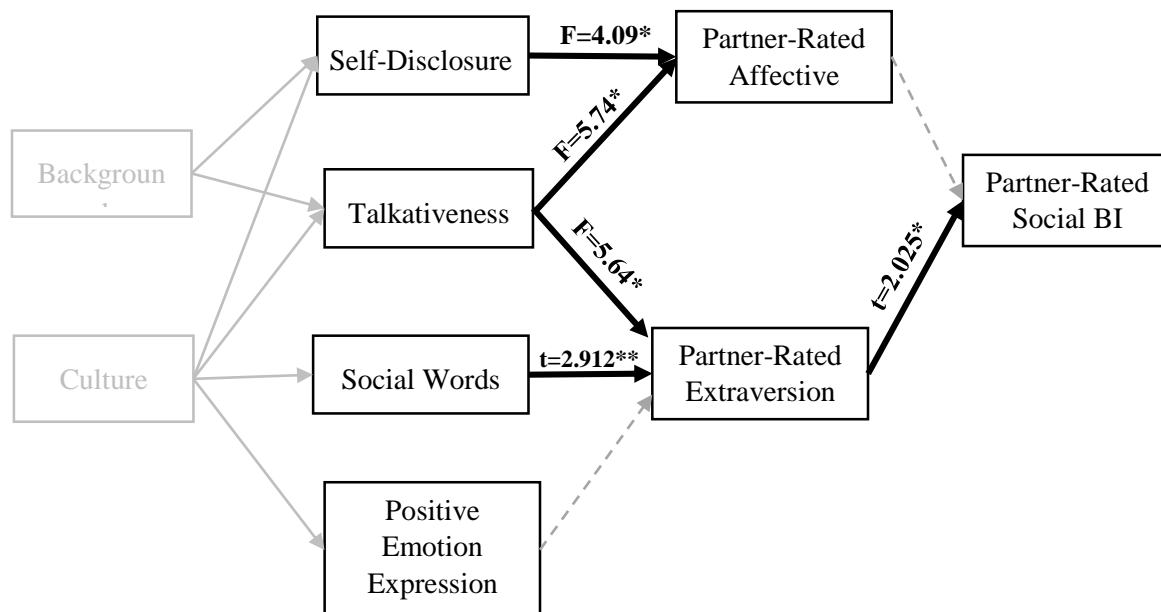
**Inference of extraversion.** H6a predicted that the perception of extraversion is associated with how much a person talks during a conversation, which is supported by the result. The number of total words spoken by a person appeared to have a main effect on how extraverted he or she is considered to be ( $F(1, 54)=5.64, p=.02$ ). I also found that Chinese partners were rated to be more extraverted than were American partners (Mean Difference =1.00, Std. Error =.38,  $p=.011$ ), which is different from what previous research suggests.

H6b predicted a main effect of social words on the perception of extraversion, stating that participants who use more social words will be considered more extraverted. This hypothesis is supported ( $t=2.912, p=.005$ ). H6c predicted a main effect of positive emotion expression on the judgment of extraversion, proposing that participants who use positive emotion words will be rated more extraverted, which is not supported.

**Formation of social behavioral intention.** H7 proposed that the perception of higher extraversion will lead to higher ratings of social behavioral intention by partners, which is supported ( $t=2.025, p=.048$ ). In addition, H8 predicted that participants who are rated higher in affective trust would receive higher ratings in social behavioral intention from their partners, which is not supported. However, the perception of cognitive trust was found to be significantly associated with the rating of social behavioral intention ( $t=2.52, p=.015$ ), suggesting that participants tend to have stronger intentions to socialize with those who demonstrate professional competence during the conversation.

## Discussion

This chapter investigates the effects of conversation performance and language use on interpersonal impression formation. The results suggest that how much one talks and the amount of self-disclosure one makes during a conversation have a positive effect on how much affective trust they receive from the partner. The level of talkativeness and the amount of social words used during a conversation also appear to affect how extraverted one is perceived to be by their partner. Moreover, the first impression of Extraversion seems to be associated with the likelihood of future social interaction between the partners. Supported linkages are illustrated in Figure 9 below.



*Figure 9: A tested interpersonal perception framework: effects of linguistic cues on interpersonal impression formation and behavioral intentions (Note: bs means to  $.10 > p > .05$ , \* means  $p \leq .05$ , \*\* means  $p \leq .01$ , \*\*\* means  $p \leq .001$ )*

The findings concerning the main effects of self-disclosure and talkativeness on affective trust correspond to previous research on the reciprocated nature of trust building. In the given task

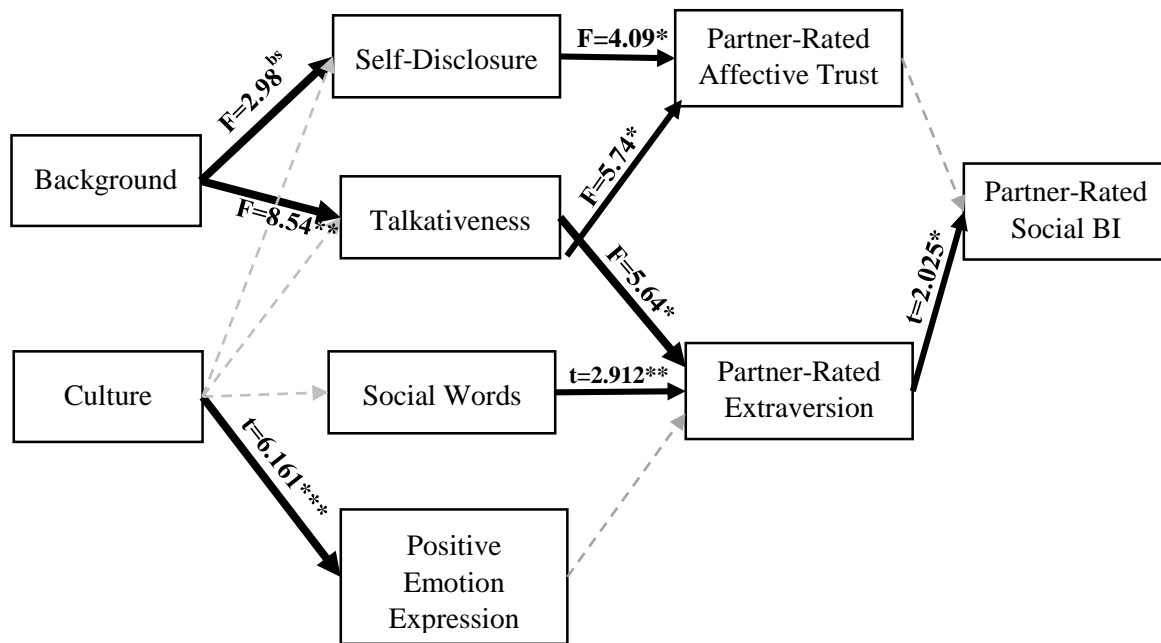
of this study, participants were instructed to introduce themselves to their partners by talking about their hobbies, weekend plans, summer vacations, favorite movies, dream careers, etc. These topics tend to be personal. By sharing a great deal of information on these topics in a reciprocated manner, participants are likely to feel closer to one another and to start to believe that their partners could be trusted affectively. Interestingly, I also found that Chinese partners were rated to be significantly more extraverted than were American partners, which differs from previous research findings that suggest that Chinese tend to report themselves to be less extraverted than Americans (Yang, 2010; Eap et al., 2008). I think our finding may have something to do with the nature of the conversation task participants were asked to perform in this study. Since, as previous research suggests, Chinese tend to be more relationship-oriented than Americans, they may be more active than Americans in tasks that expect them to engage in social talks (Triandis, 1995; Setlock et al., 2004). As a result, Chinese participants may be rated to be more extraverted than they are usually considered to be.

The perception of a person's Extraversion appears to be associated with their talkativeness level and the amount of social words they use in a conversation, which is consistent with previous studies on personality inference. By definition, the characteristic of Extraversion is usually manifested as an eagerness to talk and an interest in social activities (Gosling et al., 2003; De Vries et al., 2006; Thompson, 2008). This result confirms that people are quick to judge; a self-introduction talk can lead them to draw conclusions as to how outgoing and how extraverted a person is. Moreover, such impressions, even if based on a short interaction of 15-20 minutes, determine whether people wish to socialize with the person in the future or not. The theoretical contributions and practical implications of these findings are discussed further in the next chapter.

## CHAPTER FIVE

### GENERAL DISCUSSION & CONCLUSION

Chapters 3 and 4 of this study presented the examination process of the theoretical framework, as shown in Figure 10. In this concluding chapter, I will review the findings revealed in those two chapters in an attempt to analyze their theoretical contributions to our current knowledge of video-mediated communication. I will also explore the potential design implications of this dissertation study for video-chat tools and robot-human interaction. Finally, I will conclude the chapter with a discussion of the limitation of current study and future research directions on interpersonal impression formation during cross-cultural video-mediated communication.



*Figure 10: A tested interpersonal perception framework: effects of linguistic cues on interpersonal impression formation and behavioral intentions (Note: bs means .10>p>.05, \* means p<=.05, \*\* means p<=.01, \*\*\* means p<=.001)*

This dissertation attempts to extend previous research on cultural differences in visual perception and verbal communication patterns to the field of computer-mediated communication, by investigating the effects of background manipulation in video-chat windows and the cultural orientation of participants on conversation performance during video conferencing. Moreover, this study explores how participants' conversation performance will in turn affect the process of interpersonal impression formation and social interaction intention. In this section, I will explain how these research questions were addressed and what may be learned from the results.

### **Distracting Effect of Background**

An advantage of video chat, compared to other forms of computer-mediated communication, is the visibility of nonverbal cues, which tend to convey a great deal of information about a speaker's emotions and intentions. Most of the studies on the visual aspect of video-mediated communication focus on how gestures, eye contacts, facial expressions and body orientations help people to interpret each other's' messages (Clark & Brennan, 1991; Veinott et al., 1999; Vertegaal et al., 2001; Gu & Badler, 2006). For instance, gaze was found to serve many social functions during conversations. It has been suggested that where people fix their attention, how long an eye fixation lasts and the angle at which a gaze is directed indicate interests, communicate emotions, signal turn taking, display understanding/confusion, etc. (Kendon, 1967; Argyle & Cook, 1976; Cassell & Vilhjalmsson, 1999; Veinott et al., 1999; Vertegaal et al., 2001; Gu & Badler, 2006).

On the other hand, as behavioral residues, environmental cues can also reveal much about a person's interests, hobbies, family structure and other past experiences, etc. A conversation may therefore be enriched when these items are presented, noticed and utilized. For instance, when a person notices his/her partner's travel photos or concert posters appearing in the video-chat

window, they may start talking about their travel stories or music preferences, which may lead to a more intimate conversation and increase their trust for each other. Digital images can also be displayed in a video-chat window. To facilitate conversations, video-chat tools can import a series of pictures from Facebook or other social networking sites to show in the chat window. It may help the pair to get to know each other better and to find common interests to talk about faster.

Very few researchers have looked at how people perceive the environmental cues in the video-chat window and whether they affect the conversation dynamics. The results of this study suggest that the presence of background items in a video-chat window may have negative effects on talkativeness and self-disclosure, indicating that background items can be distracting during video-mediated conversations when they are not relevant to the topics of the conversation. Interestingly, such effects of background items are more salient on intercultural pairs who appeared to be more reliant on nonverbal cues to achieve mutual understanding. In the section below, I will discuss the theoretical implications of the interaction effect of culture and background items.

### **Interaction Effect of Culture and Background**

Veinott et al. (1999) indicate that the video channel is particularly beneficial for non-native speaker pairs who need to make more efforts when building common ground because they don't share the same cultural background or even the same native language. They found that the performance and efficiency of non-native speaker pairs in negotiation tasks were significantly better in the video condition than in the audio-only condition, whereas the performance of native speaker pairs didn't show such significant improvement. Veinott et al. (1999) suggested that being able to see each other allows participants to pick up signals indicating whether their partners had understood what they had said. Participants who see that their partners look puzzled

may provide more details. Participants in the audio-only condition would not be able to make such adjustments as easily.

The results of this study revealed that intercultural pairs (AC and CA pairs) tend to make significantly fewer self-disclosures in the 'Item Condition' than in the 'Blank Condition'. This effect was not found in same-culture pairs (AA and CC pairs), indicating that background items may be more distracting for intercultural pairs who are more dependent on nonverbal cues to understand their partners. This finding seems to correspond to Veinott et al. (1999)'s suggestion that, due to the lack of common ground between them, non-native speaker pairs may benefit more from seeing facial expressions and gestures in video-mediated communication than native speaker pairs.

Interestingly, such an interaction effect of culture and background manipulation was not found regarding talkativeness. It appears that the encoding and decoding of self-disclosure messages requires more attentional capacity than encoding and decoding non-disclosure types of conversations, which corresponds to previous research (Weisel & King, 2007). Therefore, the distracting effect of background manipulation may be more significant concerning self-disclosure than talkativeness. In Chapter 3, self-disclosure was defined as "giving out or ask for information about oneself, give out or ask for one's own opinions, experience and private conversations, etc." Participants told one another what movies they liked, what places they had travelled to, which classes they enjoy the most, where they hang out on weekends and who they are friends with, topics that tend to require participants to devote more effort to recall information from their past experiences. On the other hand, it seems to require less cognitive resources to compose the non-disclosure messages collected in this study, such as greetings (e.g., *Hi. How are you?*), comments (e.g., *Cool! This is interesting.*), backchannels (e.g., *Okay. Yeah, Uh, Alright.*), meta (e.g., *Can*



*you hear me? Let's see what's next. Yeah, I think we're done.*), clarification or confirmation of previously mentioned information (e.g., *Oh really? Is that what happened?*), etc. In other words, background items that are irrelevant to the conversation may only interfere with sophisticated conversation actions, such as self-disclosure.

The finding of the background effect can also be applied to other cultural groups with various communication customs. For instance, the distracting effects of irrelevant background items may also be observed among people who rely heavily on hand gestures, body movements and other visual cues to convey messages, such as Italians (Kendon, 1995). During video chats, as Italians may tend to use more hand gestures during conversations, they may be more affected by the irrelevant background items and experience greater difficulty when trying to understanding their partners.

### **Effect of Cultural Orientation**

The results of this study suggest Americans tend to talk more with Chinese partners than with American partners. To build a common ground, intercultural pairs may need to explain certain names, concepts, locations or other terms their partners are not familiar with. The pairs may also talk more about the subject if one of them finds the concepts interesting. For instance, as shown in Table 1, when the American participant A2 told her partner A1 that she was from West Chester County, she was able to continue the conversation without explaining where the county is since her partner is familiar with the area. Also, since West Chester is a well-known place in the US, her American partner wasn't interested in asking for more information about the county. However, the AC pair seems to have a different approach to a very similar topic. When the American participant told her Chinese partner that she was from Long Island, her partner

appeared to be intrigued and wanted to share that she has been there and her aunt lives nearby. As a result, the AC pair had a slightly longer discussion on the topic than the AA pair did.

Table 1: Conversation examples of difference in talkativeness

AA pair	AC pair
<p>A1: I'm from Wisconsin.</p> <p>A2: Oh cool, okay.</p> <p>A1: And where are you from?</p> <p>A2: Oh, I'm from New York.</p> <p>A1: Okay. New York City, New York State?</p> <p>A2: Uh well I'm from just outside of New York City. So it's West Chester County. But it's not technically the city.</p> <p>A1: I think I might have a friend from there.</p> <p>A2: Oh really?</p> <p>A1: Maybe not.</p> <p>A2: Oh, well hopefully.</p>	<p>C: I'm from China.</p> <p>A: Where in China?</p> <p>C: Uh, the south part.</p> <p>A: Oh cool, that sounds so cool--</p> <p>C: Where are you from?</p> <p>A: Long Island.</p> <p>C: Oh that's cool. Actually I have been there, in the summer.</p> <p>A: Really?</p> <p>C: Yeah, my aunt lives in Jersey City.</p> <p>A: Oh.</p> <p>C: And that's very near to New York.</p> <p>A: Yep, very close.</p> <p>C: I've been to Jersey City. It's it's it's nice. It's busy there but good, it's cool.</p> <p>A: That's cool!</p>

In addition, compared to Americans, Chinese participants were reluctant to express their positive emotions, which corresponds to previous research on the high-context verbal communication style of Chinese culture. People from high-context cultures tend to communicate in ways that camouflage and conceal speakers' true intentions, for social purposes. They are often implicit about what they really want and talk around the point, expecting their partners to figure out their intentions and emotions (Hall, 1976; Gudykunst & Ting-Toomey, 1988; Bond, 1993;

Gudykunst et al., 1996). Therefore, Chinese participants used fewer positive emotion words in the conversation task than did American participants. Such a cultural difference is most salient between AA pairs and CC pairs. AA pairs adopted the most positive emotion words while CC pairs used the fewest. For instance, as shown in Table 1, when speaking about the same subject, that is, where the participants live, the AA pair and the CC pair used the same number of turns. However, they seemed to value different aspects of the topic. Specifically, the AA pair appears to be more interested in knowing how they feel about the experience by asking about how the partner likes the place. As a result, they used positive emotion words three times (i.e., *cool*, *like*, *like*). In contrast, the CC pair appears to focus more on describing the facts than on subjective perceptions of the place. As a result, this CC pair didn't use any emotion words. Such a pattern was also observed when pairs conversed on other topics.

Table 2: Conversation examples of difference in emotion words

AA pair	CC pair
A1: Uh, do you live in Collegetown now? A2: Yeah, I just got an apartment this year. A1: Oh cool, how do you like it? A2: Uh, I really like it.	C1: Oh, where do you live? C2: Williamsburg ... C1: Oh, I know that place. You should know Nancy and Paul. They all live there. C2: Um, I don't know them.

### Interpersonal Impression Inference

It was proposed that talkativeness and self-disclosure could have positive effects on the perceptions of extraversion and affective trust, which was supported. The results suggest that the more a person talks, the more extraverted he/she may be considered to be, and the more affective trust he/she may receive, and that the more self-disclosure a person makes, the more affective

trust he/she is likely to receive from the partner. Interestingly, it was also found that Chinese partners were rated to be significantly more extraverted than were American partners, different from previous research which suggests that the Chinese tend to report themselves to be less extraverted than Americans (Yang, 2010; Eap et al., 2008). I think this finding may have something to do with the nature of the conversation task that participants were asked to perform in this study. Since, as previous research suggests, Chinese tend to be more relationship-oriented than do Americans, they may be more active than Americans in tasks that expect them to engage in social talks (Triandis, 1995; Setlock et al., 2004). As a result, Chinese participants may be rated to be more extraverted than they may usually be considered to be.

In addition, linkages were found between the use of social words, the inference of extraversion and the formation of social behavioral intention. The more social words a speaker uses, the more extraverted he/she is considered by the partner. This appears to lead to a higher intention to engage in social activities, which corresponds to previous research findings. Interestingly, the results suggested that it was cognitive trust instead of affective trust that appeared to affect social behavioral intention. In other words, participants seem to be particularly interested in socializing with those who demonstrate professional competence and experiences, which is similar to previous findings. Cognitive trust has been found to be helpful when initiating information sharing in a learning environment (Swift & Hwang, 2013). Affective trust, on the other hand, usually takes a longer time to develop, but appears to have a greater impact on maintaining long-term communications in organizations (McAllister, 1995; Jones & George, 1998; Williams, 2001). In this study, being total strangers, participants were in an early stage of interpersonal relationship. Therefore, they may have relied more on cognitive trust in social

interaction intention formation. Affective trust may become a more salient factor as their interactions proceed.

### **Key Contributions**

This dissertation research contributes to our knowledge of video-mediated interpersonal communication in three major aspects. First, this study has opened a discussion on the effect of environmental cues on conversation dynamics and word usage during video chats, an area that has not been explored by previous researchers. By comparing the conversation performance between the Blank and Item conditions, this study reveals that the presence of background items in video-chat window can have negative effects on the talkativeness level and the amount of self-disclosure made during video chats when the items are not relevant to the conversation topics. Moreover, such effects are found to be more salient in different-culture pairs who rely more on nonverbal cues in order to understand each other, due to the lack of common ground. Such pairs are more distracted when they engage in conversation acts that require higher attentional capacity (i.e., recalling previous experience about movies, friends, weekends, etc.).

Second, the present study revealed empirical evidence of the cultural differences in emotion expression between high-context and low-context cultures. Compared to Chinese participants, American participants were more open to expressing their feelings during the experience of sharing their personal stories. As a result, AA pairs were found to be most straightforward in expressing positive emotions, followed by AC pairs and CC pairs who appeared to focus more on describing the facts than on subjective perceptions.

Third, this study revealed the chain effects of background and culture on video-chat conversations, personality inference, trust formation and behavioral intention formation by establishing a theoretical framework. The results indicate that talkativeness and the use of social words can lead to the impression of extraversion, which can in turn increase the chances of further

social interactions. In addition, disclosing personal life experiences is found to be helpful in building affective trust between partners, which may also benefit their future interactions. These findings may become useful in interpersonal communication to build desirable first impressions, which may be especially helpful in video conferences given the lack of social presence and limited nonverbal cues. Moreover, research on human-robot interaction may also be able to benefit from this study; optimizing linguistic strategies of robots to build likeable and reliable impressions could serve to enhance user interest in engaging in social interactions with the robots.

### **Limitations and Future Directions**

As an exploratory study, this dissertation only investigated the surface of background effects on video-mediated communication and the possible cultural variation in background effects. Even though the background items behind the speakers appeared irrelevant and distracting in this study, it is possible that the presence of environmental cues, if related to the conversation task, can be helpful to a conversation. For instance, in the task of this study, when partners discuss travel experiences, a travel photo of one speaker placed behind him/her, may lead the partner to ask where the photo was taken. Likewise, as partners share opinions on their hobbies and favorite singers, a concert poster behind the speaker may prompt the partner to ask about the concert and the singer(s). Future researchers may want to examine how environmental cues can facilitate video-mediated communications by carefully selecting visual stimuli relevant to the conversation.

### **Conclusion**

The current study constructed a theoretical framework of interpersonal perception, describing how culture and environmental cues can affect a conversation, personality impression, trust formation and behavioral intention. Environmental cues, a factor whose effects are rarely investigated in previous research, were found to have a main effect on the level of talkativeness

and the amount of self-disclosure made during a video-mediated conversation. This finding calls for attention from academic scholars and industry practitioners to further investigate how environmental cues affect conversation dynamics and how to manipulate the presence of environmental cues to stimulate and facilitate video-mediated conversations.

## APPENDICES

### Appendix 1: Video-Chat Instruction

Thank you for agreeing to participate in our experiment on intercultural communication. The experiment will about 45 minutes. At the end of the session you will be compensated with \$10 for your participation. If you have personal belongings with you, please put them on the table behind.

#### **Stage 1: Webcam adjustment**

In this stage, the experimenter will show you how to adjust the webcam. Please adjust the webcam to a view you feel comfortable with.

#### **Stage 2: Video chatting**

In this stage, you will video-chat with another participant. If you and your partner are Chinese, please talk in Mandarin. If not, please talk in English. During the conversation, you are expected to introduce yourself and learn things about your partner. You can talk about anything about yourself, including but not limited to following topics:

- Places where you have travelled
- All-time favorite movies
- Your summer experiences
- Your dream career
- Your favorite things to do on the weekend
- Your favorite actor / actress

You are expected to talk about at least 3 things about yourself and recall at least 3 things about your partner at the end of your video chat. Please use voice only, don't type when chatting.

#### **Stage 3: Online survey**

In this stage, you will fill out an online survey regarding the things that you have learned about your partner and your experience during this experiment.



## Appendix 2: Ten-Item Personality Inventory (TIPI)

Adapted from Gosling et al. (2002)

Here are a number of personality traits that may or may not apply to your partner. Please select for each statement the extent to which you agree or disagree with that statement.

You should rate the extent to which the pair of traits applies to your partner, even if one of the characteristics applies more strongly than the other. (1 = Disagree strongly, 2 = Disagree moderately, 3 = Disagree a little, 4 = Neither agree nor disagree, 5 = Agree a little, 6 = Agree moderately, 7 = Agree strongly).

I see my partner as:

1. \_\_\_\_ Extraverted, enthusiastic.
  2. \_\_\_\_ Critical, quarrelsome.
  3. \_\_\_\_ Dependable, self-disciplined.
  4. \_\_\_\_ Anxious, easily upset.
  5. \_\_\_\_ Open to new experiences, complex.
  6. \_\_\_\_ Reserved, quiet.
  7. \_\_\_\_ Sympathetic, warm.
  8. \_\_\_\_ Disorganized, careless.
  9. \_\_\_\_ Calm, emotionally stable.
  10. \_\_\_\_ Conventional, uncreative.
- 

TIPI scale scoring ("R" denotes reverse-scored items):

Extraversion: 1, 6R; Agreeableness: 2R, 7; Conscientiousness: 3, 8R;

Emotional Stability: 4R, 9; Openness to Experiences: 5, 10R.

Cronbach's  $\alpha$  values:

Extraversion=.576, Agreeableness=.115, Conscientiousness=.582,

Emotional Stability=.358, Openness=.424

### Appendix 3: Interpersonal Trust Scale

Adapted from Johnson-George & Swap (1982)

Please answer the following questions by choosing the option that most closely represents your personal beliefs. (1 = Disagree strongly, 2 = Disagree moderately, 3 = Disagree a little, 4 = Neither agree nor disagree, 5 = Agree a little, 6 = Agree moderately, 7 = Agree strongly).

1. I could expect my partner to tell the truth.
2. I would expect my partner to play fair.
3. I could rely on my partner to mail an important letter for me if I couldn't get to the post office.
4. If we decided to meet somewhere for lunch, I would be certain my partner would be there.
5. My partner would never intentionally misrepresent my point of view to others.
6. If I told my partner what things I worry about, he/she would not discuss my concerns with others.
7. I would be able to confide in my partner and know that he/she would not discuss my concerns with others.
8. If my partner didn't think I had handled a certain situation very well, he/she would not criticize me in front of other people.
9. If my alarm clock was broken and I asked my partner to call me at a certain time, I could count on receiving the call.
10. I would be willing to lend my partner almost any amount of money, because he/she would pay me back as soon as he/she could.
11. If my partner promised to do me a favor, he/she would follow through.
12. If my partner agreed to feed my pet while I was away, I wouldn't worry about the kind of care it would receive.
13. If my partner were going to give me a ride somewhere and didn't arrive on time, I would guess there was a good reason for the delay.
14. If my partner couldn't get together with me as we planned, I would believe his/her excuse that something important had come up.

Trust scale scoring:

- General Trust: 1, 2, 3, 4;

- Affective Trust: 5, 6, 7, 8;
- Cognitive Trust: 9, 10, 11, 12, 13, 14.

Cronbach's  $\alpha$  values:

- General Trust=.654;
- Affective Trust=.829;
- Cognitive Trust=.827.

#### Appendix 4: Behavioral Intention Scale

Please answer the following questions by choosing the option that most closely represents your personal beliefs (1 = Disagree strongly, 2 = Disagree moderately, 3 = Disagree a little, 4 = Neither agree nor disagree, 5 = Agree a little, 6 = Agree moderately, 7 = Agree strongly).

1. I would like to invite my partner to new places.
  2. I feel comfortable sharing unconventional beliefs with my partner.
  3. I would like to hang out with my partner.
  4. I would like to go on business trip with my partner.
  5. I would like to talk about my family with my partner.
  6. If I had a home party, I would like to invite my partner.
  7. I would like to introduce my partner to my friends.
  8. I feel comfortable expressing different opinions with my partner.
  9. I would expect my partner to show up on time at work.
  10. I would trust my partner with important jobs.
  11. I would expect my partner to produce quality work.
  12. I would expect my partner to be prepared for meetings.
  13. I would like to bring my partner to meetings with clients.
  14. I would expect my partner to compromise when there is a conflict.
  15. I think it would be a rewarding experience to cooperate with my partner.
  16. I would expect my partner to be generous.
  17. I would expect my partner to be considerate.
  18. I would prefer not to talk with my partner outside of work.
  19. I would prefer not to spend time with my partner outside of work.
  20. I would be less direct when sharing bad news.
  21. I would be careful choosing words in conversation to avoid upset my partner.
-

Behavioral Intention scale scoring (“R” denotes reverse-scored items):

- Social Behavioral Intention: 1, 2, 3, 4, 5, 6, 7, 8;
- Professional Behavioral Intention: 9, 10, 11, 12, 13;
- Cooperative Behavioral Intention: 14, 15, 16, 17;
- Avoiding Behavioral Intention: 18, 19;
- Careful Behavioral Intention: 20, 21.

Cronbach's  $\alpha$  values:

- Social Behavioral Intention= .909
- Professional Behavioral Intention= .848
- Cooperative Behavioral Intention= .693
- Avoiding Behavioral Intention= .769
- Careful Behavioral Intention= .162

## Appendix 5: Dictionary of Words for Different Categories

Adapted from Pennebaker & King (2007)

Social words:

acquainta*	buddy*	contradic*	explain
admit	bye	convers*	explained
admits	call	counc*	explaining
admitted	called	couns*	explains
admitting	caller*	cousin*	express*
adult	calling	coworker*	exwife*
adults	calls	crowd*	exwife*
advice	captain	cultur*	families*
advis*	celebrat*	dad*	family
affair*	cell	dating	father*
amigo*	cellphon*	daughter*	fellow*
anybod*	cells	deal	female*
anyone*	cellular*	describe	feud*
apolog*	chat*	described	fiance*
argu*	chick	describes	fight*
armies	chick'*	describing	flatter*
army	chicks	disclo*	folks
ask	child	discuss*	forgave
asked	children*	divorc*	forgiv*
asking	child's	email	fought
asks	citizen	email'*	friend*
assembl*	citizen'*	emailed	game*
aunt*	citizens	emailer*	gather*
babe*	colleague*	emailing	gave
babies	comment*	emails	gentlem*
baby*	commun*	encourag*	gf*
bambino*	companion	enemie*	girl
band	companions	enemy*	girlfriend*
bands	companionship*	everybod*	girl's
bf*	compassion*	everyone*	girls*
blam*	complain*	everything*	give
boy	comrad*	ex	giver*
boyf*	confess*	exbf*	
boy's	confide	exboyfriend*	
boys*	confided	excus*	
bro	confides	exes	
bros	confiding	exgf*	
brother*	congregat*	exgirl*	
bud	consult*	exhubby*	
buddies*	contact*	exhusband*	

Positive Emotion Words:

entertain*	good	hug	loyal*	precious*	sunny	valued
enthus*	goodness	hugg*	luck	prettie*	sunshin*	values
excel*	gorgeous*	hugs	lucked	pretty	super	valuing
excit*	grace	humor*	lucki*	pride	superior*	vigor*
fab	graced	humour*	lucks	privileg*	support	vigour*
fabulous*	graceful*	hurra*	lucky	prize*	supported	virtue*
faith*	graces	ideal*	madly	profit*	supporter*	virtuo*
fantastic*	graci*	importan*	magnific*	promis*	supporting	vital*
favor*	grand	impress*	merit*	proud*	supportive*	warm*
favour*	grande*	improve*	merr*	radian*	supports	wealth*
fearless*	gratef*	improving	neat*	readiness	suprem*	welcom*
festiv*	grati*	incentive*	nice*	ready	sure*	well*
fiesta*	great	innocen*	nurtur*	reassur*	surpris*	win
fine	grin	inspir*	ok	relax*	sweet	winn*
flatter*	grinn*	intell*	okay	relief	sweetheart*	wins
flawless*	grins	interest*	okays	reliev*	sweetie*	wisdom
flexib*	ha	invigor*	oks	resolv*	sweetly	wise*
flirt*	haha*	joke*	openminded*	respect	sweetness*	won
fond	handsom*	joking	openness	revigor*	sweets	wonderf*
fondly	happi*	joll*	opportun*	reward*	talent*	worship*
fondness	happy	joy*	optimal*	rich*	tehe	worthwhile
forgave	harmless*	keen*	optimi*	ROFL	tender*	wow*
forgiv*	harmon*	kidding	original	romanc*	terrific*	yay
free	heartfelt	kind	outgoing	romantic*	thank	yays
free*	heartwarm*	kindly	painl*	safe*	thanked	
freeb*	heaven*	kindn*	palatabl*	satisf*	thankf*	
frees*	heh*	kiss*	paradise	save	thanks	
friend*	helper*	laidback	partie*	scrumptious*	thoughtful*	
fun	helpful*	laugh*	party*	secur*	thrill*	
funn*	helping	libert*	passion*	sentimental*	toleran*	
genero*	helps	like	peace*	share	tranquil*	
gentle	hero*	likeab*	perfect*	shared	treasur*	
gentler	hilarious	liked	play	shares	treat	
gentlest	hoho*	likes	played	sharing	triumph*	
gently	honest*	liking	playful*	silli*	true	
gigggl*	honor*	livel*	playing	silly	trueness	
giver*	honour*	LMAO	plays	sincer*	truer	
giving	hope	LOL	pleasant*	smart*	truest	
glad	hoped	love	please*	smil*	truly	
gladly	hopeful	loved	pleasing	sociab*	trust*	
glamor*	hopefully	lovely	pleasur*	soulmate*	truth*	
glamour*	hopefulness	lover*	popular*	special	useful*	
glori*	hopes	loves	positiv*	splend*	valuabl*	
glory	hoping	loving*	prais*	strength*	value	

## Appendix 6: Conversation Coding Scheme

The video-chat conversation records were coded using this scheme. Each sentence was categorized into one of the eight types, that is, advice, clarification/confirmation, opinion, self-disclosure, information, backchannel, meta and other. The definitions and examples are illustrated in the table below.

<b>Types</b>	<b>Definition</b>	<b>Examples</b>
<b>Advice</b>	Give suggestions and advice on courses, housing, travels, restaurants, buying plane tickets, etc.	"You should take xxx medicine." "You should definitely visit there, you will like it."
<b>Clarification /Confirmation</b>	Check whether something was understood right, or confirm that you've heard it.	"Yep." "OK?" E-r-i-n?" "Oh really?"
<b>Opinion</b>	Express opinions on things, people, conversations and experiences.	"That's cool." "Nice."
<b>Self-Disclosure</b>	Give out or ask for information about oneself, give out or ask for one's own opinions, experience, private conversations, etc.	"What year are you?" "so she left, and then uh she was like keep in touch" "I'm moving out of Ithaca."
<b>Information</b>	Exchange information about other people or other things.	"DC is a great area for government policy and international development work so..."
<b>Backchannel</b>	Short responses signaling lines are understood. Backchannel sentences don't provide any new information	"Ok." "Yeah." "Uh." "Uh-huh." "I see." <laughter>
<b>Meta</b>	Conversations about conversations, such as discussions about what to talk about next, who to start first, whether they have covered three topics as required, technical issues with the computer, comment and statement about the experiment, etc.	"We just have to talk about three things." "Let's see what else." "Can you hear me?"
<b>Other</b>	Any other types	



## REFERENCES

- Albright, L., Kenny, D. A., & Malloy, T. E. (1988). Consensus in personality judgments at zero acquaintance. *Journal of Personality and Social Psychology*, 55, 387–395.
- Argyle, M. & Lu, L. (1990). The happiness of extraverts, *Personality and Individual Differences*, 11, 1011-1017.
- Argyle, M., & Cook, M. (1976). *Gaze and mutual gaze*. London: Cambridge University Press.
- Ashton, M. C. & Lee, K. (2008). The HEXACO model of personality structure and the importance of the h factor. *Social and Personality Psychology Compass*, 2: 1952–1962.
- Bar, M., Neta, M., & Linz, H. (2006). Very first impressions. *Emotion*, 6, 269–278.
- Biel, J.-I., Tsiminaki, V., Dines, J. & Gatica-Perez, D. (2013). Hi YouTube! Personality impressions and verbal content in social video. *Proceedings of ACM ICMI 2013*. 526-531.
- Bond, M. H. (1993). Emotions and their expression in Chinese culture. *Journal of Nonverbal Behavior*, 17, 245-262.
- Borkenau, P., & Liebler, A. (1992). Trait inferences: Sources of validity at zero acquaintance. *Journal of Personality and Social Psychology*, 62(4), 645.
- Brunswik, E. (1956). *Perception and the representative design of psychological experiments*. Berkeley: University of California Press.
- Cassell, J. & Vilhjálmsón, H. (1999). Fully embodied conversational avatars: Making communicative behaviors autonomous. *Autonomous Agents and Multi-Agent Systems*, 2(1), 45-64.
- Chen, C. C., Chen, X. P., & Meindl, J. R (1998). How can cooperation be fostered? The cultural effects of individualism-collectivism. *Academy of Management Journal*, 23, 285-304.

- Chua, H. F., Boland, J. & Nisbett, R. E. (2005). Cultural variation in eye movements during scene perception. *Proceedings of the National Academy of Sciences of the United States of America*, 12629-12633.
- Clark, H. H. & Brennan, S. E. (1991). Grounding in communication. In L. B. Resnick, R. M. Levine, & S. D. Teasley (Eds.). *Perspectives on socially shared cognition* (pp. 127-149). Washington, DC: APA Press.
- Copeland, L. & Griggs, L. (1985). *Going international: How to make friends and deal effectively in the global marketplace*. New York: Random House.
- Costa, P. T., & MacCrae, R. R. (1992). *Revised NEO personality inventory (NEO PI-R) and NEO five-factor inventory (NEO FFI): Professional manual*. Psychological Assessment Resources.
- De Vries, R. E., Van den Hooff, B., & de Ridder, J. A. (2006). Explaining knowledge sharing the role of team communication styles, job satisfaction, and performance beliefs. *Communication Research*, 33(2), 115-135.
- Dudley, N. M., Orvis, K. A., Lebiecki, J. E., & Cortina, J. M. (2006). A meta-analytic investigation of conscientiousness in the prediction of job performance: examining the intercorrelations and the incremental validity of narrow traits. *Journal of Applied Psychology*, 91(1), 40.
- Duffy, S., Toriyama, R., Itakura, S., & Kitayama, S. (2009). Development of cultural strategies of attention in North American and Japanese children. *Journal of Experimental Child Psychology*, 102, 351–359.

- Eap, S., DeGarmo, D. S., Kawakami, A., Hara, S. N., Hall, G. C., & Teten, A. L. (2008). Culture and personality among European American and Asian American men. *Journal of Cross-Cultural Psychology*, 39(5), 630-643.
- Elsbach, K. D. & Eloffson, G. (2000). How the packaging of decision explanations affects perceptions of trustworthiness. *Academy of Management Journal*, 43, 80-89.
- Elsbach, K. D. (2004). Managing images of trustworthiness in organization. In R. M. Kramer & K. S. Cook (Eds.), *Trust and distrust in organizations: Dilemmas and approaches* (pp. 275-292). New York: Russell Sage Foundation.
- Fast, L. A., & Funder, D. C. (2008). Personality as manifest in word use: correlations with self-report, acquaintance report, and behavior. *Journal of Personality and Social Psychology*, 94(2), 334.
- Fiske, S., & Taylor, S. (1991). *Social cognition*. New York: McGraw-Hill.
- Flanagin, A. J. (2007). Commercial markets as communication markets: Uncertainty reduction through mediated information exchange in online auctions. *New Media & Society*, 9, 401–423.
- Fleeson, W. (2001). Toward a structure-and process-integrated view of personality: Traits as density distributions of states. *Journal of Personality and Social Psychology*, 80(6), 1011-1027.
- Funder, D. C. (2012). Accurate personality judgment. *Current Directions in Psychological Science*, 21(3), 177-182.
- Furnham, A. (1990). Language and personality. In H. Giles & W. P. Robinson (Eds.), *Handbook of language and social psychology* (pp. 73-95). New York: Wiley.

- Gibbs, J. L., Ellison, N. B., & Heino, R. D. (2006). Self-presentation in online personals: the role of anticipated future interaction, self-disclosure, and perceived success in Internet dating. *Communication Research*, 33(2), 152-177.
- Gill, A. J., Nowson, S. & Oberlander, J. (2009) What are they blogging about? Personality, topic and motivation in blogs. *Proceeding of AAAI International Conference of Weblogs and Social Media (ICWSM)*.
- Goh, J. O., Chee, M. W., Tan, J. C., Venkatraman, V., Hebrank, A., Leshikar, E. D., et al. (2007). Age and culture modulate object processing and object-scene binding in the ventral visual area. *Cognitive, Affective, and Behavioral Neuroscience*, 7 (1), 44–52.
- Golbeck, J., Robles, C., & Turner, K. (2011). Predicting personality with social media. *Proceedings of the 2011 Annual Conference on Human Factors in Computing Systems*, 253-262.
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist*, 48(1), 26-34.
- Gosling, S. D., Ko, S. J., Mannarelli, T. & Morris, M. E. (2002). A room with a cue: Judgments of personality based on offices and bedrooms. *Journal of Personality and Social Psychology*, 82, 379–98.
- Gosling, S. D., Rentfrow, P. J., & Swann, W. B., Jr. (2003). A very brief measure of the big five personality domains. *Journal of Research in Personality*, 37, 504-528.
- Goto, S. G., Ando, Y., Huang, C., Yee, A., & Lewis, R. S. (2010). Cultural differences in the visual processing of meaning: Detecting incongruities between background and foreground objects using the N400. *Social Cognitive and Affective Neuroscience*, 5, 242–253.

- Graziano, W.G., & Eisenberg, N. (1997). Agreeableness; A dimension of personality. In R. Hogan, S. Briggs, & J. Johnson (Eds). *Handbook of Personality Psychology* (pp. 795-824). San Diego, CA: Academic Press.
- Gu, E., & Badler, N. I. (2006). Visual attention and eye gaze during multiparty conversations with distractions. In *Intelligent Virtual Agents* (pp. 193-204). Springer Berlin Heidelberg.
- Gudykunst, W. B., Matsumoto, Y., TING-TOOMEY, Stella., Nishida, T., Kim, K., & Heyman, S. (1996). The influence of cultural individualism-collectivism, self-construals, and individual values on communication styles across cultures. *Human Communication Research*, 22(4), 510-543.
- Gudykunst, W. B., Ting-Toomey, S., & Chua, E. (1988). *Culture and interpersonal communication*. Sage Publications, Inc.
- Gutchess, A.H., Welsh, R.C., Boduroglu, A., & Park, D.C. (2006). Cultural differences in neural function associated with object processing. *Cognitive, Affective & Behavioral Neuroscience*, 6, 102–9.
- Hahlweg, K., Reisner, L., Kohli, G., Vollmer, M., Schindler, L., & Revensdorf, D. (1984). Development and validity of a new system to analyze interpersonal communications. In K. Hahlweg & N. Jacobson (Eds.), *Marital interaction: Analysis and modification* (pp. 182–198). New York, NY: Guilford.
- Hall, E.T. (1976). *Beyond culture*. Garden City, NY: Anchor Books.
- Hancock, J. T., & Dunham, P. J. (2001). Impression formation in computer-mediated environments revisited: An analysis of the breadth and intensity of impressions. *Communication Research*, 28, 325-347.

- Hedden, T., S. Ketay, A. A., Markus, H. R. & Gabrieli, J. D. E. (2008). Cultural influences on neural substrates of attentional control. *Psychological Science*, 19 (1), 12-17.
- Hofstede, G. (1983). The cultural relativity of organizational practices and theories," *Journal of International Business Studies*, 14, 75-89.
- Huang, C. & Park, D. (2012). Cultural influences on Facebook photographs. *International Journal of Psychology*, 1, 1–10.
- Jandt, F. E. (2015). *An introduction to intercultural communication: Identities in a global community*. Sage Publications.
- Ji, L., Peng, K. & Nisbett, R.E. (2000). Culture , control , and perception of relationships in the environment. *Journal of Personality and Social Psychology*, 78(5), 943-955.
- Johnson-George, C. & Swap, W.(1982). Measurement of specific interpersonal trust: Construction and validation of a scale to assess trust in a specific other. *Journal of Personality and Social Psychology*, 43, 1306-1317.
- Jones, G. R., & George, J. M. (1998). The experience and evolution of trust: Implications for cooperation and teamwork. *Academy of Management Review*, 23, 531-546.
- Kendon, A. (1967) Some Functions of Gaze Direction in Social Interaction. *Acta Psychologica*, 32, 1-25.
- Kendon, A. (1995). Gestures as illocutionary and discourse structure markers in Southern Italian conversation. *Journal of Pragmatics*, 23(3), 247-279.
- Kenny, D. A., & Albright, L., (1987). Accuracy in interpersonal perception: A social relations analysis. *Psychological Bulletin*, 102, 390-402.

- Kenny, D. A., Horner, C., Kashy, D. A., & Chu, L. C. (1992). Consensus at zero acquaintance: replication, behavioral cues, and stability. *Journal of Personality and Social Psychology*, 62(1), 88.
- Kern, M. L., Eichstaedt, J. C., Schwartz, H. A., Dziurzynski, L., Ungar, L. H., Stillwell, D. J., & Seligman, M. E. (2014). The online social self an open vocabulary approach to personality. *Assessment*, 21(2), 158-169.
- Kitayama, S. et al. (2003) Perceiving an object and its context in different cultures: A cultural look at the New Look. *Psychol. Sci.* 14, 201–206.
- Larrimore, L., Jiang, L., Larrimore, J., Markowitz, D., & Gorski, S. (2011). Peer to peer lending: The relationship between language features, trustworthiness, and persuasion success. *Journal of Applied Communication Research*, 39, 19-37.
- Levesque, M. J., & Kenny, D. A. (1993). Accuracy of behavioral predictions at zero acquaintance: A social relations analysis. *Journal of Personality and Social Psychology*, 65, 1178-1187.
- Li, J., & Chignell, M. (2010). Birds of a feather: How personality influences blog writing and reading. *International Journal of Human-Computer Studies*, 68(9), 589-602.
- Liu, J. & Fussell, S. (2011) Cultural variation in the cinematic aspects of Chinese and U.S. television commercials. Paper presented at *International Communication Association (ICA) Annual Meeting*, Boston, May.
- Liu, J. & Fussell, S. (2012). Impact of cultural variation in visual perception on impression formation and behavioral intention. Paper presented at *National Communication Association (NCA) Annual Meeting*, Orlando, November.

- Mehl, M. , Gosling, S., & Pennebaker, J. (2006) Personality in its natural habitat: Manifestations and implicit folk theories of personality in daily life. *Journal of Personality and Social Psychology*, 90(5):862, 2006.
- Mairesse, F., Walker, M. A., Mehl, M. R. & Moore, R. K. (2007). Using linguistic cues for the automatic recognition of personality in conversation and text. *Journal of Artificial Intelligence Research*, 30, 457-501.
- Marinova, S. V., Moon, H., & Kamdar, D. (2013). Getting ahead or getting along? The two-facet conceptualization of conscientiousness and leadership emergence. *Organization Science*, 24(4), 1257-1276.
- Masuda, T., & Nisbett, R. E. (2001). Attending holistically versus analytically: Comparing the context sensitivity of Japanese and Americans. *Journal of Personality and Social Psychology*, 81(5), 922-934. doi:10.1037/0022-3514.81.5.922.
- Masuda, T., & Nisbett, R. E. (2006). Culture and change blindness. *Cognitive Science*, 30, 381-399.
- Masuda, T., Gonzalez, R., Kwan, L., Nisbett, R. E.. (2008). Culture and aesthetic preference: Comparing the attention to context of East Asians and Americans. *Personality and Social Psychology Bulletin*. doi: 10.1177/0146167208320555.
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *The Academy of Management Review*, 20, 709-734.
- McAllister, D. J. (1995). Affect- and cognition-based trust as foundations for interpersonal cooperation in organizations. *The Academy of Management Journal*, 38, 24-59.
- McCrae, R. R. (1987). Creativity, divergent thinking, and openness to experience. *Journal of Personality And Social Psychology*, 52(6), 1258.



- McKnight, D. H., Choudhury, V., & Kacmar, C. (2002). Developing and validating trust measures for e-commerce: An integrative typology. *Information Systems Research*, 13, 334–359.
- Nisbett, R. E. (2003). *The geography of thought: How Asians and Westerners think differently and why*. New York: Free Press.
- Nowson, S. 2006. *The Language of weblogs: a study of genre and individual differences*. Unpublished Doctoral Thesis, The University of Edinburgh
- Oberlander, J., & Gill, A. J. (2006). Language with character: A stratified corpus comparison of individual differences in e-mail communication. *Discourse Processes*, 42, 239-270.
- Pennebaker, J. W., & King, L. A. (1999). Linguistic styles: Language use as an individual difference. *Journal of Personality and Social Psychology*, 77, 1296-1312.
- Pennebaker, J. W., Chung, C. K., Ireland, M., Gonzales, A. & Booth, R. (2007) *The Development and Psychometric Properties of LIWC2007*. Retrieved from LIWC.net.
- Rojjanaprapayon, R., Chiemprapha, P., & Kanchanakul, A. (2004). Conflict management in Thai organizations. *Intercultural communication: a global reader*. Thousand Oaks, CA: Sage, 28-37.
- Rousseau, D. M., Sitkin, S. B., Burt, R., & Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. *Academy of Management Review*, 23, 393-404.
- Scherer, K. R. (1979). Voice and speech correlates of perceived social influence in simulated juries. In H. Giles, & R. N. St. Clair (Eds.). *Language and social psychology* (pp. 88-120). Oxford, England: Basil Blackwell.
- Scissors, L.E., Gill, A.J, & Gergle, D. (2008). Linguistic mimicry and trust in text-based CMC. *Proceedings of CSCW 2008*, 277-280.

- Setlock, L. D., Fussell, S. R., & Neuwirth, C. (2004). Taking it out of context: Collaborating within and across cultures in face-to-face settings and via instant messaging. *Proceedings of CSCW 2004*, 604-613.
- Setlock, L. D., Quinones, P. A., & Fussell, S. R. (2007). Does culture interact with media richness? The effects of audio vs. video conferencing on Chinese and American dyads. *Proceedings of HICSS 2007*.
- Simmons, R. A., Gordon, P. C., & Chambless, D. L. (2005). Pronouns in marital interaction: What do “You” and “I” say about marital health? *Psychological Science*, 16, 932–936.
- Srivastava, S., Angelo, K. M., & Vallereux, S. R. (2008). Extraversion and positive affect: A day reconstruction study of person–environment transactions. *Journal of Research in Personality*, 42(6), 1613-1618.
- Swift, P. E. & Hwang, A. (2013) "The impact of affective and cognitive trust on knowledge sharing and organizational learning", *The Learning Organization*, 20 (1), pp.20 – 37.
- Tausczik, Y. R., & Pennebaker, J. W. (2010). The psychological meaning of words: LIWC and computerized text analysis methods. *Journal of Language And Social Psychology*, 29(1), 24-54.
- Taylor, D. & Altman, I. (1987). Communication in interpersonal relationships: Social penetration processes. In M. E. Roloff and G. R. Miller (Eds.), *Interpersonal processes: New directions in communication research*, 257-277. Newbury Park, CA: Sage.
- Thompson, E. R. (2008). Development and validation of an international English big-five mini-markers. *Personality and Individual Differences*, 45(6), 542-548.

- Ting Toomey, S. (2005). The matrix of face: An updated face-negotiation theory. In W. Gudykunst, *Theorizing about intercultural communication* (pp. 71-92). Thousand Oaks, CA: Sage.
- Toma, C. L. and Hancock, J. T. (2012), What Lies Beneath: The Linguistic Traces of Deception in Online Dating Profiles. *Journal of Communication*, 62: 78–97. doi: 10.1111/j.1460-2466.2011.01619.x
- Triandis, H. C. (1989). The self and social behavior in differing cultural contexts. *Psychological Review*, 96, 506-520.
- Triandis, H. C. (1995). *Individualism and collectivism*. Boulder, CO: Westview.
- Tskhay, K. O., & Rule, N. O. (2014). Perceptions of personality in text-based media and OSN: A meta-analysis. *Journal of Research in Personality*, 49, 25-30
- Vazire, S., & Gosling, S. D. (2004). E-perceptions: Personality impressions based on personal websites. *Journal of Personality and Social Psychology*, 87, 123–132.
- Veinott, E., Olson, J., Olson, G. & Fu, X. (1999). Video helps remote work: Speakers who need to negotiate common ground benefit from seeing each other. *Proceedings of. CHI 1999*, 302-309.
- Vertegaal, R., Slagter, R., van der Veer, G., & Nijholt, A. (2001). Eye gaze patterns in conversations: there is more to conversational agents than meets the eyes. *Proceedings of The SIGCHI Conference On Human Factors In Computing Systems*, 301-308.
- Walls, J. (1993). Global networking for local development: Task focus and relationship focus in cross-cultural communication. In Harasim, L. (Ed), *Global networks: Computers and international communication*, 153-166.

- Walther, J. B. (1996). Computer-mediated communication: Impersonal, interpersonal and hyperpersonal interaction. *Communication Research*, 23, 1-43.
- Weisel, J. J., & King, P. E. (2007). Involvement in a Conversation and Attributions Concerning Excessive Self-Disclosure. *Southern Communication Journal*, 72(4), 345-354.  
doi:10.1080/10417940701667639
- Williams, M. (2001). In whom we trust: Group membership as an affective context for trust development. *Academy of Management Review*, 26, 377-396.
- Yang, J. F. (2010). Cross-cultural personality assessment: The revised NEO personality inventory in China. *Social Behavior and Personality*, 38(8), 1097-1104.
- Yarkoni, T. (2010). Personality in 100,000 words: A large-scale analysis of personality and word use among bloggers. *Journal of Research in Personality*, 44, 363–373.
- Yee, N., Harris, H., Jabon, M., & Bailenson, J. N. (2011). The expression of personality in virtual worlds. *Social Psychological and Personality Science*, 2, 5–12.