

THESIS

BROADENING THE LENS: A PILOT STUDY OF STUDENT COGNITIVE FLEXIBILITY  
AND INTERCULTURAL SENSITIVITY IN SHORT-TERM STUDY ABROAD  
EXPERIENCES

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## ABSTRACT

### BROADENING THE LENS: A PILOT STUDY OF STUDENT COGNITIVE FLEXIBILITY AND INTERCULTURAL SENSITIVITY IN SHORT-TERM STUDY ABROAD EXPERIENCES

Study abroad has emerged as an essential element in many U.S. students' college careers, as many degree programs have implemented study abroad as a degree requirement and globalization has fostered a flourishing globalized economy and society. Over half of these students are choosing to go abroad for short-term programs of six weeks or less, and thus this pilot study considered the effects short programs can have on participants.

The study included a study abroad participant group who went abroad for one month or less and a control group of students who did not go abroad. The study utilized a pre-posttest design, and participants in both groups were sent online surveys before and after the one month study period. The study utilized Martin and Rubin's (1995) Cognitive Flexibility Scale and Chen and Starosta's (2000) Intercultural Sensitivity Scale to measure changes in participant intercultural personhood, to which both cognitive flexibility and intercultural sensitivity contribute. The study also used open-ended questions in the posttest to gather study abroad participant narratives and add qualitative depth to the findings.

The data analysis found the study abroad students did exhibit an increase in cognitive flexibility after their trips abroad ( $M = 5.00$ ,  $SD = 0.65$ ) when compared with the longitudinal data for control group participants who stayed in country ( $M = 4.72$ ,  $SD = 0.32$ ); however, due to the size of the small pilot study, these findings were not statistically significant:  $F(1, 1) = 0.867$ ,  $p > .05$ . The study encountered an unexpected trend when study abroad students exhibited lower intercultural sensitivity after their trips ( $M = 3.55$ ,  $SD = 0.54$ ) than control group students who

stayed in country ( $M = 4.00$ ,  $SD = 0.45$ ), though also not a statistically significant finding:  $F(1, 1) = 1.14$ ,  $p > .05$ . Interestingly, a data analysis considering changes in cognitive flexibility when controlling for second language fluency did approach significance:  $F(1, 1) = 13.262$ ,  $p = .068$ . The difference in level of cognitive flexibility in study abroad participants ( $M = 4.92$ ,  $SD = 0.65$ ) and control group participants ( $M = 4.80$ ,  $SD = 0.32$ ) when controlling for second language fluency also continued to trend in the expected direction.

While I provide insight into potential explanations for the three trends, the findings and conclusions from this pilot study are used to posit questions and ideas for future research. The findings of this pilot study not only contribute holistically to the field of study abroad research, but can also be applied to future short-term study abroad research and even to the actual design of study abroad program support structures.

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## INTRODUCTION

Thousands of U.S. American students are studying abroad in increased numbers each academic year, and more of these students are choosing to do so through short-term programs (Institute of International Education, 2011, para. 4). At the national level, the U.S. Departments of State and Education have designated one week every November “International Education Week” to raise awareness about the benefits of intercultural, educational experiences (Stoner, 2009, p. 2). In part due to increasing awareness and emphasis placed on international experiences, study abroad is quickly becoming a staple in many U.S. students’ college educations. Institutions across the United States are even beginning to integrate study abroad programs into their core and major-specific curricula, indicating an increase in perceived importance of study abroad experiences (Stoner, 2009, p. 2). New York University, San Diego State University, Texas A&M University, and countless other institutions in the United States offer internationally-focused degrees that require students to study abroad anywhere from six weeks to three semesters (New York University, 2013; San Diego State University, 2011; Texas A&M University, n.d.). Even more, Goucher College in Maryland and Soka University of America in California are two universities in the U.S. that require all students, regardless of major, to participate in a study abroad program (Sheehy, 2013, para. 2).

In conjunction with university requirements, the technologically-connected global business sector prompts U.S. students to voluntarily extend their education and awareness across country borders to prepare for work life. A joint study conducted in 2013 by the British Council, Booz Allen Hamilton, and Ipsos Public Affairs consulting firms found that more than half of the businesses included in their study reported frequent employee engagement with international

partners and clients, and two thirds of the businesses reported frequent employee engagement with international colleagues (British Council et al., 2013, p. 7). With focus on an interconnected global economy, the study found employers place high value on an employee's ability to understand, accept, and be open to different cultural contexts and ways of thinking (British Council et al., 2013, p. 9). In order to concretely demonstrate the attainment of these marketable qualities, even students whose degree plans do not require study abroad are opting to spend time abroad. Colorado State University, a student base for this pilot study, boasted an increase from 868 study abroad participants in 2007 to 1,145 in 2011 (Colorado State University Institutional Research, 2012, p. 17). Colorado State University's 30% increase of students going abroad in only four academic years is part of the observed trend in many prominent U.S. universities. Additionally, the study abroad company Sol Education Abroad, another participant base for this study, began in 2005 with two directors and, due to demand, has expanded to include thirty directors across the four countries in which they offer programs (Sol Education, 2011, para. 5). The company often reaches maximum capacity for its short-term study abroad programs, which are offered consistently throughout the year and can be personalized to meet the individual needs of the hundreds of students with whom they work each year (Sol Education, 2011, para. 5).

Yet, while study abroad rates increase at universities across the United States, research understanding the effects on students who participate is lacking (Stoner, 2009, p. 2). Furthermore, over 50% of study abroad participants are choosing short-term programs of six weeks or less (Wynveen, Kyle, & Tarrant, 2012, p. 334). These short-term programs warrant additional research, as traditional study abroad research has focused on traditional, long-term study abroad experiences (Bardovi-Harlig, 2013; Mapp, 2012). The students participating in these short-term study abroad programs are rapidly exposed to new languages, cultures and ways



of life, and are required to process their experiences quickly. Traditionally, most students went abroad for a semester or full academic year, acquiring language skills while completing required coursework at a foreign institution. Many of these students majored in foreign languages, intercultural communication studies, international business, or international relations, and their time abroad was directly related to their specific career goals. Yet, as the global community continues to become interconnected, intercultural experience is becoming an essential piece of the well-rounded college education. While more students every year are choosing to participate in study abroad programs for personal and professional experience, the time commitments and economic challenges presented by traditional study abroad programs has led more than half of these students to choose short-term programs (Wynveen et al., 2012, p. 334).

One of the main motives to study abroad has historically been language acquisition. Of the many articles pertaining to the effects of study abroad, a large portion focus on new language acquisition and agree “[intercultural] communicative competence occurs through meaningful participation in linguistic practices over prolonged time periods” (Menard-Warwick & Palmer, 2012, p. 409). The “prolonged” time periods most likely refer to the traditional program lengths of a semester or year, as Menard-Warwick and Palmer (2012) have concluded one month of studying abroad is not a sufficient amount of time to learn a language.

So, if not solely to learn a new language, why *would* students be motivated to study abroad for short-term periods at all? Lilli Engle, the president of the American University Center in Provence, France, as quoted by Kathleen Kingsbury, believes “the primary motivator to study abroad now is not necessarily to learn, but instead to have a great adventure” (Kingsbury, 2013, para. 10). Having a great adventure undoubtedly provides study abroad participants some form of personal growth and incredible life experiences, but these experiences and personal

renaissances might be hard to sell to employers as “sought-after job skills obtained along the way” (Kingsbury, 2013, para. 24). The ability to speak more than one language has always been the primary employable skill emphasized by study abroad participants. Thus, if students are not learning new languages during short-term study abroad programs, many of the devout language-acquisition supporters would argue it is an expensive adventure with little return on investment.

Interestingly, though, a dedicated student can stay in his or her home country and take classes or private lessons, or even buy a box set of instructional CDs or DVDs, and learn a new language. While possibly becoming knowledgeable and appreciative of the cultures that speak the language he or she is studying, the student who is learning at home is not daily living within a distinct cultural sphere. Culture, understood in this study as a “socially constructed and historically transmitted pattern of symbols, meanings, premises, and rules” (Philipsen, 1992, p. 7), cannot be experienced through learning the verb tenses of a language. These other countries and cultures not only speak a different verbal language from the students, but also have different nonverbal languages, norms, and context-specific appropriate behaviors. The food and spices are unique to the region, and the colors of the festivals cannot be seen clearly through the one-page description in a language textbook. The local traditions are entrenched in a history that is found not only in the nuances of the regional dialect, but also in the hillside ruins, the delicately preserved churches, and the ancient cobblestone alleyways.

As noted by Jackson (2008), “it is possible for learners to be ‘advanced’ in terms of proficiency in a foreign language yet minimally aware of or uncomfortable with values and modes of behavior (e.g., communication styles) that differ from their own” (p. 356). Thus, while language learning is undeniably an invaluable skill, it is not the only aspect of the study abroad experience deserving of attention. For example, the British Council et al. (2013) study found that

candidates who demonstrate intercultural skills would have an advantage when competing for jobs and these skills pertain to much more than only language ability (p. 3). While bilingualism is an intercultural skill, an interculturally-skilled employee, a trait designated as important to employers in the study, is an “employee who can understand and adapt to different cultural contexts” (British Council et al., 2013, p. 19). There are other ways of gaining intercultural competence and developing a sense of self, culture, and place apart from learning a language fluently. This study seeks to know if these other beneficial intercultural skills can be obtained on a short-term program.

As further reasoning to study short-term programs, Bardovi-Harlig (2013) states “the relevance of length of stay as a meaningful variable has been severely criticized,” and she suggests that the intensity of interaction is more important than the length (p. 80). Moreover, Del Villar (2010) found that the more a person is exposed to and communicates with a foreign friend, business associate, or acquaintance, the more interculturally-sensitive they will become and, thus, the more they will enjoy intercultural interactions (p. 9).

Despite longevity of study, a student can practice a language for years at home without ever coming into sustained contact with an individual from a culture that speaks the language they study. Additionally, a student can spend an entire academic semester living abroad but primarily speak his or her native language and socialize only with other students from his or her home country. These students are taking part in what have been referred to by Martin and Nakayama (2013) as “island programs,” or study abroad trips where students interact primarily with students from their own cultures (p. 157). Students studying a language in their home environments or going abroad on these island programs and being “corralled into their own dormitories, taught in separate classrooms, and given little to no chance to mix with domestic

classmates” (Kingsbury, 2013, para. 20) would not be provided with what Bardovi-Harlig (2013) would consider quality intercultural interaction. While these students might spend more literal time learning the language material or living abroad, their intercultural experiences could certainly be less “intense” than a student who lives in-home with a host family for one month, where not one word of that student’s native language is spoken or one familiar dish served. Martin and Nakayama (2013) even specifically mention how students who live with host families typically “develop better intercultural communication skills” because they have more opportunities to engage in extended and varied contact with intercultural counterparts than students who live in dormitories with other U.S. American students (p. 157).

Due to the scholarship mentioned above, overall trends in U.S. American study abroad participation, and my own experience as a study abroad participant, short-term study abroad participants who live with host families are the population being considered in this pilot study. The specific details of this population will be shared later in the method section. I next detail my own experiences and motivations relevant to this pilot study, and subsequently I will enumerate the study’s guiding theoretical frameworks and research questions.

### **Researcher Motivation**

Although I do not assume all students who study abroad will have the same experiences or personal outcomes I did, I found sharing and identifying my own encounters with intercultural communication literature aided in the conception of this project and informed the design of this study. I am an example of a student who had the opportunity to live with host families during my study abroad programs and experienced constant intercultural interaction while abroad. As Friedman, Liu, Chic, Hong, and Sung (2012) found in a study of Taiwanese citizens temporarily living and working in the Western world, people and students who spend time abroad with heavy

intercultural interaction formulate “different ‘taken-for-granted’ aspects of how they see the world” (Friedman et al., 2012, p. 137). People frequently spend their formative years in one culture and come to see the world in a particular way, and this worldview can be challenged or dismantled by powerful experiences in an intercultural context. Although, coming from a military family, I had traveled often in my formative years, my worldview and assumptions were profoundly affected by my two short-term experiences living with host families and studying abroad as an undergraduate.

Despite having unique experiences during both sojourns, I have come to realize my personal communicative developments from these journeys illustrate subtleties and outcomes described in intercultural communication literature. I admit my primary goal while abroad was to more fully learn the Spanish language, but my memories do not come from times in university practicing Spanish. Rather, they come from unexpected moments of clashing and synthesizing cultures. I recognized an unprecedented amount about the norms of my own cultural and communicative styles, and I came to appreciate the different customs present in Argentina and Spain, the countries I lived in for one month and six weeks, respectively.

My ability to be personally reflective and cognitively flexible, that is my awareness of different communication styles and my willingness and self-efficacy in using those different styles (Martin & Rubin, 1995, p. 623), was affected. In my personal reflexivity, though I considered myself open to cross-cultural experiences and a more global understanding, I realized I also rapidly established pride in my own cultural background. As noted by Martin and Nakayama (2010), the self-awareness imperative for reflecting on intercultural communication suggests that one of the most important reasons for studying and experiencing intercultural interaction can be “the awareness it raises of our own cultural identity and background” (p. 4).

Looking back on the written narratives I produced during my time abroad and the narratives I constructed upon my return, I see appreciation for both my daily intercultural experiences and my own home culture developing concurrently. In these narratives, I wrote reflections of the joy I had experienced in my home culture and of the joy I was experiencing while negotiating a new culture and way of being. Narratives are an essential sense-making tool for humans (Keyton, 2006, p. 282), and my personal narratives enabled me to cultivate a more mature self-awareness of my cultural and communicative flexibility. Thus, the design of this study used narratives to understand study abroad participant sense-making. The narrative paradigm will be discussed in the explanation of the study's theoretical paradigms, and the narrative element of the study will be explicated in the method section.

Furthermore, as Martin and Nakayama (2010) assert, the desire to “cherish and retain” one's own culture while recognizing the values of a new culture is a tension present in many sojourner experiences (p. 314). During both experiences abroad, I wanted to be enveloped in the national culture and the daily life of my two host families, but I also reminisced about home and came to appreciate certain ideals present in the U.S. and, more specifically, in my family's traditions in the U.S. South. I felt comfortable being flexible in communicative situations, but I also represented my own cultural background proudly. I understood the benefits and values inherent in my home culture and the foreign culture I was living in, and my communicative flexibility expanded in conjunction with my intercultural sensitivity. Intercultural sensitivity refers to a person's desire to understand and appreciate other cultures different from his or her own (Chen & Starosta, 1998, p. 231). Observing my own self-efficacy in action taught me my cultural and personal beliefs were valuable and justifiable, but not more so than any of the cultural values and expectations amongst which I was living. Instead of fully assimilating and

attempting to deny my home culture, I was successfully integrating, or maintaining my original culture while living within a new culture (Martin & Nakayama, 2010, p. 316). Though only abroad at longest for six weeks, my willingness and ability to communicate creatively, effectively, and respectfully across cultures were eternally changed.

For this pilot study, I contend that, regardless of time spent abroad, students are compelled to become more adept at thinking on their feet and expanding their understanding of intercultural interactions. The traits of cognitive flexibility and intercultural sensitivity affect numerous aspects of students' intellects and personalities, but most notably their "intercultural personhood" or ability to achieve "identity extension and mutual growth" (Dai, 2009, p. 2). These students simultaneously reflect on their own personal and cultural tendencies, coming to know better their own cultural heritage while experiencing another culture for the first time (Martin & Nakayama, 2013, p. 4). This self-reflection can lead students to possibly appreciate or denounce aspects of their own culture. Dai (2009) states that this negotiation of identity includes participants' "cultural convergence and cultural differentiation" with both their study abroad destinations and home country cultures (p. 1). What the student develops through this process of identifying or disassociating with aspects of both cultures is his or her "intercultural personhood," or intercultural identity, which is a "human mechanism that operates in the whole process of intercultural communication" (Dai, 2009, p. 2). Haines (2012) posits that study abroad program returnees often find an "expanded range of skills and personal understanding" (p. 5), and this expansion signifies an enriched intercultural personhood.

Again, I do not assume all study abroad participants will have the same personal experiences and cultural outcomes I did, but these personal experiences were imperative in conceptualizing and designing this study of short-term program participants. Through the

development of intercultural personhood and the subsequent expansion of intercultural understanding, students on short-term study abroad programs potentially can come to comprehend themselves and other cultures more thoroughly, which in turn can affect their intercultural communication practices. Students who achieve enhanced intercultural personhood express this through their “openness to cultural others, their willingness to negotiate differences, the ability to reach intercultural agreements, [and] the ability to integrate diverse cultural elements” (Dai, 2009, p. 2).

Intercultural personhood and other changes in worldview can be revealed in personal narratives and open-ended question responses. Additionally, both narratives and intercultural transformation are situated in established theoretical models. In the following section I detail the theories that gave shape to these two notions in this study.

### **Theoretical Paradigms: Intercultural Transformation**

First, the key theory of this pilot study, Kim and Ruben’s (1988) theory of intercultural transformation, is discussed. This study is situated holistically in Kim and Ruben’s (1988) proposed stress-adaptation-growth cycle of intercultural transformation, and this study suggests cognitive flexibility, intercultural sensitivity, and intercultural personhood are aspects of the cycle and overall intercultural transformation. Then, Fisher’s (1984) narrative paradigm will be briefly explained to rationalize the important decision to include student narratives in this study. The study uses study abroad participant personal narratives in conjunction with participant scores on the two scales to more fully understand the connections between cognitive flexibility, intercultural sensitivity, and intercultural transformation.

To begin, Kim and Ruben (1988) observe that humans are homeostatic meaning-makers, and the stress induced from encountering cultural disequilibrium forces humans into adaptive



behaviors. This cyclical process of human adaptation and growth as a result of encountering stressful or challenging events occurs regularly in intercultural contexts; therefore, Kim and Ruben (1988) find the stress-adaptation-growth model fitting as an operational definition for intercultural transformation. Kim and Ruben's (1988) intercultural transformation theory operates under the assumption that intercultural communication is a source of learning and growth rather than a problem (p. 303).

Through the traditional intercultural communication-as-problem lens, culture shock, or the reaction to cultural dislocation, includes heightened emotions, intense suffering, insomnia, manifest irritability and cultural fatigue (Kim & Ruben, 1988, p. 302). Culture shock, as first defined in 1960 by famous anthropologist Kalervo Oberg, manifests itself as "the anxiety that results from losing all our familiar signs and symbols of social intercourse" when living in a foreign culture (Oberg, 2006, p. 142). However, though the terms shock, anxiety, and dislocation exhibit negative connotations, Kim and Ruben's (1988) theory views culture shock as a natural step in experience abroad, as the person learns that encoding and decoding is entirely determined by culture and creates significant differences in interaction (p. 305). Similarly, Oberg's (2006) original discussion of culture shock began with the "honeymoon" phase, where everything is new yet fascinating, and then proceeded to the following phases of hostility and negotiation that lead to eventual mastery of the host culture (p. 143). Thus, despite historically being portrayed commonly as an uncomfortable and foreboding experience, even Oberg's original conception of culture shock illustrated this process as productive and beneficial. Kim and Ruben's (1988) intercultural communication-as-growth lens views culture shock as a "profound learning experience" and the "core or essence...of the cross-cultural learning experience" (p. 304). Thus,

though Kim and Ruben (1988) acknowledge intercultural experiences are inherently stressful, they do not consider this inherent stress as a necessarily negative phenomenon (p. 315).

After initial culture shock is encountered and negotiated, intercultural transformation can begin to occur in some individuals. Increased intercultural transformation is the increased ability of humans to overcome the blinders of their own cultural understanding in cognitive, affective, and behavioral ways; this change occurs as a result of the stress-adaption-growth process, and results in different levels of interculturalness in affected individuals (Kim & Ruben, 1988, p. 312). The stress-adaptation-growth cycle of intercultural transformation is a process of “drawing back to leap forward,” and the theorized cycle suggests negative or stressful experiences allow humans to adapt and spring forward mentally in a forward and upward movement (Kim & Ruben, 1988, p. 312). When a person deals with stress effectively, they become more adaptable; thus, because intercultural situations are inherently stressful, they provide individuals with more opportunities to cultivate cognitive and communicative adaptability. The stress of cultural interactions allows for an expanded “cultural consciousness,” or an understanding of the role culture plays in human interaction (Kim & Ruben, 1988, p. 309). If a person is adaptable in many different communicative situations and is aware of the contextual forces influencing and differentiating these situations, they are considered to be cognitively flexible. Therefore, cognitive flexibility is reflected in Kim and Ruben’s (1988) theorized cycle of intercultural interaction, and I contend increased cognitive flexibility is a marker of growth in the theory’s stress-adaptation-growth cycle.

Also in Kim and Ruben’s (1988) theory, humans are seen as open-systems and inherently social beings that both give and take in interactions (p. 307). To be a highly functioning system, then, intercultural competency requires that a person must not only be aware of the differences

present in other cultures, but must also be respectful of and sensitive to these cultures' value systems and accepted behaviors. In other words, increased interculturalness, the theory posits, affords for increased cognitive capacity to understand cultural differences in communication and a more flexible cultural identity (Kim & Ruben, 1988, p. 315). This notion suggests intercultural sensitivity is an aspect of Kim and Ruben's (1988) theorized cycle of intercultural interaction, as intercultural sensitivity necessitates cross-cultural understanding and respect.

Intercultural transformation in a person results in a less restricted cultural personality, an increased openness to further transformation, and a broadened understanding of the human condition (Kim & Ruben, 1988, p. 313). These changes in a person can be effectively understood as enhancements of their intercultural personhood (Dai, 2009, p. 2). Therefore, this study sought to understand the interconnectivity of cognitive flexibility, intercultural sensitivity, and intercultural transformation, all of which contribute to a person's intercultural personhood and subsequent intercultural communication skills.

To allow participants in this pilot study to make sense of this interconnectivity in their own words, open-ended questions were posed to allow for narrative creation. Fisher's (1984) narrative paradigm argues that in order to make meaning in communicative situations, humans often turn to narrative creation and the symbolic actions of word and story creation (Fisher, 1984). Narration, Fisher (1984) argues, is not simply a subjective, fictitious retelling of past events, but rather it is a "theory of symbolic actions" that has meaning for those who "live, create, or interpret them" (p. 2). The narrative paradigm is an extension of the Burkeian notion of humans as "symbol-using animals," and this paradigm views narration as consequential for the impact and implications of personal understanding and human interaction (Fisher, 1984, p. 6). Narration is created through recounting, or making sense of past experiences, and accounting,

which is the establishing of theoretical explanations and arguments for past experiences; however, both types of narration, recounting and accounting, yield stories that help all humans construct a meaningful world in which they conduct their lives (Fisher, 1984). Though the participants in the study did not have terms available like cognitive flexibility, intercultural sensitivity, or intercultural transformation, the questions were formatted to prompt them to consider their emotions and success in navigating a memorable intercultural interaction they had while studying abroad. These questions are listed and discussed in the method section.

This pilot study collected participant narratives describing critical intercultural exchanges in adherence to Fisher's (1984) narrative paradigm. The study was also holistically situated in Kim and Ruben's (1988) theory of intercultural transformation. These two theoretical paradigms worked in tandem with my personal experiences of intercultural communication concepts and, thus, the study was conceptualized. The study was submitted to and approved by the Colorado State University Institutional Review Board (see Appendix A). The study focused on short-term study abroad effects on student cognitive flexibility and intercultural sensitivity, which are two intercultural communication-based concepts that potentially impact intercultural personhood. To attempt to measure this intercultural personhood, the pilot study was guided by the following research questions:

*RQ1: How does a study abroad trip of one month or less affect students' cognitive flexibility?*

*RQ2: How does a study abroad trip of one month or less affect students' intercultural sensitivity?*

*RQ3: How do students' narrative reports of their intercultural communication experiences while abroad reflect their cognitive flexibility and intercultural sensitivity?*

In this first chapter I have discussed the rationale for studying short-term study abroad program participants, my own motivations for studying these participants, and the theoretical paradigms that shaped this specific study abroad project. In Chapter Two, I define the two key concepts of the study, cognitive flexibility and intercultural sensitivity, and provide past pertinent literature that utilized these concepts. In the same chapter, I explore past significant study abroad research that illustrates the framework in which this pilot study was situated. In Chapter Three, I give an overview of the method of the study, attending to participants, measurement instruments, and project procedures. In Chapter Four, I detail the results of the study and engage in a discussion of these results. In Chapter Five, I conclude with implications for future research and offer my final remarks.

## LITERATURE REVIEW

### **Key Concepts Review of Literature**

This section reviews the study's key communication-based concepts of cognitive flexibility and intercultural sensitivity and discusses pertinent studies that employed these constructs. Cognitive flexibility refers to a person's awareness that different communication styles exist in every situation and the person's willingness and self-efficacy in using different communicative styles (Martin & Rubin, 1995, p. 623). Intercultural sensitivity refers to a person's desire to understand and appreciate other cultures different from his or her own (Chen & Starosta, 1998, p. 231).

In past research, these two concepts have not been used together, but this study illustrates the potential for the two concepts to work in tandem seamlessly for study abroad purposes. Cognitive flexibility considers intellectual and communicative elasticity and intercultural sensitivity is a mental state that considers cultural understanding and appreciation, all of which are enacted during cross-cultural communication. In other words, cognitive flexibility aims to understand a person's confidence, ability, and willingness to communicate in different ways and intercultural sensitivity situates this flexibility in an intercultural communication context. Additionally, I find these two scales are ideal for use in study abroad research because they attempt to measure interpersonal and intercultural skills students could obtain abroad that many of their future employers would find desirable (British Council et al., 2013).

Despite the prolific use of both Martin and Rubin's (1995) Cognitive Flexibility Scale and Chen and Starosta's (2000) Intercultural Sensitivity Scale in past research, much of the research utilizing these two scales has not been in the study abroad context. Rather, the

Cognitive Flexibility Scale (Martin & Rubin, 1995) has been used in conjunction with other scales to measure communicator personality traits against one another, while the Intercultural Sensitivity Scale (Chen & Starosta, 2000) has been used in different cultural settings to test the scale and explore the sensitivity of particular populations. I justify, then, the rationale for deploying the concepts in a study abroad context. Also, as will be discussed in the measurements section, both scales not only measure useful skills but have also been tested and validated multiple times as useful tools themselves in educational and intercultural contexts like that of this study.

First, a detailed definition of cognitive flexibility will be addressed along with past research that considered the construct and utilized Martin and Rubin's (1995) Cognitive Flexibility Scale. Then, a definition of intercultural sensitivity and past research that considered the construct and utilized Chen and Starosta's (2000) Intercultural Sensitivity Scale will follow.

### **Cognitive Flexibility**

Cognitive flexibility is a communicator's "(a) awareness that in any given situation there are [communicative] options and alternatives available, (b) willingness to be flexible and adapt to the situation, and (c) self-efficacy in being flexible" (Martin & Rubin, 1995, p. 623). In essence, in order to communicate in different ways, we have to be able to think in different ways. Furthermore, Martin and Rubin (1995) note that people need "a reason or motive" to consider other interactional options and adapt their communicative behaviors (p. 623). I argue intercultural interactions provide this motivation, as cultural and communicative adjustment is often needed in mixed-culture situations for a person to function and achieve their communicative goals.

Cognitive flexibility has primarily been viewed in research as a factor in overall communicator competence and was compared with other communicator personality traits; however, as will be exhibited, cognitive flexibility often stands out as a key variable and marker of communicative traits in the results of these research projects. To begin, Chesebro and Martin (2003) employed cognitive flexibility along with conversational sensitivity, verbal aggression, and indirect interpersonal aggressiveness to examine the conversation process (p. 144). In the study, students ( $n = 201$ ) were given questionnaires to fill out one time that included measures of conversational sensitivity, verbal aggressiveness, indirect interpersonal aggression, and the same twelve-item measure of cognitive flexibility to be used in this proposed study (Chesebro & Martin, 2003, p. 146). Chesebro and Martin (2003) found no discernible relationships between traits such as conversational sensitivity and verbal aggressiveness or conversational sensitivity and indirect interpersonal aggressiveness, yet they found strong support for the positive correlation of cognitive flexibility to conversational sensitivity and the negative correlation of cognitive flexibility to indirect interpersonal aggression (p. 148).

To explicate these findings, conversationally sensitive communicators are aware of context and power relations at work in interactions and, thus, gain more meaning than most from conversations (Chesebro & Martin, 2003, p. 143). The strong positive correlation of conversational sensitivity to cognitive flexibility then means that communicators with these skills not only detect cultural influences on their interactions, but also can think of effective ways to navigate culture and communication. The ability to navigate stressful or confusing cultural interactions successfully in this manner is a trait affected in students through intercultural study abroad experiences, and this study shows cognitive flexibility is a useful and appropriate instrument to measure this navigation trait.



Additionally, indirect interpersonal aggression involves “harming others without face-to-face interaction” through means such as spreading rumors or tarnishing reputations by betraying confidences (Chesebro & Martin, 2003, p. 146). The study found a negative relationship between indirect aggression and cognitive flexibility, meaning cognitively flexible communicators recognize the potential negative consequences from such actions and can think in a way that “enable[s] them to find more effective ways of dealing with situations which might provoke aggressive reactions from less flexible communicators” (Chesebro & Martin, 2003, p. 148). Similarly, Martin, Anderson and Thweatt (1998) found that cognitive flexibility is positively related to argumentativeness and tolerance for disagreement and negatively related to verbal aggressiveness (p. 531). Both of these results support the notion that cognitively flexible communicators can negotiate arguments and conflicts in effective and productive ways, which would allow a person to potentially navigate interpersonal conflict that often arises due to internal culture shock or intercultural confusion in interpersonal exchanges. These findings indicate that cognitive flexibility is a useful tool in measuring a person’s ability to perform in intercultural moments of conflict through deploying different and effective communication tactics.

Subsequently, Martin and Myers (2006) also studied cognitive flexibility as it is related to out-of-class communication with instructors or fellow students which include hallway encounters, email exchanges, office hour chats and conversations before or after class (p. 283). Out-of-class communication has interestingly been “considered to be one of the most powerful influences on college student learning” (Martin & Myers, 2006, p. 284), which is equally if not more true in study abroad contexts. Arguably, much of student learning while abroad does not

occur in the classroom, but rather in exchanges outside of the classroom with instructors, directors, fellow participants, and locals.

Martin and Myers (2006) surveyed students ( $n = 165$ ) who filled out questionnaires one time that included scales for out-of-class communication, overall communication apprehension, talkaholicism, communicative assertiveness and responsiveness, and the same twelve-item measure of cognitive flexibility proposed to be used in this study (p. 286). Talkaholicism was examined as an apprehensive trait of compulsive communicators (Martin & Myers, 2006, p. 284). As expected, the study found more communicatively apprehensive and “talkaholic” students were less likely to engage in successful out-of-class communication (Martin & Myers, 2006, p. 287). However, Martin and Myers (2006) found only cognitive flexibility to be a positive predictor of effective out-of-class communication (p. 287). Therefore, in addition to conflict management skills, cognitively flexible people are inclined to have more out-of-class communication considered to be enjoyable and effective. These findings support cognitive flexibility as an effective measure of communicative abilities in not just the classroom but in the numerous situations that participants have a high likelihood of experiencing abroad.

Lastly, Madlock, Martin, Bogdan and Ervin (2007) studied cognitive flexibility as it relates to leader-member exchanges in the workplace (p. 453). The study had students in a beginning communication class survey adult workers ( $n = 202$ ) in a non-work context by giving the adult workers questionnaires that included scales for leader-member exchange, affirming communicator style, communication apprehension, and communicator competence, where the cognitive flexibility measure was included (Madlock et al., 2007, p. 457). Leader-member exchange is the notion that “supervisors distribute resources (e.g., decision-making influence, tasks, and support) differently among their various subordinates based on the leader-member

relationships that vary in degree of quality as a result of communication exchanges” (Madlock et al., 2007, p. 454). Also, an affirming communicator style is one which both parties involved in the communication exchange deem as positive, satisfying and relationship-confirming (Madlock et al., 2007, p. 455).

Madlock et al. (2007) found that cognitive flexibility was the single the greatest positive predictor of leader-member exchange quality between supervisors and subordinates (p. 460).

Madlock et al. (2007) conclude that cognitive flexibility may be the primary factor facilitating collaborative and reciprocal communication between supervisor and subordinate “by providing the subordinate with the ability to adapt his or her communication to any variety of situations forwarded to them by their supervisor” (p. 460). A similar variety of situations is provided in a month-long study abroad experience where students live with host families, and these situations are often experienced at a higher rate as students are living consistently in a culture and home situation that is different from their own. The students act as subordinates, while their host families, professors, and program directors function as supervisors. Even students’ interactions with local people could fit into this model, as students are from a subordinate culture and must learn to adapt to all required tasks “forwarded to them” by this new culture. Through this study, yet again, cognitive flexibility is shown to be a highly marketable skill that deserves to be studied, and a skill that is influenced exponentially by a study abroad experience.

Cognitive flexibility allows a student to manage conflict well and to have interpersonal success outside of the classroom, which are both invaluable skills in an intercultural context. Also, with cognitive flexibility established again by Madlock et al. (2007) as an ability to adapt and a highly employable skill, short-term study abroad programs’ effect on cognitive flexibility

warrants further research in order to benefit both study abroad participants and program suppliers. The above past literature on cognitive flexibility led me to my first research question:

*RQ1: How does a study abroad trip of one month or less affect students' cognitive flexibility?*

### **Intercultural Sensitivity**

Intercultural sensitivity is a person's "active desire to motivate themselves to understand, appreciate, and accept differences among cultures" (Chen & Starosta, 1998, p. 231). Intercultural sensitivity is the affective component of intercultural communication competence, which also includes the behavioral component of intercultural adroitness and the cognitive component of intercultural awareness (Chen & Starosta, 2000, p. 3). Intercultural adroitness is the actual ability to "get the job done" and aims to measure actual behavior rather than a person's affect or intellect (Chen & Starosta, 1996, p. 367). Intercultural awareness is a person's understanding of the role culture plays in the wide variation of human communication, and the concept is targeted at measuring a person's cognitive awareness of communicative difference (Chen & Starosta, 2000, p. 3).

Because the data in this study is self-reported rather than observed, the actual behaviors of participants are not being assessed but rather their attitudes, perceptions, and narratives. In this study, measuring whether a study abroad participant has a difference in level of intercultural adroitness or "ability to . . . attain communication goals in intercultural interactions" (Chen & Starosta, 1996, p. 367) would simply be a measurement of their cognitive belief in behavioral effectiveness. Thus, intercultural adroitness, along with intercultural awareness or the cognitive "understanding of culture conventions" (Chen & Starosta, 2000, p. 3) will both be addressed through the participants' measure of cognitive flexibility.

Intercultural sensitivity as a singular trait has been researched more often than cognitive flexibility and, not surprisingly, has been considered primarily in intercultural communication contexts. The scale has often been applied to certain demographic and student groups in cultures and countries different from the United States, where the measure was originally created. Because the scale attempts to quantify a person's abilities to enjoy and engage in intercultural communication and understanding, it is natural the measure would be tested across cultures.

Fritz, Möllenberg, and Chen's (2002) study is a primary example of this cross-cultural testing, as the researchers endeavored to further validate Chen and Starosta's (2000) Intercultural Sensitivity Scale in the German cultural context (p. 4). The measure was given in survey form to German students ( $n = 400$ ) (Fritz et al., 2002, p. 4). The study utilized confirmatory factor analysis to analyze the scale's validity and found that "the basic structure of Chen and Starosta's model was confirmed as the 5 factors were reproduced on the whole" (Fritz et al., 2002, p. 5). The study also produced data to support the discriminant validity of the scale, or the sufficient distinction between all five factors considered in the scale (Fritz et al., 2002, p. 7). The factors, reliability and validity of this scale, and that of cognitive flexibility, will be discussed subsequently in the measurements section. Finally, though Fritz et al. (2002) had minor suggestions for improvement in overall scale validity, such as combining two factors like Interaction Engagement and Interaction Enjoyment into one category, the study confirmed an overall usefulness and applicability of the scale (p. 9).

In another study implementing the measure of intercultural sensitivity across cultural boundaries, Peng, Rangsihaht, and Thaipakdee (2005) attempted to detect differences in levels of intercultural sensitivity in Chinese and Thai citizens (p. 120). The study additionally intended to measure how intercultural sensitivity might be affected by factors such as "English language

proficiency, experience of intercultural communication, and national cultural differences” (Peng et al., 2005, p. 120). Peng et al. (2005) gave Chinese and Thai citizens ( $n = 832$ ) the same measure of intercultural sensitivity suggested for this study, with the participants being students of various universities or working class residents in both countries (p. 127). Amongst other findings, the study found that Chinese participants were more interculturally-sensitive than Thai participants (Peng et al., 2005, p. 130). The study attributed this outcome to a cultural emphasis on respect for cultural differences in Chinese culture, concluding that a higher respect for differences in culture promotes greater enjoyment in intercultural interaction and reduces barriers to intercultural communication (Peng et al., 2005, p. 130).

Through a study abroad experience, participants are presented with copious intercultural situations that require them to be cognitively flexible and interculturally-respectful in order to successfully interact. A participant’s constant interactions and negotiations while studying abroad prompt understanding of the new culture and Peng et al.’s (2005) concept of “higher respect for differences” (p. 130). This intercultural sensitivity allows people to enjoy and get more out of intercultural exchanges, which come to present themselves as opportunities rather than challenges or problems. Peng et al.’s (2005) findings support intercultural sensitivity as a useful tool for measuring study abroad participant growth in intercultural respectfulness.

In another Eastern nation, Del Villar (2010) attempted to use intercultural sensitivity as a measure to ascertain whether Filipinos were “ready” to join the globalized society (p. 199). The study measured intercultural sensitivity in relation to other communication proficiencies such as self-perceived communication competency, willingness to communicate, intercultural and communication apprehension (Del Villar, 2010, p. 202). Del Villar (2010) gave students ( $n = 941$ ) at the University of the Philippines a questionnaire to measure intercultural sensitivity

against the three communication proficiencies listed above (p. 202). As expected, the study found a strong negative correlation between intercultural sensitivity and communication apprehension, as interculturally-sensitive individuals report higher enjoyment from communication interactions such as conversations (Del Villar, 2010, p. 205). The study notably found significant positive correlations between intercultural sensitivity, willingness to communicate, and communication competency (Del Villar, 2010, p. 204). Del Villar (2010) even mentions that, due to the data presented, both willingness to communicate and communication competency could be used to predict intercultural sensitivity in an individual (p. 204). This outcome is relevant to my proposed study, as cognitive flexibility is considered an element of communicator competency and seeks to measure a person's willingness to communicate in unfamiliar situations. The findings of this study suggest a strong linkage between the variables of cognitive flexibility and intercultural sensitivity.

Relatedly, Milstein (2005) stated that “examining the relationship of self-efficacy and communication can be especially useful in looking at intercultural communication, and specifically sojourner communication” (p. 224). Milstein (2005) recognized that critical and everyday communication, which are normally accessible and straightforward, become “complex and challenging” in a new cultural context (p. 224). Milstein's (2005) linkage between cognitive flexibility and intercultural communication supports my choice to utilize the two variables in conjunction with one another. This past research on intercultural sensitivity led me to use the concept in conjunction with cognitive flexibility and to ask my second research question:

*RQ2: How does a study abroad trip of one month or less affect students' intercultural sensitivity?*

Hence, intercultural sensitivity addresses a person's desire to understand and appreciate the diversity in communication that occurs from cultural differences, and cognitive flexibility addresses a person's willingness and ability to adapt to a communicatively diverse interaction. Peng et al. (2005) even suggested a person's willingness to communicate, an element of cognitive flexibility, "actually reflects [their] level of intercultural competence and sensitivity [when] communication takes place in intercultural settings" (p. 121). To further this point, interculturally-sensitive persons are ideally able to "reach the level of dual identity and enjoy cultural differences by gradually overcoming . . . denying or concealing the existence of cultural differences . . . and moving to develop empathic ability to accept and adapt to cultural differences" (Chen & Starosta, 2000, p. 4). This dual identity relates directly to Dai's (2009) previously mentioned concept of intercultural personhood.

Therefore, this study measured general change in study abroad participants' levels of intercultural personhood through incorporating survey measures for cognitive flexibility and intercultural sensitivity. In addition to using Martin and Rubin's (1995) Cognitive Flexibility Scale and Chen and Starosta's (2000) Intercultural Sensitivity Scale, this study used student written and spoken narratives to investigate student change in communicative flexibility, intercultural sensitivity, and intercultural personhood after spending one month or less studying abroad and living with a host family. The connection of cognitive flexibility and intercultural sensitivity with the mixed methodological design of the study led me to my third and final research question:

*RQ3: How do students' narrative reports of their intercultural communication experiences while abroad reflect their cognitive flexibility and intercultural sensitivity?*



## **Review of Previous Research on Study Abroad**

As mentioned, study abroad research has traditionally focused on long-term, language based programs (Bardovi-Harlig, 2013; Mapp, 2012), and my pilot study sought to understand short-term, non-language based programs. When constructing any study, understanding the tradition in past research and justifying an arguable departure from it are necessary and important. Therefore, I will provide two examples of traditional, long-term study abroad research that helped form this study before detailing other research that exemplifies successful departures from the traditional lens. For a new focus in study abroad research, I studied changes in communicative self-efficacy, via cognitive flexibility, and cross-cultural communicative enjoyment, via intercultural sensitivity, due to short-term study abroad experiences. The stress of intercultural contact, as predicted in Kim and Ruben's (1988) theory of intercultural transformation, potentially precedes adaptation and growth, which comes in the form of cognitive ability and intercultural communication satisfaction. First, I describe two long-term study abroad studies because each not only exemplifies the norm in the field for the past decade, but they also each contain methods and future research suggestions used in the design of this study. After this, I describe past short-term study abroad program research, and how it has led me to conduct this particular short-term pilot study.

An example of a traditional, long-term, language-focused study abroad research project would first be Serrano, Tragant, and Llanes's (2012) year-long study on the oral and written second-language improvement of Spanish-speaking students ( $n = 14$ ) from Spain at a British University. The researchers analyzed written and oral narratives from each participant at three different points during their time abroad; the researchers analyzed these narratives for fluency, syntactic complexity, lexical richness, and errors. The study found significant progress in oral

proficiency occurred during the first semester, but written proficiency did not manifest until the second semester for most students (Serrano et al., 2012, p. 150).

In regards to prompting the creation of this study, students in Serrano et al.'s (2012) study completed personal experience questionnaires at each of the three language assessments, and the study found that students who reported a more positive experience and general cultural outlook tended to communicate more often and effectively in the second language (p. 151). The study thus indicated that attitudinal and interactional factors can greatly influence progress in student language learning and suggested that future research, like that of this study, should analyze changes in student communicative and intercultural attitudes while studying abroad (Serrano et al., 2012, p. 154).

In the second long-term study that influenced this proposed project, Williams (2005) deviated from the language learning focus and studied the effect of semester-long study abroad programs on participant intercultural communication skills. Participants ( $n = 44$ ) completed the Cross-Cultural Adaptability Inventory and the Global Competency and Intercultural Sensitivity Index before leaving for their semester abroad and upon their return. Williams (2005) also utilized a control "campus" group of students ( $n = 48$ ) who did not go abroad and also completed the scales before and after the semester (p. 366). The study found that students who spent their semester abroad showed greater increases in cross-cultural adaptability, global competency and intercultural sensitivity than students who spent the semester on campus. The study also found that students who identified as Communication majors reported larger increases in scores than business students, suggesting that a focus on communication studies might facilitate intercultural growth in study abroad participants (Williams, 2005, p. 372). This study encouraged me to

include a control group for my study, utilize a longitudinal pre-posttest design, and to maintain a communicative lens when considering study abroad effects.

Though these semester and year-long studies prove fruitful in understanding student culture acclimation, currently more than half of students who study overseas are choosing to participate in short-term study abroad programs (Wynveen, Kyle, & Tarrant, 2012, p. 334). Therefore, due to their rapidly increasing popularity, short-term study abroad programs have come to warrant further research and exploration.

To begin, some researchers of short-term study abroad programs have elected to continue the focus on language learning, due to the heavy importance customarily placed on the procurement of a language while abroad. For example, D'Amico (2012) studied the effect of short-term study abroad programs on participants' oral fluency and willingness to communicate in a second language, which was Spanish for D'Amico's (2012) study. The study included participants ( $n = 9$ ) of six-week study abroad programs and "at-home" students ( $n = 14$ ) (D'Amico, 2012, p. 1613). All participants in the study were native English-speaking language learners of Spanish who were taking advanced Spanish classes during the six weeks, and the location was the only difference between the two groups who were either in the U.S. or abroad (D'Amico, 2012, p. 1613). All participants completed fifteen minute oral interviews in Spanish both before and after the six week period, and each week during the study participants were given questionnaires pertaining to the amount of interaction they had with the Spanish language via conversations or media usage (D'Amico, 2012, p. 1613). The study found that study abroad and at-home students both displayed a comparable increase in oral fluency, but that the study abroad students spoke at a faster rate than the at home students. The study also found both groups started at a similar level of willingness to communicate in Spanish, and no significant

difference of willingness to communicate was found between the study abroad and at-home students (D'Amico, 2012, p. 1621). This study embodies an excellent research design, but still adheres to the notion that short-term study abroad participants should seek language acquisition as their primary goal.

Due to research findings like those of D'Amico (2012), research on short-term programs has diverged from language acquisition and studies on participants' enhanced cultural adaptability and perception of global citizenship have risen in popularity (Anderson, Lawton, Rexeisen, & Hubbard, 2006; Kitsantas, 2004; Mapp, 2012; Wynveen et al., 2012). Thus, though student willingness to attempt speaking the new language of Spanish was not affected by the study abroad experience in D'Amico's (2012) study, these scholars would be interested to know if the study abroad and at-home student groups had any difference in perceived *self-efficacy* while attempting the prompted language due to their experiences during the six week study. This question would be addressed by Martin and Rubin's (1995) Cognitive Flexibility Scale, one of the instruments to be utilized in the proposed study. These scholars might also want to know if the students of each group found speaking the language more or less enjoyable, which would be addressed by Chen and Starosta's (2000) Intercultural Sensitivity Scale.

Anderson, Lawton, Rexeisen, and Hubbard (2006) deliberately circumvented the language acquisition question entirely by studying a four-week sojourn of U.S. American English-speaking college seniors ( $n = 16$ ) to the English-speaking countries of Great Britain and Ireland (p. 460). The researchers administered Hammer & Bennett's (2002) Intercultural Development Inventory to the students in a pre-post design to detect and quantify any changes in their level of intercultural understanding due to their time spent abroad (Anderson et al., 2006, p. 462). The study found relatively weak support for the hypothesis that students significantly

improved their level of intercultural sensitivity during their four-week trip, but the study found strong evidentiary support for the hypotheses that participants “lessened their tendency to see other cultures as better than their own and improved their ability to accept and adapt to cultural differences” (Anderson et al., 2006, p. 464).

The study “provides preliminary evidence that short-term, non-language-based study abroad programs can have a positive impact on intercultural sensitivity” (Anderson et al., 2006, p. 467). Although Anderson et al. (2006) did successfully utilize a pre-post design to further the notion that short-term programs can enhance participant interculturalness, they also studied a homogenous student group that remained in constant contact with their group on a faculty-led course (p. 462). In this pilot study, I studied students who lived with host families and had to cope with the persistent presence of their host cultures. Anderson et al. (2006) also mentioned the lack of a control group, like the one Williams (2005) included in her successful project, as a limitation of their own study (p. 468). I employed a campus control group to avoid this limitation.

In another short-term project focused on attitudinal change, Kitsantas (2004) conducted a study to determine three-week to six-week study abroad programs’ effects on students’ cross-cultural skills and global awareness (p. 441). She distributed the Cross-Cultural Adaptability Inventory and Study Abroad Goals Scale to the student participants ( $n = 232$ ) before their experiences abroad and administered the students the Cross-Cultural Adaptability Inventory and the Global Perspective Survey upon their return (Kitsantas, 2004, p. 441). As a result of students’ overseas experiences, the study found an increase in participant cross-cultural adaptability and global understanding. The study also found a strong correlation between students’ perceived goals for studying abroad before departure and their overall development of cross-cultural and

global skills, with students specifying cross-cultural competence as a goal for study abroad reporting higher levels of cross-cultural and global understanding upon their return (Kitsantas, 2004, p. 450). The study attests to the ability of short-term study abroad programs to expand student cultural and global awareness, and the reliability of pre-posttest longitudinal studies. My study adds to the same growing body of knowledge, while also contributing unique student narratives to the existent data set.

Mapp (2012) studied the effects of short-term study abroad trips on students' cultural adaptability. She attempted to determine study abroad's effect on bachelor students' cross-cultural adaptability using a pre-post survey research design. The study discussed data collected from 2005 to 2009 from students ( $n = 87$ ) who participated in study abroad programs ranging from nine days to two weeks in length (Mapp, 2012, p. 731). Kelley and Meyers' (1995) Cross-Cultural Adaptability Inventory was administered to the students both prior to leaving and upon returning from their trips abroad (Mapp, 2012, p. 732). The study results found that students' cultural adaptability improved as a result of their experience abroad, with the greatest increase seen in the students' emotional resilience (Mapp, 2012, p. 733). Mapp's (2012) study added to the body of short-term study abroad program research that utilizes a pre-post design and produces quantifiable data, just as this study did.

Lastly, Wynveen, Kyle and Tarrant (2012) observed a four-week study abroad program's effect on students' change in perceived global citizenship as related to global ecological consciousness. Wynveen et al. (2012) administered a global citizenship survey to a student sample ( $n = 623$ ) on the first and last days of the students' overseas experiences (p. 339). The survey was created by the researchers and followed the norms of Stern's Value-Belief-Norm Theory of proenvironmental behavior, which the researchers argue aligns perceived global

citizenship with global ecological awareness (Wynveen et al., 2012, p. 340). The study found an increase in students' overall global awareness and proenvironmental posture, and it also, as particularly relevant to the concerns of this proposed study, presented empirical support for the effectiveness of short-term study abroad programs in broadening participant understanding of and appreciation for the global community (Wynveen et al., 2012, p. 347).

With multiple, insightful longitudinal studies aimed at understanding short-term study abroad effects on participant personhood, I elected to study these programs' effects on participant communication specifically. Pre-posttest designed studies with exclusively quantitative or qualitative data have been valuable and perceptive, but I used a mixed method approach to attempt to more holistically understand communicative effects in student participants. Stoner (2009) noted the latest development in the field of short-term study abroad research is a movement to understand in-depth the effects of programs on specific populations, despite the inability to generalize these effects to all study abroad participants (p. 8). Understanding the broad effects of study abroad programs in general is worthwhile, but as human researchers we must acknowledge that unique populations have unique experiences, which provoke unique consequences for the population. Thus, I employed generalizable quantitative scales along with qualitative open-ended questions to better understand the effects of short-term study abroad programs on the specific population of participants who live with host families. In the next chapter I detail the methods employed in this study, including participant, measurement, and procedural information.

## METHODS

Several scholars agree that current study abroad research is lacking in individualized, qualitative understanding of student experiences, and quantitative data is the primary means through which study abroad effects are measured (Menard-Warwick & Palmer, 2012; Stoner, 2009). As Stoner (2009) points out, experiences abroad warrant “raw emotional response” that is often “not easily conveyed through numbers on a page” (p. 19). Menard-Warwick and Palmer (2012) utilized personal narratives to chart three students’ individual progress in language acquisition, attitude towards their study abroad experience, and overall learner investment and identity. While the outcomes of their study did not provide support for short-term study abroad participants’ ability to acquire a new language, the study’s research method provides a model for narrative analysis. Qualitatively-based and mixed method intercultural scholarship takes into account the human aspect of study abroad experiences, choosing not to simply place all study abroad participants into predetermined categories. However, as skillfully noted by Anderson et al. (2006), “at a time of increasing competition for resources, study abroad programs generally lack hard data to justify their worth” (p. 458). People cannot be simplified and categorized, but quantitative data is also invaluable to study abroad programs and future research.

Furthermore, while numerous studies have attempted to prove and quantify the positive impacts of study abroad experiences, “few have employed pre–post designs in an attempt to quantify the changes occurring over the course of the program” (Anderson et al., 2006, p. 459). Milstein (2005), among others, has posited “a non-longitudinal study cannot claim to reflect actual sojourner self-efficacy change” (p. 226). Finally, in reference to the pilot nature of this study, van Teijlingen and Hundley (2001) note that pilot studies can help to assess the



workability of research protocols, collect preliminary data, and determine if the selected scales and measures are appropriate for such a study (p. 2). As noted in the literature review of the key concepts, cognitive flexibility and intercultural sensitivity have not been used together before to measure study abroad participant outcomes. Therefore, this pilot study not only works to extend and hone the study abroad research line, but ultimately responds to the call for more mixed method research utilizing these two concepts.

Thus, this pilot study utilizes a mixed method approach with a pre-post design of obtaining quantitative and qualitative data. In this section, I will address the study's participants, measurement instruments, and longitudinal procedures. Once again, the study was guided by the following research questions:

*RQ 1: How does a study abroad trip of one month or less affect students' cognitive flexibility?*

*RQ 2: How does a study abroad trip of one month or less affect students' intercultural sensitivity?*

*RQ 3: How do students' narrative reports of their intercultural communication experiences while abroad reflect their cognitive flexibility and intercultural sensitivity?*

### **Participants**

Participants in the study were university age students of 18 – 24 years old ( $n = 9$ ) participating in study abroad programs of one month or less over the winter break (December 2013 – January 2014), and a control group, or a group to which “no treatment or stimuli [was] offered” (Keyton, 2006, p. 143). The control group ( $n = 12$ ) consisted of university age students who were spending the winter break at home or on campus and who had not yet studied abroad in their college career. I utilized a control group because, as Carlson and Widaman (1988) state, “students' attitudes and opinions change during their college years, regardless of where they

study . . . [so] comparison groups are necessary in order to attribute observed changes to the foreign study experience” (p. 3). Along with personal and familial matters, major world incidents, shifting national alliances, and media coverage of current events can affect any student’s beliefs regardless of the country in which they are staying. Therefore, a control group was used to more confidently ascribe measured changes in cognitive flexibility and intercultural sensitivity to the intervention of a study abroad experience.

Study abroad participants were located through Sol Education Abroad, a non-university affiliated study abroad provider that agreed to participate in this study (see Appendix B), and Colorado State University (CSU), the base of the control group (see Appendix C). Sol Education Abroad was chosen due to its variety of short-term winter break programs offered, the widespread demographic and academic profiles of its participants, and its past success as a study abroad business. In 2012, Sol Education Abroad was named in the top ten best study abroad program providers, placing ninth out of dozens of providers for their excellence in housing, cultural experience, academics and administration (Abroad101, 2013b). The same study abroad program rating site, which is the largest online review site, named Sol Education Abroad’s program in Heredia, Costa Rica, tenth overall out of over 7,500 programs (Abroad101, 2013a). In addition to Sol Education Abroad’s offerings as a company, I also chose this company because I traveled with them as an undergraduate for both of my study abroad trips. Due to these intercultural experiences, I maintain a professional relationship with the company leadership and had cooperative access to this base of students.

Control group participants were students in introductory public speaking classes at Colorado State University who had not yet studied abroad in their college careers. Often students in these lower-division classes are students who have not yet had the opportunity to go abroad

during college. However, the participants were also completing a semester of public speaking, a class in which they learn about the public dialogue and civil exchange across cultures. Thus, this group was an appropriate control because they had been exposed to civility in communication, but also did not have previous collegiate study abroad experience. When looking at measures considering communication concepts, these students' introduction to communication through their public speaking courses would enable them to more readily comprehend the concepts and the questions being asked of them. These control group participants were identified through randomly selected sections of public speaking courses at CSU.

All short-term winter break Sol Education Abroad participants and CSU control group students were contacted via email to participate in the study. All of Sol Education Abroad's nearly fifty participants for the December 2013 - January 2014 winter break were contacted, along with one-hundred and twenty control group students in five sections of public speaking classes at CSU. For the pretest, seven study abroad participants and seven CSU students responded, for roughly 14% and 6% response rates respectively. For the posttest, five study abroad participants and eight CSU students from the same pools responded, for roughly 10% and 7% response rates respectively. However, only three study abroad participants and three CSU students answered *both* the pretest and posttest.

Demographic characteristics of both the study abroad and control groups were recorded on the pretest, but not on the posttest. This decision was due to the intentionally longitudinal design of the study and the survey distribution methods. Ideally, participants would answer demographic questions on the pretest and, with their posttest matched to their pretest, would not need to again enter their demographic information on the posttest. Therefore, the following demographic information comes from pretest and longitudinal participants. Of the three

longitudinal study abroad participants, all three participants identified as White. Two of the participants were female undergraduate students from Texas and one participant was a male high school senior from Ohio. All three participants were studying abroad for less than three weeks, but each had a different destination. The male student was studying in Argentina, while one female was studying in Spain and the other in Mexico. All three participants had been out of the country before, but only one female had studied abroad once before during college. Lastly, all three participants listed English as their first language and had varying degrees of fluency in Spanish. Next, of the three longitudinal control group participants, all three participants were White undergraduate students. The group had one male from Colorado, one female from Colorado, and one female from California. All three participants listed English as their first language and included secondary languages of French, Hebrew, and Spanish at varying degrees of fluency.

Lastly, though the posttest participants may have potentially had different demographic characteristics, the demographics gathered from all pretest participants in the study provide potential insight into what kind of participants were drawn to this study. Of the fourteen pretest participants, ten were female and four were male. All participants identified as White, except for one student who identified as Hispanic. In terms of age, two participants were eighteen, two were nineteen, four were twenty, three were twenty-one, one was twenty-two, and three were twenty-four. All pretest participants were undergraduate students except for the high school senior listed above in the longitudinal demographics. Of the fourteen pretest participants, seven were from Colorado, two were from Texas, and one each from Arkansas, California, Connecticut, Missouri, and Ohio. Four of the participants had not been out of the country, while the remaining ten had previously traveled outside of the United States. Of those who had traveled internationally, six

participants had left the country between one and three times, two had left between four and six times, and two participants had left six or more times. Regarding languages spoken at varying levels of fluency, three participants listed only English, eight participants listed English with one additional language, and two participants listed English with three other languages. Finally, of all seven pretest study abroad participants, four participants were going to Mexico, two were going to Spain, and one was going to Argentina. Three pretest study abroad participants were going abroad for two weeks or less, two were going abroad for three weeks or less, and two were going abroad for five weeks or less. Only one of the seven pretest study abroad participants had studied abroad before, as listed in the longitudinal demographic data.

Again, the overall pretest demographic data does not speak to the longitudinal concerns of this pilot study. Primary attention in the study is given to the demographic characteristics of the longitudinal group. Although standard t-tests were run on all pretest and posttest scores, the ANCOVA analyses of the three longitudinal study abroad and three longitudinal control group students are the primary focus for this pilot study. In the results and discussion sections the t-test and ANCOVA analyses will be discussed, with primary attention dedicated to the results of the data analyses of the six longitudinal participants.

### **Measurements**

This section includes the quantitative scales completed by the participants, the demographic questions used, and the open-ended questions answered by study abroad participants upon their return that allowed for expressive narratives. First, this section describes Martin and Rubin's (1995) Cognitive Flexibility Scale (see Appendix D) and Chen and Starosta's (2000) Intercultural Sensitivity Scale (see Appendix E), which were the quantitative

instruments distributed to participants before and after their study abroad participation or winter break spent in country.

### **Martin and Rubin's (1995) Cognitive Flexibility Scale**

The Cognitive Flexibility Scale aims to quantify a person's cognitive flexibility, which includes their awareness of the alternative communication styles available in any given situation, willingness to be flexible and adaptive in a situation, and their self-efficacy in being flexible and adaptive (Martin & Rubin, 1995, p. 623). The scale has an overall reliability coefficient of 0.83 (Martin & Rubin, 1995, p. 625). The scale has concurrent, construct and criterion-related validity (Martin & Anderson, 1998, p. 4). The scale has twelve items with no specifically categorized content areas; however, I categorized the twelve items into three categories as pertaining to the three elements of cognitive flexibility. Again, these three elements are a person's awareness of alternative communicative styles, willingness to be communicatively flexible, and self-efficacy in being communicatively flexible. The scale utilizes a six-point Likert-type scale for each item, with 6 as "strongly agree," 5 as "agree," 4 as "slightly agree," 3 as "slightly disagree," 2 as "disagree," and 1 as "strongly disagree" (Martin & Rubin, 1995, p. 624).

A person's awareness of the alternative communication styles available in any given situation is addressed in three items, which are: "I seldom have choices when deciding how to behave. My behavior is a result of conscious decisions that I make. I have many possible ways of behaving in any given situation" (Martin & Rubin, 1995, p. 624).

A person's willingness to be flexible and adaptive in a situation is addressed in three items, which are: "I avoid new and unusual situations. I am willing to work at creative solutions to problems. I am willing to listen and consider alternatives for handling a problem" (Martin & Rubin, 1995, p. 624).

A person's self-efficacy in being flexible and adaptive is addressed in "I can communicate an idea in many different ways. I feel like I never get to make decisions. I can find workable solutions to seemingly unsolvable problems. In any given situation, I am able to act appropriately. I have difficulty using my knowledge on a given topic in real life situations. I have the self-confidence necessary to try different ways of behaving" (Martin & Rubin, 1995, p. 624).

Martin and Rubin previously created a Communication Flexibility Scale (1994), but chose to validate and utilize the more recent Cognitive Flexibility Scale (Martin & Anderson, 1998; Martin, Staggers, & Anderson, 2011). The Communication Flexibility Scale (Martin & Rubin, 1994) focuses on the participants' physical ability to adapt their behavior to various situations, while the Cognitive Flexibility Scale (Martin & Rubin, 1995) focuses on awareness that communication alternatives exist and participant willingness to utilize these alternatives (Martin, Anderson, & Thweatt, 1998, p. 533). Again, because the measures of study were self-reported, I chose to use Martin and Rubin's (1995) Cognitive Flexibility Scale not only because it has been additionally validated, but also because it focuses on personal awareness rather than activities that would have needed to be directly observed. Direct observation would have required travel abroad, which was not within the research budget.

### **Chen and Starosta's (2000) Intercultural Sensitivity Scale**

The Intercultural Sensitivity Scale aims to quantify a person's intercultural sensitivity, which is the affective dimension of their overall intercultural communication competence. Increased intercultural sensitivity allows a person to "reach the level of dual identity and enjoy cultural differences" (Chen & Starosta, 2000, p. 5). The scale has a Cronbach alpha reliability coefficient of 0.88 (Chen & Starosta, 2000, p. 11). The scale has acceptable concurrent and predictive validity, as related with various scales such as the Intercultural Effectiveness Scale

and Intercultural Communication Attitude (Chen & Starosta, 2000, p. 12). The scale also has a sufficient degree of discriminant validity, as the five content areas included show no high correlation or overlap amongst each other (Fritz et al., 2002, p. 7). The five content areas include interaction engagement, respect for cultural differences, interaction confidence, interaction enjoyment, and interaction attentiveness (Chen & Starosta, 2000, p. 12). The scale utilizes a five-point Likert-type scale for each item, with 5 as “strongly agree,” 4 as “agree,” 3 as “uncertain,” 2 as “disagree,” and 1 as “strongly disagree” (Chen & Starosta, 2000, p. 20).

The interaction engagement content area includes seven items, which are: “I enjoy interacting with people from different cultures. I tend to wait before forming an impression of culturally-distinct counterparts. I am open-minded to people from different cultures. I often give positive responses to my culturally different counterpart during our interaction. I avoid those situations where I will have to deal with culturally-distinct persons. I often show my culturally-distinct counterpart my understanding through verbal or nonverbal cues. I have a feeling of enjoyment towards differences between my culturally-distinct counterpart and me” (Chen & Starosta, 2000, p. 21).

The respect for cultural differences content area includes six items, which are: “I think people from other cultures are narrow-minded. I don't like to be with people from different cultures. I respect the values of people from different cultures. I respect the ways people from different cultures behave. I would not accept the opinions of people from different cultures. I think my culture is better than other cultures” (Chen & Starosta, 2000, p. 21).

The interaction confidence content area has five items, which are: “I am pretty sure of myself in interacting with people from different cultures. I find it very hard to talk in front of



people from different cultures. I always know what to say when interacting with people from different cultures. I can be as sociable as I want to be when interacting with people from different cultures. I feel confident when interacting with people from different cultures” (Chen & Starosta, 2000, p. 21).

The interaction enjoyment content area has three items, which include: “I get upset easily when interacting with people from different cultures. I often get discouraged when I am with people from different cultures. I often feel useless when interacting with people from different cultures” (Chen & Starosta, 2000, p. 21).

The interaction attentiveness content area has three items, which are: “I am very observant when interacting with people from different cultures. I try to obtain as much information as I can when interacting with people from different cultures. I am sensitive to my culturally-distinct counterpart's subtle meanings during our interaction” (Chen & Starosta, 2000, p. 21).

On items 11, 19, 21, 22, 23, and 24, I changed the wording from “culturally-distinct counterparts” to “culturally-different people.” I did this to maintain survey consistency, as “culturally-different people” is used for the eighteen other survey items (see Appendix F).

Finally, I will address what some would view as a shortcoming of intercultural sensitivity or the version of the scale I chose to use in my study. Taman (2010) conducted a validity study of Chen and Starosta’s (2000) model in the non-Western, collectivistic, multiracial country of Malaysia (p. 177). Taman (2010) gave Chen and Starosta’s (2000) scale to university students ( $n = 447$ ) in Kuala Lumpur, Malaysia, and found that a three factor model of the scale works better in the Malaysian context (p. 182). Taman (2010) concluded that Chen and Starosta’s (2000) five factor model is an acceptable tool in a Western culture, and also mentioned the three

factor model might be specifically tailored to Malaysian culture and warranted further research (p. 182). Thus, because I am studying Westernized students from the United States, I have chosen to stay with the validated and accepted five factor version that has proven successful in Western culture contexts.

The two scales correspond to Kim and Ruben's (1988) theory of intercultural transformation, with its consideration of adaptation and growth in intercultural contexts. Also, not only are the scales reliable and valid, but they are succinct. When contacting participants, having a total of thirty-six items increases the likelihood of survey response rate and helps to avoid participant fatigue, which "occurs when survey participants become tired of the survey task and the quality of the data they provide begins to deteriorate" (Lavrakas, 2008, p. 243).

### **Demographic Questions**

In addition to the scales, demographic questions were included in the pretests for both organizations, i.e., Sol Education Abroad and Colorado State University. These demographic questions included items such as participant gender, age, ethnicity and race, current state of residency, college major, education level, study abroad destination and length of study abroad trip if applicable, number of countries visited prior to their study abroad experience or winter break, and the number of languages spoken fluently by the participant (see Appendix G).

### **Study Abroad Open-Ended Questions**

Five open-ended questions were attached to the Sol Education Abroad study abroad participants' posttest to allow for short written narratives (see Appendix F). These five questions were designed to correspond with Kim and Ruben's (1988) theorized stress-adaptation-growth cycle and to give participants the opportunity to explain a critical moment of either growth or remission in cognitive flexibility or intercultural sensitivity. The first multi-part question read:

“Can you describe a moment of cultural adjustment during your winter break? Who was involved and what was the outcome of the interaction?” The second read: “In what way did this cultural moment affect you emotionally?” The third read: “In what way did this prompt you to understand yourself differently?” The fourth read: “In what way did this moment affect your communication style in the moment?” The fifth read: “In what way did this moment affect the way you think about communication now?”

As previously mentioned, narratives are sense-making tools utilized by people to “organize and interpret their experiences” (Keyton, 2006, p. 282). Fisher’s (1984) narrative paradigm resolves that people are inherently storytelling creatures, and the stories we create dictate how we live our lives (p. 2). People create stories to understand the incidents in their daily life, and these stories can be dependable detectors of the “storyteller’s beliefs, attitudes, values and actions” (Keyton, 2006, p. 282). How a person frames interactions, episodes, aftermaths and other aspects of his or her everyday existence can explain a lot about their self-image and general worldview. Moreover, researchers often consider the narratives participants produce concerning critical incidents, or “events in an individual’s life that stand out as being memorable, positively or negatively” (Keyton, 2006, p. 282). Utilizing “probing open-ended questions” allows the researcher to “elicit detailed accounts” and make sense of the storyteller’s attitudes towards and construction of the account (Keyton, 2006, p. 282). Hence, this study included these five carefully fashioned open-ended questions to allow participants a space to describe and make sense of a critical intercultural incident they experienced while abroad.

### **Procedures**

This study followed a pre-posttest design, distributing the two scales to study abroad participants both before and after their time abroad and to Colorado State University control

group students before and after their winter break period. Upon their return, along with the two scales, the Sol Education Abroad study abroad participants were also given the five open-ended questions to allow for narrative creation. This section will explain the email distribution of the pre and posttests, which was constructed to allow for participant anonymity, and the way the open-ended narrative responses were coded.

An expedited protocol draft was submitted to and approved by the Colorado State University Institutional Review Board (see Appendix A). Additionally, as previously mentioned, the study abroad company Sol Education Abroad agreed to participate in this study (see Appendix B) and to distribute the survey links directly from their email address to program participants on my behalf. The Department of Communication Studies at Colorado State University also agreed to participate in this study (see Appendix C) and to have randomly selected SPCM 200 Public Speaking instructors distribute the survey links to their students directly from their email addresses to students on my behalf.

### **Pretest**

All Colorado State University control group students and Sol Education Abroad short-term study abroad student participants were contacted via email to participate in the study. Winter break at Colorado State University began in late December and most study abroad participants left in late December, so an email with the pretest survey link attached was sent to participants during the second to last week of December 2013 to be seen by both groups before they left campus or the country. The email to Sol Education Abroad participants came from their program leadership, and the email to Colorado State University control group students came from the public speaking instructors' Colorado State University email addresses, which are affiliated with the university. Along with the pretest survey link, the email stated the general

purpose of the study was to understand the effects of study abroad programs on participants' communication practices and assured participants of anonymity (see Appendices H, I). Anonymity ensures that any information that could identify participants is never matched to individual data and, in this study, is additionally unknown to the researcher (Keyton, 2006, p. 90). In the e-mail cover letter sent to Colorado State University control group participants, I asked for volunteer participants who had not studied abroad in their college careers (see Appendix I).

In the email sent from Sol Education Abroad and instructors' university addresses, participants were provided the link to complete the Cognitive Flexibility and Intercultural Sensitivity Scales, which were merged into one survey on surveymonkey.com (see Appendix F). Again, the selected version of the Cognitive Flexibility Scale had twelve items, and the Intercultural Sensitivity Scale had twenty-four items. Due to the longitudinal nature of the study, the pretest and posttest results of each participant needed to be compared, though anonymity was upheld through asking participants to create a personalized code. The code was created by asking participants to use the last two digits of their social security number as a prefix for their birth date. For example, a participant born on January 23 with the social security number 491-22-4567 would have 670123 as their personal identification code. This coding allowed the pretests and posttests to be matched while maintaining participant anonymity (see Appendix J).

### **Posttest**

After their study abroad experience, all participants at Sol Education Abroad were contacted to complete the posttest of the two scales with the five open-ended narrative questions attached. The control group student base at Colorado State University was also contacted to complete the posttest; however, the control group's posttest only included the two scales and not

the open-ended questions that were directed at study abroad experience. It should be noted that all Sol Education Abroad participants and all CSU control group students from before the break were contacted, as anonymity prevented me from contacting only those who completed the pretest. The post-winter break email was sent during the second to last week of January 2014, as numerous programs were not completed until the final days of January and control group students were beginning their spring semesters.

### **Analysis of Pre and Posttests**

Responses to the two scales were imported directly from surveymonkey.com into Microsoft Excel and were then transferred by hand by the researcher into IBM SPSS, a statistical analytics software. The pre and posttests of each longitudinal participant were matched by their identification code, with the narrative answers of the three longitudinal study abroad participants attached to their posttest. The statistical assessment of these two scales will be described in detail in the results section of this report.

Additionally, I organized and analyzed the written narratives. I assessed the study abroad participant narrative responses tracking emerging themes. Analysis of themes allowed the narratives to be coded as cognitive flexibility focused, intercultural sensitivity focused, blended or neither. Then, the students' narrative descriptions of their experiences were coded as either having a positive connotation or negative connotation. These positive and negative narratives were further coded as either examples of participant growth or remission in the respective trait in response to the experience, which aligns with Kim and Ruben's (1988) theoretical cycle of stress-adaptation-growth. These category schemes coordinated the narrative responses with Kim and Ruben's (1988) theory and the two measured traits of cognitive flexibility and intercultural sensitivity. When experiencing moments of stress, or cultural adjustment as framed in the open-

ended questions of the study, past research shows the reaction of participants is likely to be change in cognitive flexibility, intercultural sensitivity, or both. The coding outcomes of these narratives are described in detail in the results and discussion section.

From this analysis, the research questions considering short-term study abroad programs' effect on participant cognitive flexibility and intercultural sensitivity were addressed. The quantitative survey research portion of the study was situated in the tradition of past study abroad research and, more broadly, research assessing changes in human behavior. The qualitative narrative aspect of the study was situated in Fisher's (1984) narrative paradigm theory, as humans are considered story-tellers and meaning-makers. Kim and Ruben's (1988) theory of intercultural transformation was instrumental throughout the entire mixed method study and guided the research questions that led to the formation of this study.

To review, this study was conducted in a pre-posttest fashion with participant anonymity intact throughout. Participant scores on the two scales before and after their winter break were assessed using SPSS statistical software. The longitudinal participants' pre and posttest data was matched and assessed for change across time. The collection of these scores along with written narrative responses aimed to provide insight into a short-term study abroad program's effect on student cognitive flexibility, intercultural sensitivity, and overall intercultural personhood. In the next chapter, I explore the results of the study and discuss what these results signify.

## RESULTS AND DISCUSSION

### Results

The purpose of this pilot study was to understand short-term study abroad effects on participant cognitive flexibility and intercultural sensitivity, which are two intercultural communication-based concepts that potentially impact an individual's overall intercultural personhood. The pilot study utilized Martin and Rubin's (1995) Cognitive Flexibility Scale and Chen and Starosta's (2000) Intercultural Sensitivity Scale to try and quantify these changes with regard to intercultural personhood. Additionally, study abroad participants were also given five open-ended questions upon their return from study abroad programs of one-month or less to allow for narrative creation and a space for participant voice in this study. In the study, the two scales were administered in a pre-posttest design before and after one month to a control group of U.S. students who stayed in country and a treatment group of study abroad participants who went abroad. Through this design, this pilot study also attempted to discern if the two well-known and validated scales work well in tandem.

#### **Scales: Quantitative Findings**

The analysis of the two quantitative scales for cognitive flexibility and intercultural sensitivity began with assessing the reliability of the scales when applied to smaller control and treatments groups of less than ten members each. This analysis was done by finding Cronbach alphas for each usage of the two scales, both before and after the month-long study period. The scale for cognitive flexibility was found to have acceptable reliability based on standardized items for both the pretest ( $\alpha = .687$ ,  $M = 61.50$ ,  $SD = 5.43$ ) and the posttest ( $\alpha = .752$ ,  $M = 58.33$ ,  $SD = 5.54$ ). The scale for intercultural sensitivity was also found to have acceptable reliability



for both the pretest ( $\alpha = .827$ ,  $M = 94.83$ ,  $SD = 7.47$ ) and the posttest ( $\alpha = .798$ ,  $M = 90.50$ ,  $SD = 12.57$ ).

Next, a Pearson product-moment correlation was calculated for the pre and posttests of each scale. An alpha level of .05 was used for all statistical analyses. Notably, there was a positive and significant correlation between the pretest for intercultural sensitivity and the posttest for cognitive flexibility:  $r = .964$ ,  $p < .01$ . Possible reasoning for this correlation will be explicated in the discussion section. All correlations between scales are displayed in Table 1.

**Table 1: Correlation of Scales**

Variable	1	2	3	4
1. Pre Cognitive Flexibility				
2. Pre Intercultural Sensitivity	0.648			
3. Post Cognitive Flexibility	0.745	.964**		
4. Post Intercultural Sensitivity	0.262	-0.464	-0.388	
* $p < .05$ ** $p < .01$				

Next, for the first two research questions considering participants' measured changes in cognitive flexibility and intercultural sensitivity, independent samples t-tests were first conducted on the overall data sample. This overall data sample included all pretest ( $n = 14$ ) and posttest ( $n = 13$ ) responses for both the control and study abroad participants. These comparative analyses were conducted to analyze all collected data and to provide additional results for consideration for the conclusions of the study. However, the emphasis of this pilot study was longitudinal analysis and the central purpose of the study was to assess measured changes in participants before and after studying abroad. Therefore, analyses of covariance exclusively for the longitudinal participants were conducted on the control group ( $n = 3$ ) and study abroad ( $n =$

3) participants whose pretests and posttests were matched by their identification codes. Data from both the t-test and ANCOVA analyses are included in this results section.

First, RQ1 asked how a study abroad trip of one month or less affected participants' cognitive flexibility. To first address this question, independent-samples t-tests were conducted to compare the cognitive flexibility of the control group and the study abroad group before and after the month-long study period. Again, it should be noted these t-tests utilized data from all participants, and the subsequent ANCOVA analysis uses the data of the six longitudinal participants. On the pretest, there was only a slight difference in scores for the control group ( $M = 5.01$ ,  $SD = 0.45$ ) and the study abroad group ( $M = 4.98$ ,  $SD = 0.34$ ) and this difference was not found to be significant;  $t(12) = 0.17$ ,  $p > .05$ . On the posttest, there was a more noticeable difference in scores for the control group ( $M = 4.70$ ,  $SD = 0.31$ ) and the study abroad group ( $M = 5.00$ ,  $SD = 0.53$ ) and this difference was found to be significant;  $t(11) = -1.25$ ,  $p = .05$ . These analyses suggest students who spend one month studying abroad while living with a host family have a higher degree of cognitive flexibility than students who stay at home.

The question of longitudinal change in cognitive flexibility was addressed through an analysis of covariance (ANCOVA) of posttest scores on the cognitive flexibility scale controlling for the pretest scores as a covariate. The ANCOVA for the cognitive flexibility posttest scores of the longitudinal members of the CSU control group versus the study abroad group found no statistically significant effects:  $F(1, 1) = 0.867$ ,  $p > .05$ . However, the difference in adjusted means between the CSU control group ( $M = 4.72$ ,  $SD = 0.32$ ) and the study abroad group ( $M = 5.00$ ,  $SD = 0.65$ ) when controlling for pretest scores was notably trending in the direction of a higher increase in cognitive flexibility after studying abroad. Table 2 represents the summary of this analysis of covariance that controlled for the variables of participant pretest scores on

cognitive flexibility and participant group, which indicated if the participant was a control or study abroad student.

**Table 2: Cognitive Flexibility Analysis of Covariance Summary with Pretest Scores**

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Group	0.106	1	0.106	0.867	0.42	0.224
PreCogFlex	0.678	1	0.678	5.53	0.1	0.648
Error	0.368	3	0.123			
*p < .05 **p < .01						

RQ2 asked how a study abroad trip of one month or less affected participants' intercultural sensitivity. To begin to address this question, independent-samples t-tests were conducted to compare the intercultural sensitivity of the control group and the study abroad group before and after the month-long study period. Again, these t-tests utilized data from all participants, and the subsequent ANCOVA analysis uses the data of the six longitudinal participants. On the pretest, there was an evident difference in scores for the control group ( $M = 3.96$ ,  $SD = 0.71$ ) and the study abroad group ( $M = 4.28$ ,  $SD = 0.35$ ) but this difference was not found to be significant;  $t(11) = -1.01$ ,  $p > .05$ . On the posttest, there was a negligible difference in scores for the control group ( $M = 3.80$ ,  $SD = 0.47$ ) and the study abroad group ( $M = 3.76$ ,  $SD = 0.50$ ) and this difference was not found to be significant;  $t(11) = 0.14$ ,  $p > .05$ .

To address longitudinal change in intercultural sensitivity, an analysis of covariance (ANCOVA) was conducted on longitudinal participants' posttest scores on the intercultural sensitivity scale controlling for the pretest scores as a covariate. The ANCOVA for the intercultural sensitivity posttest scores of the CSU control group versus the study abroad group

found no statistically significant effects:  $F(1, 1) = 1.14, p > .05$ . The difference in adjusted means between the CSU control group ( $M = 4.00, SD = 0.45$ ) and the study abroad group ( $M = 3.55, SD = 0.54$ ) when controlling for pretest scores was not trending in the direction of enhanced intercultural sensitivity after studying abroad. This trend was seen at a smaller degree in the posttest t-test analysis above. This unexpected trend will be explicated further in the discussion section. Table 3 summarizes this analysis of covariance controlling for the variables of participant pretest scores on intercultural sensitivity and participant group.

**Table 3: Intercultural Sensitivity Analysis of Covariance Summary with Pretest Scores**

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Group	0.297	1	0.297	1.14	0.364	0.276
PreIntSens	0.195	1	0.195	0.75	0.45	0.2
Error	0.78	3	0.26			
*p < .05 **p < .01						

Lastly, it should be noted that the ANCOVA for the cognitive flexibility scores of control group ( $M = 4.80, SD = 0.32$ ) and study abroad group participants ( $M = 4.92, SD = 0.65$ ) when controlling for pretest scores and second language fluency approached significance:  $F(1, 1) = 13.262, p = .068$ . The variable “second language fluency” was the participant’s reported level of fluency in a second language on the pretest on a scale of 1 – 5, which can be seen in question format in the demographic questions (Appendix G). Table 4 summarizes this analysis controlling for the variables of participant group, pretest score on cognitive flexibility, and second language fluency.

**Table 4: Cognitive Flexibility Analysis of Covariance with Second Language Fluency**

Source	Sum of Squares	df	Mean	F	Sig.	Partial Eta
			Square			Squared
Group	0.412	1	0.412	13.262	<b>0.068</b>	0.869
PreCogFlex	0.932	1	0.932	30	<b>0.032*</b>	0.938
Lang_Fluency2	0.306	1	0.306	9.844	<b>0.088</b>	0.831
Error	0.062	2	0.031			
*p < .05 **p < .01						

### **Narratives: Qualitative Findings**

RQ3 asked how students' narrative reports of their intercultural communication experiences while abroad reflect their cognitive flexibility and intercultural sensitivity. To answer this question, in addition to Martin and Rubin's (1995) Cognitive Flexibility Scale and Chen and Starosta's (2000) Intercultural Sensitivity Scale, the study abroad participants were also given open-ended questions upon their return to allow for creation of narrative reports. The questions read as follows: "1. Can you describe this moment of cultural adjustment during your winter break? Who was involved and what was the outcome of the interaction? 2. In what way did this cultural moment affect you emotionally? 3. In what way did this cultural moment prompt you to understand yourself differently? 4. In what way did this moment affect your communication style in the moment? 5. In what way did this moment affect the way you think about communication now?" The participants were also given the opportunity to rate their overall study abroad experience on a scale of 1 – 6, with 1 being "Very Negative" and 6 being "Very Positive."

The first study abroad participant was a self-identified White, male, high school senior from Ohio. He studied abroad in Argentina for three weeks or less. The participant had not

studied abroad before, but he had been out of the country six or more times before his experience in Argentina. The participant listed English as his first language and noted a professional working proficiency in Spanish. The participant had a mean of 5.42 on the pretest for cognitive flexibility, and his posttest score rose to 5.67. The participant had a mean of 4.92 on the pretest for intercultural sensitivity, and his posttest score dropped to 2.92. Surprisingly with this data, the participant reported having a “Very Positive” overall experience and his answers had highly positive connotations. When asked to initially think of and describe a moment of cultural adjustment, the participant simply stated that it was difficult for him to do because he found that primarily “throughout [his] experience [he] found confidence in [his] Spanish.” He then described an exchange with a young woman looking for a certain street in Buenos Aires, Argentina, during which he spoke solely in Spanish with her about a range of topics. The participant stated he did not have to “adjust [himself] culturally” and “only had to ask her to occasionally slow down.” The participant said the moment affected his emotions positively, in that he “felt extremely confident” after this exchange. He also found that hand movements were useful when pointing directions out to the woman as he spoke. On a last note, the participant interestingly also mentioned the effect the young woman’s open discussion of her “problems” had on him. The participant stated in reaction to the woman’s remarks on power outages and lacking money for bus fare: “I realized that my problems are so minimal compared to her problems.”

The second study abroad participant was a self-identified White female who was twenty-four and a senior in college from Texas. She studied abroad in Spain for three weeks or less and had not studied abroad before. She had been out of the country between four and six times. She listed her native language as English and noted a professional working proficiency in Spanish.

The participant had a mean of 4.30 on the pretest for cognitive flexibility, and her posttest score rose to 4.58. The participant had a mean of 4.21 on the pretest for intercultural sensitivity, and her posttest score dropped slightly to 4.00. The participant reported an overall “Positive” experience, and yet her responses to questions had a generally negative connotation. However, the participant’s answers did progress to add what she had learned about communication from the experience she was describing. The participant detailed being “very frustrated” because she “wasn't understanding what the teacher was saying.” The outcome of the situation for the participant was “thinking [the teacher] said one thing when that was not what she was saying at all.” The participant noted that she was “quite emotional” when the teacher “called [the participant] out in class.” When asked how this interaction prompted the participant to understand herself differently, the participant responded with a communication-based answer: “I know now that I need to make sure I am truly understanding everything that people are saying before I assume they mean something completely different.” Lastly, to describe the change in her communication style, the participant stated she “speak[s] more slowly and make[s] sure people understand what [she is] trying to explain.” Though not marking these communicative changes as positive, the participant still ended her narrative of cultural adjustment by presenting what she had discovered.

The third and final study abroad participant was a self-identified White female who was nineteen and a junior in college from Texas. She studied abroad in Mexico for two weeks or less and had studied abroad once before in the Dominican Republic. She had been out of the country between one and three times. She listed her native language as English and noted a full working proficiency in Spanish. The participant had a mean of 4.92 on the pretest for cognitive flexibility, and her posttest score stayed consistent at 4.92. The participant had a mean of 4.13 on the pretest

for intercultural sensitivity, and her posttest score dropped to 3.71. The participant described her overall study abroad experience as “Very Positive.” Her narrative answers described the New Year’s Eve celebration she had experienced with her host family in Mexico, and had a mixed positive and negative overall tone concerning aspects of the experience. The participant noted that she felt “included in the celebration,” but also felt “simultaneously alone” due to how “awkward and somewhat uncomfortable” she feels at such celebrations. The crying, hugging, and other emotional exchanges the participant partook in “reinforced how much [she] enjoy[s] being at large family gatherings.” Yet, the participant also mentioned she “didn’t talk very much” during the celebration. Finally, to conclude, the participant mentioned that she learned from this experience that “sometimes non-verbal communication is more useful.”

### **Discussion**

To begin the discussion of the results, we must first consider why the pretest responses to the intercultural sensitivity scale are significantly and positively correlated with the posttest responses to the cognitive flexibility scale ( $r = .964, p < .01$ ). This correlation could be due to the general open and accepting mindset of highly interculturally sensitive people (Chen & Starosta, 2000). These individuals have an “active desire to motivate themselves to understand, appreciate, and accept differences among cultures” (Chen & Starosta, 1998, p. 231). When remaining open to understanding and appreciating difference in communication across cultures, a person would likely become more cognitively flexible and willing to adapt their communication in many different situations.

For the correlation of the intercultural sensitivity pretest and cognitive flexibility posttest, we can also return again to Peng, Rangsipaht, and Thaipakdee (2005) who noted that a person’s willingness to communicate, an aspect of his or her cognitive flexibility, reflects that person’s



intercultural competence and sensitivity (p. 121). Thus, perhaps participants who have a more culturally sensitive outlook before studying abroad find more flexibility in their communication and communicative style. Equally, if participants are less open to cultural differences before going abroad, they could arguably find very few ways to accommodate and be flexible in communicative situations. These students would not be excited by or open to culturally specific communication practices and would, therefore, be less likely to increase their cognitive capacity to negotiate in new communicative situations. For control group students who did not go abroad at all, this correlation might suggest that intercultural sensitivity in people generally affects them and stimulates constant changes in their cognitive flexibility. No other correlations between scales approached significance, so this statistically significant correlation warrants further research.

Next, the difference in control group posttest scores ( $M = 4.70$ ,  $SD = 0.31$ ) and study abroad group posttest scores ( $M = 5.00$ ,  $SD = 0.53$ ) on cognitive flexibility provide statistically significant ( $p = .05$ ) evidence that short-term study abroad participants have higher cognitive flexibility after going abroad than students who stay home. However, although this evidence is statistically significant and should be considered in future research, this data is not longitudinal and cannot be analyzed in conjunction with the pretest data. Thus, it is possible the students who went abroad and completed only the posttest would have still reported higher cognitive flexibility before going abroad than their control group counterparts. As mentioned before the analyses in the results section, this significant data should not be ignored, but the longitudinal data remains primary in this pilot study, as it more holistically attests to the documented changes in cognitive flexibility after one-month of studying abroad.

For the longitudinal element of cognitive flexibility, though not statistically significant, the average of the posttest scores for the longitudinal control group participants ( $M = 4.72$ ,  $SD = 0.32$ ) and the average of the posttest scores for the longitudinal study abroad participants ( $M = 5.00$ ,  $SD = 0.65$ ) were also trending in the direction of increased cognitive flexibility in study abroad participants after the one month research period. This trend agrees with other short-term study abroad research (D'Amico, 2012; Kitsantas, 2004; Mapp, 2012) that has found an increase in other cognitive and communicative traits in participants, such as their willingness to communicate, global perspective, and cross-cultural adaptability. The trend noticed in this pilot study with the longitudinal control group ( $n = 3$ ) and longitudinal study abroad ( $n = 3$ ) participants warrants further study. Cognitive flexibility could possibly be found to be an effective and all-inclusive measure of the factors previously measured to assess cognitive and communicative growth in short-term study abroad participants.

Incidentally, though also not statistically significant, intercultural sensitivity did not follow the same longitudinal trend as cognitive flexibility in control group versus study abroad group participants across the month-long study period. In fact, the study abroad group average ( $M = 3.55$ ,  $SD = 0.54$ ) was found to be lower than the control group average ( $M = 4.00$ ,  $SD = 0.45$ ), suggesting that the control group students had a greater increase in intercultural sensitivity than the students who went abroad. This unexpected trend was also found in the t-tests of the entire sample. Although the pretest data found a higher degree of intercultural sensitivity in study abroad participants ( $M = 4.28$ ,  $SD = 0.35$ ) than in control group participants ( $M = 3.96$ ,  $SD = 0.71$ ), the posttest data showed that study abroad participants had decreased in intercultural sensitivity ( $M = 3.76$ ,  $SD = 0.50$ ) and the control group scores had risen to surpass the study abroad group scores ( $M = 3.80$ ,  $SD = 0.47$ ).

These findings do not agree with Kim and Ruben's (1988) cycle of stress-adaptation-growth, which would suggest that participants who went abroad would experience intercultural stress, adapt to the situation, and grow not only in cognitive ability but intercultural sensitivity. This growth would be seen in not only participants' ability to adapt, but also their general acceptance of and appreciation for cultural differences. One explanation for this unexpected trend could be the first study abroad participant's noticeable shift from highly interculturally sensitive on the pretest to decidedly lower on the posttest. As noted above, the narrative answers of the first participant detailing his exchange with a young woman were highly positive in terms of adaptability. However, these answers did not attend to the participant's appreciation or understanding of cultural differences, except for possibly the participant's comment about the woman's "problems" putting his own into perspective. With only twelve participants in the control group and nine going abroad, one piece of data that might be considered an outlier or even user error on the part of the survey-taker in larger studies can often dictate the entire outcome of a smaller pilot study.

However, regardless of other possible explanations for the unexpected trend in this smaller-scale pilot study, it should still be noted the study did find less change in intercultural sensitivity in study abroad students than control group participants. Therefore, it could be possible that a trip of one month or less does not allow study abroad participants to participate in every stage of Oberg's hypothesized process of culture shock, which has been a staple in understandings of intercultural exchanges and international travel since the 1960s. If participants on short-term programs of one month or less do not "complete" the process of culture shock, then these participants might barely make it through the "honeymoon phase" in time to experience the next phase of cultural frustration and negotiation before abruptly heading back to

their home country. These participants could possibly be leaving to head home before finding a mastery of their host culture (Oberg, 2006, p. 143).

Even if this is true, though, it is also quite possible that short-term study abroad participants could emerge from culture shock after some time being back in their home country. After emerging from the shock, the participants could come to assess and appreciate the beneficial nature of their trip. Consequently, intercultural sensitivity measures may be more beneficial if sent to short-term study abroad participants after they have had a few weeks to process their experience, rather than sent to them only days after their return, which was the procedure used in this pilot study. We often feel proud and confident in our abilities to adapt and be flexible within days of returning from intense cultural immersion, but it may take us time to readjust and reflect before being able to adequately evaluate our new cultural appreciation and aptitude. Study abroad participants in this study went abroad and lived with host families and experienced what Bardovi-Harlig (2013) and Martin and Nakayama (2013) would consider intense and quality intercultural interaction, but at a very rapid rate. These students may, then, need more time to process their intercultural experience and reflect on their overall sensitivity to cultural differences. In the implications and future research section I will indicate possible study design enhancements from these findings.

Next, I returned to the scale for cognitive flexibility after initial analyses of change in cognitive flexibility and intercultural sensitivity in the control and study abroad groups. I again assessed the differences between the longitudinal participants in both groups on both scales when controlling for participants' reported fluency in a second language, as language learning is considered crucial in study abroad research and had traditionally been the most common theme in past research (D'Amico, 2012; Serrano, Tragant, & Llanes, 2012). This post-hoc analysis

found that the difference in averages of control group and study abroad group participant scores on the cognitive flexibility scale, which were already trending in the expected direction, began to approach significance for the longitudinal data ( $p < .05$ ) when controlling for second language fluency in participants.

As attested to by scholars like Menard-Warwick and Palmer (2012), one month or less studying abroad may not be long enough to learn a language. Yet, it could be long enough for a student of language, or even a bilingual student, to gain a more profound sense of enhanced cognitive flexibility and, thus, intercultural personhood. These students of language might already be predisposed to think more astutely about culture and flexibility in communication due to their language learning. During this language learning students often learn at least cursory differences in communication across cultures and contexts, allowing for them to start considering communication as heavily contextual and highly adaptable.

When learning a new verbal language, which indisputably comes with its own nonverbal language and expectations, students are required to reflect on their own communication practices and to try and cognitively process another way of communication. These students of language at least have a basic understanding that successful communication shifts across contexts and that, consequently, an effective communicator shifts his or her communication according to contextual indicators. An individual who can do this kind of communicative contextual shifting is considered cognitively flexible, and so students of language already come into contact with the notion of cognitive flexibility before ever spending time abroad or engaging in intense intercultural interactions like living with host families. Student language learning before going abroad, or even generally during university years, might have an effect on the growth of

cognitive flexibility in university age students and study abroad participants and deserves further study.

Turning lastly to the short answers provided by the longitudinal study abroad participants ( $n = 3$ ), the narrative descriptions given by these participants can be seen to have both positive and negative undertones and can be related explicitly to the notions of cognitive flexibility and intercultural sensitivity. In terms of cognitive flexibility, the first participant repeatedly mentioned the confidence he found in his ability to speak Spanish and to “give directions to anybody on the streets of a Spanish speaking country.” The participant was highlighting his language abilities, but also his belief in his own cognitive abilities, or his cognitive self-efficacy (Martin & Rubin, 1995, p. 623). The participant found he could communicate “clearly and effectively” to the young woman in Spanish. When a person has what he or she perceives to be an effective conversation, both verbal and nonverbal aspects of the conversation affect that perception. Thus, this participant likely cultivated confidence in his language proficiency, verbal skills, and nonverbal dexterity through the interaction he chose to describe. The participant even mentioned he used “more hand movements to indicate the general direction of the street” to the woman. Not only does the willingness to communicate nonverbally in a way he might not normally detect cognitive flexibility in the participant, but it also relates to his intercultural sensitivity. Through becoming more understanding and accepting of differences in intercultural communication, the participant was prompted to use “more” hand gestures than he might when in his home culture speaking his native language.

The participant’s narrative also harkens back to Chesebro and Martin’s (2003) study utilizing cognitive flexibility, which positively correlated conversational sensitivity, or a person’s awareness of contextual influence on communication, to cognitive flexibility (p. 143). The

participant perceived he was able to navigate the potentially confusing cross-cultural conversation with the young woman he encountered successfully, thus enhancing his cognitive self-efficacy and his conversational sensitivity. The narrative about the participant's interaction in the street also echoes the findings of Martin and Myers (2006), who found cognitive flexibility to be a significant predictor of effective out-of-class communication (p. 287).

The second participant, who elected to describe her difficult interaction with a teacher, also attended to cognitive flexibility. The participant decided she needs to “truly understand ... everything that people are saying” before making assumptions in future communication, as they might “mean something completely different” than what she assumed. She also mentioned how she now “speak[s] more slowly” to “make sure people understand what [she is] trying to explain.” These comments connect to the awareness component of cognitive flexibility, which is a person's awareness of different communication styles and interpretations in any given situation (Martin & Rubin, 1995, p. 623). Though the participant felt the interaction with her teacher was unpleasant, she still concluded that she is a more aware communicator due to the exchange.

This second participant, like the first, could also be considered to be more conversationally sensitive (Chesebro & Martin, 2003) to nuances, though maybe not as confident in her abilities to participate in potentially confusing conversations. The participant's awareness of the possibility for different interpretations between cross-cultural interlocutors could also be related to the understanding component of intercultural sensitivity, in which a person comes to more fully understand differences in communication brought on by cultural influences (Chen & Starosta, 1998, p. 231). This participant appears to have fostered a more active desire to understand differences in communication across cultures, though her possible appreciation for

and acceptance of the differences are undetectable in her narrative responses due her description of the situation as emotionally demanding.

Additionally, the participant's emotional response to her in-class interaction with her teacher relates explicitly with Milstein's (2005) observation that everyday exchanges can become "complex and challenging" in a new cultural context (p. 224). The participant might normally feel comfortable speaking in class, asking questions, or interacting with teachers in her home country, but this exchange was complicated by language barriers and cultural misunderstandings. The participant felt the teacher "called [her] out," and likely did not interpret the everyday behavior of the teacher in the same way as the teacher herself, who was acting as expected in the culture of her classroom in Spain. This participant's interaction with an authority figure also relates to the study conducted by Madlock, Martin, Bogdan, and Ervin (2007) in which the researchers found cognitive flexibility to be the biggest predictor of effectiveness in exchanges between supervisors and subordinates (p. 460). The participant may have not had a successful exchange with her teacher, but perhaps in the future, with increased cognitive flexibility and the participant's newfound attention to being interpreted correctly, the participant would have more successful interactions with authority figures. It should be considered, too, that the teacher might have not had high cognitive flexibility in the moment and was not willing to think of alternative means of communication with the confused student.

The third and final study abroad participant's narrative describing a New Year's Eve celebration with her host family relates to cognitive flexibility and intercultural sensitivity. The participant mentions feeling "fairly awkward" at times, but then also mentions crying "during [her] host-mom's father's speech ... honoring those who had passed and being thankful for those who would be welcoming the new year" and participating "in all the hugging." The participant's



willingness to participate in expressive exchanges that might be foreign to her showcases both her cognitive flexibility and her intercultural sensitivity. The participant understood there are different ways to communicate affection and willingly participated in these new ways, and through this she accepted the cultural differences in appropriate celebration rituals and intimate interactions. As Peng et al. (2005) noted, a person who has a “higher respect for differences” finds more enjoyment in foreign situations and views cultural differences as opportunities rather than awkward challenges (p. 130).

In the moment, though, the participant mentions she “didn’t talk much” and finds that “sometimes non-verbal communication is more useful.” Deciding to talk less in unfamiliar situations could be an indicator of lowered self-efficacy in communicative and cognitive abilities, as Martin and Myers (2006) found that cognitive flexibility was positively correlated with communicative assertiveness and negatively correlated with communication apprehension (p. 284). However, the participant’s observation of the usefulness of nonverbal communication could also indicate an increase in her awareness of the different communication styles present in all interactions, or heightened cognitive flexibility. This flexibility concerning switching to nonverbal communication could be interpreted as the participant’s willingness to communicate with her host family in a different way, and thus could illustrate Del Villar’s (2010) proposition that a willingness to communicate in a variety of ways could predict a person’s appreciation for cultural differences (p. 204). The participant’s consent to participate in diverse nonverbal communication practices in a new culture could potentially signify her appreciation for that culture’s ritualized practices.

In summary, though the comparison of the control group and study abroad group averages on the scale for intercultural sensitivity did not follow the expected trend, there are

many possible explanations for this unexpected result. An explanation could be as simple as data being skewed from one participant's large shift in overall reported intercultural sensitivity, but it must also be considered that one month of study abroad may not be long enough for a participant to fully experience and reflect on any changes in his or her intercultural sensitivity. However, the comparison of averages on the cognitive flexibility scale did follow the expected trend of more increased cognitive flexibility after studying abroad, and the longitudinal findings approached significance when controlling for the factor of second language fluency.

Also, as can be seen throughout this discussion of study abroad participants' narratives, the open-ended questions directed participants to address both cognitive flexibility and intercultural sensitivity in their described interaction. Each participant included aspects of each concept, and the interplay between the two concepts was shown throughout the narrative responses. Cognitive flexibility and intercultural sensitivity, as also previously suggested by past research employing the two scales (Del Villar, 2010; Milstein, 2005; Peng et al., 2005), are inherently woven together in cross-cultural situations. A person who encounters different cultural norms must choose to either react assertively, as in adaptation in Kim and Ruben's (1988) theory, or to retreat into solitude. Most people do not have the option to retreat and must continue to function within the new societal norms, so they must learn to adapt. Through these adaptations, Kim and Ruben (1988) tell us that people grow. This growth is exemplified most basically through a broadened understanding of cultural influences and an increased awareness of ways to communicate in a variety of ways.

In the next and final chapter I detail the implications of these findings on the academic understanding of short-term study abroad experiences and the effects these experiences have on participants. I also discuss how this pilot study can help to inform future research on such short-

term participants. Lastly, I conclude with an overview of the study and my own reflections on study abroad research.

## FUTURE RESEARCH AND CONCLUSION

### **Implications for Future Research**

To summarize, this pilot study sought to investigate the effect study abroad experiences have on participant communication practices, primarily through changes in their cognitive flexibility and intercultural sensitivity. These two traits are aspects of intercultural personhood, or an individual's ability to communicate across cultures effectively and foster personal growth in the process. The study focused on short-term study abroad program participants, as the majority of U.S. students going abroad are choosing these types of programs. Also, due to Bardovi-Hartlig's (2013) suggestion that the intensity of intercultural interaction is more influential than length of program, this pilot study considered study abroad participants who lived with host families while studying abroad for one month or less. The study used a pre-posttest design and surveyed study abroad participants before and after their month-long study abroad trips. Control group students were also surveyed before and after the same month spent in country. Lastly, study abroad participants provided narratives after their trips, to allow for participant voice in the study.

For Martin and Rubin's (1995) Cognitive Flexibility Scale, this pilot study provided evidence for the potential effectiveness of cognitive flexibility as a valuable tool in future research concerning study abroad participants. This evidence is persuasive especially due to the statistical significance or near significance of the data analyses of the cognitive flexibility scale. The analysis that most neared statistical significance ( $p = .068$ ) was the analysis of longitudinal participants' reported cognitive flexibility when controlling for second language fluency. Because this small sample size was nearing significance when controlling for this factor, future

research should consider controlling for language fluency when examining short-term study abroad participants' cognitive flexibility. It has been supported numerous times that one month is not long enough to learn a new language, but this significance level might suggest that language learners going abroad for short programs would be affected differently due to their prior language studies. Study abroad participants who are already language learners, or even bilingual or multilingual participants, might experience intercultural interaction in unique ways while on their trips. These participants would have already been learning about other cultures and communication styles through their language learning, or even might be living a bilingual or multilingual cultural lifestyle. Thus, their cognitive flexibility might continue to grow exponentially or in ways distinct from non-language learners when they travel abroad.

Language learning might not be the objective of short-term programs going abroad, but it could be an aspect of a participant's life that could signify he or she would get more out of studying international. Though this pilot study was focused on participants taking part in the rapidly growing trend of study abroad, research on language learning generally as related to cognitive flexibility could contribute to knowledge in intercultural learning broadly. Future research could broaden awareness of second language fluency's impact on cognitive flexibility not only in study abroad participants but with all language learners. This second language fluency could range from students who are elementary speakers and have taken one semester-long class in their language of choice to fully bilingual students.

To combine both general language learning and study abroad research, future studies could attempt to measure levels of cognitive flexibility in language learners at all levels of fluency who stay in their home countries or go abroad and then compare the two groups for trends and differences. These studies could also factor in whether students were going abroad

specifically to learn a language, or if the students were going to another country to take a class totally separate from language or to research other aspects of the new culture. Due to the findings of this pilot study, I believe considering language learning from many vantage points will prove interesting in future research on not only study abroad participants but all language learners. Additionally, in relation to language, future research should consider not only the language abilities of the participants but also the language and location of the host cultures they are visiting. If an English-speaking participant goes abroad to the United Kingdom, they may have a very different experience than an English-speaking student going abroad to China and attempting to decipher signage written entirely in Chinese rather than deciphering subtleties of language and culture.

Next, the analyses of Chen and Starosta's (2000) Intercultural Sensitivity Scale, though not nearing significance, provided fascinating lenses through which to consider future research on short-term study abroad programs. In this study, students who went abroad generally exhibited lower intercultural sensitivity after the month-long study period than students who stayed in country. This result could be due to a number of reasons, e.g. skewed data due to one outlier and a relatively small sample size, but future research could begin by exploring the possibility that one month of studying abroad might not be long enough for participants to process and experience the full range of culture shock. This pilot study also specifically considered short-term study abroad participants who stayed with host families, and constant contact with a host family and new culture might produce not only shock but fatigue from nonstop cultural negotiation. Again, the location of the study abroad experience might also impact the amount of culture shock the participant experiences.

In addition to shock and cultural obstacles encountered while in their host countries, participants could also be experiencing reverse culture shock upon their return home, as they resume school and everyday practices that suddenly could feel different than before. Participants on short-term programs might even be more susceptible to reverse culture shock upon reentering the country due to the rapid nature of their one-month trip. For these participants, not only might everyday life back at home feel strange, but they only left this previously comfortable routine behind for a few weeks. Within one month, short-term participants could be living their normal reality, experiencing an entirely new way of life, missing their old cultural habits, and returning home to suddenly long for the new cultural customs they experienced while abroad. Due to this chaotic shift in realities, future research could assess study abroad participants, with special attention given to the differences in long-term and short-term participants, and attempt to discern if and when culture shock is occurring.

First, one way to allot time for short-term participants to process culture shock of varying degrees would be to measure intercultural sensitivity immediately upon the participants' return to their home country and again a few weeks later. This pilot study did not have the opportunity for later follow-up with participants, which I now believe could yield fascinating and more complete results. Giving participants the time to process their experiences and possibly complete the transition to the final more positive stages of culture shock might more accurately measure their overall change in intercultural sensitivity. Interestingly, in future research intercultural sensitivity could even operate as a scale to measure phases in culture shock. Though some participants in study abroad undoubtedly are naturally more interculturally sensitive than others, fluctuations in a person's level of measured intercultural sensitivity could serve to quantify moments of culture shock and struggle in conjunction with interviews or journal entries.

Additionally, when considering both scales as compared to each other, participants might more readily exhibit an increased level of cognitive flexibility on their own after returning from their study abroad trips. The participants might feel immediately upon returning a surge of pride in their own abilities to travel and live internationally, and their willingness and confidence in trying new styles of communication might flourish straightaway without participants needing time to reflect on their experiences. These participants might even find satisfaction and increased communicative confidence after each intercultural exchange they navigate successfully while abroad. Even if some or all participants have negative intercultural interactions during their time abroad that produced hostility or do not end successfully in their eyes, these participants likely still feel a wave of intercultural pride because of completing the journey when they touch down back in their home country. That is, despite obstacles and misunderstandings, they still survived and navigated an international trip. As noted earlier, the participants might simply need more time to reflect on and develop their thoughts about the intercultural differences they experienced. However, immediately upon their return participants might not be able or interested in critically reflecting on culture and value systems without some prompting.

One way to prompt participants to consider intercultural sensitivity, as was exemplified in this pilot study, would be to pose open-ended questions that related to the concept's notions of being more aware and accepting of cultural differences. Other studies, though, could ask open-ended questions after the participants have been home a few weeks. Also, this pilot study operated as an exploratory look into the possible changes found in study abroad participants and, therefore, posed very broad questions that allowed the participants to describe their experiences without extensive direction. However, in future research these questions could be more directly linked to intercultural sensitivity and its tenets to prompt valuable reflection. The first question,



for example, could ask the participants to recall a cultural norm they disliked or felt uncomfortable with in the country they visited. The next question could then ask the participants to describe why they thought that norm was an inappropriate or uncomfortable behavior. The questions could also ask about a positive experience with a cultural norm and ask why that behavior was comfortable for the participant. Through questions like these, participants would be led to critically engage with and acknowledge their own levels of acceptance of and appreciation for cultural differences.

Broad questions like those posed in this pilot study or even more straightforward questions like those just listed could additionally be utilized in creating interview or focus group protocols. While these protocols could still maintain an exploratory nature in research, they could also be implemented by study abroad programs or universities as focused debriefing sessions for returnees. Cognitive flexibility could be used as a preliminary discussion, with participants positively discussing the new ways they understand communication and recalling moments of success in implementing new communicative strategies while abroad. After a directed and positive discussion about growth in participants' personal communication abilities, the facilitator of the discussion could begin to introduce the topic of intercultural sensitivity. The participants could discuss cultural differences they encountered and voice their understandings of, and possible frustrations with, these differences. If the facilitator was being more directive rather than exploratory, these discussions could be molded to have participants critically examine their own internal struggles with intercultural differences and leave the discussion having a broadened understanding of intercultural and interpersonal conflicts.

Though many ideas for future research were brought about by this study, it should be dually noted that this exploratory study's findings are limited by the sample size. Not all

participants who answered the pretest answered the posttest, and vice versa, so the longitudinal component of the study was more limited when compared with the overall size of the data sample. Some expected trends were found in the data analyses, like those of the cognitive flexibility scale, but the small size of the study limits the generalizability of these findings to larger populations. However, analyses of the larger overall body of data and the smaller set of longitudinal data followed the same trends, which provide support for the outcomes and conclusions of the study. A second limitation is that the narratives from other posttest participants who were not longitudinal participants were not included in this study's results. The primary focus was on longitudinal changes in short-term study abroad participants and their sense-making of the experiences that caused these changes. These additional narratives could be used in future research to more broadly engage narrative theory in study abroad research or to aid in design of future narrative studies. A third data sample limitation would be the lack of ethnic diversity of participants, as all but one participant identified as a White U.S. American. Future research should attempt to include more ethnic diversity, or even consider populations outside the U.S. and their study abroad experiences.

In my attempt to be unobtrusive, the final limitation of the study is the lack of researcher access to the participants on a deeper level. Future studies might consider protecting the identities of participants but still accessing them more personally, so as to have the ability to lead focus groups or include face-to-face interviews and delve deeper into the cognitive and emotional processes of the participants. These subtle yet intimate relationships with participants might help to elucidate themes more clearly and add richness to a qualitative examination of the subject. Though supplementary funding was not available for this pilot study, researchers in the future might even consider going abroad with the students and conducting informal interviews

throughout the experience. Particularly when considering intercultural sensitivity, this kind of intermittent reflection and discussion might help the researcher understand the participants' experiences more holistically and could even benefit the participants themselves.

As the world continues to become more globally interconnected and allows for more accessible and rapid cross-cultural exploration, the fostering of intercultural sensitivity in populations remains an essential component in society. It should be noted, though, that just because individuals can go abroad more easily for several weeks or can research a country for five quick minutes online does not mean this fleeting cross-cultural contact is creating a more globally-minded world population. International intercultural contact is steadily becoming ordinary as the world becomes rapidly more connected, but education surrounding etiquette for this contact is not as readily available. Students, for example, can choose to spend two weeks working towards university credit in a different country, but due to the lack of intercultural education regarding intercultural etiquette and experience they often return concerned more about how their credits will transfer than the effect the culture they visited had on their worldview.

Even more accessible than international travel is the option to log on to various platforms of social media or free online video call services to speak directly to someone from another country within seconds. From planes to airwaves, there is no arguing with the surge of technology that is available to connect individuals across the globe every minute of the day. This issue is addressed by Martin and Nakayama (2013) in their discussion of the technological imperative for studying intercultural communication, as technology allows the communication to become more frequent and accessible (p. 22). The issue remains, however, of how best to use these technologies to cultivate respectful intercultural awareness and to benefit students, world

populations, and global society. Future research on short-term study abroad experiences should consider the implications technology has on participants while traveling abroad and still having the ability to be simultaneously immersed in their home cultures via technology. Scholarly research and society at large are both attempting to investigate how the globalization of travel and knowledge has vast implications, including issues of globalization's economic impact, social impact, and effect on global security. Communication research and discovering best practices for obtaining valuable intercultural understanding are important and necessary elements in this investigation; intercultural communication scholarship will only continue to become more prevalent as globalization becomes more commonplace.

Studies like this pilot study can help to build foundations for respectful and beneficial interaction across cultures. Using quantitative instruments, like the scales for cognitive flexibility and intercultural sensitivity, along with qualitative elements like narratives or interviews can extend holistic understanding and solidify that foundation. Also, through suggestions for practical applications of findings, intercultural communication scholars can help to create studies and programs that aim to create globally aware citizens. These practical applications could include the suggested focus groups in future studies that could provide participants with the support to critically reflect on their intercultural sensitivity. Intercultural researchers can design effective studies and programs using similar pilot studies to this study or even their own intercultural experiences.

Lastly, organizational communication researchers can also apply conclusions like those of this study to international and intercultural organizations. These researchers can help analyze the systems in place in these organizations and analyze the efficacy of the systems. For example, organizational scholars could consider a specific study abroad program provider or support

office. By using scales to understand how and when study abroad participants experience changes in their cognitive flexibility and intercultural sensitivity, organizational scholars could then ensure the program provider or office had efficient and timely structures in place to support and nurture participants as they navigated extensive cognitive and emotional growth. With multiple samples of data, organizational scholars could then consider the broad establishment of study abroad more holistically, determining if effective support structures that encourage participants to reflect on their cognitive and intercultural experiences are commonly offered by study abroad program providers or support offices. This universal look at study abroad as an establishment in the United States could prove beneficial to participants, program providers, and schools alike.

Organizational and intercultural communication scholars are not the only researchers who could expound on the findings of this pilot study of study abroad participants, and information produced in this study could be used across disciplines. The findings could aid studies practically by showcasing operative open-ended question design, or the findings could apply to more intellectual pursuits like how to best foster intercultural empathy in populations. Future research can benefit from pilot studies such as this one, as researchers often cannot know which scales accurately assess and measure the changes they seek to investigate in specific populations without previous exploration. Thus, the findings of this pilot study can aid researchers in designing more efficient and effective studies in the future. Instead of only assessing cognitive flexibility, researchers can control for the influencing variable of second language fluency, and instead of measuring intercultural sensitivity only immediately upon participants' return, researchers can give participants the scale several weeks again after the participants have returned and resettled to more accurately measure overall participant changes.

Through significant or near significant statistical tests, this exploratory pilot study provides evidence for the effectiveness of the cognitive flexibility scale in measuring communicative changes in short-term study abroad participants. The study's findings on intercultural sensitivity also sparked interesting ideas for future research, though these observed trends were not nearing statistical significance. Third, the study abroad participants in this pilot study produced fascinating narrative descriptions of intercultural interactions they encountered while abroad. The questions and subsequent narrative responses attended to the key concepts and theories of the study, which allowed for a relevant and rich qualitative element to be included for a holistic, mixed-methodological perspective.

### **Conclusion**

When I went abroad, I was not thinking of how I might learn new ways to communicate or how my host cultures might forever change my worldview. I was worried about catching my flights, making good grades in my courses, finding foods I enjoyed, and making new friends. These worries and aspirations were not necessarily bad or useless, but it was not until much later that I reflected seriously on how I was emotionally and cognitively affected by my travels. It took me months to recognize that intercultural differences in affection had contributed to the loneliness I had felt. It took me even longer to realize that my own cultural biases while abroad had been the element that provided for misunderstandings and uncomfortable, isolated confusion. Before going abroad, I had done my own research and been told what festivals would be occurring and what the most commonly served dish was. What I was not told was how to process my emotions and reflect on my cultural interpretations of the situation when I felt I was receiving excessive attention from the opposite sex in traditional and customary ways in my host

country. I also was not educated on the stages of culture shock, and could not find the words to explain my frustrations without feeling as though I was not grateful enough to be abroad.

My degree required that I go abroad, much like many current degrees offered in U.S. universities; and, like over half of U.S. students (Wynveen, Kyle, & Tarrant, 2012), short-term programs better suited my financial and academic needs. Yet, as noted by Stoner (2009), knowledge of the effects these short-term trips have on students like myself is lacking when considering the number of students who are electing to go abroad in this manner. While going abroad for a shorter amount of time to have a “great adventure” can of course be beneficial and fun for students (Kingsbury, 2013, para. 10), that does not mean research should not still consider the impact of these shorter trips on students. These students influence and shape global society while abroad and when back home, and the lasting effects trips have on them can have implications for a much wider audience. If short-term programs become more widely researched, then worthwhile programs for adequate support of short-term specific participants while abroad and upon return can be established. With these programs in place, study abroad participants, no matter the length of their program, could receive support and invaluable preparation for becoming valuable and constructive members of an expanding global society.

Obtaining the skills and knowledge necessary to be educated global citizens not only would benefit the participants in their personal lives, but also in their careers. Studies like the included joint study conducted in 2013 by the British Council, Booz Allen Hamilton, and Ipsos Public Affairs consulting firms consistently report the high value companies place on a potential employee’s intercultural savviness. Though going abroad for one month does not necessarily communicate intercultural competency, well-supported and prepared participants could use not

only their experiences but their critical reflections to showcase the intercultural, communicative, and critical thinking skills they gained from their study abroad experience.

The main objectives of a study abroad experience are unique to each participant and should not automatically be determined by desired quantifiable program outcomes. Communication research on these participants, though, should certainly consider how participants on short-term programs, while having unique experiences, generally are affected by these experiences. Key contributions of exploratory research like this pilot study are the elucidation of useful and effective scales, methods, and procedures for studying short-term study abroad participants. Along with providing future studies the means to operate more efficiently, this pilot study contributes to the structural knowledge of program providers, support offices, and other study abroad organizations. These organizations can use the findings of this pilot study pragmatically on a daily basis and in the design of future programs and support groups. Study abroad is emerging as an essential element in U.S. students' college careers, so continued research on the short-term programs the majority of these students are using is not only essential, but imperative.



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## APPENDICES

Appendix A  
Colorado State University IRB Approval Letter

NOTICE OF APPROVAL FOR HUMAN RESEARCH

DATE: December 19, 2013  
TO: Aoki, Eric, Communication Studies  
Gantt, Jessica, Communication Studies  
Pendell, Sue, Communication Studies  
FROM: Barker, Janell, Coordinator, CSU IRB 1

PROTOCOL TITLE: Flexibly Sensitive: Student Cognitive Flexibility and Intercultural Sensitivity in Short-Term Study Abroad Experiences

FUNDING SOURCE: NONE

PROTOCOL NUMBER: 13-4530H

APPROVAL PERIOD: Approval Date: December 19, 2013 Expiration Date: December 03, 2014  
The CSU Institutional Review Board (IRB) for the protection of human subjects has reviewed the protocol entitled: Flexibly Sensitive: Student Cognitive Flexibility and Intercultural Sensitivity in Short-Term Study Abroad Experiences. The project has been approved for the procedures and subjects described in the protocol. This protocol must be reviewed for renewal on a yearly basis for as long as the research remains active. Should the protocol not be renewed before expiration, all activities must cease until the protocol has been re-reviewed. If approval did not accompany a proposal when it was submitted to a sponsor, it is the PI's responsibility to provide the sponsor with the approval notice. This approval is issued under Colorado State University's Federal Wide Assurance 00000647 with the Office for Human Research Protections (OHRP). If you have any questions regarding your obligations under CSU's Assurance, please do not hesitate to contact us.

Please direct any questions about the IRB's actions on this project to:  
Janell Barker, Senior IRB Coordinator - (970) 491-1655 - Janell.Barker@Colostate.edu

Evelyn Swiss, IRB Coordinator - (970) 491-1381 - Evelyn.Swiss@Colostate.edu

Approval is for 30 Sol students to take a survey and possible follow-up interview using the approved recruitment and consent documents; and for 30 CSU students to take a survey using the approved recruitment and consent documents. Documentation of consent is waived through 117(c)(2). Any changes to the protocol needs to be done through an Amendment through eProtocol.

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Approval Period: December 19, 2013 through December 03, 2014  
Review Type: EXPEDITED  
IRB Number: 00000202



Appendix B  
Sol Education Abroad - Letter of Cooperation

Jessica Gantt [jessica.gantt@colostate.edu](mailto:jessica.gantt@colostate.edu)  
12/18/13

To whom it may concern,

Thank you for agreeing to help me with my research project, "Flexibly Sensitive: Changes in Student Cognitive Flexibility and Intercultural Sensitivity from Short-Term Study Abroad Experiences." This email is to confirm that the Communication Studies department's public speaking basic course will agree to allow me to distribute my online survey link to participants via email both before and after the coming winter break, December 2013 – January 2014. This email is also to verify that all of the students' participation will be voluntary and that you are satisfied that the students will be protected as human subjects. Contact the PI, Dr. Eric Aoki, at [eric.aoki@colostate.edu](mailto:eric.aoki@colostate.edu) or the Co-PI, Jessica Gantt, at [jessica.gantt@colostate.edu](mailto:jessica.gantt@colostate.edu) if you have any questions now or as we proceed with our research.

Please reply by email to confirm.

---

Dear Jessica,

Our organization, Sol Education Abroad, is happy to assist you in your research and accept and agree to what you have listed in your email. Please provide a copy of the final publication once the research is complete.

Esteban Lardone, Director  
Sol Education Abroad

the SOL EDUCATION ABROAD Team

SOL recently received 3 top awards in the 2012 Abroad101 Study Abroad Rankings presented by STA Travel, including:

"The Top 10 Programs" | "Top Program Providers" | "Top Programs for Language Lovers"  
Read about the accolades at [www.soleducation.com/2012awards](http://www.soleducation.com/2012awards)

email: [info@soleducation.com](mailto:info@soleducation.com)  
web: [www.soleducation.com](http://www.soleducation.com)  
tel: 512.380.1003  
fax: 512.287.4886  
mail: 503 Oakland Ave. Austin, TX 78703  
facebook: [www.facebook.com/soleducation](http://www.facebook.com/soleducation)  
twitter: [www.twitter.com/sol\\_education](http://www.twitter.com/sol_education)



Appendix D  
Cognitive Flexibility Scale  
Martin and Rubin (1995)

*Instructions:* The following statements deal with your beliefs and feelings about your own behavior. Read each statement and respond by circling the number that best represents your agreement with each statement.

Strongly Agree 6	Agree 5	Slightly Agree 4	Slightly Disagree 3	Disagree 2	Strongly Disagree 1
1. I can communicate an idea in many different ways.					
2. I avoid new and unusual situations. (R)					
3. I feel like I never get to make decisions. (R)					
4. I can find workable solutions to seemingly unsolvable problems.					
5. I seldom have choices when deciding how to behave. (R)					
6. I am willing to work at creative solutions to problems.					
7. In any given situation, I am able to act appropriately.					
8. My behavior is a result of conscious decisions that I make.					
9. I have many possible ways of behaving in any given situation.					
10. I have difficulty using my knowledge on a given topic in real life situations. (R)					
11. I am willing to listen and consider alternatives for handling a problem.					
12. I have the self-confidence necessary to try different ways of behaving.					

Items marked (R) are reverse scored.

Appendix E  
Intercultural Sensitivity Scale  
Chen and Starosta (2000)

Below is a series of statements concerning intercultural communication. There are no right or wrong answers. Please work quickly and record your first impression by indicating the degree to which you agree or disagree with the statement. Thank you for your cooperation.

5 = strongly agree	Please put the number corresponding to your answer in the blank before the statement
4 = agree	
3 = uncertain	
2 = disagree	
1 = strongly disagree	

- \_\_\_ 1. I enjoy interacting with people from different cultures.
- \_\_\_ 2. I think people from other cultures are narrow-minded.
- \_\_\_ 3. I am pretty sure of myself in interacting with people from different cultures.
- \_\_\_ 4. I find it very hard to talk in front of people from different cultures.
- \_\_\_ 5. I always know what to say when interacting with people from different cultures.
- \_\_\_ 6. I can be as sociable as I want to be when interacting with people from different cultures.
- \_\_\_ 7. I don't like to be with people from different cultures.
- \_\_\_ 8. I respect the values of people from different cultures.
- \_\_\_ 9. I get upset easily when interacting with people from different cultures.
- \_\_\_ 10. I feel confident when interacting with people from different cultures.
- \_\_\_ 11. I tend to wait before forming an impression of culturally-distinct counterparts.
- \_\_\_ 12. I often get discouraged when I am with people from different cultures.
- \_\_\_ 13. I am open-minded to people from different cultures.
- \_\_\_ 14. I am very observant when interacting with people from different cultures.
- \_\_\_ 15. I often feel useless when interacting with people from different cultures.
- \_\_\_ 16. I respect the ways people from different cultures behave.
- \_\_\_ 17. I try to obtain as much information as I can when interacting with people from different cultures.
- \_\_\_ 18. I would not accept the opinions of people from different cultures.
- \_\_\_ 19. I am sensitive to my culturally-distinct counterpart's subtle meanings during our interaction.
- \_\_\_ 20. I think my culture is better than other cultures.
- \_\_\_ 21. I often give positive responses to my culturally different counterpart during our interaction.
- \_\_\_ 22. I avoid those situations where I will have to deal with culturally-distinct persons.
- \_\_\_ 23. I often show my culturally-distinct counterpart my understanding through verbal or nonverbal cues.
- \_\_\_ 24. I have a feeling of enjoyment towards differences between my culturally-distinct counterpart and me.

Items 2, 4, 7, 9, 12, 15, 18, 20, and 22 are reverse-coded before summing the 24 items.

Interaction Engagement items are 1, 11, 13, 21, 22, 23, and 24.

Respect for Cultural Differences items are 2, 7, 8, 16, 18, and 20.

Interaction Confidence items are 3, 4, 5, 6, 21 and 10.

Interaction Enjoyment items are 9, 12, and 15.

Interaction Attentiveness items are 14, 17, and 19.

Appendix F

Scales as combined into one Survey

Survey adapted from Martin and Rubin's (1995) Cognitive Flexibility Scale and Chen and Starosta's (2000) Intercultural Sensitivity Scale

Please rate the first 12 items on the following scale:

**Strongly Disagree**   **Disagree**   **Slightly Disagree**   **Slightly Agree**   **Agree**   **Strongly Agree**  
1                      2                      3                      4                      5                      6

1. **I can communicate an idea in many different ways.**  
(Strongly Disagree) 1 --- 2 --- 3 --- 4 --- 5 --- 6 (Strongly Agree)
  2. **I avoid new and unusual situations.**  
(Strongly Disagree) 1 --- 2 --- 3 --- 4 --- 5 --- 6 (Strongly Agree)
  3. **I feel like I never get to make decisions.**  
(Strongly Disagree) 1 --- 2 --- 3 --- 4 --- 5 --- 6 (Strongly Agree)
  4. **I can find workable solutions to seemingly unsolvable problems.**  
(Strongly Disagree) 1 --- 2 --- 3 --- 4 --- 5 --- 6 (Strongly Agree)
  5. **I seldom have choices when deciding how to behave**  
(Strongly Disagree) 1 --- 2 --- 3 --- 4 --- 5 --- 6 (Strongly Agree)
  6. **I am willing to work at creative solutions to problems.**  
(Strongly Disagree) 1 --- 2 --- 3 --- 4 --- 5 --- 6 (Strongly Agree)
  7. **In any given situation, I am able to act appropriately.**  
(Strongly Disagree) 1 --- 2 --- 3 --- 4 --- 5 --- 6 (Strongly Agree)
  8. **My behavior is a result of conscious decisions that I make.**  
(Strongly Disagree) 1 --- 2 --- 3 --- 4 --- 5 --- 6 (Strongly Agree)
  9. **I have many possible ways of behaving in any given situation.**  
(Strongly Disagree) 1 --- 2 --- 3 --- 4 --- 5 --- 6 (Strongly Agree)
  10. **I have difficulty using my knowledge on a given topic in real life situations.**  
(Strongly Disagree) 1 --- 2 --- 3 --- 4 --- 5 --- 6 (Strongly Agree)
  11. **I am willing to listen and consider alternatives for handling a problem.**  
(Strongly Disagree) 1 --- 2 --- 3 --- 4 --- 5 --- 6 (Strongly Agree)
  12. **I have the self-confidence necessary to try different ways of behaving.**  
(Strongly Disagree) 1 --- 2 --- 3 --- 4 --- 5 --- 6 (Strongly Agree)
-

Please rate the next 24 items on the following scale, and note this scale includes a rating for uncertainty:

<b>Strongly Agree</b>	<b>Agree</b>	<b>Uncertain</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>

- 1. I enjoy interacting with people from different cultures.**  
(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)
- 2. I think people from other cultures are narrow-minded.**  
(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)
- 3. I am pretty sure of myself in interacting with people from different cultures.**  
(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)
- 4. I find it very hard to talk in front of people from different cultures.**  
(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)
- 5. I always know what to say when interacting with people from different cultures.**  
(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)
- 6. I can be as sociable as I want to be when interacting with people from different cultures.**  
(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)
- 7. I don't like to be with people from different cultures.**  
(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)
- 8. I respect the values of people from different cultures.**  
(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)
- 9. I get upset easily when interacting with people from different cultures.**  
(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)
- 10. I feel confident when interacting with people from different cultures.**  
(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)
- 11. I tend to wait before forming an impression of culturally-different people.**  
(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)
- 12. I often get discouraged when I am with people from different cultures.**  
(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)
- 13. I am open-minded to people from different cultures.**  
(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)
- 14. I am very observant when interacting with people from different cultures.**

(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)

**15. I often feel useless when interacting with people from different cultures.**

(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)

**16. I respect the ways people from different cultures behave.**

(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)

**17. I try to obtain as much information as I can when interacting with people from different cultures.**

(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)

**18. I would not accept the opinions of people from different cultures.**

(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)

**19. I am sensitive to culturally-different people's subtle meanings during our interactions.**

(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)

**20. I think my culture is better than other cultures.**

(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)

**21. I often give positive responses to culturally-different people during our interactions.**

(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)

**22. I avoid those situations where I will have to deal with culturally-different people.**

(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)

**23. I often show culturally-different people my understanding through verbal or nonverbal cues.**

(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)

**24. I have a feeling of enjoyment towards differences between culturally-different people and myself.**

(Strongly Agree) 5 --- 4 --- 3 --- 2 --- 1 (Strongly Disagree)

---

[Open-ended questions for Sol study abroad students upon their return]

Consider for a moment an event from your study abroad that stands out in your memory. This event might stand out as a moment of cultural confusion, understanding, or negotiation in which you had to adjust your communication. Maybe you were trying to split a bill with friends and wanted to explain that to the waiter or maybe you really needed directions but the words escaped you and suddenly you were using hand gestures and got your point across expertly. Maybe there was a moment of confusion with your host family or your instructor, or perhaps even a moment when no words were needed for a bond across cultures.

Please keep this moment in mind while answering these questions, and then indicate your perceived overall experience during your short-term study abroad.

1. Can you describe this moment of cultural adjustment during your winter break? Who was involved and what was the outcome of the interaction?
2. In what way did this cultural moment affect you emotionally?
3. In what way did this cultural moment prompt you to understand yourself differently?
4. In what way did this moment affect your communication style in the moment?
5. In what way did this moment affect the way you think about communication now?

6. Overall, your short term study abroad experience was...

1	2	3	4	5
Very negative	Negative	Unable to determine	Positive	Very Positive

Additional comments:



Appendix G  
Demographic Questions

**Demographic Questions:**

**Age:**

**Current grade level:** Freshman --- Sophomore --- Junior --- Senior

**Gender identification (optional):**

**Current college major:**

**Race:**

**Primary state you grew up in:**

**Have you ever studied abroad?** Yes --- No

**Have you ever been out of the country?** Yes --- No

**If yes, how many times have you been out of the country?** 1 – 3 times --- 4 – 6 times --- 6 or more times

**What country/countries have you visited?**

**Please list all the languages you know in order of fluency (Most fluent to least fluent):**

**For each language, please rate your level of fluency using these levels:**

**1 – Elementary proficiency (I can get by in this language.)**

**2 – Limited working proficiency (I understand most basic situations in this language.)**

**3 – Professional working proficiency (I can discuss particular interests in this language.)**

**4 – Full professional proficiency (I rarely make any errors when using this language.)**

**5 – Native or bilingual proficiency (This is a native language for me, or I am fully bilingual.)**

**SOL Study Abroad Additional Demographic Questions:**

**Study abroad destination:** Argentina --- Costa Rica --- Mexico --- Spain

**Length of trip:** 1 week or less --- 2 weeks or less --- 3 weeks or less --- 4 weeks or less --- 5 weeks or less

**Have you already studied abroad before this experience?** Yes --- No

**If yes, when did you last study abroad?** Before High School --- During High School --- After High School Before College --- During College

**How many times have you studied abroad before this experience?** 1 --- 2 --- 3 --- 4 --- 5 or more

**What country/countries did you study in?**

Appendix H  
Participant Solicitation Email for Study Abroad Participants

[Sol Education Abroad company letterhead]

[date]

Dear Participant,

My name is Jessica Gantt and I am a graduate student researcher from Colorado State University in the Department of Communication Studies. Importantly, I am also a Sol Education Abroad alumnus, and I traveled with Sol to Buenos Aires, Argentina, and Granada, Spain! These two study abroad experiences were the most impactful in my entire undergraduate career, so I wanted to find a way to incorporate them into my graduate school experience. I decided the best way to do that was to study the effects of these incredible experiences on people who, like me, had the itch to go abroad! I am planning a longitudinal study, which means I will also contact you after your study abroad experience with another survey.

I am conducting a research study on the effect study abroad experience has on participants' communication practices in conjunction with Dr. Eric Aoki, Communication Studies. The topic of our study is short-term study abroad experiences.

Prior to your study abroad experience, we are seeking volunteer participation to complete a brief online survey. The survey link is provided at the end of this email. Participation will take approximately ten minutes. Again, your participation in this research is voluntary. If you decide to participate in the study, you may withdraw your consent and stop participation at any time without penalty.

While anonymity will be maintained, we will need to be able to match your responses to a follow-up survey upon your return. To protect your privacy, you will create a personal code that is known only to you (a combination of digits from your SSN and birthdate). Only the researchers will have access to the survey data. While there are no direct benefits to you, we hope to gain more knowledge of the effects of study abroad programs on students.

There are no known risks associated with participating in this study. It is not possible to identify all potential risks in research procedures, but the researchers have taken reasonable safeguards to minimize any known and potential, but unknown, risks.

If you have any questions, please contact Jessica Gantt at [jessica.gantt@colostate.edu](mailto:jessica.gantt@colostate.edu) or Dr. Eric Aoki at [eric.aoki@colostate.edu](mailto:eric.aoki@colostate.edu). If you have any questions about your rights as a volunteer in this research, contact Janell Barker, Human Research Administrator, at 970-491-1655.

Sincerely,

Dr. Eric Aoki  
Professor  
Colorado State University

Jessica Gantt  
Communication Studies Graduate Student  
Colorado State University

Appendix I  
Participant Solicitation Email for Control Group Participants

[CSU Department of Communication Studies letterhead]

[date]

Dear Participant,

My name is Jessica Gantt and I am a graduate student researcher from Colorado State University in the Communication Studies department. I am conducting a research study on the effect study abroad experience has on participants' communication practices in conjunction with Dr. Eric Aoki, Communication Studies. The topic of our study is short-term study abroad experiences.

Prior to your winter break, we are seeking volunteer participation **from students who have not yet studied abroad in their college career** to complete a brief online survey. The survey link is provided at the end of this email. Participation will take approximately ten minutes. Again, your participation in this research is voluntary. If you decide to participate in the study, you may withdraw your consent and stop participation at any time without penalty.

While anonymity will be maintained, we will need to be able to match your responses to a follow-up survey upon the beginning of spring semester. To protect your privacy, you will create a personal code that is known only to you (a combination of digits from your SSN and birthdate). Only the researchers will have access to the survey data. While there are no direct benefits to you, we hope to gain more knowledge of the effects of study abroad programs on students.

There are no known risks associated with participating in this study. It is not possible to identify all potential risks in research procedures, but the researchers have taken reasonable safeguards to minimize any known and potential, but unknown, risks.

If you have any questions, please contact Jessica Gantt at [jessica.gantt@colostate.edu](mailto:jessica.gantt@colostate.edu) or Dr. Eric Aoki at [eric.aoki@colostate.edu](mailto:eric.aoki@colostate.edu). If you have any questions about your rights as a volunteer in this research, contact Janell Barker, Human Research Administrator, at 970-491-1655.

Sincerely,

Dr. Eric Aoki

Professor

Colorado State University

Jessica Gantt

Communication Studies Graduate Student

Colorado State University

Appendix J  
Online Survey Site Opening Paragraph and Personalized Code Creation

Thank you for your interest in my study! Once again, my name is Jessica Gantt and I am a graduate student researcher at Colorado State University in the Department of Communication Studies. I am conducting a research study on the effect study abroad experience has on participants' communication practices in conjunction with Dr. Eric Aoki, Communication Studies. The topic of our study is short-term study abroad experiences.

By clicking the link below, you are consenting to participate anonymously in this study and have the data you provide included in the results of the study. You will be prompted to create a personalized code that will be recognizable only to you in order to protect your privacy. The approximate time to complete this survey is ten minutes.

Click this link to begin the survey!  
[survey "Begin" button]

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**First, please enter your personal identification code so this data can be matched anonymously with the future data I will collect after your study abroad experience. (I will prompt you again to include this code, and how to recreate it, on the second survey.)**

**Create this code by using the last two digits of your social security number as a prefix for your birth date.**

**For example, if you were born on January 23<sup>rd</sup> (01/23) with the social security number 491-22-4567, you would have "670123" as your code. If you were born on November 3<sup>rd</sup> (11/03) with the social security number 624-44-5686, you would have "861103" as your code.**

**Personal identification code: \_\_\_\_\_**