DEVELOPING INTERCULTURAL COMMUNICATION AND UNDERSTANDING WITH ADOLESCENTS THROUGH VIRTUAL EXCHANGE

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DEVELOPING INTERCULTURAL COMMUNICATION AND UNDERSTANDING WITH ADOLESCENTS THROUGH VIRTUAL EXCHANGE

BY

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THESIS

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DEDICATION

This work is dedicated to my son, Lorand Wilkinson, who is the source of inspiration for my efforts to leave this world a better place for him and his generation.
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DEVELOPING INTERCULTURAL COMMUNICATION AND UNDERSTANDING WITH ADOLESCENTS THROUGH VIRTUAL EXCHANGE

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ABSTRACT

Globalization, advances in communication technology, and growing international contact have resulted in increased interconnection of populations from different social, ethnic, and cultural groups. Intercultural competency skills such as intercultural understanding and communication are now necessary requirements to function in culturally diverse communities, workplaces, and society. Adolescence has been identified as an opportune developmental stage for interventions aimed at improving intergroup attitudes. This study conducted pre- and post-program surveys with 313 U.S. students ages 10 to 17 to examine if participation in an intercultural global virtual exchange impacted attitudes of intercultural awareness, intercultural sensitivity, and perspective-taking. Paired samples t-tests were conducted to determine if there was statistical mean difference between pre- and post-program outcomes. Sub-group analyses were conducted to examine possible program effects in subgroups. The results suggest that while little to no statistical significance was demonstrated, students experienced modest increases in some areas of intercultural communication, while not
in others. A progressive approach to intercultural educational intervention for
adolescents beginning with imagined, vicarious and extended contact through virtual
exchange is proposed.

Keywords: intercultural, communication, understanding, competence, adolescents,
virtual exchange
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CHAPTER 1: INTRODUCTION

Globalization, advances in communication technology, and growing international contact have resulted in increased interconnection of populations from different social, ethnic, and cultural groups. Intercultural competency skills such as intercultural understanding and communication are now necessary requirements to function in culturally diverse communities, workplaces, and society. Section 1.1 of this thesis provides background on contemporary globalization trends and identifies existing gaps between the need for these intercultural understanding and communications skills and what education systems have provided to date. Section 1.2 introduces the NGO Global One to One and its work to address this gap by providing intercultural exchange opportunities for adolescents to develop intercultural communication skills and competencies required to succeed in a culturally diverse and interconnected world. This purpose of this study—to objectively assess if the Global One to One program is having its intended effect to promote improved intercultural competency skills including intercultural understanding and communication—is discussed in section 1.3. Section 1.4 describes the significance and scope of this research in contributing to the field of intercultural communication education with adolescents. Finally, section 1.5 includes an outline of the remaining chapters of the thesis.
1.1 BACKGROUND

The advent of technological advances in the last half century has dramatically accelerated interactions and interrelatedness between individuals, nations, and economies across the globe. Increasingly populated by a variety of cultures, each with their own unique set of traditions, values, and social norms, societies and workplaces are being profoundly impacted by globalization. In many cases the rapid rate of change has outpaced our capacities to respond effectively. Research has demonstrated that when members of different groups know little about each other, or only what they have heard in media, they are likely to initially perceive each other as dissimilar and potentially threatening (Stephan et al., 1999).

The internet and social media platforms provide a constellation of channels to share ideas and ideals, information and misinformation, all of which have the power to unite as well as divide. What does this inexorable interflow of cultures, languages and people with diverse cultural origins mean for communities and work settings moving forward? What new skills, attitudes, and knowledge are now required to successfully interact with others from different backgrounds and navigate globalized society? How will education systems prepare individuals to meet these demands?

To date, societies, schools, and workplaces have failed to provide adequate education and training to prepare individuals for not just surviving, but thriving, in this changing landscape. Increased international and intercultural communication has frequently been accompanied by increased misunderstanding and miscommunication.
Many people find themselves feeling uncertain about how to interact with co-workers and neighbors from cultural backgrounds they are unfamiliar with, or perhaps even have been taught to be suspicious of (Chen & Stastna, 2007). The current fractious geopolitical climate emphasizes the importance of promoting a more inclusive and less divisive worldview, if for no other reason than to promote global security (Cralley & Wetzler, 2008). It is imperative that social, political, and educational organizations provide the information needed for “how people [can] make sense of and respond to globalization and its socio cultural ramifications” (Chiu et al., 2011, p. 663).

Researchers, policy makers, and educators must “consider factors that can foster positive intergroup contact” (Rosenthal & Levy, 2016, p. 474). Education, for example, can no longer be limited to what have been considered traditional topics and must acknowledge that intercultural understanding and intercultural communication are now fundamental skills. Changes must take place in the content, context, and methods of education to effectively prepare students—future voting citizens—to fully function in global societies (Anderson, 1979).

1.2 CONTEXT FOR STUDY: GLOBAL ONE TO ONE

Established in 2007, the Global One to One program was designed as an intercultural exchange to connect adolescents ages 10-19 (Sawyer et al., 2012) in the U.S. with peers around the world. Peer influence has been identified as a powerful motivator for adolescent prosocial behavior (Wentzel et al., 2012). Criteria for the selection of the mode of communication were (1) to make distant communication feel
as close as possible, i.e. with as much immediate evidence of the persons involved in the exchange; (2) be accessible to schools with limited access to resources such as internet. The mode of communication selected was peer to peer hand-written letters. Participants are paired with a peer their age and gender in a country that is socio-economically very different from their own. The goal is to positively change intercultural attitudes so that long term attitudes and behavior would be inclusive and respectful toward culturally different others.

With improved international internet access, the delivery of letters is now via email and Google Drive. When possible, video greeting or Skype sessions are incorporated. For the purposes of this study the Global One to One program is referred to as a virtual exchange. Virtual exchange “uses technology to connect young people around the world to learn and work together, developing the skills they need to participate in the 21st century workforce and to take an active role in their community and society” (Stevens Initiative, 2020). Global One to One utilizes internet access to reach distant and often remote locations but is not limited to use of technology to implement its program.

As a non-profit dependent on outside funders, Global One to One takes into consideration increased expectations of funders and potential donors to see measurable evidence that programs are achieving their intended impact. In 2018 a survey Instrument was developed and implemented to measure impact among participants in the Global One to One intercultural exchange.
1.3 PURPOSE

The purpose of this study was to objectively assess if the Global One to One program is having its intended effect to promote improved intercultural competency skills including intercultural understanding and communication. Specifically, this study examines program participant attitude-change toward culturally different others through measures of intercultural awareness, intercultural sensitivity, and perspective-taking. The findings of this study will be incorporated into future improvements to program design and implementation.

1.4 SIGNIFICANCE AND SCOPE

The population examined in this study were adolescents aged 10-17 living in the U.S. who participated in the Global One to One virtual exchange program during the 2018-2019 academic year and completed both the pre- and post-program online survey. Little research has been done to date to discover the socio-emotional determinants of an effective intercultural communication exchange program for adolescents. What research has been done has centered around study-abroad and language acquisition participants, focusing on academic pedagogy for distance learning and logistics for maximal participation. The findings of this study will contribute to a growing field of study investigating processes involved in changing intercultural attitudes through participation in intercultural exchange. The methodology employed by Global One to One utilizes both one to one pairing of participants and group dynamics. This unique approach provides valuable insights into the study of intercultural exchange as a way to
create long term positive impact on interpersonal and intergroup intercultural interactions.

1.5 THESIS OUTLINE

Following this chapter, there are seven chapters. The second chapter provides background on the NGO Global One to One and the program under study. Chapter three is a review of literature at the intersection of education, communication, cultural studies, and psychology that will provide information needed to inform a comprehensive model for intercultural understanding and communication organized around interrelated concepts. The fourth chapter discusses the research design, participants, data collection, measurement, and analytical procedures used in this study. Chapter five presents the results of the paired t-test and subgroup analyses. The sixth chapter offers a discussion of the findings. Chapter seven considers the limitations to this study. Finally, Chapter eight presents conclusions to the thesis and considers potential directions for future research.

CHAPTER II: GLOBAL ONE TO ONE BACKGROUND

In 2007 the NGO Global One to One was established to address a perceived gap between skills needed by a rising generation of future citizens and lack of preparation provided by schools (Anderson, 1979). Initially, the program was an ad hoc experiment to see if contact with a peer in another country would change the perspectives of
students living in the U.S. regarding the privileges they enjoy in their daily life, and their attitudes about the lives of culturally different others. At the same time the social and economic inequality present in the U.S. was acknowledged: privileges enjoyed by those living in the U.S. varies greatly. The school where the program initially began was a public school in a neighborhood of families with starkly differing access to money, jobs, and social position.

Word of the program spread from teacher to teacher, and within two years there were more requests to join the program than could be accommodated. By 2020 approximately 18,000 students in 29 countries had exchanged over 30,000 handwritten letters. Based in school classrooms, teachers contact Global One to One with information about the number, age, gender, and English language skill level of their students, and are then matched with another teacher and classroom of students with approximately the same demographics. Over the course of a school year students exchange four to six handwritten letters, sharing information about their families, friends, hobbies, and hopes for the future. In U.S. and international locations with internet access videoconferencing is included in the exchange.

The program is qualitatively assessed each year through content written by students in their letters, email communication with teachers throughout the program year about their experience and recommendations, and records tracking the procedures and timelines utilized by the program. This information has been used to enhance processes and structures including lessons, activities, and templates for teachers to use when administering the program with their students.
Anecdotal data collected from letter content over the last 13 years has provided ample evidence of overall positive experience. However, there is also a wide range in the quality of letters written by students. Approximately 40% of letters written by U.S. students has focused on relatively superficial discussion of video games and favorite foods and often appear to be carelessly written and illegible. Reply letters from international counterparts more frequently ask thoughtful questions and are neatly written. The quality of the letters has been noted to affect attitude toward the experience by participants, particularly the recipients, as noted in letter content. In the final letter of the year students are asked to reflect on what they have experienced and express this to their letter partner. Participants frequently express positive feelings about the experience of getting to know each other, and sadness that the exchange will be ending. Participants from previous years have reported that the exchange experience was meaningful and continues to influence their perspective about culturally different others and their own place in global society. This has not, to date, been systematically documented due to limited organizational resources.

While anecdotal data of this sort is valuable, it is often not considered an adequate measure of program impact—funders and potential donors increasingly expect measurable quantitative evidence that programs are achieving their intended impact. In 2018 a survey instrument was developed and implemented to quantitatively measure impact among participants in the Global One to One intercultural exchange.
CHAPTER III: LITERATURE REVIEW

Research for this study was driven by a desire to understand the components of successful intercultural communication that can assist Global One to One in fulfilling its mission to promote long term positive change in attitudes and behavior toward culturally different others. This study was designed to assess change in attitudes through validated measures for intercultural awareness, intercultural sensitivity, and perspective-taking. Desired program outcomes include increased empathy and reduced prejudice, which have been associated with positive intergroup contact. However, because research into the literature at the intersection of intergroup contact dynamics and psychodynamics of interpersonal communication between culturally different others is sparse, research for this thesis began with a review of concepts and processes inherent to communication, beginning with the influences of culture and human psychology. This led to a deeper investigation into social and cultural dynamics of intergroup contact that influence intercultural communication. To create a program that successfully develops authentic intercultural competency skills requires asking several fundamental questions: How do we instinctively respond in intergroup contact situations, and can conditions be structured to achieve optimal intercultural communication? If so, what conditions are required, and how do these conditions interact with each other and the interlocutors? And, ultimately, how can this holistic perspective inform the development of authentic intercultural virtual exchange programs?
Section 3.1 establishes a background of the literature in fields that lay the foundation for understanding perceptions and behaviors that influence intercultural understanding and communication. A review of early literature in the study of culture, situated in the context of intercultural communication and globalization, will explore the awakening understanding during and following World War II that interflow between cultures was entering a new era. Section 3.2 introduces the concept of intercultural competency (IC). Specific components of IC are explored through a brief review of literature in the fields of intercultural awareness (Section 3.3), intercultural sensitivity (Section 3.4), and perspective-taking (Section 3.5). Included in this section is a review of empathy and prejudice, two conditions mediated by perspective-taking.

Section six (3.6) presents intergroup contact theory developed by Allport (1954), and discusses various modalities of indirect contact including, extended, vicarious, and imagined contact. The concept of background knowledge is introduced in Section 3.7, and its influence on the interpersonal aspect of intergroup dynamics is explored. The emergence of virtual exchange as a tool for intercultural education in the 21st century is discussed in Section 3.8. Section 3.9 presents a review of literature identifying adolescence as an opportune developmental stage for interventions aimed at improving intergroup and intercultural understanding and communication. The literature review ends with a proposal for an integrated approach to the development of a holistic intervention for adolescent students ages 10-19 (Allport, 1954; Aboud, 2003; Killen et al., 2015). I will argue that a gradual approach, beginning with imagined contact with
others that then leads to virtual contact, provides a low-threat environment that for the
development of intergroup and intercultural empathy.

3.1 HISTORICAL BACKGROUND

CULTURE

The basis for any discussion of intercultural communication must begin with a
discussion of culture itself and its influence on communication with members of other
cultural groups. In the early and mid-20th century interest in intercultural activities was
largely limited to travel enthusiasts, academics, or the military intelligence community.
During and after World War II, international Foreign Service assignments, followed by
flows of refugees from wars, immigrants fleeing poverty and famine, and burgeoning
international commerce opened the floodgates to accelerated international and
intercultural contact. Individuals and organizations were thrust into new situations that
required the ability to communicate, work and co-exist with people whose language,
culture, and world-view differed from theirs.

Anthropologist Edward T. Hall began to write in the post-war era about culture
as a potent signifier for communication. In 1958 he co-authored what was essentially a
rulebook for Foreign Service employees entitled Things to Know about Culture (Hall &
Oberg, 1958). Social scientists began to document and study the immediate effects, and
potentially confounding complexities, of these intercultural interactions. In his well-
known treatise, The Silent Language, Hall wrote: "Mishandling the informal can often
lead to serious difficulties which are apt to become aggravated since the participants in
an informal situation are not fully conscious of what is going on. They only know that under a certain set of unstated rules they can act in a certain way and depend upon other people to react appropriately. This informal expectancy is often ruptured when there is a conflict between two patterns within the context of our own culture or in the more familiar case of a cross-cultural situation" (Hall, 1959, p. 122). Here, precisely, is a description of the intersection of intergroup contact theory dynamics and interpersonal communication dynamics between culturally different others that has not yet been adequately studied.

Two decades later, while working for the international corporation IBM in the 1970s and 80s, Geert Hofstede developed a model elucidating what he saw as the layers of culture, which he defined as "the collective programming of the mind that distinguishes the members of one group or category of people from others" (Hofstede, 2011, p. 3). He described culture as a collective phenomenon, often viewed as a way to describe ethnic groups, nations, religions, even organizations. Hofstede's cultural dimensions theory (Hofstede, 1984) proposes that cultural values can be analyzed or understood through several dimensions revolving around key values: individualism-collectivism; uncertainty avoidance; power distance (strength of social hierarchy) and masculinity-femininity (task orientation versus person-orientation), and short or long-term orientation. Simply consider how concepts of “on time” or the prioritization of family over individual interests are interpreted in various cultures to catch a glimpse of how these perspectives can all too quickly be interpreted as “disrespectful” by cultures inhabiting a different position on the spectrum.
GLOBALIZATION

By the late 20th century terms including and related to globalization began to appear with increasing frequency in media, business, and academia. In 2001, Chin, Gu, and Tubbs, among others, began to argue for the pressing need to have leaders with greater “global leadership competency skills” which Chin and Gaynier (2006) later proposed as a “roadmap from the cultural deficiency stage...to a stage where one feels at ease and is able to function effectively in new cultural environments and people” (p. 11). David Held, in his book Global theory: Approaches and Controversies, says that “globalization can be thought of as the widening, intensifying, speeding up, and growing impact of world-wide interconnectedness” (Held & McGrew, 2007, p. 4). He pointed out that academia, and the public and private sectors, had not caught up with these accelerating changes so that populations were becoming inundated with a baffling range of social requirements they had little idea of how to cope with.

In 2007 the Global One to One program was established to provide young students with opportunities to develop these critical global intercultural competency skills. Using authentic and engaging international peer to peer contact, participants begin to cultivate intercultural communication and understanding skills. Exchanging details about daily life, personal interests and aspirations through letters, photos, and occasional video greetings, participants become motivated to expand their understanding and view of culturally different others. The following sections of this thesis investigate some of the concepts researchers have studied and developed our understanding of intercultural understanding and communication.
3.2 INTERCULTURAL COMPETENCE

Several areas of study in the social sciences, particularly communication and social psychology, provide extensive information and empirical data about concepts that, when examined holistically, form the basis for a proposed approach to fill the current gap in much-needed education and training in intercultural understanding and communication. To date, however, there have been few if any proposals in academia to collaborate across these fields of study. Each of the concepts discussed here contribute invaluable insights into the construction of intercultural communication education, and each has its limitations in application to intercultural competency education programs for adolescents. This points out an absence of—and dire need for—research into proposed methodology to develop positive attitude changes toward culturally different others with adolescent populations.

Many of the early investigations into skills needed for global or intercultural competency focused on preparing workers in international business sectors, while other concepts were being explored and developed in response to socio-political changes such as Affirmative Action and the diversity movement of the 1990s. During this period researchers were discussing a range of abilities needed to communicate effectively and appropriately in cross-cultural situations, variously referred to as global competence, intercultural competence (IC), or intercultural communication competence (ICC). Chen and Starosta (1996, 1997, and 2000) were among a number of researchers who called for clarification of these concepts citing a confusing array of terms claiming to study the same concepts and lack of agreement on what they meant as complicating any coherent
understanding of these areas. Although the definition of requisite skills needed for one to be culturally competent still varies between diverse fields—for example, business and education—they share the value for qualities such as awareness, sensitivity, open mindedness, and motivation to encompass more than a single point of view.

3.3 INTERCULTURAL AWARENESS

Over the past 40 years what might be called a utilitarian “instruction manual” or “roadmap” approach has been used to develop training programs to prepare managers in business to work in foreign countries or communicate with international colleagues. Increasing cultural diversity creates challenges for individuals and organizations both in terms of multicultural domestic and multinational work environments, but workplace training has only relatively recently begun to acknowledge this, and most often in the sphere limited to “appreciation” or “tolerance” of cultural differences or “diversity,” terminology that lacks socio-political context or human psychological considerations. The understanding of what is required for individuals, organizations, and educators to develop capacities for intercultural communication and effectiveness has been scarce, disjointed, and ethnocentric, leaving important gaps in our understanding of why some individuals and organizations are more effective than others in culturally diverse situations (Ang et al., 2007, p. 336).

In 2002, researcher Christopher Earley began to develop a concept he identified as cultural intelligence (CQ). In his article, “Redefining Interactions across Cultures and Organizations: Moving Forward with Cultural Intelligence”, he defines cultural
intelligence as “a person's capability to adapt effectively to new cultural contexts and it has both process and content features” (Earley, 2002, p. 271). The CQ model consists of three levels: cognitive, motivational, and behavioral. The cognitive level is employed to develop awareness of new culture-specific knowledge, including subtle non-verbal communication such as eye-contact, smiling, and physical contact. The motivational level elevates the acquisition of this information to sensitive application when one is motivated to become part of, even temporarily, a new culture. The final level, behavioral, indicates a willingness and ability to see things from another’s perspective and to “generate appropriate behaviors needed to reflect cognition and motivation...appropriate behaviors in a new cultural setting” (Earley & Ang, 2003, p. 10).

By 2010 Van Dyne and Ang had shifted the view of the cultural intelligence model to a four-factor framework separating out metacognitive abilities, demonstrating that these abilities were unique and indispensable. They refer to motivation as the driver, or level of interest, required for someone to successfully apply skills acquired from CQ training. Once interest and drive are established, the cognitive acquisition of complex cultural information will be considered more meaningful and have greater value. Van Dyne & Ang (2010) consider the metacognitive factor to be the ability to “strategize when crossing cultures” p. 136. Populations with a developed level of cultural intelligence are better prepared to observe group interactions and differentiate between idiosyncratic individual behavior and culturally motivated behavior, and to infer culturally appropriate and accurate meaning from actions and circumstances.
Practical applications of this are wide-ranging. In an article for *Studies in Intelligence* Matthew Berrett, former economic analyst in U.S. intelligence, and Jeannie Johnson, intelligence analyst at the CIA, argue for a culturally intelligent approach for U.S. foreign policy. Berrett cites his experience that “American decision makers have shown a need for help in isolating and understanding the complexity, weight and relevance of culture as they consider foreign policy initiatives” (Johnson & Berrett, 2011, p. 1). This statement points to an element that supersedes cultural intelligence, something that is more pliable and perhaps even unconscious. Intercultural awareness alone does not address the underlying metacognitive intergroup contact dynamics including the development of intercultural sensitivity and perspective-taking that can be applied to dispel anxiety and negative perceptions among group members.

### 3.4 INTERCULTURAL SENSITIVITY

Intercultural competence is a broad concept that encompasses abilities in cognitive (intercultural awareness), affective (desire to be interculturally sensitive), and behavioral. Researchers Chen and Starosta (1996, 2000) recognized that an essential component of IC was intercultural sensitivity, which they define as a person’s “active desire to motivate themselves to understand, appreciate, and accept differences among cultures”. Their work was influenced by scholars in many fields, particularly Milton Bennet who developed the Model of Intercultural Sensitivity (DMIS) to describe what he referred to as “a ‘continuum’ of increasing cultural awareness, understanding, and adjustment” (Bennett, 1993, p. 23). This foundational framework outlines varying ways
in which people react to cultural differences, organized into six stages of evolving sensitivity to cultural differences with ethnocentrism at one end of the spectrum, and ethno-relativism at the other end (Bennett, 2004, p. 62). Ethnocentrism is characterized by denial of difference, where one’s own culture is the only “real” culture, and other cultures are not acknowledged with any interest.

The spectrum moves through stages of awareness of cultural differences, acknowledgement but minimization of cultural differences, and curiosity about cultural differences. This leads to exploration and research into other cultures and an ability to incorporate this information in one’s own world view that characterizes the adaptation stage. Interpersonal connections expand beyond the acquisition of information to the cultivation of appreciation, even empathy in the ethno-relative end of the spectrum. Bennett’s final stage is one of integration, an ability to move fluidly from one cultural setting to another in such a way that one’s perception of self is not fixed to any particular culture, leading to a discussion of perspective-taking.

3.5 PERSPECTIVE TAKING

The ability to consciously remain open minded in unfamiliar situations requires a shift in perspective. Perspective-taking, or “being able to see things from the other’s point of view and putting oneself ‘in their shoes’,“ has been directly linked to prejudice reduction (Husnu & Crisp, 2015, pp. 30, 32). Considered the cognitive and perceptual aspects of empathy development, perspective taking can take the form of imagining how one would feel in someone else's situation (imagine self) or trying to imagine how
another person is feeling or thinking (imagine other). Of the two, imagine self perspective taking has been found to be more effective in improving attitudes about outgroups as well as stereotype reduction. Imagine other perspective taking has been found to result in a more emotionally detached concern about others (Batson & Ahmad, 2009), echoing the findings of CQ researchers into the limitations of the cognitive aspect in influencing change in behavior toward culturally different others.

When observing the development of perspective taking in children, it is in the years leading to and during adolescence that the ability to imagine the experience of others is developed (Selman & Byrne, 1974). In researching the conditions for improving intergroup contact among children Turner et al. (2007) found that interventions that increased perspective-taking resulted in increased perceived similarity, and that this in turn helped to promote confidence in contact. However, simply gaining additional information about outgroup members is not enough to improve intergroup contact. The affective and emotion-related factors in perspective taking, such as reduction of intergroup anxiety and increase in empathy, are more powerful mediators than cognitive mediators such as acquisition of intercultural knowledge (Pettigrew & Tropp, 2008). Two influential conditions mediated by perspective-taking in intergroup contact, empathy and prejudice, are discussed in preparation for a fuller exploration of intergroup contact in the following section.
Empathy

Empathy has been found to be a significant mediator in positive intergroup contact outcomes and has been extensively studied and written about (see Allport, 1954; Pettigrew, 1998; Stephan & Finlay, 1999; Pettigrew & Tropp, 2008; Batson & Ahmad, 2009), although it has been discussed in a variety of ways. In 1980 Mark Davis developed a survey instrument that would later become a touchstone for research into empathy, the Interpersonal Reactivity Index (IRI). Defining empathy as the “reactions of one individual to the observed experiences of another” (Davis, 1983, p. 113). Davis (1983) argued that empathy is a multidimensional construct that includes perspective-taking, and many of the characteristics of intergroup contact, described in a later section.

In *The Role of Empathy in Improving Intergroup Relations*, Stephan and Finlay (1999) discuss two primary types of empathy: cognitive and emotional. As stated earlier, perspective-taking is linked with the cognitive aspect of empathy, and Batson and Ahmad (2009) found it to be effective in improving attitudes and reducing stereotypes toward others. Emotional empathy can be experienced as parallel or reactive empathy, both of which can manifest positively or negatively. Parallel empathy, which identifies common experience, is most likely to lead to attitude change (Stephan and Finlay, 1999).

What is it about empathy that makes it such a significant influence in intergroup contact? Pettigrew & Tropp (2008) conducted a study that examined this question and
found that empathy has a strong negative correlation with anxiety, which has previously been established as a negative mediator in intergroup contact. Research conducted by Eklund et al. (2009) concluded that similar experience was indicated as a mediator for feelings of empathy. In “Toward a Conceptualization of Ethnocultural Empathy” Rasoal et al. (2009) looked more specifically at the factors that could promote mutual understanding and reduce conflict between racial, ethnic and religious groups.

Building on the findings of Rasoal and Eklund, ethnocultural empathy has been proposed as a realization and acceptance that people in other cultures have similar worries and hopes. The fulcrum on which anxiety and empathy teeter is familiarity and perceptions of commonalities, neither of which can take place without some form of direct or indirect contact. As stated earlier, learning about the ways that others see the world has the potential to make them less threatening and open the doors to positive intergroup contact opportunities, but by itself is not enough.

**Prejudice**

Allport wrote extensively on the subject of prejudice, which he described as “a matter of stereotyped overgeneralization, a failure to distinguish members of a minority group as individuals” (Allport & Ross, 1967, p. 442). In the field of social psychology, a distinction is made between stereotypes (an accepted set of ideas and beliefs about members of a particular group), prejudice (an attitude about a stereotyped group), and discrimination (negative actions toward members of stereotyped groups) (Cralley & Wetzler, 2008). Allport proposed that underlying this response is an instinctual reaction
to meeting someone with different customs, “...we unconsciously say, 'He breaks my habits.' Habit-breaking is unpleasant. We prefer the familiar. We cannot help but feel a bit on guard when other people seem to threaten or even question our habits” (Allport, 1954, p.46). Intergroup anxiety theory describes this well, as the feelings of unease and nervousness experienced both in anticipation of and during intergroup encounters (Al Ramiah & Hewstone, 2013).

Researchers in child psychology have established that stereotyping and prejudice can, and often do, begin in early childhood. The developmental intergroup theory (DIT) investigates causal elements of stereotyping and prejudice. Findings indicate that such biases are largely a result of situational influences, and can “be shaped via educational, social, and legal policies” (Bigler & Liben, 2007, p. 162). Thomas Pettigrew, a student of Gordon Allport, reported that “Studies have shown repeatedly that contact can reduce feelings of threat and anxiety about future cross-group interactions” (Pettigrew & Tropp, 2006, pp. 766–767). While contact is not guaranteed to reduce anxiety and prejudice, it does provide new information, learning and potential for paradigm shifts. When contact with previously unknown others reveals commonalities (Cralley & Wetzler, 2008).

3.6 INTERGROUP CONTACT

When individuals and groups interact, complex and largely unconscious systems are at work. Learning to be culturally competent is helpful in culturally diverse situations, but if the unconscious mechanisms are left unaddressed, they can derail the
best of intentions to be interculturally competent. One of the weaknesses of intercultural intelligence, intercultural sensitivity, and intercultural communication theories overall is that they do not adequately consider the powerful psychological dynamics inherent in contact between groups, be they in the same or different cultures.

Intergroup contact theory is based on the premise that negative attitudes and prejudice result from exposure to limited and/or erroneous information that gets perpetuated by one group about another group, and the corollary that stereotypes and prejudice can be reduced with more accurate information derived from positive contact. A contemporary of anthropologist E.T. Hall, social scientist Gordon Allport (1954) developed the contact hypothesis, also known as the intergroup contact hypothesis, which proposes that contact between groups will be more likely to reduce prejudice and improve intergroup relations if four optimal conditions are met. In his seminal work, *The Nature of Prejudice*, Allport states: “Prejudice (unless deeply rooted in the character structure of the individual) may be reduced by equal status contact between majority and minority groups in the pursuit of common goals. The effect is greatly enhanced if this contact is sanctioned by institutional supports (i.e., by law, custom or local atmosphere), and provided it is of a sort that leads to the perception of common interests and common humanity between members of the two groups” (Allport, 1954, p. 281).

In addition to improving attitudes, positive intergroup contact that includes these provisions for equal status, intergroup cooperation, common goals, and support
by social and institutional authorities has been demonstrated to even reduce previous experiences of negative impact and escalation of intergroup conflict (Schellhaas & Dovidio, 2016). Contact between members can take place directly or indirectly. The following sections will examine three types of indirect contact including, vicarious, extended, and imagined.

**INDIRECT CONTACT**

A well-established mediator of direct contact is intergroup anxiety (Pettigrew, 1998; Pettigrew & Tropp 2006, 2008). Interactions between groups are all too often characterized by distrust and suspicion, and without careful mediation, can result in increased tension and conflict (Dovidio et al., 2002). Indirect contact is more accessible and less threatening, and in the midst of elevated political, national, and sectarian conflict, direct contact is not always possible or even advisable. This section of the literature review will focus on forms of indirect contact that can be utilized in structured settings with adolescents.

Over the last three decades researchers have demonstrated the effects of various forms of indirect contact on intergroup attitudes and relations. Indirect contact includes (a) extended contact, which involves learning that an ingroup member is friends with an outgroup member; (b) vicarious contact, observing an ingroup member interact with an outgroup member, and (c) imagined contact, imagining oneself interacting with an outgroup member. (Crisp et al., 2009; Dovidio et al., 2011; Hodson & Hewstone, 2013). The effects of indirect contact occur independently of direct
contact, and often involve distinct psychological mechanisms. A brief overview of extended, vicarious, and imagined contact, with the addition of virtual contact, will inform the methodology proposed later in this paper.

**Extended Contact**

Extended contact proposes that knowledge that an ingroup member has a close, positive relationship with an outgroup member can reduce intergroup bias and negative attitudes and increase positive intergroup attitudes. These benefits can occur without any direct contact and can augment positive intergroup attitudes derived from direct contact (Wright et al., 1997). Studies have found that establishing positive attitudinal ingroup norms allows for recognition of similarity to self and thereby result in reduced anxiety with both children (Cameron et al., 2006) and adults (Turner et al., 2007; Turner & Crisp, 2010). Moreover, among group members who have had low to moderate levels of direct contact, extended contact has been correlated with improved intergroup empathy, and has been associated with more positive intergroup behavioral intentions. In turn, willingness to engage in contact with outgroup members serves as a preparatory strategy for subsequent direct intergroup contact (Vezzali et al., 2017). They conclude that both extended and direct “forms of contact represent valuable strategies that may be used in isolation or in combination to improve intergroup relations” (Vezzali & Stathi, 2017, p. 51).
Vicarious Contact

Schools, and particularly classrooms, are ideal environments to study vicarious contact effects between adolescents, where simply observing an ingroup member interact with an outgroup member can have long-term positive impact. During the Global One to One virtual exchange, participants observe classmates (in-group members) model successful cross-group contact (with out-group members). Anxiety about self-efficacy and resulting feelings of generalized anxiety are reduced in this context, leading to greater openness to more positive outgroup attitudes and cross-group interaction. (Mazziotta et al., 2011, p. 267).

Imagine Contact

Researchers Crisp, Stathi, Turner, and Husnu begin their 2008 paper with a quote from the 1945 UNESCO constitution: “Since wars begin in the minds of men, it is in the minds of men that the defences of peace must begin.” They proposed that even imagining positive contact with a member of an outgroup can facilitate positive intergroup attitudes, and readiness for intergroup contact. Children who engaged in imagined contact were found to have increased perception of commonalities and similarities, more positive attitudes, and increased openness for intergroup contact (Stathi et al., 2014). Imagined contact stimulated little anxiety and was considered easy to implement, and highly effective. Particularly among children, studies have demonstrated that imagined contact can increase openness to future contact and the real potential of positive relations, and “as a flexible and effective tool for practitioners
and policy makers in their efforts to promote tolerance for multicultural diversity” (Crisp et al., 2009, p. 1).

### 3.7 PERSONAL BACKGROUND KNOWLEDGE

Absent from the discussion in intergroup contact theory is the interpersonal communication dynamic. Intergroup contact necessarily involves communication between individuals and can be greatly influenced by the quality of the communication. Self-disclosure of details that may identify fundamental human commonalities can mediate intergroup contact in both positive and negative ways. Learning background information about other individuals or groups has the potential to allow for recategorization, reduction in stereotyping, and increased potential for empathy. It has also been found to have the potential to increase intergroup tension. This dynamic is critical to take into consideration when developing a program to build intercultural competency skills.

Lin & Bransford (2010) identified a significant distinction between personal background information (PBK), and general background knowledge (GBK). They investigated a classroom problem case that involved a disconnection between a foreign college professor and their students. The study looked at how college students reacted to videos that presented two different types of communication of background information. One video portrayed the sharing of PBK, and one that portrayed the sharing of GBK.
The PBK video described the professor’s personal experiences and upbringing within their culture and how this had impacted their views about the importance of learning. The GBK video included only general information about important political and social events in, and the language and customs of, the professor’s culture. Both prior to and after seeing the PBK or GBK video, Lin and Bransford measured participants’ attitudes toward their teacher and found that PBK had a much stronger impact on changes in perspectives and reactions than GBK. In fact, GBK tended to reinforce negative stereotypes, contradicting the predictions of intercultural sensitivity and cultural intelligence advocates who propose that increased cultural knowledge will increase intercultural empathy and understanding.

Miller (2002) found that self-disclosure should reduce prejudice by promoting reciprocal trust, and Turner et al., (2007) also conducted studies that found that self-disclosure improved explicit outgroup attitude via empathy, the rated importance of contact, and increased intergroup trust. Miller argued that self-disclosure should reduce prejudice during personalized intergroup interactions by promoting familiarity, perceived similarity, and better processing of individuating information about outgroup members, whereas Pettigrew (1998) suggested that self-disclosure might explain why cross group friendships are more effective than other forms of intergroup contact. To date, however, the role of self-disclosure as a mediator of cross-group friendship has not been tested (Turner et al., 2007).
3.8 VIRTUAL EXCHANGE: INTERCULTURAL EDUCATION IN THE 21ST CENTURY

In the last decades of the 20th century several civil society organizations in Europe and North America began to focus their attention on building intercultural communication skills with youth through telecommunication. All too often, political tensions between countries and ethnic groups appear to be intractable and ongoing, leading to unsafe conditions for in-person exchanges. In this context, the concept of building international and intercultural communication skills and mutual trust with future leaders through virtual exchange was developed. As computers became more readily accessible and used in classrooms in the 1980’s the Copen Family Fund established an organization called iLEARN, utilizing telecommunication technology between youth in the U.S. and Russia, and later expanding to other countries in the 1990s.

In 2003 the NGO Soliya advanced the agenda of using interactive technology with principles of dialog to further cultivate intercultural understanding and empathy through communication. Together with iLEARN and the NGO Global Nomads, Soliya founded the Virtual Exchange Coalition (originally called Exchange 2.0). They defined virtual exchange, in contrast to direct in-person exchange, as utilizing technology to create and sustain people-to-people connections. In 2014 the virtual exchange space they helped to established supported the development of programs like the Stevens Initiative, a public-private sector collaboration specifically targeting youth in the U.S. and several countries in the Middle East and North Africa (MENA). At nearly the same
time civil society organizations in Europe were establishing similar initiatives of their own, including the Erasmus program which has developed into the Erasmus + Virtual Exchange program. These programs have several components in common: (1) they employ both synchronous and asynchronous internet-reliant communication; (2) their target audience are secondary and post-secondary students; (3) participants must have regular access to technology such as internet and web cameras. For secondary and post-secondary age participants with internet access this poses no problems. What about younger participants and those without access to the internet, and is this a concern to the overall development of virtual intercultural communication exchange?

3.9 WHY ADOLESCENTS? WHEN IS INTERVENTION MOST EFFECTIVE?

Collective and individual anxiety about potential threats from unknown others (or, outgroup members) is perhaps the most significant barrier to intergroup contact. This collective anxiety can be fueled by societal stereotyping and prejudice toward outgroup members. Methods for beginning to reduce anxiety begin with perspective taking of both self and others, opening the possibility to decategorize others and deconstruct stereotypes and prejudice. Even the merest glimpse of commonalities provides opportunities for recategorization of outgroup members, the formation of new groups identified with superordinate goals, the establishment of group norms of inclusion, and a reinforcing sense of belongingness. Barriers to this cycle begin to form in childhood and adolescence through socialization and exposure to norms for intergroup attitudes, although they are as yet still malleable and not deeply embedded.
In children ages 7-12, psychologists document the beginning stages of perspective taking, “moral reasoning about fairness and equal treatment of others, their sense of common in-group identity, their understanding of social norms, and their perceptions of out-group threats” (Killen et al., 2015, p. 178). As with adults, children are responsive to social norms that promote commonalities and inclusivity. Direct and indirect positive contact with peers from diverse cultures and backgrounds reduces anxiety and opens the door to empathy. Allport reports from years of studies that "In some children of twelve and thirteen years of age...investigators found a high sense of 'reciprocity', i.e., a willingness to admit that all peoples have equal value and merit, although each prefers its own mode of life" (Allport, 1954, p. 46).

Intervention strategies that challenge prejudice and exclusion in the context of moral reasoning and fairness beginning in childhood are found to be effective in creating lasting changes in perspective. Stephan & Finlay (1999) describe two examples of such interventions. The first was a program developed in 1989 by N.D. Feshbach which provided children aged 7-11 with 30 hours of cognitive and emotional empathy training that “led to reductions in aggression and increases in prosocial behavior and self-esteem.” The second example was a study conducted by Doyle and Aboud (1994) that investigated perspective taking in children and their attitudes toward outgroup children in kindergarten and again in third grade.

Increased abilities in perspective taking were correlated with decreased prejudice (Stephan & Finlay, 1999, p. 732). Studies of intergroup attitudes among
children and adolescents have demonstrated that contact, especially cross ethnic friendships, are predictors for group norms of inclusion (Tropp et al., 2014) as well as reduced anxiety and increased trust toward outgroup members. In the structured setting of increasingly diverse classrooms, schools are an ideal place to provide intervention programs (Turner and Cameron, 2016).

Allemand et al. (2015) conducted a 23-year longitudinal study that explored associations between empathy development in adolescence with subsequent adult social competencies. Empathy was measured yearly between ages of 12 to 16 years, and then again at age 35. Their findings demonstrated that empathy tended to increase during the adolescent years. Initial measurement of empathy levels as well as the degree of change in empathy during adolescence correlated with levels of social competencies in adulthood 20 years later. These findings indicate that interventions that cultivate empathy and inclusion during adolescence can have long term benefits.

3.10 PROPOSAL FOR A PROGRESSIVE APPROACH TO INTERGROUP CONTACT

Although a number of researchers in the various fields of contact theory and empathy development in children and adolescents have recommended a progressive approach to intergroup contact, but none have explicitly proposed a methodology to do so. With its low level of anxiety stimulation, imagined contact has been proposed as a “highly effective as a first step on the route towards reconciliation and reduced prejudice, on a ‘continuum of contact’ that provides a roadmap for the use of multiple contact strategies in improving intergroup relations” (Crisp & Turner, 2009, p.4). Turner
& Cameron (2016) proposed a model that sets the groundwork for confidence in and openness to contact which acknowledges that reduction of intergroup anxiety is an essential first step toward promoting positive social norms and attitudes, encouraging the use of perspective taking, and development of empathy. However, they do not go on to propose a process or intervention for accomplishing this.

I propose that the most effective intercultural educational intervention for school age students, particularly adolescents, is a progressive approach to intergroup contact beginning with imagined contact that is reinforced with extended contact, building to indirect contact including virtual contact, and ideally to direct contact. Global One to One’s unique program design embeds person to person communication in the context of extended, vicarious, imagined, and a form of virtual contact that is not dependent on technology. The conditions recommended by Allport are present in classrooms: participants are, at least conceptually, equals; there is a stated common goal and mutual collaboration required to achieve that goal of learning about each other; and the program is sanctioned by the local authority—the teacher and the parents who have provided consent.

In extended, vicarious, and imagined contact the awareness of intergroup dynamics is indirect and does not involve direct human-to-human interaction. This is its value as an early stage introduction to intergroup contact that is designed to minimize anxiety and maximize positive intergroup contact experience establishing a foundation for confidence and trust in future contact. Progressive contact begins with imagined
contact: students learn about and begin to imagine the person and their culture that they will be corresponding with. Extended and vicarious contact takes place as students observe their peers developing a connection with their pen pal and are encouraged to share their experiences with each other. Building on skills developed through imagined and extended contact, members of different groups learn about each other and gradually begin to share personal background information such as family, friends, and hopes or fears. Because the recipient of this information remains removed physically, anxiety is mediated, while at the same time the personal nature of the handwritten letter stimulates curiosity and potential for empathy.

In the realm of intergroup contact via virtual exchange, additional conditions may be considered to maximize positive effects of reduced prejudice and increased empathy: time (duration of contact), ingroup visibility, and consistency of participation. While many other virtual exchanges last for eight to ten weeks, the Global One to One program takes place over the course of nine to ten months. The Global One to One program is designed to provide prolonged conditions that allow for deepening of content and interpersonal closeness over time. And, unlike other virtual exchanges that take place in ad-hoc groups that may not include ingroup visibility, the Global One to One program is structured so that students in a classroom (an ingroup) meet with and interact with each other on a regular basis.

This chapter describes the design adopted by this research to investigate the use of virtual exchange to affect intercultural attitudes. Specifically, this inquiry investigates
the questions: (1) Does one-to-one virtual contact with a peer in a different culture induce attitude change toward culturally different others as measured through intercultural awareness, intercultural sensitivity, or perspective-taking? (2) Do results vary significantly among different subgroups including age, gender, classroom teacher, school, and pen pal international country? Section 3.1 discusses the research design used in the study and the stages by which the methods were implemented. Section 3.2 describes the participants in the study. Section 3.3 outlines the data collection process and timeline. Section 3.4 discusses the measures developed for this study and describes the dependent variables. Finally, section 3.5 discusses how the data was analyzed.

4.1 RESEARCH DESIGN

This was a quasi-experimental study that used a one group pretest and posttest design. Participants completed a survey prior to, and immediately following, their participation in the Global One to One virtual exchange program. The two surveys included identical questions to measure the dependent variables, and collected demographic variables including age, gender, classroom teacher, school, and pen pal country.

4.2 PARTICIPANTS

During the 10-month 2018-2019 academic year, 612 U.S. students ranging in age from 10 to 17 participated in the Global One to One program. Twelve teachers located in nine schools in New Mexico, Pennsylvania, and Nebraska administered the classroom-based Global One to One virtual exchange program.
4.3 DATA COLLECTION

The data used in this study was collected from an online pre- and post-program survey completed by the participants. Each teacher was emailed a link to the online survey and information about data collection. Instructions were provided to have participants take the survey during class prior to any discussion of the program. The pre-program online survey was completed by participants between September 9 and November 28, 2018. The post-program online survey was completed by participants between April 4 and June 28, 2019. A total of 612 U.S. students were invited to respond to the survey. In the end, 313 U.S. students completed both the pre- and post-program survey, leading to a response rate of 51%.

4.4 MEASUREMENT

Measures of the dependent variables were selected from previous studies with publicly available validated survey instruments. The survey items were adapted to fit into the context and population of the Global One to One virtual exchange program and measure three dependent variables: intercultural awareness, intercultural understanding, and perspective-taking. Six additional questions inquired about participants’ background including age, gender, year in school, teacher, and school. The sixth question asked students to comment on their thoughts about participating in the program.

The first dependent variable, intercultural awareness, was measured using items from the Miville-Guzman Universality-Diversity Scale (M-GUDS). This is a measure
that captures “an attitude toward all other persons which is inclusive yet differentiating in that similarities and differences are both recognized and accepted: the shared experience of being human results in a sense of connection with people and is associated with a plurality or diversity of interactions with others” (Miville et al., 1999, p. 292).

The second dependent variable, intercultural sensitivity, was developed using survey items from Chen and Starosta’s Intercultural Sensitivity Scale (ISS). Their objective was to develop an instrument that would effectively measure “successful intercultural communication [that] demands interactants’ ability of intercultural awareness by learning cultural similarities and differences, while the process of achieving intercultural awareness of cultural similarities and differences is enhanced and buffered by the ability of intercultural sensitivity” (Chen & Starosta, 2000, p.4).

The third dependent variable, perspective-taking, was measured using survey items from Davis’ Interpersonal Reactivity Index (IRI) (1980, p.9). Davis (1999) argued that the ability to have “other-oriented” feelings was the basis for empathy.

Table 4.1 illustrates the dependent variables, the source instrument, author, original questions, and the modified questions used for the instrument developed for this study.
<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>SOURCE INSTRUMENT</th>
<th>AUTHOR</th>
<th>GLOBAL ONE TO ONE SURVEY ITEMS</th>
<th>SOURCE SURVEY ITEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercultural Awareness</td>
<td>MGUG-S (Miville-Guzmèni Universality-Diversity Scale)</td>
<td>(Miville, et al., 1999)</td>
<td>Q 1. I want to learn about people from different cultures</td>
<td>Q 4: I am interested in learning about the many cultures that have existed in this world</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Q 2. I have friends from different cultures</td>
<td>Q 38. I have friends of differing ethnic origins</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Q 3. I feel a sense of connection with people from different cultures</td>
<td>Q 6: I feel a sense of connection with people from different countries</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Q 4: I feel bothered when I hear about people in different cultures suffering</td>
<td>Q 28: When I listen to people of different races describe their experiences in this country I am moved</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Q 5: Learning about the lives of people in different cultures is very important to me</td>
<td>Q 11: Becoming aware of the experiences of people from different ethnic groups is very important to me</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Q 6: Knowing someone from a different culture helps me understand myself better</td>
<td>Q 24: Knowing someone from a different ethnic group broadens my understanding of myself</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Q 7: I would like to participate in a program to get to know people in different cultures</td>
<td>Q 1: I would like to join an organization that emphasizes getting to know people from different countries</td>
</tr>
<tr>
<td>Intercultural Sensitivity</td>
<td>ISS (Intercultural Sensitivity Scale)</td>
<td>Chen &amp; Starosta, 2000</td>
<td>Q 8: I like communicating with people from different cultures</td>
<td>Q 42: I enjoy interacting with people from different cultures</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Q 9: I respect the values of people from different cultures</td>
<td>Q 18: I respect the values of people from different cultures</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Q 10: I am open-minded to people from different cultures</td>
<td>Q 35: I am open-minded to people from different cultures</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Q 11: I think that there are many sides to an issue and I try to learn about and understand perspectives other than my own</td>
<td>Q 26: I believe that there are two sides to every question and try to look at them both</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Q 12: When I disagree with someone I try to understand the problem from their point of view</td>
<td>Q 39: When I'm upset at someone, I usually try to &quot;put myself in their shoes&quot; for a while</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Q 13: I try to look at everyone's side of a situation before I make a decision</td>
<td>Q 8: I try to look at everybody's side of a disagreement before I make a decision</td>
</tr>
</tbody>
</table>

All survey items were measured on a 5-point Likert-type scale where 5=strongly agree, 4=agree, 3=neutral, 2=disagree, and 1=strongly disagree.
Principal component analyses and Cronbach’s alpha tests were conducted to examine the reliability and internal consistency of the variable measures. Table 4.2 displays the results of the preliminary component matrix analysis illustrating that three components were identified. The five items to measure intercultural awareness loaded well. Factor loadings for items 2 and 4 on this variable were lower so they were eliminated. Cronbach’s alpha for intercultural awareness (pre) was = 0.85 without items 2 or 4. Cronbach’s alpha for intercultural awareness (post) was = 0.717 without items 2 or 4. Items 8-10, constructed to measure the dependent variable of intercultural sensitivity, loaded well on the same variable. Cronbach’s alpha (pre) was = 0.75, and (post) was = 0.76. This was also the case for the items 11-13, constructed to measure the independent variable of Perspective-taking yielded Cronbach’s alpha (pre) of = 0.76, and (post) = 0.75. In sum, these results indicated good internal consistency.
Table 4.2 Principal factor analysis of dependent variables

<table>
<thead>
<tr>
<th>Question</th>
<th>Awareness pre</th>
<th>Sensitivity pre</th>
<th>Perspective pre</th>
<th>Awareness post</th>
<th>Sensitivity post</th>
<th>Perspective post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q 1: I want to learn about people from different cultures</td>
<td>0.780</td>
<td></td>
<td></td>
<td>0.793</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q 2: I have friends from different cultures</td>
<td>0.338</td>
<td></td>
<td></td>
<td>0.439</td>
<td></td>
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</tr>
<tr>
<td>Q 3: I feel a sense of connection with people from different cultures</td>
<td>0.755</td>
<td></td>
<td></td>
<td>0.801</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q 4: I feel bothered when I hear about people in different cultures</td>
<td>0.491</td>
<td></td>
<td></td>
<td>0.530</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q 5: Learning about the lives of people in different cultures is very important to me</td>
<td>0.807</td>
<td></td>
<td></td>
<td>0.837</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q 6: Knowing someone from a different culture helps me understand myself better</td>
<td>0.758</td>
<td></td>
<td></td>
<td>0.749</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q 7: I would like to participate in a program to get to know people in different cultures</td>
<td>0.787</td>
<td></td>
<td></td>
<td>0.825</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q 8: I like communicating with people from different cultures</td>
<td>0.780</td>
<td></td>
<td></td>
<td>0.801</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q 9: I respect the values of people from different cultures</td>
<td>0.815</td>
<td></td>
<td></td>
<td>0.848</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q 10: I am open-minded to people from different cultures</td>
<td>0.854</td>
<td></td>
<td></td>
<td>0.827</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q 11: I think that there are many sides to an issue and I try to learn about and understand perspectives other than my own</td>
<td>0.790</td>
<td></td>
<td></td>
<td></td>
<td>0.776</td>
<td></td>
</tr>
<tr>
<td>Q 12: When I disagree with someone I try to understand the problem from their point of view</td>
<td>0.859</td>
<td></td>
<td></td>
<td>0.842</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q 13: I try to look at everyone’s side of a situation before I make a decision</td>
<td>0.811</td>
<td></td>
<td></td>
<td>0.834</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.5 ANALYTICAL PROCEDURES

A paired samples t-test was executed to determine if there was statistical mean difference between pre- and post- program outcomes. Sub-group analyses were then conducted to examine possible mediating effects by paired variables.

CHAPTER V: RESULTS

This chapter is composed of three sections. The first section (5.1) presents descriptive statistics of the sample. Section two (5.2) presents the results of the paired t-test analysis. The third section (5.3) presents the analysis of the subgroups.

5.1 DESCRIPTIVE STATISTICS

Table 5.1 displays the percentage distribution for the 313 U.S participants that completed both the pre- and post-program survey, by age, gender, classroom teacher, school, and pen pal country. Participants ranged in age from 10 to 17 years of age, 13.2 being the median age. The largest percentages of participants by age were 13 (25.2%) and 11 (23.6%) years old. The smallest percentages of participants by age were 12 (2.9%) and 17 (2.9%) years old. In gender distribution, females represented 57.2%, males represented 41.5%, and those preferring not to say (n = 4) accounted for 1.3%. The largest number of participants by teacher was 63, constituting 21.1% of the total population, and the smallest was 4 or 1.3% of the total. The largest group of participants by school type was 112 in public schools, representing 35.8% of the total population,
and the smallest was 96 in charter schools¹, or 30.7% of the total. By country, the largest
group was 169 participants, constituting 54% of the total participant population, and the
smallest was 4, or 1.3%.

Twelve teachers in the U.S. conducted the program with students in group sizes
ranging from 4 to 63. Smaller teacher group sizes, with 4 up to 22 students (n = 86),
comprised 29% of the total. Larger teacher group sizes, with 23 to 63 students (n = 223),
comprised 71% of the total. Ten U.S. schools implemented the program in one or more
classrooms. Smaller school group sizes, ranging from 4 to 24 students (n = 86) comprised
28% of the total. Larger school group sizes, ranging from 31 to 72 (n = 227) comprised
72% of the total. U.S. students were connected virtually with peers in eight international
countries. Smaller country group sizes of 4 to 17 students (n = 45), comprised 14% of the
total. Larger country group sizes of 42 to 169 students (n = 268) comprised 86% of the
total.

¹ Charter schools in New Mexico are free, public schools that are often focused on a
particular subject matter and use a lottery selection process to enroll students.
<table>
<thead>
<tr>
<th>AGE</th>
<th>N</th>
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<th>GENDER</th>
<th>N</th>
<th>%</th>
<th>TEACHER</th>
<th>N</th>
<th>%</th>
<th>SCHOOL</th>
<th>N</th>
<th>%</th>
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Total 313 100
5.2 PAIRED T-TEST RESULTS

Table 5.2 displays the mean, standard deviation, mean difference, p-value, and Cohen’s d for both pre- and post- survey results for each dependent variable. The threshold for significance (p-value) was set at 0.05. Cohen’s d effect change size estimates were evaluated based on the established standard of small ($d = 0.2 – 0.49$), medium ($d = 0.5 – 0.79$) large ($d = 0.8 – 1.29$) and very large ($d > 1.3$). Among others, Sullivan & Feinn (2012) argue that, in order for readers to understand the full impact of a study, both statistical significance and effect size must be taken into consideration.

For intercultural awareness, the change in the mean (MD = -0.09) was negative, reducing from a pre-program survey response mean of 3.81 to a post-program survey response mean of 3.72. The p-value for pre- and post-survey results for intercultural awareness did not demonstrate statistical significance ($p = 0.01$), and the Cohen’s d for effect size ($d = 0.13$). The intercultural sensitivity dependent variable mean difference (MD = 0.01) was positive, rising negligibly from 4.21 to 4.22. The p-value for pre- and post-survey results for intercultural sensitivity was not statistically significant ($p = 0.76$), and the Cohen’s d for effect change size was small ($d = 0.02$). Mean change from pre- to post- results for the third dependent variable, perspective-taking, was only slightly higher (MD = 0.03), with a non-significant p-value ($p = 0.32$). The Cohen’s d effect change estimated was also slight ($d = 0.06$).
Table 5.2: Paired T-test Results

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<th>d</th>
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<td>0.76</td>
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<td>0.76</td>
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<td>0.32</td>
<td>0.06</td>
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5.3 SUBGROUP ANALYSIS

Results of the t-tests for dependent variables are illustrated in Tables 5.3 –5.7.

Table 5.3 displays results for the paired t-tests for all dependent variables by age. No positive statistical significance was found in any of the dependent variables by age. Intercultural awareness for age groups 10, 16, and 17 all showed increases after participating in the program. The largest increase was observed for the age group 17 in the dependent variable of perspective-taking (MD = 0.33), and the largest decrease was observed for the age group 11 in the dependent variable of intercultural awareness (MD = -0.23). The largest Cohen’s d effect change estimate was observed for the age group 17 in the dependent variable of perspective-taking (d = 0.61), and the smallest Cohen’s d effect change estimate was for the age group 13 in the dependent variable of intercultural sensitivity (d = 0.00).
### Table 5.3 Subgroup analysis by age

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<th>PERSPECTIVE-TAKING</th>
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<td>0.5</td>
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### Table 5.4 Subgroup analysis by gender

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</thead>
<tbody>
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<td></td>
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<td>MD</td>
<td>p</td>
<td>d</td>
<td>Mean</td>
</tr>
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<td>0.52</td>
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46
Table 5.4 displays results for the paired t-tests for all dependent variables by gender. No positive statistical significance was found in any of the dependent variables by gender. In the dependent variable of intercultural awareness, the mean difference for both male (MD = -0.09) and female (MD = -0.10) decreased after participating in the program and remained unchanged for intercultural sensitivity after participating in the program. An increase in the mean difference was observed for females (MD = 0.06) and a decrease for males (MD = -0.02) in perspective-taking. The largest increase by gender was observed in the Prefer Not to Say group in the dependent variable of perspective-taking (MD = 0.67), and the largest decrease by gender was observed was for females in the dependent variable of intercultural awareness (MD = -0.10). The largest Cohen’s d effect change estimate was for prefer not to say in the dependent variable of perspective-taking (d = 1.42), and the smallest in Cohen’s d effect change estimate was for females in the dependent variable of intercultural sensitivity (d = 0.00).

Table 5.5 displays results for the paired t-tests for all dependent variables by teacher. Positive statistical significance was found with teacher 8 in the dependent variable of perspective-taking (p = 0.05). This public school teacher had administered the program for five years with a moderate size group (n = 31) of high school students and expressed enthusiasm each year for the changes in attitude toward culturally different others that they had observed in their students. The largest increase in mean difference was for teacher 10 in the dependent variable of perspective-taken (MD = 0.42). This private school teacher had no previous experience with administering the program, and the size of the group (n = 4) was small. The largest decrease in mean
difference was for teacher 7 in the dependent variable of intercultural awareness (MD = -0.35). This private school teacher had eight years of previous experience administering the program to a relatively large (n = 63) group of new middle school students. The largest Cohen’s d effect change estimate was for teacher 10 (see above) in the dependent variable of perspective-taking (d = 0.94), and the smallest Cohen’s d effect change (0.06) was estimated for teacher 2 in the dependent variable of intercultural awareness, as well as teacher 4 in the dependent variable of intercultural sensitivity. These two are charter school teachers with previous experience in administering the program to upper middle school students. Teacher class size did not demonstrate a pattern for positive or negative change.

Table 5.6 displays results for the paired t-tests for all dependent variables by school type. No positive statistical significance was found with school type in any of the dependent variables. The largest increase in mean difference for school type was with public school in the dependent variable of perspective-taking (MD = 0.19). The largest decrease in mean difference for school type was with Public School in the dependent variable of intercultural awareness (MD = -0.03). The largest Cohen’s d effect change estimate was for private school in the dependent variable of intercultural awareness (d = 0.51), and the smallest Cohen’s d effect change estimate (d = 0.04) was with charter school in the dependent variable of intercultural sensitivity.

Table 5.7 displays results for the paired t-tests for all dependent variables by country. Positive statistical significance was found with country 5 (Senegal) in the
dependent variable of perspective-taking (p = 0.04). The largest increase in mean difference was for country 2 (China) in the dependent variable of perspective-taking (MD = 0.42), and the largest decrease in mean difference by age was for country 3 (India) in the dependent variable of intercultural awareness (MD = -0.21). The largest Cohen’s d effect change estimate was for country 2 (China) in the dependent variable of perspective-taking (d = 0.94), and the smallest Cohen’s d effect change estimate (0.03) was with country 4 (Kenya) in the dependent variable of perspective-taking. All four of these countries had previous experience administering the program.

In all tables displayed below n = number of students.
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CHAPTER VI: DISCUSSION

The aim of this quantitative study was to examine change in attitude toward people from different cultures with participants in the Global One to One virtual exchange. Students’ initial interest in cultural learning began high and ended high. Changes were very small, making study of indicators difficult. The results suggest that while little to no statistical significance was demonstrated, students who participated in the Global One to One virtual exchange did experience some modest increases in intercultural awareness, sensitivity but not in others.

As described previously, the total sample size of 313 was studied through factors of age, gender, teacher, school, school type, and country. Changes in intercultural awareness were most detectable in populations age 10-12, and 17, although only in groups age 10 and 17 was the change positive. The largest decrease in mean difference across all three dependent variables was observed with participants age 12, an age at which students in the U.S. transition from elementary to middle school. Those participants ages 13-16 expressed positive effect change only in perspective taking, and relatively low positive change there. The only positive change in mean difference and effect size across all three dependent variables occurred in the group of 17 year old participants. Viewed from the subgroup of age the findings suggest that students at the beginning and end of adolescence are receptive to acquiring intercultural awareness, those in the middle of adolescence have the capacity to develop perspective taking, and that it not until late adolescence that interest in developing awareness, sensitivity, and
perspective taking is demonstrated. The period of transition from elementary to middle school appears to be a time where changes in attitude are not as easily measured.

Viewed from the subgroup of gender, results between male and female were nearly identical to each other in attitude change for intercultural awareness and intercultural sensitivity: both experienced a decrease in overall scores intercultural awareness, and no change in intercultural sensitivity after participating in the program. Females indicated a small increase in perspective-taking, whereas males demonstrated a small decrease in this dependent variable. Overall this would indicate that gender was not a significant factor in participant changes of attitude after program participation. Changes in subgroups of teacher, school type, and country were erratic and demonstrative no discernible patterns.

Of the three dependent variables, intercultural awareness demonstrated the lowest pre- and post-program survey scores, the lowest change in mean difference, but the largest Cohen’s d effect change estimate across all subgroups. Intercultural sensitivity represented the highest pre- and post-program survey scores for all subgroups, but a smaller mean difference and Cohen’s d effect change estimate than perspective-taking. The largest increase in mean difference was observed in perspective-taking, and although the pre- and post-program survey scores were higher than those for intercultural awareness, they were lower than those in intercultural sensitivity. The Cohen’s d effect change estimate for perspective-taking was lower than intercultural awareness, but higher than intercultural sensitivity.
There were some similarities between the findings of the Global One to One virtual exchange survey and those available in the 2019 Stevens Initiative report. However, differences in what was reported and how it was reported should be identified in order to draw comparisons between theSteven Initiative and Global One to One survey results. The Stevens Initiative report does not display data for statistical significance or mean difference, and tables in the report displayed effect change findings for five domains that were different than the five dependent variables listed in a companion document, *Survey Scales for Virtual Exchange Programs* (Aspen Institute, 2019). For example, the first scale, “Group A,” was stated to measure knowledge of other country or culture. Data in the report is separated into knowledge of others and knowledge seeking and includes items very similar to those in the Global One to One intercultural awareness dependent variable. The second scale, “Group B” measures perspective-taking and empathy and contains items similar to those found in the both the Global One to One intercultural sensitivity dependent variable and the perspective-taking dependent variables.

Like the Global One to One study, the Stevens Initiative study reported no statistical significance with U.S. students in any of the dependent variables. Based on their reporting of effect change with U.S. students, results in their knowledge of others and knowledge seeking dependent variables were the most notable, as was the case in the Global One to One study. The effect change reported for perspective-taking was low and nearly identical for both studies.
Although the stated goal of the two studies was to measure impacts of virtual exchange on attitudes toward culturally different others, they were structured and reported in ways that make direct comparison difficult. A few similar conclusions can be gleaned, however. First, very little to no statistical significance was found in pre- and post-program surveys completed by U.S. participants in these two virtual exchanges. Second, this result points to the benefits argued by an increasing number of social science researchers effect change measures must be reported along with statistical significance in order to more accurately assess impact. In both studies discussed here, even in the absence of statistical significance, positive effect change was estimated for intercultural awareness and knowledge, intercultural sensitivity and perspective-taking, and that the greatest effect change overall was noted in awareness and knowledge measures. Third, findings from both studies varied significantly from one scale or variable to others, and no discernible pattern of influence from independent variables could be identified.

There are several possible explanations for these results. It is possible that the results demonstrate is a ceiling effect—meaning that there was little to no growth because participants tended to start off rating themselves relatively highly on the pre-program survey, and therefore had little room to increase on the post-program survey. Ceiling effect has also been discussed in the literature as a limitation that indicates that the testing instrument has not accurately measured what it intended to measure (Taylor, 2010).
Neither of the studies had a control group: in both studies the participants were directed to the program by schools and teachers, opening the door to the possibility of selection bias. Participants may have been biased by the context of participating in a virtual exchange program that overtly advocates for intercultural understanding. For example, contrary to explicit instructions to teachers in the Global One to One virtual exchange program to implement the pre-survey prior to discussion of the program, the participants may have been influenced by the implied or expressed expectations communicated by the teacher before responding to the pre-program survey.

Another influence on results may be social desirability—responses that participants believed to be more socially acceptable within their peer group. In both studies participants were in direct contact with peers throughout the program, and able to express attitudes to each other about what they were experiencing. The Global One to One online surveys were completed individually while in a classroom. It is possible that participants did discuss responses with each other. Additionally, Omrani et al. (2019) report that adolescents are more likely to employ satisficing—identifying a response that is adequately acceptable but not necessarily deeply considered—when survey questions are similar to school test questions and/or considered uninteresting.

This leads to a related consideration of the instrument itself and/or method of administering the survey. Research into methods for administering surveys to adolescents recommend that online methods will be more attractive to adolescents than pen and paper survey forms and potentially elicit more valid responses. Omrani
et al. (2019) caution that complexity in wording, especially when the survey respondents span in age from children to adolescents, must be considered. While wording of survey items in this study was simplified from the original items, it is possible that they were too similar to school test questions, too abstract, and/or uninteresting.

Global One to One survey items constructed to measure intercultural sensitivity included wording such as “I like”, “I respect”, and “I am open-minded”. Perspective-taking survey items included phrases such as “I think there are many sides to an issue”, “When I disagree with someone I try to understand”, and “I try to look at everyone’s side of a situation”. Studies have identified perspective-taking, empathy, and some levels of moral reasoning as motivators for adolescent prosocial behavior and interest in intergroup contact (Wentzel et al., 2007). Survey items constructed to measure intercultural awareness were more abstract and included phrases such as “I want to learn”, “Learning about”, “Knowing someone from a different culture”, “I would like to participate”. The greater pre- and post-program survey scores for intercultural sensitivity and perspective-taking may be indicators that participants’ cognitive and behavioral development affected their interest in qualities expressed in the questions. The lower pre- and post-program survey scores, and lower change in mean difference with the survey items measuring intercultural awareness may indicate lack of interest in these less active statements. In his article, “Globally-minded students: defining, measuring and developing intercultural sensitivity,” Simon Taylor states “Intercultural awareness is certainly desirable, however it is passive. One should preferably aim for
intercultural sensitivity as a mindset that leans towards something more active and, hopefully, to intercultural competence through behavior” (Taylor, 2014, p.26).

Although adolescents and youth have been increasingly surveyed in the last two decades, very little methodological research has been conducted on the survey response processes of children and youth. To date, much of the methodological research and recommendations have been based on studies of adults. As of yet, there have been no comprehensive guidelines for the development of survey instruments for this population. (Omrani et al., 2019; Borgers, et al., 2000). Any study of social and global competency skills with adolescents and youth must incorporate established research of developmental capabilities of these populations. For example, during the developmental stage that takes place between ages 10 to 15, youth begin to have the capacity to consider several perspectives simultaneously, not just for themselves but also for others, and consider the societal implications of these perspective.

When studying populations such as adolescents, in the midst of significant cognitive and emotional change, the use of short term quantitative measures to evaluate changes in attitude must be questioned. Brown et al. (2007) found that intergroup contact over time led to greater positive attitude changes than short term intergroup contact. The goal of virtual exchange programs like Global One to One is to change long term behavior toward culturally different others. How does, for example, a virtual exchange at age 11 impact global competency skills for an individual 10 or 20 years later when they are a decision-makers in their families, workplaces, and
communities? This question further strengthens the argument that results of a short
term study such as this are best seen as pieces of a puzzle that contribute to a broader
understanding to this area of research. And a final but necessary question to be asked
with is whether or not virtual exchange with a culturally different peer has any lasting
positive impact on changes in attitudes toward culturally different others. Until this is
rigorously studied, we can only conjecture.

CHAPTER VII: LIMITATIONS

The construction of the survey instrument for this study was constrained by the
lack of public access to relevant validated survey instruments. Those instruments that
were available presented a number of challenges in constructing an instrument to
accurately gauge the impact of the Global One to One virtual exchange program. Most
of the available instruments were created 20 to 30 years ago. With the rapid and
considerable changes in intercultural contact and communication since these they were
constructed, these instruments were a product of their period and are no longer
accurate representations of issues immediately relevant to this study. Secondly, most of
the studies that these instruments were developed for were for very different
populations than the one under consideration in this study. International study abroad
with college students, or international work assignments with adults were the primary
focus of study in the 1980s through early 2000s.
Virtual exchange between youth in different countries is a relatively new phenomenon, and no contemporary survey instruments have been developed to date to measure changes in intercultural competence skills such as intercultural awareness, intercultural sensitivity, and perspective-taking as a consequence of virtual contact with peers in different cultures. Thirdly, research into the most effective means of surveying adolescents has only recently been a focus of study. Considerations about cognitive maturity, language appropriate wording of surveys, and the ability to accurately obtain information about thoughts and opinions from populations subject to peer influence, all play an important, and as yet not adequately studied, role that will need to be considered in future studies of this sort.

In social science research there is a growing discussion about the most appropriate methods for measuring change with interventions. Some journals in the field of psychological theory require that researchers report both statistically significant change in mean differences and effect size change. Because effect size is calculated by standardizing the means to a common metric that can be compared across studies in different fields it is sometimes considered preferable to statistical significance which is generally more sensitive to differences in sample size. Borneman (2010) goes so far as to state “Documenting the magnitude of mean differences is of even greater importance than testing whether two means differ significantly” and points out that “simple mean differences are best used when there is a well-established scale whose metric does not change” (Borneman, 2010, pp. 788-789). The scales used for the Global
One to One study were used with very different populations under different circumstances.

Some studies have recommended that, particularly with children and adolescents, individual interviews may obtain the subject’s most accurate thoughts and feelings about their experience in a program. This presents its own barriers of appropriate access to minors and time (i.e. budget) constraints. It should be added that the battery of assessments frequently utilized by researchers may no longer be the most accurate measures for social and emotional changes in the youth of a rapidly metamorphosing techno-social world.

**CH. VIII CONCLUSIONS**

Globalization—with its associated social and economic interconnection—has spurred research into mechanisms inherent in intercultural communication. Much of the early research was aimed at smoothing international business relations. In the process, fields such as research into cultural intelligence provided insight into aptitudes required to operate effectively in international situations (Earley 2002, Earley & Ang, 2003; Ang, et al., 2004-2015). Motivation (Chen & Starosta, 1996, 1998, 2000) was identified as a primary catalyst that can link intercultural awareness with intercultural sensitivity and is what makes learning of complex cultural information interesting and valuable to learners.
However, research into the fields at the intersection of intergroup contact theory dynamics and interpersonal communication dynamics between culturally different others has not yet been adequately studied. Experiences that increase perspective-taking such as imagining how one would feel in someone else’s situation or imagining what another person is feeling or thinking can result in increased perception of similarity. Perceptions of similarity reduce anxiety and promote openness to intergroup contact, but lack of contact and perceptions of similarity can result in stereotyping and prejudice against outgroup members. Sharing of personal background information (Lin & Bradsford, 2010) has been found to effectively mediate stereotyping and prejudice and encourage development of empathy and intergroup trust (Turner et al., 2007). When contact between groups includes conditions that support equal status among group members, cultivate intergroup cooperation, establish common goals, and are supported by social and institutional authorities, intergroup anxiety is reduced (Allport, 1954; Pettigrew & Tropp, 2006, 2008), and perceptions of familiarity and commonalities are increased, reinforcing desire for future contact.

Further research is needed to explore methods of effective intercultural understanding and communication education for children, adolescents, and young adults that yield enduring benefits. In order to understand which programs are successful further research into assessment and analysis methodologies is essential. At the time of this writing the world is experiencing a pandemic of devastating proportion while political leaders focus on who is to blame more than how to best collaborate with each other to best address this crisis. No doubt this will not be the last global crisis and
it is incumbent upon us who have access to needed resources to prepare the rising
generation of citizens and leaders. Mutual and respectful understanding and
communication are not only essential skills for young leaders and future citizens. The
future of our world now depends upon it.
REFERENCES


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