Intercultural Contact, Communication Apprehension, and Social Perspective Taking

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Abstract

This research examined the relationship between intergroup contact, intercultural communication apprehension, and social perspective taking. Participants were examined in one of three conditions: a course which facilitates interactions between culturally diverse students around the globe via internet technologies, an introductory psychology course, and upper-level psychology courses. Participants in the intercultural contact condition were expected to show gains in social perspective taking and a decrease in intercultural communication apprehension when compared to the two comparison groups. No significant differences between the three groups were found for either change in intercultural communication apprehension or social perspective taking. Potential explanations for this lack of change are explored, along with a path model to explain the influence of personality factors on intercultural communication apprehension, and social perspective taking.

Introduction

As the world becomes flatter and communication technology becomes more widespread, the chance for interactions between people of drastically different cultures also grows. Cross-cultural interactions are no longer limited to diplomatic meetings between sovereign nations or between international tourists and natives, but can occur at almost any time, at varying levels of formality, facilitated by nothing more than an internet connection. Collaboration and commerce between nations and across cultures is an unavoidable necessity of modern living, with the success of those endeavors hinged upon the competence with which each party interacts with the other. Further, these interactions can be beneficial, not just in terms of each group realizing their respective goals, but also at the level of the individuals involved. Persons that experience more intercultural interactions benefit not just by becoming more appealing job applicants to the growing number of employers seeking such experience (American Association of Colleges and Universities, 2007), but by building skills and breaking down barriers related to success in such interactions. As such, promoting beneficial intercultural contact is a priority for many institutions of higher education that are seeking to prepare their students for careers in an international and multicultural job market.

Cultural Diversity and Education

Academic initiatives that promote cultural diversity through interaction represent a means by which learners and educators can benefit from globalization and learn to better cope with living in an increasingly diverse society. As the population of learners in schools becomes more diverse, teachers are under pressure to further develop their intercultural skills in order to better help all of their students reap the benefits of education (MacPherson, 2010). Teachers with greater
Intercultural competence have been shown to demonstrate a greater willingness to collaborate with diverse students (MacPherson, 2010) and so educators should have a general interest in pursuing opportunities for intercultural interaction so as to further their own professional development. In addition to their own professional development however, educators should also be interested in pursuing intercultural educational experiences for the sake of their students, who stand to gain even more. Recent legislative reforms related to Common Core State Standards have underscored the need for schools to ensure that students are college and career ready (U.S. Department of Education, n.d.), which in this day and age includes being prepared to effectively communicate and work with a diverse range of individuals.

There is a large body of research on the impact of diversity experiences such as intergroup contact on outcomes for college students, which has in turn been meta-analyzed and synthesized by educational researchers. One such meta-analysis was carried out by Nicholas Bowman (2010) where 58 separate effects from 17 studies of college diversity experiences on cognitive development were investigated. These college diversity experiences consisted of coursework, workshops, and interpersonal experiences, which had positive influences on the development of cognitive skills like critical-thinking and problem-solving, and cognitive tendencies like the preference for effortful thinking. Bowman found an overall significant and positive effect of .05, which the author argues is not trivial despite being small given that the context is a meta-analysis of research on college experiences. Of particular interest is that the study found diversity experiences in the form of student interpersonal interactions with racial diversity had a stronger effect on cognitive development outcomes when compared to other diversity experiences such as coursework, workshops, and structural diversity (i.e., diverse student bodies). The author suggests that diversity courses and workshops that include facilitating interpersonal interactions as part of their structure have the potential to promote greater cognitive growth, and that through repeated engagement of this kind students should develop a more generalized preference for complex thinking. Bowman even goes so far as to claim that institutions which implement efforts to increase the availability and quality of student diversity experiences on their campus might additionally benefit students not participating directly in those experiences, but who will benefit from interaction with students who do (Bowman, 2010).

Other pieces of literature have focused on the benefits of diversity experiences prior to college. In their review and synthesis of the literature, Mickelson and Nkomo (2012) frame the benefits of racially and culturally diverse, integrated school environments and learning experiences in terms of improved social cohesion in our increasingly diverse, democratic society. The authors reviewed studies on the impact of integrated schooling, by which they mean “schools that are racially, ethnically, and socioeconomically diverse” (Mickelson and Nkomo, 2012, p. 197), on educational outcomes (both academic and non-academic) considered to be the social structural and attitudinal precursors of social cohesion. Based on their review, the authors put forward a four-stage model of the dynamics of integrated schooling, life course outcomes, and social cohesion. Integrated schooling is the first stage, which leads to short-term outcomes for students, such as greater academic achievement, reduced prejudice, and greater capacity for multicultural navigation. These short-term outcomes lead to long-term outcomes in adulthood, such as greater educational and occupational attainment, workplace readiness for the global economy, avoidance of the criminal justice system, and greater civic participation. The manifestation of these outcomes in turn leads to the final stage of the model, general social cohesion within multi-ethnic democratic societies (Mickelson and Nkomo, 2012). Using this model, the authors outline the possible pathway by which early educational experiences of diversity yield desirable student outcomes, and ultimately a more cohesive, vibrant democratic society. Given the various documented benefits of diversity experiences for students, teachers, and society as a whole, it seems safe to say that educators
should feel obligated, if not compelled, to encourage and facilitate student diversity experiences, particularly those experiences that entail contact and interaction with members of other cultural groups.

**Intercultural Contact**

Intercultural contact refers to any form of interaction with someone or something from a different culture. There are many different ways to develop intercultural contact. One of the more readily identifiable ways is through college study abroad programs. However, studying abroad is not always a viable option, either because of financial constraints or other limitations (Chia, Poe, & Wunsch, 2009). Another potential way this goal can be achieved is by taking courses specifically designed to engage students in intercultural contact, without them leaving their home country. Courses that require communication with culturally distinct peers can help increase students’ cultural awareness, as well as elucidate strategies for dealing with points of view that differ from their own (Furcsa, 2009). Liu and Dall’Alba (2012) used a class group project focused on interaction with culturally diverse others to encourage students to solve problems of intercultural communication. Students reported beneficial features of working on the project, including the opportunity to see things from different perspectives, as well as participating in cultural events as a foreigner. The students also indicated that the project improved their understanding of intercultural communication by giving them in-depth, first-hand experience with such communication (Liu & Dall’Alba, 2012).

While initiatives like those described above offer the valuable opportunity for intercultural contact, contact alone does not guarantee that the experience will be beneficial (King, Baxter-Magolda, & Massål’, 2011). Intercultural contact does not automatically benefit those involved, but rather the outcome can be influenced by various precursors and contexts. For example, being ethnocentric has been shown to predict poorer communication satisfaction after intercultural interactions (Neuliep, 2012). King, Baxter-Magolda, & Massål’ (2011) interviewed participants about their past intercultural experiences and found that anxiety caused by being in the out-group could lead to different outcomes, depending on the participant’s previous amounts of intercultural contact. Participants with greater levels of intercultural contact experience used the discomfort they experienced as a cue to further investigate the interaction, leading to increased engagement and appreciation for the others’ situation and perspective. On the other hand, less interculturally mature participants tended to disengage from their interaction when they experienced anxiety or discomfort.

Courses that facilitate intercultural contact often strive to foster communication across cultures and build intercultural competence (Liu & Dall’Alba, 2012). As such, it is important to identify additional factors that may promote or interfere with these goals. One strategy for promoting understanding between persons is by encouraging those involved to try to see things from others’ perspective, a practice called social perspective taking (Gehlbach, 2004a). Indeed, putting oneself in someone else’s shoes and trying to make sense of the world from that person’s perspective might be an effective strategy for achieving a more meaningful understanding of that person and what he or she might be bringing to the interaction. Failing to achieve sufficient understanding could result in inappropriate communication or behavior that may have been avoided had the person considered how his or her statement or action would be perceived by the other.

Again, intercultural interactions are becoming more common and the need to better understand them also grows. Social psychologists have been studying how people from different backgrounds get along together for decades, and one major focus has been on understanding and reducing racial prejudices. In “The Nature of Prejudice,” Allport (1954) laid the groundwork for a line of
research that continues today. However, the application of his theory has been largely limited to investigations of racial and ethnic differences within a single country. I propose that intergroup contact theory may also be used to make sense of intercultural interactions and for promoting intercultural contact as a positive experience.

**Intergroup Contact Theory**

Allport (1954) described how having contact with outgroup members can reduce prejudice towards that other group when four preconditions are met. First, within the contact context, there must be equal status between the interactants such that all involved perceive no status differences. That is, there must not be a subordinate and superordinate group, but two equal interactants. Second, both sides must work toward common goals without a sense of competition. Third, instead of both sides racing to achieve the goal they happen to share with the other, it should be a collaborative, codependent effort that has each side relying on the other. The most notable example of the benefits of such an arrangement is exemplified by Sherif’s (1966) Robber’s Cave field study where previously antagonistic teams of boys at a summer camp were made to cooperate towards a shared goal, in turn leading to positive relations between the two teams. The fourth and final precondition for optimal intergroup contact is the support/sanction of such contact by authority figures. Such support can either be as formal legislation allowing the contact or informal approval by society at large.

Working from Allport’s (1954) initial theory, Pettigrew (1998) expanded the theory to take into account the effect of time on intergroup contact. According to Pettigrew, optimal contact requires time for positive effects to be observed, such that long-term relationships with outgroup members are more likely to lead to contact effects than are casual acquaintanceships. Initially, Allport’s four conditions (equal status, common goals, intergroup cooperation, and societal approval) along with the additional condition of the potential for friendship, should be satisfied. Over time, decategorization (i.e., the process of an outgroup individual seen as relatable), salient categorization (individual’s group membership is reiterated after positive contact), and recategorization (subject recategorizes herself into a larger group that includes the outgroup individual) occur sequentially (with possible overlap) with more prejudice reduction happening at each stage. By considering the duration of contact and the various processes that may only occur after a sufficient amount of time has passed, Pettigrew attempts to explain why situations that comply with Allport’s initial conditions can still fail to yield the desired results if the amount of contact is insufficient.

With an understanding of when intergroup contact is likely to have positive effects, researchers have refocused efforts to understand the processes behind those effects and the psychological factors involved. Pettigrew (1998) suggested some possible processes by which intergroup contact changes attitudes and reduces prejudice. These processes include learning about the outgroup, changing behavior, ingroup reappraisal, and generating affective ties. During contact, negative assumptions about the outgroup that underlie negative attitudes can be corrected when new contradicting information arises during the interaction. Contact with an outgroup member can also represent a novel social interaction for which the participant has no pre-existing scripts about how they should behave. If the new situation implies the expectation of outgroup acceptance, behaving in accordance with this expectation while still holding negative attitudes towards the outgroup can lead to cognitive dissonance, that is, mental stress caused by holding two contradictory attitudes or beliefs simultaneously (Festinger, 1957). The cognitive dissonance may then be resolved by altering the conflicting attitude. Ingroup reappraisal can happen when exposure to the different norms and customs of an outgroup leads to a more equitable opinion about the utility of each group’s methods for social interactions. Instead of thinking that the ingroup’s way is the only
viable way of doing things, and therefore superior to the norms of other groups, the individual appreciates that different norms can be equally useful and are of equal value to the ingroup’s norms. Lastly, when intergroup contact results in an affective tie with the outgroup member, such as a new friendship, the positive regard for that outgroup member can improve attitudes towards the entire outgroup.

Mediation of the Contact Effect by Perspective Taking and Anxiety

The intergroup contact effect has received so much empirical exploration that Pettigrew and Tropp (2008) conducted a meta-analysis of 515 studies examining potential mediating factors of the intergroup contact effect. The authors found reduced anxiety and increased perspective taking to have the greatest overall mediational influence on the contact effect, with increased knowledge having a lesser, but still important, influence on the effect. Additional support for the role of anxiety and perspective taking in the contact effect comes from Aberson and Haag (2007). The authors tested a model where intergroup contact leads to attitude change with moderation by perspective taking and intergroup anxiety. Citing evidence for the association between intergroup anxiety and negative intergroup attitudes, the authors suggest that as contact increases familiarity with the outgroup, anxiety associated with that outgroup decreases. However, since contact does not always lead to anxiety reduction, Aberson and Haag’s data suggests that the reduction of anxiety through intergroup contact is mediated by perspective taking. When participants take the perspective of the outgroup member with whom they are interacting, it leads to a greater understanding of how that outgroup member is perceiving the interaction and in turn reduces the participant’s uncertainty and associated anxiety.

Additional support for the role of anxiety and perspective taking as mediators comes from Vezzali and Giovannini (2012). Specifically, these researchers were looking at the relationship between contact with immigrants and attitudes towards immigrants, with mediation by anxiety and perspective taking, and how all these factors relate to attitudes towards an unrelated outgroup (i.e., homosexuals or the disabled). They found that contact with one outgroup can indirectly influence attitudes towards a secondary outgroup via reduced anxiety and increased perspective taking for the first and second outgroup. That is, the reduced anxiety and increased perspective taking associated with more positive attitudes towards the primary outgroup can also be associated with reduced anxiety and increased perspective taking towards a secondary outgroup, which then leads to improved attitudes towards that secondary outgroup.

Overall, these results represent a starting point for a more in depth analysis of intergroup contact effects. The next step in increasing our understanding of such effects is to take a closer look at these two mediators. The following sections will discuss perspective taking and anxiety, particularly as they relate to interacting with people from different social groups.

Perspective Taking

Being able to appreciate how another person experiences the world and in turn responds to that world is an integral part of successful social functioning. It is so important, in fact, that deficits in this ability can be considered symptomatic of some psychological disorders, such as Autism spectrum disorders (Baron-Cohen, Leslie, & Frith, 1985). This concept of imagining how someone else perceives things has been referred to by different names, including empathy, theory of mind, and role-taking (Gehlbach, 2004b). While there are various interpretations of the concept, the present research will consider perspective taking to be a cognitive process, as opposed to an emotional one (i.e., feeling empathy) and will be primarily framed using Gehlbach’s (2004a) concept of a social perspective taking aptitude.
Like cognitive empathy, Gehlbach (2004a) suggested considering social perspective taking as a multidimensional aptitude that requires not only the ability to accurately decipher the thoughts and feelings of someone else in a given situation, but also the motivation or propensity to do so. He suggested that previous research purporting to measure perspective taking generally was actually only assessing one or the other of these two dimensions, accuracy or propensity, depending on the particular instruments or paradigms employed. Since being a highly accurate perspective taker does not necessarily entail a strong propensity or motivation to do perspective taking, or vice versa, it makes sense to consider the two as theoretically related but distinct constructs. This is supported by the finding that measures of perspective taking accuracy and propensity only correlate slightly, $r = .15$ (Gehlbach, 2004b).

Social perspective taking accuracy refers to being able to correctly infer someone else’s thoughts and feelings without being directly told what they are by the perspective taking target (Gehlbach, 2004a). There is a common protocol for assessing accuracy that has been adopted by social perspective taking researchers (Gehlbach, 2004a; Gehlbach, Brinkworth, & Harris, 2011; Gehlbach, Young, & Roan, 2012), but which requires considerable time and resources to implement (see Ickes, Stinson, Bissonnette, & Garcia, 1990, for an example).

The other facet of the social perspective taking aptitude is propensity, also termed motivation. The propensity to engage in social perspective taking can be understood as the frequency with which someone attempts to take the perspective of others. It is different from social perspective taking accuracy in that the former indicates quantity of perspective taking while the latter indicates quality. Social perspective taking propensity is measured using self-report questionnaires, e.g., the Perspective Taking subscale of Davis’s (1980, 1983) Interpersonal Reactivity Index or Gehlbach’s revision of that subscale (Gehlbach, 2004a; Gehlbach, Brinkworth, & Wang, 2012). These scales assess how frequently respondents tend to engage in different perspective taking behaviors, such as trying to imagine how a friend feels during a disagreement or trying to understand classmates better by trying to figure out what they are thinking.

Social perspective taking has been associated with various positive outcomes, including conflict resolution, decreased prejudice, better relationships between teachers and students, and academic achievement in social studies, and self-efficacy (Gehlbach, 2004b; Gehlbach et al., 2011; Gehlbach et al., 2008; Gehlbach et al., 2012). In their meta-analysis of the intergroup contact theory literature, Pettigrew & Tropp (2008) analyzed the effect whereby intergroup contact decreases prejudice towards outgroups with mediation by perspective taking. It would appear that contact reduces prejudice towards outgroup members by allowing individuals to replace negative misconceptions with new insights gleaned by putting themselves in the shoes of the outgroup member.

Understanding the perspective of an outgroup member, sometimes called cognitive empathy (Davis, 1994), is associated with holding more positive attitudes towards that outgroup. Having contact with outgroups tends to improve one’s ability to take the perspective of outgroup members, which in turn influences attitudes held about that outgroup. However, this is not the only benefit of such contact. With mediation by perspective taking, contact with outgroup members can also help decrease the anxiety associated with interacting with outgroup members. Such anxiety can be indicative of holding less positive attitudes towards outgroups (Aberson & Haag, 2007), and is the focus of the following section.

**Anxiety as Intercultural Communication Apprehension**

Anxiety associated with intergroup interactions can inhibit the quality of those interactions, not just due to its association with prejudiced attitudes (Britt, Boniecki, Vescio, Biernat, & Brown, 1996), but in other ways, such as when there is anxiety about communicating. Good communication
is a cornerstone of successful interactions, and anxiety about communicating across groups can compromise those interactions. Communication apprehension has been linked to various constructs relevant to intergroup contact, such as communication satisfaction (Neuliep, 2012), willingness to communicate (Lin & Rancer, 2003), and ethnocentrism (Corrigan, Penington, & McCroskey, 2006).

McCroskey, Beatty, Kearney, and Plax (1985) investigated anxiety about various forms of communication, including fear of public speaking, apprehension about speaking up during group meetings, and communicating one on one. More recently this line of research has moved into exploring the anxiety associated with intercultural communication (Hu & Fan, 2011; Neuliep & McCroskey, 1997). The present study will focus on anxiety about communicating with people from different cultural groups as an additional way of exploring anxiety’s mediation of the intergroup contact effect.

Cross-cultural communications are just as susceptible to the negative effects of anxieties about communicating as intracultural communications (Gudykunst & Kim, 1997; Stephan & Stephan, 1985), but there is a great disparity in the amount research done on each. Specifically, there is a substantial body of empirical research on intracultural communication apprehension (McCroskey, 2009), but much less empirical attention has been paid to intercultural communication apprehension. For example, the Personal Report of Communication Apprehension is a repeatedly validated measure of general communication apprehension (McCroskey et al., 1985). It consists of four subscales that assess communication apprehension as it may occur when speaking in a group, speaking at a meeting, speaking in a dyad with a single partner, or speaking in public. The total score across all four subscales is meant to predict generalized communication apprehension, but like many other measures it was developed using culturally homogenous samples and does not address communication with people from different cultures (McCroskey et al., 1985). While Pederson, Tkachuk, and Allen (2008) did assess the communication apprehension of participants from different cultures, as part of their investigation of the relationship between the perceived frequency and importance of communication and communication apprehension, they still only assessed participants’ communication apprehension as it occurred within their own cultures.

Noting the absence of research on intergroup communication apprehension, Neuliep and McCroskey (1997) developed two scales for assessing this, the Personal Report of Intercultural Communication Apprehension (PRICA) and the Personal Report of Intereuthnic Communication Apprehension (PRECA). Anxiety that is specifically related to communication with someone from a different culture, intercultural communication apprehension, is measured by the PRICA.

Situations that contain novelty, unfamiliarity, dissimilarity, or uncertainty can lead to anxiety about communicating within that situation (Neuliep & McCroskey, 1997) and intercultural interactions are rife with such uncertainties (Neuliep & Ryan, 1998). Intercultural communication apprehension has been found to inhibit uncertainty reduction during intercultural interactions (Neuliep, 2012; Neuliep & McCroskey, 1997), has been shown to decrease the motivation to interact with others from different cultures (Lin & Rancer, 2003), is moderately correlated with ethnocentrism, homonegativity, and intolerance of religious differences (Wrench, Corrigan, McCroskey, & Punyanunt-Carter, 2006), and is an obstacle to effective intercultural communication, communication satisfaction, and cultural adaptation (Neuliep, 2012). All of these findings together suggest that this concept is especially relevant to intergroup contact research specifically and intercultural communication research generally.
Personality

In addition to exploring how intergroup contact effects are mediated by anxiety and perspective taking, the role of personality should also be addressed. Whereas the Five Factor Model (described below) is not implemented as often as other theories of personality by intergroup contact researchers, it has had some application in this realm, as well as within the realm of intercultural relations research. Extraversion and openness to experience were found to have a significant, positive effect on the intercultural social self-efficacy of Vietnamese students studying in Australia (Mak & Tran, 2001). In an investigation of cultural intelligence of undergraduates at three different universities in the United Kingdom, openness and agreeableness were both found to have a positive influence on cultural intelligence, as well as a negative association with ethnocentrism (Harrison, 2012). These examples suggest that applying the Five Factor Model of personality to intergroup contact might be a fruitful research avenue, but has so far not been as prolific as research using other personality constructs, discussed briefly below.

A more common approach has been using personality constructs that directly address individual differences in dispositions related to intergroup interaction. Sidanius & Pratto’s (1999) social dominance orientation theory is meant to explain how individuals tend to perceive their ingroup in relation to outgroups, with people high on this trait believing their ingroup should be superior to outgroups and dominate them. Social dominance orientation (SDO) has been correlated with anti-black racism, cultural elitism, and political-economic conservatism (Pratto, Sidanius, Stallworth, & Malle, 1994), as well as prejudice against foreigners (Asbrock, Christ, Duckitt, & Sibley, 2012). Another commonly employed personality construct is Altemeyer’s (1981) right-wing authoritarianism (RWA). The association between prejudiced attitudes and an authoritarian personality was noted decades ago by Allport (1954). In Altemeyer’s conception, RWA is the extent to which an individual gives deference to authority and aggresses towards outgroups when authority supports such behavior, and like SDO, tends to be associated with prejudice and discrimination (Liebkind, Haaramo, & Jasinskaja-Lahti, 2000; Whitley, Jr., 1999).

These factors have received their fair share of attention, but are certainly not the only way to conceptualize the influence of stable intrapersonal traits on the effects of intergroup contact. One personality model that has enjoyed wide spread application, the Five Factor Model, offers an alternative framework for understanding the contact effect. The Five Factor Model consists of neuroticism, extraversion, openness, agreeableness, and conscientiousness (John, Naumann, & Soto, 2008; McCrae & Costa, 1987) and has been used only sparsely in the intergroup contact literature. Factors that have been examined within the intergroup contact context include openness (Yashima, 2010) and extraversion (Hewstone, Judd, & Sharp, 2011), with both being weakly associated with more positive intergroup contact outcomes. However, the factors of neuroticism, agreeableness, and conscientiousness should be examined more within intergroup contact situations.

Hypotheses

The present research strives to advance our current understanding of the intergroup contact effect by examining the influence of intergroup contact on intergroup anxiety and perspective taking. Given the evidence that anxiety and perspective taking exert influence on contact effects in the form of more positive attitudes about outgroups (Pettigrew & Tropp, 2008), this study examined how these factors might change over time as the result of such contact. Specifically, students taking a university course that promotes intercultural interactions were expected to show decreased levels of intercultural communication apprehension and increased perspective taking over the course of the semester. Previous research has shown a negative correlation between intercultural communication apprehension and the amount of contact participants had with people from
different countries and of different races (Neuliep & McCrosky, 1997). Based on these findings, along with those of Pettigrew and Tropp’s (2008) meta-analysis, the recurring intercultural contact which students experience as part of the intercultural contact course was expected to assuage their anxieties about interacting and communicating with students from different cultures and to increase their tendency to put themselves in their interaction partner’s shoes.

**Hypothesis 1:** Intercultural contact will lead to a decrease in intercultural communication apprehension.

**Hypothesis 2:** Intercultural contact will lead to an increase in perspective taking.

The second component of this study explored how different personality traits influence intercultural communication apprehension and perspective taking by examining a path model that incorporates all of these factors to predict participants’ desire to interact with people from different cultures. Past research has linked both openness and agreeableness to more favorable intergroup attitudes (Flynn, 2005; Jackson & Poulsen, 2005). As noted above, perspective taking is associated with better conflict resolution skills, and so should also be associated with agreeableness. Similarly, since one part of the openness trait is enjoying novelty (McCrae, 1994), perspective taking may be one method by which more open individuals try to access new things, by making an effort to understand how someone different from themselves perceives things.

**Hypothesis 3:** Openness and agreeableness will be positively associated with perspective taking.

One potential source of anxiety in the form of intercultural communication apprehensions is the fear of a verbal conflict (Stephan & Stephan, 1985). Since agreeable people tend to experience fewer conflicts, they should also experience less anxiety about the potential of conflicts with outgroups. The opposite effect would be expected for individuals who get apprehensive about communicating one on one, since they would probably have more fear of potential verbal conflict when interacting with an outgroup member.

**Hypothesis 4:** Agreeableness and dyadic communication apprehension will have positive and negative associations with intercultural communication apprehension, respectively.

Previous work on individual differences in communication traits found that neurotic introverts demonstrated high levels of general communication apprehension (McCroskey, Heisel, & Richmond, 2001). It follows that shyer individuals predisposed to having more frequent negative emotions will tend to feel anxious about communicating in one on one interactions.

**Hypothesis 5:** Extraversion and neuroticism will have negative and positive associations with dyadic communication apprehension, respectively.

**Methods**

**Participants**

Participants were a convenience sample of 259 undergraduate students at a university in the southeastern United States. Most participants were women (77.2% female, 22.8% male). The sample was 67.6% Caucasian, 22.4% African American, 6.6% Asian, with 4.6% of participants identifying as Hispanic or Latino, with a mean age of 19.3 years, ranging from 17 to 35. The majority of participants were first year students, 52.5%, with 19.3% second year, 10.4% third year, 15.4% fourth year, and 2.3% in their fifth year of study or more. All participants received course credit for participation in the study.
Measures

Participants completed two online questionnaires containing self-report measures of perspective taking and anxiety. Perspective taking was measured using Gehlbach et al.’s (2008) Social Perspective Taking motivation measure, along with the Perspective Taking subscale of Davis’ (1980, 1983) Interpersonal Reactivity Index (IRI). The IRI consists of four subscales: Fantasy, Empathic Concern, Personal Distress, and Perspective Taking. The Fantasy subscale indicates the tendency to strongly identify with fictitious characters. The Empathic Concern subscale assesses the extent to which one experiences compassion for someone else going through a negative experience. The Personal Distress subscale indicates how much discomfort and anxiety one feels when seeing the negative experiences of others. The Perspective Taking subscale assesses the tendency to adopt the point of view of others. These four subscales of the IRI each have seven items and use a 5-point response scale running from 1 “does not describe me well” to 5 “describes me very well.” The Perspective Taking subscale of the IRI was revised by Gehlbach et al. (2008) to specifically measure social perspective taking motivation. The 7-item social perspective taking motivation measure, which uses a 5-point response scale running from 1 “almost never” to 5 “almost all the time”, is a self-report of the frequency with which respondents attempt to take the perspective of others, and can be understood as a measure of one’s dispositional motivation to engage in the perspective taking process. Previous research using the social perspective taking measure indicated good internal reliability, Cronbach’s $\alpha = .88$ (Gehlbach et al., 2008). In the present study, the perspective taking subscale of the IRI had fair internal consistency, Cronbach’s $\alpha = .75$ and .76 for pre and post course, respectively. The social perspective taking measure also had good internal consistency, Cronbach’s alpha = .87 and .90 for pre and post course, respectively.

General communication apprehension was measured using McCroskey et al.’s (1985) 24-item Personal Report of Communication Apprehension (PRCA). This measure includes the dyadic communication apprehension subscale, which had excellent internal consistency at both times of administration in the present study, with $\alpha = .90$. To specifically tap intercultural communication apprehension, the Personal Report of Intercultural Communication Apprehension (PRICA), based on the PRCA and developed by Neuliep & McCroskey (1997), was also used. The PRICA is a 14-item self-report measure and respondents reply using a 5-point Likert scale running from 1 “strongly disagree” to 5 “strongly agree.” Previous work with this measure has reported internal reliabilities ranging from .91 to .94 (Neuliep & McCroskey, 1997; Neuliep & Ryan, 1998). In the current study, the intercultural communication apprehension measure demonstrated excellent internal consistency, $\alpha = .95$ for both pre and post administration.

Personality was measured using the 44-item Big Five Inventory (John, Donahue, & Kentle, 1991; John et al., 2008). Participants used a 5-point Likert scale running from 1 “disagree strongly” to 5 “agree strongly” to indicate the extent to which they agree or disagree with statements such as “I am someone who is talkative” or “I am someone who does things efficiently.” In the current study, each of the five subscales demonstrated acceptable internal consistency with $\alpha$ of .89 and .87 for extraversion, .75 and .80 for agreeableness, .77 and .76 for conscientiousness, .82 and .80 for neuroticism, and .78 and .79 for openness, for pre and post course administrations, respectively.

Attitudes about intercultural interactions and the desire to have such interactions were measured using an unpublished seven item scale developed specifically for the assessment of student experiences in a university course dedicated to intercultural collaboration called Global Understanding (discussed below). Participants used a 5-point Likert scale running from 1 “disagree strongly” to 5 “agree strongly” to indicate the extent to which they agree or disagree with statements such as “I am interested in learning more about other countries and cultures” or “I would be comfortable having a roommate from a foreign country” (see Appendix A). In the current study
the scale demonstrated fair internal consistency with $\alpha$ of .74 and .73 for pre and post course administrations, respectively.

**Procedure**

Participants were strategically placed in one of three mutually exclusive groups. The first group consisted of participants that experienced intercultural contact situations over the course of a semester ($n = 57$). The second group of participants was predominately first-year students enrolled in an introductory psychology lecture course and not receiving the intercultural contact experience ($n = 156$). The third group consisted of students taking upper-level psychology courses, also not receiving the intercultural contact experience ($n = 33$).

Participants that experienced intercultural interactions did so via an elective course called Global Understanding. The Global Understanding course is implemented via an international network of instructors at partnered universities around the globe, a collaboration called Global Partners in Education. These partners collaborate in teaching courses dedicated to connecting students with peers from other countries and cultures. This is done via internet-based communication technologies, such as online video conferencing, instant messaging platforms, and email, which allow students to learn directly from one another about their respective countries and cultures.

During the semester a Global Understanding class will hold a series of five to seven links with three partner institutions, one at a time, using video conferencing, instant messaging, etc., for a few weeks. Each class day in a linking series was dedicated to exploring a topic that is relevant to learning about cultural similarities and differences, starting with a discussion and comparison of student life at each institution and within the respective culture, and moving on to topics requiring more nuanced discussion, like religion and cultural interpretations of the meaning of life. Each day in class, half of the students took part in a group level discussion of the day’s topic via video conference while the other half discusses the topic with their assigned partners via instant messaging on a personal computer. During a linking series, each student in the class was partnered with one or more students from the other institution. Students were encouraged to communicate with their partners outside of class time by whatever means they chose, including email and social networking websites. After finishing a linking series with one partner class, the process is repeated with a new partner class at a different institution. In this way students were presumed to gain international and intercultural experience without the expenses associated with a traditional study abroad program, also gaining exposure to cultures in countries not typically visited by students studying abroad, like Algeria (Chia, Poe, & Yang, 2011; Eppler & Cavanaugh, 2012). Previous research has shown this course to significantly increase students’ desire to interact with culturally different others and to decrease xenophobia (Chia et al., 2009).

A pretest-posttest design was used for this study. For the pretest, all participants completed all measures in the form of an online questionnaire. This was done in a classroom setting, prior to any linking sessions, in order to obtain baseline measurements. This procedure was repeated for the posttest portion of the study at the end of the semester, with participants in the intercultural contact condition completing the measures only after they had concluded their linking sessions. The measures were also re-administered to both comparison groups at the end of the semester.

**Data Analyses**

The hypothesized path model was tested using Mplus software to assess the model’s fit to the data. The dependent variables were desire to interact with internationals, perspective taking,
intercultural communication apprehension, and dyadic communication apprehension. The independent variables were openness, agreeableness, extraversion, and neuroticism. Sequential multiple regressions were conducted for each step in the model to obtain path estimates, standard errors, t-values, and probability values for each path. The sequential multiple regressions were: 1) Desire to interact with internationals predicted by intercultural communication apprehension and perspective taking, 2) perspective taking predicted by openness and agreeableness, 3) intercultural communication apprehension predicted by agreeableness and dyadic communication apprehension, and 4) dyadic communication apprehension predicted by extraversion and neuroticism (see Figure 1, Appendix B).

Explained variance and residual variance statistics were calculated for the dependent variables in the model, as well as indices of fit of the model to the data. The indices of fit used to assess the model included the chi-square “goodness of fit” test, Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), Comparative Fit Index (CFI), and Tucker Lewis Index (TLI). Hu and Bentler’s (1998) suggested criteria for acceptable fit index values (RMSEA < 0.06, SRMR < 0.08, CFI & TLI > 0.90) were used to evaluate overall model fit to the data.

Results

Initial scores for intercultural communication apprehension and social perspective taking were compared between groups to determine if groups were comparable on those constructs at the beginning of the study (see Table 1 for means). After confirming homogeneity of variance between groups, a one-way analysis of variance was employed. The groups were not significantly different on initial levels of intercultural communication apprehension or social perspective taking, $F(2, 238) = 2.04, p = .13$ and $F(2, 241) = 1.81, p = .17$, respectively. Groups were also comparable in levels of dyadic communication apprehension, $F(2, 239) = 1.25, p = .29$, extraversion, $F(2, 242) = 1.27, p = .28$, and agreeableness, $F(2, 242) = .42, p = .66$. There were statistically significant differences between the groups for baseline levels on the IRI perspective taking subscale, $F(2, 241) = 6.12, p = .003$, neuroticism, $F(2, 242) = 3.99 p = .02$, and openness, $F(2, 242) = 3.56, p = .03$. These significant differences were due to the sample of introductory psychology course students having lower IRI perspective taking, higher neuroticism, and lower openness, compared to the other two groups. The intro psychology course students also had slightly less interest in interacting with internationals at baseline compared to the other two groups, $F(2, 222) = 5.23, p = .006$.

Table 1. Pre and Post Test Means and Standard Deviations

<table>
<thead>
<tr>
<th>Condition</th>
<th>PT</th>
<th>ICA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
</tr>
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<td>Global Understanding</td>
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<td>3.40 (.69)</td>
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<td>Intro Psychology</td>
<td>3.26 (.76)</td>
<td>3.24 (.72)</td>
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<tr>
<td>Capstone Psychology</td>
<td>3.53 (.61)</td>
<td>3.63 (.62)</td>
</tr>
</tbody>
</table>

Note. PT = perspective taking, ICA = intercultural communication apprehension
To test for changes from pretest to posttest, change scores for intercultural communication apprehension for each participant were calculated as the difference between their intercultural communication apprehension score at the beginning of the semester and their intercultural communication apprehension score at the end. A lack of homogeneity of variance between the three groups for intercultural communication apprehension change scores suggested using the Kruskal-Wallis ANOVA to compare groups. There was no significant difference in intercultural communication apprehension change scores between the groups, $\chi^2(2, 236) = .470, p = .79$, suggesting no main effect of participating in the Global Understanding course on intercultural communication apprehension.

Change scores for social perspective taking were calculated as the difference between participants' social perspective taking score at the end of the semester and their social perspective taking score at the beginning of the semester such that change scores greater than zero indicate an increase in social perspective taking. Given the lack of homogeneity of variance between groups on this variable, Kruskal-Wallis ANOVA was used to compare the groups. There was no meaningful difference in change scores for social perspective taking between groups, $\chi^2(2, 242) = 2.50, p = .286$.

After testing the first two hypotheses, hypotheses three, four, and five were tested by examining zero-order correlations, standardized parameter estimates (i.e., path coefficients), standard errors, and $t$ statistics for each of the hypothesized effects. Explained variance (i.e., $R^2$) for the dependent variables were also examined (see Appendix B, Tables 2 and 3).

Perspective taking had a significant relationship with openness ($\beta = .24, t = 4.36, p < .001$) and agreeableness ($\beta = .43, t = 8.31, p < .001$), supporting Hypothesis 3, that openness and agreeableness would predict perspective taking. Together these two personality factors accounted for 29 percent of the variance in perspective taking.

Intercultural communication apprehension had a significant negative relationship with agreeableness ($\beta = -.15, t = 2.73, p = .006$) and a significant positive relationship with dyadic communication apprehension ($\beta = .56, t = 12.50, p < .001$), supporting Hypothesis 4. Dyadic communication apprehension and agreeableness together accounted for 36 percent of the observed variance in intercultural communication apprehension.

Hypothesis 5 was supported by a significant negative relationship between dyadic communication apprehension and extraversion ($\beta = -.46, t = 9.65, p < .001$) and a significant, positive relationship between dyadic communication apprehension and neuroticism ($\beta = .39, t = 7.84, p < .001$). Neuroticism and extraversion together accounted for 49 percent of the variance in dyadic communication apprehension.

Overall, model fit indices suggested the data fit the model well, ($CFI = .970$, $RMSEA = .062$, 90% CI for $RMSEA = .021$ to .098, $SRMR = .039$), explaining a quarter of the variance in participants’ desire to interact with people from different countries and cultures, $R^2 = .244$ (see Figure 1).

Figure 1. Path model predicting Desire to Interact from measures of communication apprehension, perspective taking, personality factors. All path weights significant, $p < .05$. 

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Intercultural Contact, Communication Apprehension, and Social Perspective Taking 13
Discussion

After a semester of internet-facilitated interactions with students from all over the globe, what can be said about the effects of these interactions on American students’ apprehension and perspective taking? From the beginning of the semester to the end, decreased communication anxiety and increased perspective taking resulting from exposure to and interaction with international peers were not observed. Additionally, participants’ desire to interact with internationals also remained unchanged, regardless of experiencing intercultural contact. These results seem to fly in the face of intergroup contact research implicating contact as a strategy for improving attitudes by increasing perspective taking and decreasing anxiety (Pettigrew & Tropp, 2008). Two potential explanations for the lack of change in these outcome variables present themselves. The first explanation might be that intercultural communication apprehension and perspective taking should be understood as stable traits and not dynamic states. The second explanation is that the necessary preconditions for intergroup contact to be effective were not sufficiently met. Each of these potential explanations are explored further below.

The first explanation of these results might be that these constructs are not psychological states that can be easily modified, but instead are stable psychological traits that should not be expected to change over a single semester. In this view, perspective taking and intercultural communication apprehension are immutable intrapersonal traits that may serve to moderate the relationship between other psychological factors, but are not themselves influenced by those factors. This explanation is dubious and easily undercut by contrary evidence showing that it is possible to experimentally manipulate these factors within an individual. Gehlbach presents evidence for the malleability of perspective taking in his work on the role of this factor in schools (Gehlbach et al., 2008; Gehlbach et al., 2011; but see also Gehlbach, Young, et al., 2012). Pettigrew, Tropp, Wagner, and Christ (2011) present meta-analytic evidence that intergroup anxiety actually changes as a result of intergroup contact, as opposed to such anxiety simply being associated with less contact experience. However, when considering intercultural communication apprehension, used in the present study as an indication of intergroup anxiety, there is less evidence for its malleability. While McCroskey (2009) maintains that communication apprehension can be changed
via instruction, longitudinal research on intercultural communication apprehension does not corroborate this (Corrigan et al., 2006). Future work should focus on using longitudinal methods to determine the potential for change in intercultural communication apprehension over time.

The second explanation for the lack of change in outcome variables after contact focuses on the contact itself. If the preconditions of equal status, common goals, cooperation, sanction by authority, and a quantity and quality of contact sufficient for friendship formation were not met, then it would not be surprising if those mediators associated with the intergroup contact effect were not influenced. The first precondition stipulates equal status between interactants. On the face of it, the Global Understanding course experience implies equal status between the students involved. Before contact occurs, students learn that they will be connecting with students at other universities, and so students come into the experience expecting to interact with people similar to themselves, other college students, as opposed to older working professionals or completely uneducated young people. During the interactions, students are given equal opportunities to engage one another with questions and answers. While these conditions are supposed to be the standard for all of the interactions during the course, in reality there is great variability across sections of the course, and so there is room to argue that the perception of equal status may not have occurred. For example, given that most students in the sample were native English speakers interacting with non-native English speakers, the difference in language skills could have lead our native English speaking participants to view their partners less positively (Lindemann, 2002), with these less positive views in turn leading to a perception of differential status. This limitation is treated further below.

The next conditions to consider would be if there was a shared goal, and if participants worked cooperatively with their partners toward that goal. One of the standard components of the course is a collaborative project that students must complete with the help of their linking partner as part of their final grade. The collaborative project gives students a goal to work towards alongside their international partners during the course of their links. Ideally, partners are communicating with each other repeatedly while they work on their project, such that the final product represents collaboration with equal effort from each partner. Unfortunately there are various reasons why some students do not complete the project. Some students do not maintain communication with their partner outside of class time, either due to their partner’s lack of readily available internet access (not uncommon for partners in lesser developed countries), the participant’s disliking of that particular partner, a lack of motivation to complete coursework, or some combination of the three. Additionally, if the student’s instructor fails to emphasize the collaborative project, then even students who would be willing and able to do it may not. Each of these factors tend to vary across the many sections of GU classes being taught in a given semester and so the precondition of a shared goal, along with that of cooperative effort towards said goal, no doubt varied greatly in the degree to which it was satisfied for each participants in the present study.

The next precondition to consider is the perception of sanction by authority or society. Implementing the Global Understanding course requires a nontrivial amount of resources (time, technology, travel) and cannot be achieved without the sustained administrative support of host institutions (Chia, Poe, & Singh, 2008). The schools that participate work hard before, during, and after the course to ensure their students the opportunity to take part. All this makes it hard to imagine that students would view their interactions with partners as happening outside the sanction of authority or society. As such, the precondition of authoritative sanction seems to have been met.

At this point, Allport’s (1954) initial four preconditions for beneficial intergroup contact as they pertain to the present study have been discussed, with each being satisfied to various degrees. This leaves us to consider the additional precondition described by Pettigrew (1998) that contact
be of a sufficient quantity and quality as to allow for participants to become friends with their partners. As alluded to above, there was potential for great variability not only in how much contact participants may have actually had with their partners, but also in the quality of that contact. Ideally, participants spoke with their partner in a group video conference setting once a week for an hour, chatted via an instant messaging platform, one on one, once a week for an hour, in addition to emails or other regular communications when not in class. However, a participant exerting the minimal effort required in class may have had contact with a single partner for a mere six hours, excluding email contact, during their connection period (and providing that student along with their partner never missed a day of class). After the connection period, participants were not obligated to stay in contact with their partners, though some do (Eppler & Cavanaugh, 2012). Therefore, some participants may have had additional contact with partners, beyond the contact required for class, while other participants did not. Participants had connections with up to three different partners over the course of the semester (provided their partner’s institution was not experiencing technical problems or otherwise being unable to establish links during class), potentially amounting to eighteen total hours of intercultural contact. Hopefully, participants had additional contact with their partners outside of class time, either via email, social networking websites, or additional instant messaging sessions, in the interest of completing their collaborative projects. Some participants undoubtedly had significantly less contact than others for numerous reasons, such as technology problems occurring during linking sessions, partner absences from class, etc. Since there was no way to verify the amount or quality of contact each participant actually had, it is difficult to refute the explanation that the intergroup contact participants experienced was not of the sort that leads to beneficial contact effects.

This study also examined the influence of Big Five personality factors on two known mediators of the intergroup contact effect, perspective taking and anxiety. In the model, agreeableness and openness predicted perspective taking, with agreeableness having a slightly greater influence on perspective taking than openness. In addition to being associated with more positive attitudes towards outgroups, these personality traits also predict having higher quality intergroup contact experiences (Flynn, 2005; Jackson & Poulsen, 2005). The present model would suggest the relationship between agreeableness, openness, positive outgroup attitudes, and favorable contact experiences is mediated by perspective taking. An individual high on these personality traits should be expected to get along well with someone unfamiliar and different from themselves by virtue of being more prone to cooperate generally and not being opposed to novel experiences, but especially when practicing perspective taking.

The other part of the model explains how extraversion and neuroticism, along with agreeableness, influence intergroup anxiety, measured as the amount of anxiety experienced when communicating across cultural boundaries. This explanation is twofold. First, extraversion and neuroticism were found to have positive and negative influences on dyadic communication apprehension, respectively, such that highly introverted and neurotic participants tended to experience more anxiety when communicating one on one. These findings replicate the results of other studies where neurotic introverts demonstrated higher levels of general communication apprehension (McCroskey et al., 2001). In the next step of the model, dyadic communication apprehension and agreeableness exert opposite influences on intercultural communication apprehension. The association between dyadic communication apprehension and intercultural communication apprehension is simple enough to explain in and of itself since both can be thought of as different flavors of one overarching psychological disposition, the general tendency to feel anxious about communicating. The negative influence of agreeableness on intercultural communication apprehension is less obvious. One explanation could be that people who are more agreeable tend to seek cooperative and harmonious relations with others, and so feel more positive about communicating across
cultures as a potential way to engendering peaceful and cooperative intercultural relationships.

Taken together, these paths elucidate how personality factors can influence two key mediators of the intergroup contact effect. As discussed in the first part of this paper, previous research has already shown that those who will benefit from intergroup contact experiences will be those who do not tend to get anxious about such experiences and who also try to consider what the other person is thinking and feeling during the interaction (Pettigrew & Tropp, 2008). This study goes a step further by indicating in terms of personality the sort of person who is likely to do the things that make intergroup interactions beneficial. Specifically this person will tend to be an emotionally stable, open, and agreeable extrovert. People of this sort will be more likely to enjoy improved attitudes towards an outgroup as the result of interacting with a member of that group. However, another question (beyond the scope of the present research) is, would the person matching this personality profile be in need of contact experiences in order to decrease prejudices, or might these folks be less biased in the first place?

Implications

This study has implications not just for the research literature, but also for educators focused on setting up their pupils for future success in our increasingly interconnected world. Fostering multicultural competence and promoting appreciation for human diversity by giving students firsthand experience with peers unlike themselves may seem like a simple formula for achieving that future success, but there are more variables involved than meet the eye. Decreasing student prejudice via intergroup contact can also aid in accomplishing the educator’s superordinate goal, but steps must be taken to ensure that contact really will be beneficial, such as satisfying the preconditions for beneficial contact and encouraging ongoing interaction after the initial contact. By taking these steps educators are more likely to influence how their students tend to feel about outgroups, which in turn serves to better prepare those same students to live and work in our increasingly multicultural world. These teachers can best serve their students by setting them up for success in their intercultural interactions instead of thrusting unprepared pupils into a sink or swim scenario that could actually lead to maintaining or even increasing their prejudice against outgroups (Amir, 1969).

This study also has implications for businesses preparing to expand their operations across national borders and cultural divides. When prejudiced attitudes can inhibit collaboration across cultures, it would be beneficial to identify personnel with the sort of disposition associated with developing positive attitudes as the result of contact. This would be especially true if no one in the organization has previous intercultural experience. By considering the personality traits associated with perspective taking and intercultural communication apprehension, the organization can identify those individuals mostly likely to succeed in the requisite cross-cultural interactions, which in turn allows that business to put their best foot forward, as it were. The other side of this same coin would be identifying the individuals that stand to gain the most benefit from multicultural contact experiences. Those who tend to hold more negative attitudes towards people from different countries and cultures, along with those who exhibit higher levels of intergroup anxiety and lower levels of perspective taking are likely to see greater improvements as the result of intergroup contact when compared to less prejudiced folks who do a lot of perspective taking and exhibit lower levels of intergroup anxiety.
Limitations and Future Directions

The most blatant limitation to the current study was the probable inconsistency in both contact quantity and contact quality across participants in the contact condition. If the contact that participants received was not of sufficient quantity or quality, the lack of expected effects on perspective taking and anxiety is understandable. Basically the study lacked a viable manipulation check of the contact condition. If the current study were to be replicated, future researchers would be wise to include indicators of contact quality, such as measures of perceived status relative to interaction partners, and contact quantity, such as self-reports of how often and for how long interaction partners interacted.

Future research on courses with this same sort of international focus should emphasize maintaining adequate and consistent contact quality and quantity. The quantity and quality of intergroup contact both influence the psychological outcomes experienced by participants, but it is the quality of that contact that matters most. Jackson and Poulsen (2005) found contact quality and quantity to predict White participants’ attitudes about Black people, with the quality of their contact experiences being stronger predictors of attitude than the quantity. In an earlier study, researchers found similar results when investigating the effect of contact between Hindu participants and Muslim participants on intergroup anxiety, with quality of contact having a greater effect than quantity of contact in predicting anxiety (Islam & Hewstone, 1993). Aberson & Haag (2007) observed the same pattern of greater intergroup anxiety reduction for White participants through contact quality as opposed to contact quantity with Black people. These findings lend credence to the hypothesis that intergroup contact is most beneficial when it is of a quality likely to lead to the formation of positive affective ties in the form of friendships (Swart, Hewstone, Christ, & Vocit, 2011; Turner, Hewstone, Voci, & Vonofakou, 2008).

Given the aforementioned research suggesting the relevance of intergroup friendships for contact effects to be observed, knowing whether or not Global Understanding participants got along with their partner, if there was animosity between them, or how close they felt to their partner, will allow a more nuanced evaluation of the effects this sort of intergroup contact can have. In the past, some students gave anecdotal evidence of becoming good friends with their GU partners and staying in touch with them even after the course was over, while others express no such affinity and can even be heard complaining about having to work with their partner during in-class linking sessions. Future research could benefit by directly assessing whether or not necessary preconditions for optimal contact were met. This could be accomplished using a questionnaire that explicitly asks participants to self-report if they felt they were equal to their partners, the extent to which they actually worked collaboratively with their partners on their class projects, if they felt their interactions would be approved of by society at large, and if they believe they will become friends with their partners as a result of taking the course. This information would allow future researchers to directly address the issue of whether contact was of sufficient quality and quantity.

In addition to these limitations, it is worth reiterating that this study was also limited by its use of convenience sampling. Participants were not randomly assigned to receive intercultural contact or not, but instead students that voluntarily enrolled in the Global Understanding course were compared to students who had not enrolled. Given this self-selection into the various groups, the generalizations that can be made based on the results of the study are limited.
Conclusion

This study sought to contribute to the diversity in education literature as well as the intergroup relations literature by exploring the intergroup contact hypothesis as it relates to contact with various dissimilar groups, i.e. different nationalities, different cultural backgrounds, etc., as opposed to contact with a single specific outgroup, in the context of a college course. The results suggest that having a plethora of contact experiences with numerous diverse others may not lead to positive attitudes towards outgroups generally in the same way that prolonged contact with a specific group member can lead to more positive attitudes towards that group. This is largely due to the necessity of high quality contact for attitudes to be influenced, as opposed to a large quantity of superficial contact. Prejudice is decreased through communication and perspective taking, which in turn are influenced by individual differences in personality traits. By identifying relevant traits and optimizing contact conditions, it is possible to select the individuals most likely to benefit from interactions and to also ensure that the interactions themselves will be beneficial.

References


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Appendix A: Measures

Desire to Interact with Internationals
1 “strongly disagree” to 5 “strongly agree”
(-): Item is reverse scored

1. I am interested in learning more about other countries and cultures.
2. Most of my friends come from a background similar to my own. (-)
3. I enjoy making friends with people who are different from me.
4. It is difficult for me to feel close to people who have a different religion from mine. (-)
5. One negative effect of interacting with people from different cultures is that it will cause me to question my own values and beliefs. (-)
6. I would be comfortable having a roommate from a foreign country.
7. I feel comfortable traveling to places outside my own country.
### Appendix B: Figures and Tables

#### Table 1. Pre and Post Test Means and Standard Deviations

<table>
<thead>
<tr>
<th>Condition</th>
<th>PT Pre</th>
<th>PT Post</th>
<th>ICA Pre</th>
<th>ICA Post</th>
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</thead>
<tbody>
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<td>Global Understanding</td>
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<td>3.40 (.69)</td>
<td>2.18 (.62)</td>
<td>2.34 (.64)</td>
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<td>3.24 (.72)</td>
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<td>1.97 (.57)</td>
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*Note. PT = perspective taking, ICA = intercultural communication apprehension*

#### Table 2. Means, Standard Deviations, and Zero-Order Correlations of Variables in the Path Analysis

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*Note. PT = perspective taking; DCA = dyad communication apprehension; ICA = intercultural communication apprehension; DI = desire to interact with internationals; Ext = extraversion; Ag = agreeableness; Neu = neuroticism; Op = openness. * p < .05 ** p < .01
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<td>0.052</td>
<td>8.31***</td>
<td></td>
</tr>
<tr>
<td>on Op</td>
<td>0.24</td>
<td>0.056</td>
<td>4.36***</td>
<td></td>
</tr>
</tbody>
</table>

*Note. PT = perspective taking; DCA = dyad communication apprehension; ICA = intercultural communication apprehension; DI = desire to interact with internationals; Ext = extraversion; Ag = agreeableness; Neu = neuroticism; Op = openness* p < .05 ** p < .01 *** p < .001