Longitudinal Intergroup Contact Model Comparison at the Multicultural High School United World College Red Cross Nordic

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Abstract

The United World College Red Cross Nordic (RCN) is a unique high school: 200 students representing roughly ninety countries pursue the two-year International Baccalaureate degree in an environment characterized by diversity, multicultural learning, intergroup cooperation, and peace education. The boarding school's mission is to "make education a force to unite people, nations and cultures for peace and a sustainable future," but to date, no formal assessments have evaluated the effectiveness of the multicultural peace education program on students' decreased outgroup bias and prejudice. This longitudinal field study sought to evaluate RCN's multicultural peace education program by assessing changes in students' intergroup bias (negative outgroup emotions, desire for social distance, and generalized ethnocentrism).

Three established social-psychological models of intergroup contact (the contact hypothesis, the intergroup contact model, and the common ingroup identity model) were compared and contrasted with data-driven linear mixed-effects built on the models' contact conditions to determine whether a theoretical or data-driven model was the best fit for the current sample. The contact hypothesis specifies five contact conditions: equal status, common goals, intergroup cooperation, institutional support, and acquaintance potential. The intergroup contact model uses the five contact hypothesis conditions as a foundation, and adds that intergroup salience is important in intergroup contact situations. The common ingroup identity model specifies a common ingroup identified with by all participants in intergroup contact as the facilitator for success.

A balanced panel design was established to survey students four times over their two years at RCN: within the first week of the first year, within the last week of the first

year, within the first week of the second year, and within the last week of the second year. 272 students representing 96 countries participated in at least one of the four survey collections. Twenty-eight students, representing either peaceful or conflicted countries, were interviewed at the beginning and at the end of their RCN education. The third, and cross-sectional, sample upon which the analyses herein rest was of 256 United World College (UWC) alumni, representing 77 countries and ten UWCs.

By Time 4, students reported spending less time each week on their extra-academic commitments, but reported no change in the hours spent with friends. Perceptions of the presence of facilitating contact conditions and students' self-reported intergroup anxiety decreased from Time 1 to Time 2, increased from Time 2 to Time 3, and decreased again from Time 3 to Time 4 (the total change over time was significant).

Students reported non-significant decreases in negative outgroup emotions, desire for social distance, and generalized ethnocentrism. Data-driven intergroup contact models were the consistent best fit for the data, for all three measures of intergroup bias. The particular covariates differed for the three: for negative outgroup emotions the covariates included equal status, common goals, and intergroup salience; for need for social distance the covariates included equal status, intergroup cooperation, and intergroup salience; for generalized ethnocentrism the covariates included intergroup cooperation and intergroup salience. For negative outgroup emotions and desire for social distance, adding intergroup salience as a predictor to the common ingroup identity model's LME improves the models' fit above and beyond all the best-fitting models.

Cross-sectional alumni data corroborated findings from the longitudinal data on current students. The 256 alumni surveyed differed significantly from Time 4 students

on almost all measures. Alumni reported significantly higher levels of religiosity, liberal political orientation, trust, empathy, and the eight contact conditions, and significantly lower levels of generalized ethnocentrism, intergroup anxiety, closedmindedness and social dominance orientation. Older alumni did not significantly differ from younger alumni, but men differed from women. Because of the cross-sectional nature of the data, LME models were inappropriate and linear regressions were used to establish whether the best-fitting LME models held in the alumni sample; they did not.

Content analyses of 25 complete pre- and post-interviews showed different trends for the students from conflicted countries compared to students from peaceful countries. Themes that arose include increased knowledge of conflicts around the world, critical thinking and awareness of own self, ability and willingness to trust and show empathy toward others, conflict management skills, and finally, growth. Additionally, themes that emerged spontaneously across the interviews included consistency in thinking and an increased importance assigned values such as health, happiness, and freedom. Using the Linguistic Inquiry Word Count software, the following were found to differ significantly between Time 1 and Time 4: English proficiency, talking about family, the use of negative emotion words, talking about feelings, and insight.

Several suggestions are presented to explain the lack of changes in intergroup bias. Because intergroup salience was found to be one of the most significant contact conditions, recommendations are provided for how RCN can continue to capitalize on representativeness among its students. The importance of RCN identity, too, is explored. Because pure contact is not enough, RCN must continue its work of facilitating contact conditions to encourage and increase the instances of successful intergroup contact.

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How can there be peace without people understanding each other;

and how can this be if they don't know each other?

~Lester B. Pearson, Nobel Peace Prize Laureate

Chapter 1

Theories of Intergroup Contact

An impressive body of social science research indicates that when people of different cultural groups (e.g., national, racial, religious) regularly associate with one another under favorable circumstances, there results a reduction of outgroup bias and prejudice. Examples include intergroup contact between Palestinian and Jewish Israeli tenth-graders (Biton & Salomon, 2006; Rosen & Salomon, 2011), between white American freshman students randomly assigned to same-race (white-white) or mixed-race (white-black) dormitory rooms and the students' roommates (Shook & Fazio, 2008), and between Catholics and Protestants in Northern Ireland (Hewstone et al., 2005). Popularly dating back to Allport's (1954) contact hypothesis developed in his book *The Nature of Prejudice*, a tremendous amount of effort has been devoted to constructing models and theories of this contact effect. In parallel, but independently, United World Colleges (UWCs), which bring together high school students from all over the world to live and study together, have expanded from one college in Wales in 1962 to twelve colleges worldwide today (see Figure 1). With this dissertation project I sought to complement and extend the previous research on intergroup contact by following UWC students during the two-year long International Baccalaureate curriculum that doubles as an intergroup contact "intervention."[1]

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[1] The United World College (UWC) education satisfies the assumption of an intervention: providing methods to change an individual's or group's affect, behaviors, and/or cognitions. Because of the multicultural nature of the student body and the peace-oriented mandatory extra-academic activities, UWC can be likened to a prolonged intergroup contact intervention. Notably, the UWC education "deliver[s] a challenging and *transformative* educational experience" (italics added for emphasis; UWC, n.d.).

The research reported in this dissertation was not intended to be a replication study of the contact hypothesis. It was, as will be explained, purposely designed to build on and extend previous research on intergroup contact. For example, some have argued that the contact hypothesis has too often been tested in artificial experimental settings incongruent to reality (Bramel, 2004; Couture & Penn, 2003; Hewstone & Brown, 1986). Therefore, I retested the assertion that intergroup contact leads to less intergroup bias (e.g., Pettigrew & Tropp, 2006) in a real world student sample at an international boarding school. Furthermore, the study was designed purposely to avoid some of the shortcomings of earlier research (i.e., limitations with cross-sectional data, diluting the contact hypothesis; Pettigrew, 1998): (a) the longitudinal design overcame the limitations of many cross-sectional studies of intergroup contact while the cross-sectional alumni data gathered enabled a richer illustration of the potential for long-lasting effects; (b) rather than expanding upon and diluting the original contact hypothesis' facilitating conditions, conditions defined by three models of intergroup contact reduction were used.

The major focus of the field study reported herein was in fact a reexamination of the contact hypothesis in comparison and contrast with two competing theories of intergroup contact (the intergroup contact model and the common ingroup identity model). This research makes a genuine contribution to the fields of social psychology and intergroup relations due to three factors: (a) intergroup contact was examined within a real world socioenvironmental setting not yet investigated; (b) rather than dichotomizing intergroup contact into ingroup and outgroup, participants from near ninety different countries were asked to react to an equal number of self-identified outgroups; (c) three models of intergroup contact were compared and contrasted, and a

mix of two models proposed as the best fit for the data. Furthermore, the study went in depth to examine the social psychological processes at work in the very specific context of UWC Red Cross Nordic, with the goal of beginning a research tradition to span the twelve current UWCs (two more colleges are set to open in 2014).

The fieldwork reported in this dissertation took place from August 2011 to May 2014 in Flekke, Norway. Research questions, formulated prior to the data collection, were tested with interview and survey data. A more detailed description of the research setting and the data collection procedures are presented in Chapters 2 and 4, respectively. The rest of this chapter will be devoted to discussing social identity theory, the overarching theory of intergroup contact, and presenting the three models of intergroup conflict reduction that provide the theoretical framework for the present research. Subsequently, a brief consideration of the extent of the intergroup contact that takes place in students' lives at UWC, before the presentation of the research questions.

Social Identity Theory

The assumptions of bias, prejudice, and intergroup conflict used in this research rest on social identity theory, a motivational theory of intergroup bias that considers mainly attitudes and bias in the perpetuation of conflict (Tajfel, 1970; Tajfel & Turner, 1979; 1986)[2]. Social identity came into being in response to, among others, Allport's contact hypothesis and the 1970s social cognitive theorizing. Social identity theory, rather than viewing intergroup bias as a byproduct of typically efficient cognitive

[2] Recognizing that other elements to the commencement, escalation, and continuation of intergroup conflict (e.g., territorial disputes, physical contribute and structural sources of conflict), the focus in this research was on social psychological constructs.

functions such as social categorization (Fiske & Taylor, 1991), considers intergroup bias a central cognitive process by which people establish their social identity and derive their self-esteem (Tajfel, 1970; Tajfel & Turner, 1979, 1986).

Social identity theory recognizes that a major part of people's self-concept stems from their identification with their social groups. Group memberships promote a social identity, which fosters self-esteem. Because people strive toward positive self-esteem, they also strive to maintain or enhance their social identity. One way to do this is by favoring the ingroup and discriminating against outgroups; successful intergroup bias has been found to enhance self-esteem (Aberson, Healy, & Romero, 2000; Rubin & Hewstone, 1998). People are predisposed to this ingroup bias in groups the values of which were just decided upon (Shapiro, 2010) and even in arbitrarily created "minimal" groups (Tajfel, 1970; Tajfel, Billig, Bundy, & Flarnent, 1971).[3] Intergroup bias often develops into rigid fault lines that preclude the cooperation and compromise needed by conflicting parties to reach agreement before and during a conflict.

Social identity theory thus explains that people come to favor their ingroups and discriminate against the outgroup in an effort to enhance their self-esteem and social identity. According to the theory, intergroup bias includes both the extension of trust, cooperation, and empathy to ingroup but not outgroup members (a kind of intergroup bias based solely on ingroup favoritism), as well as aggression and derogation toward the outgroup (outgroup bias). This is true for people who are not currently in conflict as well

[3] Intergroup bias has also been demonstrated in non-human primates, such as rhesus macaques (Mahajan et al., 2011) and chimpanzees (Campbell & de Waal, 2011).

as people deeply entrenched in intractable conflict (Feshbach, 1994; Hewstone, Rubin, & Willis, 2002; Otten & Wentura, 1999).

Social identity theory, however, only tells part of the story when it comes to intergroup conflict. Most, if not all, conflicts are characterized by a pervasive lack of trust between groups (Kelman, 2005) causing groups to "retaliate" pre-emptively to what they perceive as inevitable attacks (e.g., Israel and Palestine; Moro & Guy, 2012). Other conflicts are characterized by closedmindedness and a lack of perspective taking or empathy evidenced by both parties, such that both simultaneously classify themselves as the victim and the opposing group as the perpetrator (e.g., Serbs and Croats in Croatia; Corkalo Biruski, 2012; Kelman, 2007). Often, there is heated and deep-rooted negative outgroup emotions barring successful conflict resolution (e.g., the Democratic Republic of Congo; Karbo & Mutisi, 2012). Trust, closedmindedness, empathy, negative outgroup emotions are considered in detail in Chapter 2.

Intergroup conflict. Intergroup conflict usually develops out of lesser forms of intergroup bias, such as the benign bias suggested by social identity theory to generally help people establish their identities and self-esteem. The main idea underlying research in this area is that reducing intergroup bias can reduce the chances of intergroup conflict.

Intergroup bias refers to the systematic tendency to evaluate one's social group or members of one's group more favorably than outgroups and non-members, and can consist of cognitions (e.g., stereotyping), behaviors (e.g., discrimination), and attitudes (e.g., prejudice). Prejudice is defined as a hostile attitude or feeling toward a person solely because of his or her group membership, whereas discrimination is acting upon the prejudices harbored against another group or person (Allport, 1954). Allport delineated

the escalating levels of discrimination: (a) spoken abuse; (b) avoidance; (c) discrimination or institutionalized racism; (d) violence; (e) extermination or genocide, and proposed that lesser forms of discrimination such as spoken abuse have a way of escalating into more destructive forms of discrimination and violence. This study focused primarily on prejudice, the attitudinal aspect of intergroup bias, and to a smaller extent on minor forms of discrimination.

Because intergroup bias and prejudice consist of both psychological and social components, both individual (e.g., teaching trust and empathy) and intergroup approaches (e.g., fostering intergroup friendships) can make important contributions to the reduction of intergroup bias (Dovidio, Kawakami, & Gaertner, 2000; Eberhardt & Fiske, 1996; Oskamp, 2000). In this study, conditions deemed necessary for successful intergroup contact were derived from three models of intergroup conflict. The models were chosen because of their emphasis on changing people's attitudes and cognitions in efforts to reduce intergroup bias, and thus also conflict. Differences and similarities between the three models are summarized in Table 1. The relations between intergroup contact and bias reduction are considered in detail in Chapter 2.

The Contact Hypothesis

Allport, influenced by Freud (1921/1959), Dollard, Doob, Millner, Mowrer, and Sears (1939), Myrdal (1944), and Adorno (1950), was not the first theorist to elaborate on prejudice and contact; however, his was the first lasting theory that postulated necessary and optimal conditions of successful intergroup contact. The main premise of the contact hypothesis is that the best way to reduce intergroup conflict is to bring conflicting groups into contact with each other (Allport, 1954). For contact during which bias reduction

should be most effective, four conditions were specified (Allport, 1954; Pettigrew, 1998): (a) equal status among group members in the contact setting; (b) engagement in a collaborative common goal that is not the goal of learning to understand each other; (c) intergroup cooperation; (d) institutional support endorsing and reinforcing intergroup contact (Dovidio, Gaertner, & Kawakami, 2003). A fifth condition (Cook, 1962, 1985; Pettigrew, 1998), acquaintance potential, proposes that contact should permit the development of real relationships and friendships between people of different groups. Intergroup contact under these five conditions has been found to reduce prejudice over a variety of settings and including a host of different groups, ethnic and non-ethnic (Gaertner et al., 2000; Pettigrew & Tropp, 2006). Curiously, Allport's theoretical framework does not appear to be well known by UWC (Weld, 2013, n.d.).[4]

Equal status. In all societies, social groups are assigned different status for various reasons. Within the United States, for example, lingering ideologies and systems of advantage from the past perpetuate current intergroup hostilities because status inequalities have yet to be properly addressed (hooks, 2003; Tatum, 2007). In all societies, social groups are assigned different status for various reasons. Equal status may be more important to low-status groups than to high-status groups (Brewer & Kramer, 1986; Pettigrew, 1998).

Common goals. Several researchers have suggested that positively interdependent goals are the key to reductions in prejudice (Deutsch & Collins, 1951;

[4] A notable exception involves students who attend, and faculty who teach, Peace and Conflict Studies. Despite this course's treatment of Allport's contact hypothesis, no explicit link was made to the fact that UWCs are an excellent example of the contact hypothesis in action.

Sherif, Harvey, White, Hood, & Sherif, 1961). Positively interdependent goals are achieved when both groups reach their objectives (a "win-win" situation), whereas negatively interdependent goals can only be reached by one group (a "zero-sum" situation). The classic Robber's Cave experiments illustrate the effects of positive and negative interdependent goals (Sherif, Harvey, White, Hood, & Sherif, 1961). First, two summer camp groups of physically and mentally healthy boys were kept apart and unaware of each other, to build cohesive ingroup identities and friendships. Next, the two groups were put into contact and made to compete with each other, and hostility quickly ensued. Only when goals that could only be attained by both groups working together, for example, repairing a broken-down school bus to take them all back to camp, did conflict and prejudice subside gradually. More recently, in a sample of 266 individuals within 48 work groups, Koschate and van Dick (2011) found that equal status and common goals both predicted reductions in intergroup bias, with common goals being the stronger predictor.

Intergroup cooperation. Intergroup cooperation, or people of different groups working together and helping each other, is often seen as the essential element in contact programs (Brewer & Miller, 1984; Desforges et al., 1991). Intergroup cooperation differs from common goals in that people are forced to work together; the pursuit of common goals may be done in parallel, with little interaction. Intergroup cooperation has been shown to significantly reduce intergroup bias and prejudice (Aronson & Patnoe, 1992; Bettencourt, Brewer, Croak, & Miller, 1992; Walker & Crogan, 1998). However, some researchers conceptualize intergroup cooperation as an outcome variable, or a facilitating or inhibiting variable, rather than a contact condition (e.g., Gaertner, Dovidio, &

Bachman, 1996; Insko et al., 1987). For example, Koschate and van Dick (2011) found that the negative relations between equal status and common goals and between equal status and intergroup bias were partially mediated by intergroup cooperation.

Institutional support. Allport (1954) recognized that institutional support was necessary to introduce intergroup contact, particularly in situations in which majority group members show resistance to engaging in contact. Pettigrew and Tropp (2006) found stronger negative relations between intergroup contact and prejudice in structured programs (r = -.287) than in contact situations that were not part of structured programs (r = -.204), suggesting the importance of an overarching supporting structure. In the case of Robber's Cave, institutional support was clearly necessary, but not sufficient on its own, to reduce hostilities and create a lasting peace between the two groups of boys.

Acquaintance potential. Cook (1962) and Amir (1969) both took issue with the type of contact that occurred in contact situations, finding something important lacking. Acquaintance potential, or what Allport called friendship potential, is the opportunity to have frequent and long-term interactions that go beyond superficial encounters. Molina and Wittig (2006) found that acquaintance potential was the most robust predictor of prejudice reduction of all five contact conditions in middle and high school students. Despite the fact that recent research has found acquaintance potential to be a significant negative predictor of prejudice (Cook, 1962; Molina & Wittig, 2006), Allport (1954) cautioned that acquaintance potential should be considered a facilitating condition rather than an essential contact condition.

The Intergroup Contact Model

The Hewstone-Brown intergroup contact model (Brown & Hewstone, 2005; Hewstone & Brown, 1986) argues for the importance of intergroup salience, above and beyond Allport's four contact conditions. The intergroup contact model suggests that positive changes that occur in a contact situation should generalize to outgroups as a whole (compared to outgroup individuals specifically) if outgroup members are considered sufficiently typical of their groups. Outgroup members should be perceived as typical, regardless of whether they would characterize themselves as typical, of their cultural groups for the intergroup salience condition to work best (Brown & Hewstone, 2005; Rothbart & John, 1985). Desforges and colleagues (1997) found that cooperative contact between a participant and a confederate belonging to two equally negatively perceived groups ameliorated the participant's attitudes more for the negatively perceived group the confederate most represented. Because people often do not intend to or try to represent their own groups but rather their identities are shaped by their groups, the intergroup contact suggests that people should be less resistant to chance due to the fact that they do not have to surrender their individual identifies (Brewer, 1999).

Intergroup salience has been found to be a key moderator of the effects of intergroup contact on prejudice reduction (Hewstone, 1996, 2003). As predicted by the model, positive effects of contact were found to be more likely to generalize to the outgroup when the group memberships of the people in contact were made salient (Van Oudenhoven, Groenewoud, & Hewstone, 1996) or when an individual is typical, rather than atypical, of his or her group as a whole (Brown, Vivian, & Hewstone, 1999). Of importance, evidence supports the occurrence of the generalization process (i.e., attitudes

toward a single person affecting attitudes toward the whole outgroup) in studies of contact with the elderly (Harwood, Hewstone, Paolini, & Hurd, 2003).

The Common Ingroup Identity Model

The common ingroup identity model draws on the theoretical foundations of social identity theory, seeking to reduce intergroup bias and encourage intergroup harmony through the development and endorsement of a common ingroup identity (Dovidio, Gaertner, & Kafati, 2000; Gaertner & Dovidio, 2000; Gaertner, Dovidio, & Bachman, 1996). The development of a common ingroup identity is envisioned to occur through four sequential stages: decategorization, salient categorization, recategorization, and finally, dual identity.

Decategorization seeks to reduce intergroup bias by removing ingroup favoritism as a source of bias, in essence moving ingroup members' favor away from their selves and toward outgroup members (Brewer, 1999). Salient categorization involves emphasizing intergroup levels, rather than individual levels, of categorization. Recategorization, which is assumed to induce a maximum reduction in prejudice (Pettigrew, 1998), involves changing the conceptual representation of "us" and "them" into a more inclusive, superordinate "we." Dual identity constitutes an amalgam of salient categorization and recategorization, within which original group identities are maintained within the context of a superordinate identity (Gaertner et al., 2000; Hornsey & Hogg, 1999, 2000; Mummendey & Wenzel, 1999). The maintenance of individual group identities within a dual identity is important because it encourages people who otherwise would have been reluctant to surrender their identities.

Because social categorization plays a critical role in the formation and perpetuation of intergroup bias, the cognitive function plays an important role in bias reduction strategies (Dovidio, Gaertner, & Saguy, 2009). One important aspect is the distinction people make between the group containing the self (ingroup) and other groups (outgroups). As described above, the common ingroup identity model promotes the delineation of a new encompassing ingroup, shifting the ingroup favoritism and bias to include the previous outgroup members. Of particular relevance to the current research is the common ingroup identity model's notion that intergroup relations are likely to improve over time as positive biases associated with the inclusive superordinate "we" identity encourage interactions with former outgroup members, which in turn leads to more differentiated impressions of them (Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997; Gaertner & Dovidio, 2000). Intergroup differentiation also involves groups valuing and recognizing mutual superiorities and inferiorities (Hewstone, Rubin, & Willis, 2002), suggesting a path toward bias reduction.

Manipulations of identification have been found to decrease intergroup bias[5] (Branscombe & Wann, 1994; Perreault & Bourhis, 1999). Having outgroup friends, for example, is one effective way of reducing bias through decategorization (Pettigrew, 1997; Phinney, Ferguson, & Tate, 1997). Several lines of research have demonstrated reductions in intergroup bias as a result of inclusive identities (Gaertner, Mann, Dovidio, Murrell, & Pomare, 1990; Dovidio, Gaertner, & Loux, 2000). Endorsement of a common

[5] Even though ingroup identification drives outgroup attitudes, there is evidence that under some circumstances outgroup attitudes drive ingroup identification (e.g., for disadvantaged group members; Duckitt & Mphuthing, 1998).

ingroup identity was found to positively predict forgiveness among the pro-Pinochet and anti-Pinochet groups in Chile (though not so among Catholics and Protestants in Northern Ireland; Noor, Brown, Gonzalez, Manzi, & Lewis, 2008). Field studies in settings ranging from high schools to bank mergers show that stronger perceptions of a common ingroup identity predict more positive intergroup attitudes (Gaertner, Bachman, Dovidio, & Banker, 2001; Houlette et al., 2004).

Changes in ingroup identity have been used to explain how intergroup contact psychologically operates to reduce bias and improve intergroup relations (Dovidio, Gaertner, a, & Halabi, 2008; Gaertner, Rust, Dovidio, Bachman, & Anastasio, 1994). Improving attitudes toward former outgroup members, owing to their recategorization from "outgroup" to "ingroup," has been found to be one mechanism of bias reduction (Gaertner & Dovidio, 2000). The perception of a common ingroup identity has been shown to be a mediating variable between intergroup contact and prejudice (Dovidio, Gaertner, & Kafati, 2000; Gaertner & Dovidio, 2000).

Two challenges exist to the endorsement of a common ingroup identity: the need for optimal distinctiveness and differences in motivations in groups of low versus high status. People who identify more strongly with one of their ingroups (e.g., national over UWC identity) are more motivated to maintain that group's positive distinctiveness (Mummendey, Klink, & Brown, 2001; Simon, Kulla, & Zobel, 1995) and thus might be less likely to benefit from the UWC education. However, at UWC, there are so many variations of ingroups and outgroups that claiming any one as the optimal distinctive group likely proves impossible. Different motivations have also been found for members

of high-status versus low-status groups, but the equal status environment at UWC would mitigate this potential threat to a common ingroup identity.

Other Contact Conditions

Other contact conditions were explored to obtain a clearer picture of the particular conditions that facilitate or inhibit intergroup bias reduction at UWC. One of the criticisms against the contact hypothesis involves the development of so many qualifying conditions for contact that the hypothesis resembles a "shopping list" (Eller & Abrams, 2003) more than a parsimonious, coherent model (Pettigrew, 1998; Stephan, 1987). With this critique in mind, the other contact conditions listed here were considered facilitating, not essential, conditions to intergroup contact at UWC.

Intergroup contact should be frequent and varied for best results (Rothbart & John, 1985). Both quantity and quality of contact (Hewstone, Rubin, & Willis, 2002) are important conditions for successful prejudice reduction, though quality is more important than quantity (Binder et al., 2009). Individual differences such as levels of empathy, trust, and social dominance orientation might also facilitate successful intergroup contact. Tropp (2008) in particular emphasized the importance of trust in intergroup relations. Finally, there are important structural variables to be taken into account, as contact effects have been found to be larger in more rigorous research with better measurements for samples that include at least the contact hypothesis' key favorable contact conditions listed above (Pettigrew & Tropp, 2006).

Intergroup Contact at United World College

The first UWC, UWC Atlantic, was founded in Wales in 1962 in response to the perceived new interdependence between all people that followed in the aftermath of

World War II. To the UWC founders the interdependence called for the establishment of a new kind of school where young people of all nations and backgrounds could live and learn together at the most formative period of their adolescence, and so form those ties of friendship and understanding that would last them through their lives. The UWC mission is to "make education a force to unite people, nations, and cultures for peace and a sustainable future" (www.uwc.org, n.d.). More than 45,000 students from over 180 countries have studied at UWC, and each year the twelve current UWCs (see Figure 1) and numerous UWC short programs educate more than 7,500 students worldwide.

Notable people have graduated from UWCs, including His Majesty King Willem-Alexander of the Netherlands, Crown Prince Pavlos of Greece, and Kim Han-Sol, grandson of the late Kim Jong-Il, former Supreme Leader of North Korea. Alumni also include people who have become notable during their adult years, including Ian Khama, President of Botswana, Aernout Van Lynden, war correspondent and journalist in the Middle East, and Paul Colton, Bishop of Cork, Cloyne, and Ross in the United Kingdom. UWC takes seriously its mission to educate future leaders. One of the goals of UWC is to impact students in such ways that in the future, when these students are leaders all over the world, they will be more prone to making decisions that reduce intergroup conflict and bias and that encourage intergroup harmony.

To help understand the multicultural and peace-oriented environment at UWC, consider the following experiences described by a UWC Red Cross Nordic alumnus:

> Being woken early in the morning by a Swiss, brushing your teeth standing next to a Dane, hurrying to class in the morning rush hour with an Uzbek, sitting next to an Angolan in class, being taught economics by a Chinese, going to a Ghanaian

> to clear confusions in maths, going for a run with a Brazilian; all these are little things that make [UWC Red Cross Nordic] beautiful. (Shrestha, n.d.)

UWCs promote nine values critical to the achievement of peace and a sustainable future: international and intercultural understanding, celebration of difference, personal responsibility and integrity, mutual responsibility and respect, compassion and service, respect for the environment, a sense of idealism, personal challenge, and action and personal example. Though not founded on the premise of Allport's (1954) contact hypothesis, UWCs operate in ways ideal for successful intergroup bias reduction. Students enjoy equal status, pursue common goals, engage in intergroup cooperation, and receive support from surrounding authorities. Living and going to school together fosters myriad friendships. In addition, intergroup salience is kept high with cultural shows and exhibitions while the common ingroup identity "UWC student" is actively fostered.

When this research project first began taking form, in the summer of 2011, the dearth of scientifically rigorous studies of UWC quickly became apparent. Gaining access to UWCs is difficult, both physically and socially, especially so for an outsider unfamiliar with the UWC organization. This probably explains why a majority of the research cited below was conducted by teachers, faculty, and UWC alumni. Furthermore, the main methods used were mainly qualitative, including interviews, narratives, journal entries, and case studies. I too am a UWC alumna; the aim of this dissertation was therefore to provide the scientific rigor and empiricism that previous research on UWC lacked, and to provide suggestions for future research that would take the effects out of the field and into the laboratory for closer scrutiny.

Interest in studying empirically the effects of UWCs has indeed increased in recent years, with researchers studying the micro-level effects of globalization in the domain of education at UWC Atlantic (Rawlings, 2000), evaluating scientifically whether all UWCs succeed in the achieving the UWC mission (Branson, 2003; Wilkinson, 2002), exploring education for the values of global citizenship at UWC Atlantic (Mahlstedt, 2003), noting internationalism and globalization as contexts for international education at all UWCs (Cambridge & Thompson, 2004), investigating the long-term effects of the UWC education at UWC Atlantic (Tsumagari, 2010), exploring how informal interactions effect changes in students' attitudes at UWC Mahindra (Wilkinson & Hayden, 2010), and studying student integration in Bosnia and Herzegovina at UWC Mostar (Hayden & Thompson, 2010). Concurrently with the research described herein, Tim Appel compared German teenagers who were accepted to UWC Adriatic with peers who applied and attended the application interview, but who did not get accepted (personal communication, March 4, 2013). Yet others give UWC as an example of the contact hypothesis in action (Van Oord, 2008).

Another interracial contact study? Contact between groups has been found to result in reduced outgroup prejudice and discrimination (Biton & Salomon, 2006; Couture & Penn, 2003; Hewstone et al., 2005; Pettigrew, 2009; Rosen & Salomon, 2011; Shook & Fazio, 2008). For example, in a meta-analysis of 515 studies, Pettigrew and Tropp (2006) found an average negative correlation (r = -.225) between intergroup contact and prejudice (and somewhat stronger effects were found for studies that used intergroup friendships as the measure of contact, r = -.246). Liberal, peace-oriented education programs have also been found to result in tangible, beneficial outcomes in

terms of values, emotions, and cognitions (Newcomb, 1943; Salomon, 2004, 2006). Furthermore, research at UWCs has found several positive outcomes, such as reduced intergroup bias (Wilkinson & Hayden, 2010), increased harmony and integration (Hayden & Thompson, 2010), and lasting effects over time (Tsumagari, 2010).

This study is not just another interracial contact study, and not just another study of a liberal, peace-oriented school like UWC. The suggested methodological triangulation of longitudinal current student surveys, longitudinal current student interviews, and cross-sectional alumni surveys allowed for a profound discussion of the impact of UWC as an educational institution and as an intergroup contact intervention (see Chapter 2). This mixed-methods design helped obtain greater breadth of study, healthier samples, a more complete understanding of the phenomena under study, and stronger confidence in conclusions through convergence and corroboration of findings (Creswell & Clark, 2007; Johnson & Onwuegbuzie, 2004). Past research has compared and contrasted models of intergroup contact (e.g., Pettigrew's 1998 intergroup contact theory and Gaertner et al.'s 2000 common ingroup identity model; Eller & Abrams, 2003), but none have compared as many conditions of contact over the length of time with the breadth of participants as was undertaken in this study. None have put together conditions from separate theoretical models in an attempt to better explain outcomes.

Purpose. The purpose of this research was to assess the impact of UWC Red Cross Nordic as an educational institution and a prolonged intergroup contact intervention, while comparing and contrasting the three models of intergroup conflict reduction presented. The fieldwork addressed several gaps in the research literature, beginning with the formal and scientific evaluation of a multicultural peace education

program (markedly few intergroup program evaluations have been carried out in recent years; Denson, 2009; Nevo & Brem, 2002; Paluck & Green, 2009). Drawing predictors from three social psychological models of intergroup conflict reduction, I investigated whether the UWC Red Cross Nordic education reduced students' levels of intergroup bias, whether conflict-related individual differences such as trust and empathy change over time, and whether individual differences overall helped explain changes in intergroup bias over time. The UWC Red Cross Nordic program was assessed using longitudinal and cross-sectional surveys as well as longitudinal interviews. The scientific rigor with which this evaluation was carried out adds an important and sound review to the few such studies carried out to date (Paluck & Green, 2009), particularly on UWCs.

This research addresses two basic problems with Allport's (1954) contact hypothesis noted by Pettigrew (1998). First, a longitudinal design was employed to overcome the limitations of many cross-sectional studies of contact. With a cross-sectional design, it is difficult to disentangle whether contact reduces prejudice, or whether prejudice reduces contact. Second, rather than expanding upon and diluting Allport's contact hypothesis by adding my own list of facilitating conditions which some argue overburden the hypothesis (Stephan & Stephan, 1996), I employed only the five conditions initially described by Allport, in addition to the conditions proposed by the intergroup contact model and the common ingroup identity model.

Five sets of research questions drove this study:

1. Change over time
    a. Which individual difference variables changed over time?

   b. Did measures of intergroup bias (negative outgroup emotions, desire for social distance, and generalized ethnocentrism[6]) decrease over time?
   c. Did individual difference variables related to intergroup bias (e.g., trust, empathy) change in the direction suggested by the literature to be related to reduced levels of outgroup bias?

2. Comparing models of intergroup contact
   a. Comparing Linear Mixed Effects models derived from the three theories of intergroup contact with Linear Mixed Effects models derived from the data, which model best predicted levels of outgroup bias?
   b. Did any of the demographic and individual difference variables affect the model outcomes, and if so, in what direction?

3. Alumni data
   a. Which individual difference variables were significantly similar and which were significantly different for alumni compared to current students?
   b. Did subgroups within alumni (e.g., college of graduation, gender, highest level of education) explain some of the differences?
   c. Did cross-sectional analyses of the three theories of intergroup contact confirm the best-fitting model from the current student sample?
   d. Did any of the individual difference variables, and most importantly the three measures of intergroup bias, relate to years since graduation?

4. Interviews

[6] I did not measure knowledge about the outgroup (cognitions) due to logistical difficulties of finding information about all the potential outgroups the students might have listed.

a. What subjective content analysis themes emerged in the interviews?
b. Using Pennebaker, Francis, and Booth's (2001) Linguistic Inquiry and Word Count (LIWC), were there significant differences in the frequencies and kinds of words used by: students at Time 4 compared to students at Time 1; students from relatively conflicted countries compared to students from relatively peaceful countries; and men compared to women?

This study may be considered a special case study of the social psychological effects of a multicultural peace education program in the context of UWC Red Cross Nordic. Attempts were made to draw generalizable conclusions that apply to the other eleven current UWCs, and any future UWCs. One of the primary goals of the academic and extra-academic activities at UWC Red Cross Nordic is to reduce intergroup bias and prejudice. Whereas many aspects of the UWC Red Cross Nordic education and experience could have been scrutinized, such as academic success at the college, fundraising accomplishments, or athletic achievements, this project focused on elements and variables directly related to the college's own mission, "to create a better and more tolerant world."

Chapter 2

The UWC Red Cross Nordic Study

"Education must be used as a tool to break down the barriers of race, religion and class which separate our students" (Blackburn, cited by Jonietz, 1991, p. 222).

"Intergroup contact and friendships work well (and often best) among intolerant and cognitively rigid persons – by reducing threat and anxiety and increasing empathy, trust, and outgroup closeness" (Hodson, 2011, p. 154).

Research suggests that as little as three hours a week of multicultural-oriented counseling classes reduces students' intergroup bias by the end of an academic semester (Castillo, Brossart, Reyes, Conoley, & Phoummarath, 2007). In this particular study, course work involved demonstrations of multicultural counseling skills, attending cultural events, and listening to guest speakers. At UWC Red Cross Nordic, students are shown daily how to successfully navigate a multicultural milieu as they learn from international faculty and staff and from their friends. Cultural events and guest speakers are an important part of the UWC Red Cross Nordic curriculum and permeate the yearly calendar, though attendance is usually voluntary.[7] UWC Red Cross Nordic, like the other eleven UWCs, claims its education fosters awareness and concern in its students by requiring participation in extra-academic, or extra-curricular, activities such as first aid with the Red Cross, conflict resolution workshops, youth leadership programs, Model United Nations, and student-led conferences on topics of global concern.

[7] Because not all students attend all cultural events or listen to all guest speakers, there is room for variability in the amount of multicultural and peace-oriented learning students engage in.

The high school of choice for this study was UWC Red Cross Nordic (hereafter abbreviated RCN), located in the end of a fjord on the west coast of Norway. Half of the current UWCs (UWC Atlantic in Wales, UWC Pearson in Canada, UWC Waterford Kamhlaba in Swaziland, UWC Armand Hammer in the US, UWC RCN in Norway, and UWC Mahindra in India) are purposely located in remote areas, separated from local towns and cities in distance or due to lack of transportation. The reason is twofold: First, to ensure cohesive socialization between students at the college by limiting outside contact (particularly important with regards to host country students for whom families and friends are much closer in proximity), and second, to separate the happenings of the college from local happenings (see Durrheim & Dixon, 2005). Research on intergroup contact programs such as Seeds of Peace in Israel and Palestine found that effects were consistently positive over time, but weaker during period of increased violence and border closings and stronger during the 2003 Israel-Palestine ceasefire (Smedley, n.d.). Separation from local happenings might protect against undue outside influence.

RCN was founded in 1995 as the ninth member of the UWC family. Patrons of the college include late Nelson Mandela, HM Queen Sonja of Norway, and HM Queen Noor of Jordan. In addition to the UWC mission, RCN wishes "to create a better and more tolerant world" (UWC Red Cross Nordic, n.d.). At RCN, 200 students represent close to one hundred nations (see Table 2), supported by around 25 faculty and at least 25 staff. Every year, RCN partners to accommodate two landmine survivors, two West Saharawi refugees from refugee camps in Algeria, and 2 or more children from SOS Children's Villages around the world.

UWC has national committees and selection contacts in over 140 countries. Students are selected for admission in their respective home countries by their ational committees based on merit, potential, and commitment to UWC values (e.g., international and intercultural understanding, celebration of difference, and compassion and service). RCN further focuses on the three pillars of Environmental, Nordic, and Humanitarian concerns. Cooperation with the Red Cross, for example, opens a variety of avenues for service opportunities in areas such as first aid and lifesaving, as well as youth training, rescue work, and humanitarian action.

RCN provides a unique opportunity for students from national, ethnic, or cultural groups part of intractable conflicts to meet. In the words of Switzerland, interviewed in August 2011, at RCN "there are Muslims with Jews with Christians with Hindus with Buddhists. (…) They're all friends, so it's like an example of how the world should be." Students with little opportunity to meet outgroup members in their home countries are given the opportunity to befriend and learn from students from just these outgroups (e.g., Chinese and Tibetans, Muslims and Jews, able-bodied and disabled students). Given the vast diversity of the student body and the college's focus on multicultural and peace education, RCN is an ideal site for research on intergroup contact and bias reduction.

Student Life

RCN is first and foremost a high school, and students' daily lives are dominated by classes and coursework. Spare time is spent eating and socializing, engaging in CAS (Creativity, Action, and Service; see Appendix A for an explanation of CAS and other RCN-specific lingo), and performing campus responsibilities. Monday through Friday are typical school days, except for the fact that the RCN school week runs on an 8-day

schedule. That is, Day 1 is a Monday one week and a Thursday the following week. The constant changes to the schedule ensure even attendance during the early morning classes and combat boredom. The dining hall serves breakfast from 7am to 8am, "cookie break"[8] from 10:05am to 10:25am, lunch from 12:15am to 1:30pm, and dinner from 5:30pm to 7pm. Only spaghetti, milk, and butter is provided in each student house's common room, encouraging students to dine with each other (religious affiliations and personal preferences are respected, and the dining hall serves vegan, vegetarian, and halal food). Students play an active role in running the college, and all students choose a campus responsibility, ranging from running the student shop to shoveling snow to acting as resident fire fighter. Like the weekdays, the weekends are packed with activities. For example, every Friday night a group of students host a World Today workshop or presentation, where global issues are brought up and discussed. After that, the World Film Club screens a movie, and at the same time another group of students runs a small café in a boathouse on the shore.

Students live in close proximity to the dining hall, the classroom buildings, and each other. The RCN Student Village is comprised of five houses with 40 students each, named after Nordic countries: Norway House, Sweden House, Denmark House, Finland House, and Iceland House. In each student house, eight dorm rooms accommodate five students each. Dorm rooms are segregated by sex, but houses are not. Five house mentor houses are scattered between the student houses; each house mentor is responsible for the personal and academic wellbeing of his or her 40 students. House mentors often come to resemble parents in that they offer guidance and social support to the students, and in cases of transgressions help determine suitable courses of action. Room assignments are

[8] Serving Norwegian rye bread crackers (Wasa), jam and marmalade, and cheese.

made by house mentors at their discretion. First year students are assigned rooms based on their nationalities (to ensure no two people from the same country live together). Second year students are assigned rooms by different assignment strategies, depending on the house mentor. One house mentor, for example, tended to place in the same dorm room students who might learn something from one another: one student enjoyed myriad friendships while another preferred to focus on his or her academic work; one was particularly artistic while another was sporty and active outdoors. This non-random assignment suggests that some amount of clustering and non-independence might be introduced in the data, but no house mentor I talked with reported assigning second years to rooms based on intergroup attitudes, opinions, or values.

RCN Education

The UWC colleges, RCN included, teach the International Baccalaureate (IB) Diploma.[9] The IB curriculum was established with the goal of providing students with an international education that fosters appreciation and understanding of other customs, cultures, nations, and peoples, and thus serves as a natural curriculum for UWC.

The IB curriculum requires students to enroll in at least six subjects, with at least one subject in each of five subject groups. The five groups, with the specific courses taught at RCN, are: Language A1 (native language; Danish, English, Norwegian, Spanish, and Swedish), Second Language (English, Mandarin Chinese, Norwegian, and Spanish), Individuals and Societies (Development Studies/Geography, Economics,

[9] The IB Diploma was founded in Geneva, Switzerland, in 1968, created by a group of teachers from UWC Atlantic College, the International School of Geneva, and the UN School of New York. UWC Atlantic was in 1971 the first college in the world to abandon its own curriculum in favor of the IB (UWC, n.d.).

History, Human Rights, and Philosophy), Experimental Sciences (Biology, Chemistry, Environmental Systems and Societies, and Physics), and Mathematics. For their sixth subject students may choose a course in the sixth group (The Arts: Theatre Arts or Visual Arts) or substitute a subject from any of the first five groups. Three courses minimum must be taken at a Higher Level; the remaining courses are taken at a Standard Level. The IB recommends a minimum of 240 hours of instruction for Higher Level courses and 150 hours for Standard Level Courses. IB grades are set on the basis of final exams written in each subject, usually two or three exams per subject. The final exams are held in May each year (in November in the colleges that follow the southern hemisphere calendar), simultaneously in all IB schools across the globe.[10] Designated faculty around the world grade final exams, and single numerical grades are given to students in July.

What distinguishes the IB program from other high school educations is the fulfillment of three core requirements in addition to subject examinations: (a) an Extended Essay (EE), an independent research essay of no more than 4,000 words in a subject from a list of approved subjects; (b) Theory of Knowledge (TOK), the one course all students are required to take, which teaches basic epistemology and provides practice in critical thinking, culminating in an externally assessed TOK essay from a choice of ten titles and an internally assessed presentation on a student's chosen topic; (c) Creativity, Action, and Service (CAS), 3-4 hours a week (or 300-400 hours in total over two years) devoted to creative activities (e.g., theatre productions, playing in a band), athletics or

[10] Exams are separated into two time zones: east and west of GMT. When students at RCN sit their IB exams, at the exact same time, though nine hours later local time, students in Singapore sit theirs.

physical activity (e.g., canoeing, mountain climbing), and service or community work (e.g., socializing with Afghan refugees, assisting with sports classes at a local school).

At RCN, the EE, TOK, and in particular CAS, are infused with multicultural and peace-oriented elements. Multicultural education "refers to materials and programs that foster understanding and appreciation of ethnic diversity and promote positive interethnic relations" (Phinney & Rotheram, 1987, p. 227), whereas peace education

> refers to the process of promoting the knowledge, skills, attitudes, and values needed to bring about behavior changes that will enable children, youth, and adults to prevent conflict and violence (…); to resolve conflict peacefully; and to create the conditions conducive to peace, whether at an intrapersonal, interpersonal, intergroup, national, or international level. (Fountain, 1999, p. 1)

Research repeatedly shows that multicultural and peace-oriented curricula are related to lower levels of racial prejudice (Sodowsky et al., 1998), lower levels of implicit racial prejudice and higher levels of cultural self-awareness (Castillo, Brossart, Reyes, Conoley, & Phoummarath, 2007), and generally significant reductions in racial bias (Denson, 2009). Multicultural peace education, like that provided by RCN, is often encouraged as a strategy to help ameliorate incidences of intergroup conflict (Albert, Gabrielsen, & Landis, 2012; Denson, 2009; Salomon, 2004).

Intergroup Contact at RCN

One of the primary goals of the academic and extra-academic activities at RCN is to reduce intergroup bias and prejudice. Selecting students from all countries, cultures, religions, socioeconomic groups, etc., is a deliberate and integral part of RCN's educational framework. The goal is to maximize the representation of outgroups for

every one student; maximizing diversity gives representation to the "other side" from a wide variety of conflicts. RCN intentionally increases the frequency and intensity of intergroup contact by, among others: (a) having a remote campus; (b) placing five students from different backgrounds in each dorm room; (c) providing joint challenges such as a bi-yearly Project Based Learning (PBL) week, the Red Cross 24-hour role play På Flukt [On the Run], and various weekly (World Today) and bi-monthly (Global Concerns) mini-conferences. This section presents a general framework through which the RCN college environment and the diversity-related activities just listed reduce intergroup bias, in line with the theories of intergroup contact discussed above.

A note is made that the relationship between intergroup contact and intergroup bias reduction is reciprocal: Contact leads to certain attitudes, but attitudes also lead to contact. In Pettigrew and Tropp's (2006) meta-analysis the vast amount of studies included were based on cross-sectional survey data, raising the question of the direction of causality. However, Cook (1978) showed that contact can and does affect attitudes, while Pettigrew (1997), using sophisticated statistical analyses of cross-sectional data, estimated that the path from contact to attitudes tends to be stronger than the reciprocal path. Binder et al. (2009) also found that contact affects prejudice to a greater degree than prejudice affects contact.

The contact hypothesis. Allport's four original contact conditions, equal status, common goals, intergroup cooperation, and institutional support, in addition to the later fifth condition, acquaintance potential, are all met at RCN.

All students are accepted to UWC on merit, and the full scholarship program at RCN contributes to the need for groups to have equal status. Financial aid is given to

students in need to ensure equality in access to required equipment (e.g., laptops) and travels home. Furthermore, because all non-Scandinavian first year students must complete a three-month long Norwegian course, the focus is directed away from those students who are not yet fluent in English and toward most students struggling equally to learn Norwegian. The Norwegian weather poses another equalizing factor, as most students must take a dive into RCN's Clothing Shop for woolen sweaters, scarves, hats, gloves, and other items needed for the Norwegian winter.

Students work toward the common goals of clean and safe working and living environments. Having chosen a campus responsibility, students know that the wellbeing of everyone depends on them completing their responsibilities. Examples include cleaning the laundry cabin, organizing the Clothing Shop, being a first aider, and helping dining hall staff. In the dorm rooms, roommates assign weekly cleaning responsibilities among themselves. Each dorm room is responsible for cleaning a certain part of the student house each week. Students also work toward common goals in fundraising projects, arts performances, sports, and leading "Leirskule" kids. Most Norwegian students, as part of their 7th grade school program, go on a 1-week camp called Leirskule; many of the 7th graders in the area around RCN come to the college for their week of outdoor activities, environmental learning, and socializing with kids from other schools.

Perhaps the most looming common goal, however, is passing the IB. The IB is considered a particularly demanding curriculum, sometimes more so than similar curricula such as the British A-levels or the American Advanced Placement (Gehring, 2001; Handscombe, 2013; Mathews, 2004). On the one hand, the IB is a fitting curriculum for RCN because it is externally moderated, encourages reflection (mainly in

TOK), and is a tremendous challenge for most students. On the other hand, all of the assessments in IB are submitted individually. Subject projects, the EE, TOK papers and presentations, oral exams, and final written exams are all done individually. Nevertheless, there is extensive intergroup cooperation between students to help each other get to the common goal of "passing the IB."

Intergroup cooperation is most clearly evidenced by students' extensive participation in CAS. Just a few of the extra-academic activities students are required to engage in or engage in voluntarily include Leirskule, Global Concerns, World Today, Model United Nations, Red Cross, Ski Week, and Youth Leadership (for a description see http://eap.uwcrcn.no/). For a detailed description of these and other activities at RCN, see Appendix A. Students work together in pursuit of successful camps for Leirskule kids, acquire skills in Youth Leadership by learning from and teaching each other, and cooperate in the planning and execution of Project Based Learning week projects ranging from beeswax craft to fundraising in nearby city Bergen to blindness awareness.

More than 50 faculty and staff live year round with their families at or near round to accommodate the UWC education, providing ample institutional support. Because learning is not limited to formal classrooms, RCN teachers engage in many roles, such as community service leaders, CAS advisors, substitute parents, and rule enforcement. Teaching vacancies at UWC South East Asia, for example, calls for "energetic and dynamic professionals who (…) have a strong sense of adventure" (UWC South East Asia, 2013, p. 2). Teaching staff actively fosters intergroup cooperation and collaboration between students and encourage intergroup friendships by following good

practices and acting as role models. The social norms of mutual respect and intergroup curiosity are clear and supported by faculty and staff.

At RCN, students are constantly near each other, in the dorm rooms, classrooms, and dining hall. Most friendships form organically as students gravitate toward people they feel similar to, whether that is in culture or in interests. The remote location of the college reduces the amount of outside influence and outside acquaintances. Because there are 200 students of a similar age and with similar current circumstances and goals, most students forge deep friendships at RCN.

Intergroup contact model. The maintenance of intergroup salience is accomplished at RCN through performing arts, internationally oriented workshops, and days dedicated to certain countries or regions of the world. RCN-specific events such as Global Concerns and World Today emphasize the various cultures and peoples of the world. Students represent their home countries in performances and celebrations, wearing their national costumes and sharing local customs and foods. Regardless of how typical the individual student believes he or she is of his or her country, maintaining perceived intergroup salience likely leads to the positive effects of the RCN education extending to other members of students' home countries.

Common ingroup identity model. It has been suggested that value change results from identifying with a new group (e.g., Mael & Ashforth, 1992). When people enter a new group (e.g., new college, new country), identifying with this new group may result in value change toward the entered group's values. This process of value change through identification has been related to processes of acculturation (Olmedo, 1979). At RCN, environmental, Nordic, and humanitarian values are stimulated. Because of the

particularly salient role RCN identity plays in students' lives at RCN, in addition to a more overarching "common ingroup identity," the surveys asked students to indicate how strongly they endorsed the RCN identity. RCN identity is a more narrow case of a common ingroup identity, and probably an easier concept for students to grasp.

The common ingroup identity of "RCN student" is facilitated and encouraged. For example, students develop a local vernacular, mixing words of various languages into their RCN-specific dialect. During college meetings, students raise both hands and animatedly shake them from side to side to signal approval with the speaker. Allowing for dual identities, an important element of the common ingroup identity model, means that students are allowed to remain both "Nigerian" and be an "RCN student."

Other contact conditions. At RCN, intergroup contact is both frequent and varied. Hewstone, Rubin, and Willis (2002) noted that both quantity and quality of intergroup contact are important conditions for successful prejudice reduction. The sheer quantity of contact between RCN students of different nationalities is worth noting. From the moment they wake up until the moment they go to sleep, students are surrounded by people from other cultures. At an age when friendships and peer groups play a large role on self-esteem and well-being, students are particularly prone to spend time with others.[11] Intergroup romance is a frequent occurrence at RCN, thus some students are never truly alone. RCN students experience both high-quality intergroup contact with their outgroup friends, and lower-quality intergroup contact with their

[11] The trend might be changing with the advent of new technology. Alumni spoke of visiting friends and writing them notes if they were note in their rooms, at times enlisting others to help them search campus when something important had to be discussed. Current students send each other messages on Facebook.

outgroup acquaintances. The quantity and quality combined help foster successful intergroup contact. Reduced intergroup bias, increased trust (Tropp, 2008) and increased empathy or perspective-taking (Brown & Hewstone, 2005; Galinsky, 2002) over their time at RCN, likely further promotes students' successful intergroup contact.

The Effects of RCN

RCN is not only renowned for its academic strength, but also because of the multicultural and peace-oriented education students enjoy (e.g., Erna Solberg, leader of the Norwegian Conservative party and current Prime Minister of Norway visited in May 2013; Statoil, Norwegian multinational oil and gas company, visited in October 2013; RCN was invited to the Nobel Peace Prize Ceremony in Oslo in December 2013; see https://uwcrcn.no/News/whats_on.html). Thus, the RCN education can be expected to change students in observable and measurable ways. Next will be discussed the potential impact of RCN on students' engagement with intergroup contact variables (intergroup friendships, coursework, extra-academic participation, predictors drawn from contact theories) and levels of individual difference variables (negative outgroup emotions, desire for social distance, intergroup anxiety, closedmindedness, trust, generalized ethnocentrism, empathy, and social dominance orientation). The chapter ends after a thorough consideration of student demographics (age, gender, intelligence, Big Five scores, religiosity, liberal/conservative identification, and hopefulness).

Intergroup contact variables. Adolescence is a critical period of developmental transition (Choi, 2001). This, and the prolonged nature of the RCN education, means that there is real potential for guiding RCN students in positive directions (i.e., toward more intergroup friendships) as they develop and mature. The following independent variables

were examined in light of the research questions introduced in Chapter 1: intergroup friendships, coursework, extra-academic commitments, and predictors drawn from the three theories of intergroup contact.

Intergroup friendships. Intergroup friendships are particularly important to successfully reduce outgroup prejudice (Davies, Tropp, Aron, Pettigrew, & Wright, 2011; Hamberger & Hewstone, 1997; Pettigrew & Tropp, 2006). Pettigrew (1997, 1998) advocated friendships as important to successful intergroup contact and found that intergroup friendships produce greater prejudice reduction than does contact without friendship. The development and maintenance of friendships with outgroup members suggest prejudice amelioration through both quantity (Levin, van Laar, & Sidanius, 2003) and quality of outgroup contact (Binder et al, 2009). Intergroup friendships are also effective in reducing prejudice to the extent that they encourage people to feel empathy with the outgroup (Pettigrew, 1997; Finlay & Stephan, 2000; Tropp, 2008).

In a review of the literature on contact with people suffering from severe mental illnesses, Couture and Penn (2003) found that contact reduced stigmatizing views held by people not suffering from mental illnesses. Hewstone, Cairns, Voci, Hamberger, and Niens (2006) found that Catholics and Protestants in Northern Ireland who reported outgroup friends exhibited a greater willingness to forgive and to trust the outgroup. This was true even for those who had personally suffered due to the conflict. In a study of white Americans, Aberson, Shoemaker, and Tomolillo (2007) found that participants who reported more close friendships with African Americans or Latin Americans exhibited less prejudice toward these two groups that did participants with no friends from the two groups. Pettigrew (1997), in a survey from seven European samples, found

that intergroup friendships (with North Africans or Asians in France, with Surinamers or Turks in the Netherlands, and with West Indians and Asians in Great Britain) were consistently and negatively associated with prejudice. Notably, this effect was stronger than was the effect from intergroup contact with coworkers or neighbors.

Pettigrew (1997) wrote that the effects of intergroup friendships generalize widely to less prejudice and more positive feelings toward outgroups of many types. Time spent with outgroup friends has been found to yield significantly greater outcomes than other friendship measures (Davies, Tropp, Aron, Pettigrew, & Wright, 2011).

Coursework. There are a wide variety of courses available to students at RCN, resulting in a plethora of course permutations. It seems logical to expect that students who take three languages, or who choose Human Rights, have different outlooks and perspectives than so students taking other courses. Exactly what coursework might imply for successful intergroup contact is difficult to establish a priori, as none of the courses at RCN focus in particular on multiculturalism and peace.

Extra-Academic Commitments. Extra-Academic Commitments (EACs) are formally registered activities led by either RCN staff or by students with staff support, and constitute a large part of staff and students' lives. EACs cover the three aspects of CAS (Creativity, Action, and Service) and the three pillars of the College (Environmental, Humanitarian, and Nordic), to various degrees (see Appendix A for examples). A strong sense of community is built as staff and students from various nationalities come together to work on EAC projects, and participation in EACs would satisfy Allport's (1954) five contact conditions.

Predictors drawn from contact theory. The predictors drawn from contact theory measured in this study include equal status, common goals, intergroup cooperation, institutional support, acquaintance potential, intergroup salience, and ingroup identities (see discussion of the three theories/models in Chapter 1, and descriptions of contact conditions in the context of RCN).

Individual difference variables. The following lists the three dependent variables (negative outgroup emotions, desire for social distance, generalized ethnocentrism), and other outcomes variables of interest (trust, empathy, intergroup anxiety, closedmindedness, and social dominance orientation).

Intergroup bias. The vast majority of social-psychological studies have investigated weaker forms of bias (as opposed to oppression, ethnic cleansing, and genocide). Mild prejudice is typically assessed by traditional self-report measures, such as people's negative outgroup emotions and desire for social distance.[12] Two measures, negative outgroup emotions and desire for social distance, were meant to assess students' levels of intergroup bias, and in combination with generalized ethnocentrism served as the dependent variables for Linear Mixed-Effects (LME) modeling.

Couture and Penn (2003) summarized the literature on contact with people suffering from severe mental illnesses and found that retrospective contact (self-reported

[12] Measures of the cognitive, behavioral, and affective components of intergroup bias are rarely empirically associated (Mackie & Smith, 1998), with modest-to-weak overall relationships between measures (Dovidio et al., 1996). For these reasons implicit measures (specifically the Implicit Association Test; Greenwald, McGhee, & Schwartz, 1998; Greenwald, Nosek, & Banaji, 2003; Greenwald, Poehlman, Uhlmann, & Banaji, 2009) were considered for this study, but its use eventually discarded due to logistical difficulties of designating outgroups, administering the tests, and analyzing results in such a heterogeneous sample.

previous contact with stigmatized groups) resulted in fewer negative emotions, greater positive affect, and desiring less social distance. Outgroups considered for use in this field study include people suffering from mental illnesses, people suffering from physical illnesses, disabled people, religious people, people of other nationalities, ethnicities, and races, people of other political orientations, and lesbian, gay, bisexual, and transsexual people. All but the first two groups are openly represented at RCN. Given the myriad outgroups possible for any one RCN student, for the negative outgroup emotions and the desire for social distance measures students were asked to, "think of a country that your country has had tensions or conflict with, historically or currently. This could be a neighboring country or a country far away. What is this country's nationality?" The outgroup listed was inserted back into the survey for a later measure. The focus on national outgroups attempted to obtain greater control over students' lists of outgroups.

The measures of intergroup anxiety and generalized ethnocentrism, in contrast, had unnamed outgroups (e.g., for intergroup anxiety: "for each of the items listed below, indicate how you would feel when interacting with strangers of other racial, ethnic, religious, or cultural groups?"). Prejudice tends to generalize over targets (Duckitt, 1992), thus ratings of the self-selected outgroup and the unnamed outgroup should show similar levels of prejudice (in particular if students choose to focus on the same outgroup in all four measures). A recent meta-analytic study on the effects of intergroup friendships on positive outgroup attitudes found similar effects for the entire outgroup (r = .245) as for many and/or nonspecific outgroups (r = .236), suggesting comparable friendship-attitude effects at different levels of generalization (Davies, Tropp, Aron, Pettigrew, & Wright, 2011). Finally, research suggests that people are unwilling to report

overt expressions of prejudice (Dovidio & Gaertner, 1991). Students chose their own outgroups with the expectation that they would be more willing to report their feelings and attitudes toward those groups.

Intergroup anxiety. Intergroup anxiety refers to the negative affect individuals experience when anticipating an interaction or when interacting with an outgroup member due to expectations of negative consequences of the interaction (Plant & Devine, 2003; Stephan & Stephan, 1985). The expected negative consequences can derive from concerns an individual has over a number of issues, such as the belief that the outgroup member is dangerous, the possibility that the outgroup member might reject him or her or think that he or she is prejudiced against the outgroup, or even that the individual's ingroup members might reject him or her for interacting with a member of the outgroup (Klein & Snyder, 2003; Stephan & Stephan, 2001).

Intergroup anxiety is important to the study of intergroup contact because of its direct relationship with stereotypes of outgroup members (Stephan et al., 2002), low levels of intergroup contact (Stephan, Diaz-Loving, & Duran, 2000), and avoiding interactions with the outgroup (Plant & Devine, 2003). Studies on intergroup anxiety and prejudice have provided strong support for a relation between the two, found to average $r = .46$ (Riek, Mania, & Gaertner, 2006). The relation has been found for attitudes of White Americans toward minority groups in the United States (e.g., Plant & Devine, 2003; Stephan et al., 2002), as well as for majority groups' attitudes toward minority groups in Bangladesh (Islam & Hewstone, 1993), Finland (Mähönen, Jasinkskaja-Lahti, & Liebkind, 2011), Israel (Bizman & Yinon, 2001), Italy (Voci & Hewstone, 2003), Spain (Stephan, Ybarra, Martinez, Schwarzwald, & Tur-Kaspa, 1998), and the United

Kingdom (Turner, Hewstone, & Voci, 2007). Of importance, the relation between intergroup anxiety and prejudice exists for minority groups as well: African Americans', Asian Americans', and Hispanic Americans' attitudes toward White Americans are related to intergroup anxiety (Stephan et al., 2002; Stephan & Stephan, 1989), as are the Bangladeshi Hindu minority's attitudes toward the Bangladeshi Muslim majority (Islam & Hewstone, 1993).

Particularly relevant to this study is the research showing that the relation between intergroup anxiety and prejudice develops at least by adolescence (Turner, Hewstone, & Voci, 2007). Intergroup anxiety in adolescents directly predicts both overt and covert prejudice toward other adolescents (Mähönen, Jasinkskaja-Lahti, & Liebkind, 2011). Turner, Hewstone, and Voci (2007) found in a sample of English and Asian English teenagers that intergroup anxiety predicted prejudice toward Asian English or English teenagers, respectively. Shook and Fazio (2008) assessed how intergroup anxiety is affected by long-term interracial relationships in college-aged individuals. In their study, White freshmen students were randomly assigned to either a White or an African American roommate. After one semester, White freshmen with African American roommates reported lower levels of intergroup anxiety.

Hewstone and colleagues (Hewstone, 1996; Islam & Hewstone, 1993; Paolini, Hewstone, Cairns, & Voci, 2004) have demonstrated the crucial mediating role of intergroup contact in reducing intergroup anxiety in samples as diverse as Hindus and Muslims in Bangladesh (Islam & Hewstone, 1993), Catholics and Protestants in Northern Ireland (Paolini, Hewstone, Cairns, & Voci, 2004), and White students and students of color at a high school in South Africa (Swart, Hewstone, Christ, & Voci, 2010).

Affective processes such as intergroup anxiety are therefore known to play an important role in prejudice reduction (Pettigrew, 1998; Swart, Hewstone, Christ, & Voci, 2010). Pettigrew and Tropp (2006) found that about 21% of the effect of contact on prejudice reduction is mediated by contact also reducing intergroup anxiety. Especially pertinent are the findings that cross-group friendships are particularly effective at reducing intergroup anxiety (Page-Gould, Mendoza-Denton, & Tropp, 2008; Swart, Hewstone, Christ, & Voci, 2010).

Closedmindedness. Cognitive rigidity, one variant of closedmindedness, is associated with relying on and preferring the ingroup, as well as disregarding other cultures and religions (Shah, Kruglanski, & Thompson, 1998). Allport explained, as early as in 1967, that religiosity and prejudice were positively correlated in a curvilinear fashion due to a "certain cognitive style" (Allport & Ross, 1967). Allport's description of a cognitive style of "undifferentiated thinking" suggests a dogmatic and inflexible thinking style, or closedmindedness.

A common measure of closedmindedness is the need for closure scale (NCS; Kruglanski, Webster, & Klem, 1993). Need for closure reduces receptivity to diversity, results in a preference for homogenous teams and workgroups (Kruglanski, Shah, Pierro, & Mannetti, 2002), and is sometimes manifested as prejudice and racism (Van Hiel, Pandelaere, & Duriez, 2004). People higher in need for closure are more likely to benefit from diversity programs to reduce prejudice (Hogan & Mallott, 2005; Dhont, Roets, & Van Hiel, 2011). Need for closure is not correlated with intelligence (Webster & Kruglanski, 1994), and thus serves as a useful measure in a study in which most participants are of extremely high merit. Prejudice reduction following contact is

stronger for people high in cognitive rigidity. Dhont, Roets, and Van Hiel (2011) identified intergroup anxiety as the mediator through which the moderator effect of need for closure affects modern racism.

Trust. Dovidio et al. (2008) noted the influences of distrust in intergroup relations, and wrote that both historical and contemporary race relations in the United States have been characterized by distrust. Tropp (2008), after summarizing the negative outcomes of distrust in intergroup contact, called for more research focused on intergroup trust. Developing trust between individuals seems to be a critical bridge to building trust within the larger group context. Trust is related to the ingroup-outgroup distinction, as people tend to trust members of their ingroups (Yuki, Maddux, Brewer, & Takemura, 2005) and distrust members of outgroups (Insko & Schopler, 1998). Researchers argue that trust is extended to fellow ingroup members, but not to outgroup members (Insko et al., 1990, 1998), based on group living as a fundamental survival strategy (Brewer, 2007). Intergroup contact promotes increased outgroup trust (Hewstone et al., 2005).

Rudolph and Popp (2010) investigated whether diversity, which can result in particularized intragroup trust at the expense of more generalized intergroup trust, is inimical to trust. Examining the responses of 9,043 individuals from 55 American cities, they found that minority empowerment and minority concentration both lead to lower levels of interracial trust. Nevertheless, they introduced optimism in their discussion, noting that racial heterogeneity such as minority empowerment and concentration perhaps reduce trust by engendering perceptions of dissimilarity rather than perceptions of threat. Furthermore, the effects of racial heterogeneity on trust were moderated by

interracial contact, such that racial heterogeneity reduced trust among individuals with few racially diverse friends but raised trust among those with racially diverse friends.

Generalized ethnocentrism. Ethnocentrism is defined as the "view of things in which one's own group is the center of everything, and all others are scaled and rated with reference to it" (Sumner, 1906, p. 13). Ethnocentrism does not automatically imply feelings of own ethnic superiority, but this is often what is measured (this study being no exception). Ethnocentrism leads people to make internal attributions for their ingroup's positive behaviors and external attributions for their ingroup's negative behaviors, in effect acting to confirm their perceived superiority (Taylor & Jaggi, 1974).

Empathy. An example of a situation in which empathy plays the difference between (simulated) life and death is in Shapiro's (2010) Tribes exercise, which is similar to, though more elaborate than Tajfel's (1970) minimal group paradigm. The exercise separates people into tribes that during the span of an hour decide upon a distinctive tribal language, culture, and norms. Once the tribes are formed, an alien floats in and threatens to destroy the Earth, unless the tribes "choose one tribe as *the tribe* for everyone. [They] must all take on the attributes of that tribe. If [they] cannot come to full agreement (…) … the world will be *destroyed*!" (italics in original; Shapiro, 2010, p. 634). This intelligent exercise leads in 95% of cases to the world blowing up because of poor negotiation between tribes. Shapiro noted nine mitigating conditions, one of which involves a dominant norm of empathy between tribes.

Empathy is defined as "an other-oriented emotional response congruent with another's perceived welfare; if the other is oppressed or in need, empathic feelings include sympathy, compassion, tenderness, and the like" (Batson et al., 1997, p. 105).

Although empathy has not played a large role in the research on prejudice, several studies have found that more empathic people exhibit less prejudice. Empathy has been found to correlate negatively with prejudice against African Americans (Whitley & Wilkinson, 2002), negatively with prejudice against gays and lesbians (Johnson, Brems, & Alford-Keating, 1997), and negatively with prejudice against Australian Aborigines (Pedersen, Beven, Walker, & Griffiths, 2004). Also, induced empathy has been found to reduce prejudice against African Americans (Dovidio et al., 2010), drug addicts (Batson, Chang, Orr, & Rowland, 2002), AIDS victims, homeless people, murderers (Batson et al., 1997), and older adults (Galinsky & Moskowitz, 2000).

In a minimal group paradigm, Galinsky and Moskowitz (2000) found that perspective taking, a corollary of empathy often defined as cognitive empathy (Stephan & Finlay, 1999), was the only condition that decreased intergroup bias. Batson and colleagues (1997, 2002) found that instructions to empathize with an outgroup member led to more positive attitudes toward that individual, and that the positive attitudes also generalized to the social groups of which the target individuals were members. Their 2002 study showed that empathy-induced attitude change translated into behaviors, as participants who empathized with a drug addict allocated more money to an agency helping drug addicts in general (though not that specific drug addict). Empathy can also help decrease threat and reduce anxiety over interacting with members of the outgroup (Stephan & Finlay, 1999). Taken together, these results indicate that empathy can operate as a buffer against prejudice.

Social dominance orientation. Sidanius and Pratto's social dominance theory (Sidanius & Pratto, 1999) seeks to identity the various mechanisms that produce and

maintain the systems of group-based social hierarchies. In such group-based social hierarchies there are usually one or a few dominant groups, which enjoy the larger shares of material and social values, and one or a few subordinate groups, which suffer the larger shares of material and social difficulties. The second assumption of social dominance theory, that "most forms of group conflict and oppression (e.g., racism, ethnocentrism, sexism, nationalism, classism, regionalism) can be regarded as different manifestations of the same basic human predispositions to form group-based social hierarchies" (p. 38) sets it apart from social identity theory (see Chapter 1). Whereas social identity theory explains ingroup favoritism within essentially equal and often arbitrarily defined social groups, social dominance theory is a model of social hierarchy.

Social dominance orientation assesses the degree to which individuals desire and support group-based hierarchy and the domination of subordinate groups by dominant groups. Despite some finding no relation (e.g., Duckitt et al., 2002), most research points to a positive relationship between social dominance orientation and prejudice (Ekehammar, Akrami, Gylje, & Zakrisson, 2004; Pratto, Sidanious, Stallworth, & Malle, 1994; Sibley & Duckitt, 2008; Whitley, 1999). For example example, Whitley (1999) found, in his sample of 636 undergraduate students, that high levels of social dominance orientation was related to negative affect toward, stereotyping of, and negative attitudes toward the equality enhancement of African Americans and homosexuals. People high in social dominance orientation have been called "equal opportunity bigots" (Altemeyer, 1998, p. 52) because of their characteristically consistent prejudice toward all outgroups.

Demographics. Given the long list of potential individual difference predictors of bias, and the overlap between some measures, the most useful studies are those that

show prediction of intergroup bias with specific measures (e.g., the effects of contact on prejudice) while controlling for other measures (e.g., whether participants could choose to engage in contact; Tropp & Pettigrew, 2006). The demographic variables (age, gender, intelligence,[13] Big Five scores, religiosity, liberal/conservative identification, and hopefulness) were collected for two reasons: (a) to provide a comprehensive overview of the universe of students used in this field study; (b) to allow for analyses which could control for confounding variables (e.g., gender on social dominance orientation).

Age. As mentioned before, adolescence is a time of considerable change, undergoing biological, cognitive, and social transitions (Steinberg, 2008). The range of ages represented at RCN is 15-21, so there is undoubtedly variability in students' biological, cognitive, and social maturity. It seems plausible to expect that younger students and students entering their first year at RCN should experience greater attitudinal and emotional changes than should older and second year students. Bardi and Schwartz (1996) suggested that greater value change is expected in younger compared to older adults because the value systems of older adults are already strongly crystallized. In support of this notion, younger Eastern European students were found to be less affected by the Eastern European communist regimes than were their teachers (Bardi & Schwartz, 1996), younger males in Japan are more individualistic than their older peers (Matsumoto, Kudoh, & Takeuchi, 1996), and younger immigrants more quickly assimilate into the host culture than do older immigrants (Marín, Sabogal, Marín, Otero-Sabogal, & Perez-Stable, 1987). However, group differences such as these may reflect cohort differences rather than value change within persons over time.

[13] Intelligence was attempted collected, but as is explained in Chapter 4, the data were not good enough.

Gender. Men tend to be more instrumental and self-oriented, whereas women tend to be more affective and other-focused (Hughes & Tuch, 2003). Men exhibit higher levels of social dominance orientation than do women (Pratto, Stallworth, & Sidanius, 1997) and social dominance orientation has been found to mediate gender differences in expression of prejudice (Whitley, 1999). Prejudice against outgroups is linked to aggression in men and fear in women (Van Vugt, De Cremer, & Janssen, 2007). In a study of Norwegian 12 to 16-year old adolescents, Bratt (2002) found that male majority members (i.e., ethnic Norwegians) demonstrated less favorable attitudes toward Turks, Vietnamese, and Pakistanis than did female majority members. However, male majority members also revealed a stronger correlation between intergroup friendships and attitudes toward outgroups than did majority females.

Intelligence. Intelligence is correlated with the Big Five construct openness to experience ($r = .33$; Ackerman & Heggestad, 1997), and with liberalism and atheism (Kanazawa, 2010). Heaven, Ciarrochi, and Leeson (2010) found that social dominance orientation in Australian 12^{th} graders was predicted by low verbal intelligence measured five years earlier. Intelligence therefore may influence success in intergroup relations by influencing adolescents' social dominance orientation.

The Big Five. Of the Big Five personality variables, extraversion, agreeableness, and openness to experience are the most pertinent to the study of contact situations and intergroup relations. In fact, children scoring high in both extraversion and agreeableness are more socially competent (Shiner, 2000). Though extraversion is not directly correlated with prejudice, extraversion increases outgroup contact, which in turn decreases prejudice (Village, 2011). Agreeableness is another promising personality

factor in the study of intergroup relations, as people high in agreeableness tend to be cooperative, considerate, empathic, generous, polite, and kind. Agreeableness includes a willingness to accommodate others' wishes (Caspi, Roberts, & Shiner, 2005), and generally fosters congenial relationships with others (Graziano & Eisenberg, 1997). Agreeableness is negatively related with social dominance orientation (Ekehammar & Akrami, 2003), and social dominance orientation is positively related with prejudice (Sibley & Duckitt, 2008). Likewise, others have found that The Big Five have no direct effects on prejudice (Ekehammar, Akrami, Gylje, & Zakrisson, 2004). Instead, prejudice is affected indirectly by agreeableness through social dominance orientation.

Although personality traits are quite stable across time (Roberts, Walton, & Viechtbauer, 2006; Soto, John, Gosling, & Potter, 2011), this stability does not manifest until after adolescence. Personality changes that take place from adolescence to adulthood reflect growth toward maturity. As they age, adolescents show more constraint (particularly control), less negative emotionality (particularly aggression and alienation), and increased positive emotionality (Roberts, Caspi, & Moffitt, 2001). In the language of the Big Five, for example, agreeableness declines rapidly toward the end of childhood (age 10-15), but unlike extraversion, which after a similar decline remains relatively stable, agreeableness then rises to pre-established levels, and even higher over the rest of the life span (Caspi, Roberts, & Shiner, 2005; Soto, John, Gosling, & Potter, 2011).

Most of the students at RCN are 16 years old when entering, and 18 years old when graduating, from high school. Changes in students' Big Five scores occur partly due to maturation and partly due to the college environment, and it would be impossible to tease apart the two influences. The five BFI factors (John & Srivastava, 1999) were

therefore used as demographic variables rather than dependent variables, to describe the participant sample. Any deviances in students from the average changes found by Soto and colleagues (2011) and other Big Five researchers were particularly noted.[14] As other researchers have found no gender differences (Roberts, Caspi, & Moffitt, 2001), no gender differences in levels of Big Five changes over time were expected.

Religiosity. The link between religiosity and prejudice is somewhat ambiguous. Whereas some researchers have found positive relations between prejudice and religious beliefs (e.g., Gorsuch & Aleshire, 1974; Batson & Burris, 1994), others fail to replicate these findings (e.g., Fiedorowicz, 2010; Rowatt & Franklin, 2004). One reason for the apparent ambiguity may be that the relation between religiosity and prejudice vary across aspects of religiosity and type of prejudice. In many cases, religiosity may be associated with limited solidarity, and different types of religiosity may correlate differently with prejudice (e.g., Allport & Ross, 1967). For example, religious fundamentalism positively predicts racial prejudice, while religious openness and religious commitment are not correlated with racial prejudice (Leak & Finken, 2011). In addition, extrinsically religious people tend to be more racially prejudiced, whereas intrinsically religious people are tolerant toward people of other races but are prejudiced against gay people (Herek, 1987). Another reason for the ambiguous link between religiosity and prejudice may be that the relation is curvilinear, as research by Gorsuch and Aleshire (1974) suggested. In their conceptual meta-analysis of 85 published studies, they found that

[14] Due to difference in scales, direct comparisons were difficult. Conceptual comparisons of means and standard deviations suggested no major deviations from the Big Five trends described in Soto et al. (2011).

non-churchgoers and highly active church members were equally tolerant, whereas moderately active church members were the most ethnically prejudiced.

Religious racism reflects intergroup dynamics (Jackson & Hunsberger, 1999; Hall, Matz, & Wood, 2010). A strong religious ingroup identity is associated with the derogation of racial outgroups. Positive values taught by religion, such as humanitarianism and compassion, are reserved largely for one's religious ingroup and do not result in racial tolerance. In India, for example, Hindu and Muslim adolescents who regularly participated in religious activities were more prejudiced and ethnocentric than their non-Hindu and non-Muslim peers (Hasnain & Abidi, 2007). Furthermore, in their meta-analysis of 55 studies including 22,075 participants, Hall, Matz, and Wood (2010) found that only religious agnostics were racially tolerant.

In a study of white Christian adolescents in Northern England, Village (2011) found that lower levels of religiosity were associated with higher levels of prejudice against Asians, Muslims, blacks, and Sikhs. Particularly interesting to the current study is his finding that a decline in religiosity (in his sample between early and mid-adolescence) was associated with an increase in prejudice, a finding that may prove important given that some literature suggests reduced levels of religiosity in adolescence (Kay & Francis, 1996).

Liberal/conservative identification. Liberals, on average, are more open to experience and to seeking change and novelty (McCrae, 1996). The two cores of conservatism, in contrast, involve "resistance to change and acceptance of inequality" (Jost, Glaser, Kruglanski, & Sulloway, 2003, p. 342). Both need for closure (Kruglanski & Webster, 1996) and social dominance orientation (Pratto et al., 1994; Sidanius &

Pratto, 1994) have been hypothesized to predict conservative identification. Conservatism, measured by right-wing authoritarianism and social dominance orientation scales, is correlated with neuroticism (Pratto et al., 1994) with perceiving the world as dangerous (Altemeyer, 1998; Duckitt, 2001), with pro-Pakeha (European-origin New Zealander) and anti-Maori, Asian, and Pacific Islander attitudes in New Zealand (Duckitt, 2001, Studies 2 and 3) and with pro-White Afrikaner and anti-Black attitudes in South Africa (Duckitt, 2001, Study 4).

A single liberal-conservative continuum as that employed here has been found to have predictive validity for a wide range of issues (Jost, 2006). What exactly was meant by liberal/conservative identification in the students' surveys (e.g., political, religious, financial) was intentionally left out to allow students a more holistic interpretation.

Hopefulness. Hope has been historically used in psychology as general expectations of meeting goals (Lewin, 1935). More recently, positive psychologists have suggested hope consists of two iterative and positively related, but conceptually different, constructs (Snyder, 2000): the motivation and enthusiasm to reach one's goals (willpower) and the pathways through which that is possible (waypower; Luthans, 2002; Luthans & Jensen, 2002). Hope is positively related to academic, athletic, and health performance (Snyder, 2000). Hopeful people tend to enjoy interacting with others, readily adapt to new collaborations, are less anxious, and are more adaptive to environmental change (Snyder, Cheavens, & Sypmson 1997; Snyder, 2000). Hopeful leaders have more profitable work units and better satisfaction among their subordinates (Peterson & Luthans, 2003). Most applicable, Luthans, Van Wyk, and Walumbwa

(2004) proposed, to face significant challenges, advancing hope in South Africa by developing hope in its organizational leaders.

Sustainable Change

People can be successful in changing their attitudes, emotions, and behaviors in one context (i.e., the drug addict in a treatment clinic), and yet fail to maintain their new-learned skills when returning home or moving to a new environment (relapsing). RCN is removed from not only the local Norwegian political and social reality, but from all students' home environments, creating an artificial "bubble" (actually referred to by students as the "Flekke bubble"). Although RCN might produce awareness and concern in its students, if students upon graduation return to and are re-immersed in their home environments, the positive changes may be only temporary. Two arguments suggest this may not be a problem for RCN students.

First, lasting changes have been found in people participating in shorter and less immersive intergroup contact interventions. Intergroup friendships at the start of a language class were related to reduced bias toward Mexicans one week later (Eller & Abrams, 2003). Case (2007) found that students completing a single university-level class, Psychology of Race and Gender, reported lower levels of prejudice, guilt, and fear of other races, effects that lasted at least to the end of the semester. Davies, Tropp, Aron, Pettigrew, and Wright (2011) found an overall longitudinal effect size of $r = .231$ in their meta-analysis of the impact of intergroup friendships on positive outgroup attitudes.

In further support of the lasting effects of diversity education, research suggests that diversity education is useful for students who are not immersed in their learning environments: commuters (Hogan & Mallott, 2005). Hogan and Mallott found that one

completed gender or diversity course at the university level successfully reduced commuting students' prejudice against African Americans. Bowman, Brandenberger, Hill, and Lapsley (2011) examined a longitudinal sample of college students, collected during freshman and senior year and 13 years after graduation, to explore the long-term effects of college diversity experiences. They found that participating in a racial/cultural awareness workshop or taking an ethnic studies course during college had a significant indirect effect on the recognition of racism among alumni approximately 15 years later.

Second, most RCN students do not re-immerse themselves in their home environments upon graduation (see Table 4). Instead, most pursue higher education, in the United States and internationally. At Time 4, only 21.1% of RCN students reported planning to move home upon graduation. Some had no choice (i.e., the Israeli students who had to join the Israeli army), whereas others claimed they had changed their mind about going abroad (see interview qotes from Canada in Chapter 5). Only about 1 in 5 RCN students planned on going home; 30.1% of alumni surveyed reported that they had returned to their home countries upon graduating from their UWCs.

In order to examine the size of a potential relapse in RCN students, surveys were administered right before and right after summer break. Summer break is approximately three months long, and most students spend at least some of their vacation time at home. If relapse is a problem for RCN students, then positive outcomes (e.g., increased trust, decreased negative outgroup emotions) found between Time 1 and Time 2 should revert to Time 1 levels at Time 3. Such relapses would suggest that RCN students' learned positive attitudes and cognitions are temporary and may be lost if they return to their home environments, an important weakness to the RCN education.

Chapter 3

Contact Interventions with a Control Group

Programs like UWC that encourage contact between diverse groups of people represent a theoretical framework positing that such contact provides people with the experience, knowledge, and skills required to break down national, racial, religious, and other cultural barriers. Many examples of such programs exist, including Seeds for Peace, Morocco Encounter, Initiatives of Change USA (fostering, among others, the Caux Scholars Programme), Face to Face / Faith to Faith, CISV International, and university exchange programs. Peace Players International, for example, was founded on the premise that "children who play [basketball] together can learn to live together" (peaceplayersintl.org, n.d., para. 1).

To establish the effectiveness and utility of such programs, extensive research has been and is conducted on these and other programs (e.g., Rosen & Salomon, 2011; Quing, Schweisfurth, & Day, 2009; Yablon, 2010). For example, Biton and Salomon (2006) assessed 320 Palestinian tenth-graders in the program Pathways into Reconciliation, a school-based yearlong intervention designed to develop values of tolerance and acceptance, mutual respect of rights, equality, and social justice. Whereas no changes were found in program participants after seven months, hatred of Jews had doubled in the control group. Another example involves CISV International (formerly Children's International Summer Villages), most known for its four-week summer programme for 11-year old children operating on the premise that engaging in simple activities together indirectly promotes peace and understanding. CISV International was founded in 1950 and received some research attention at the time (e.g., Allen, 1963;

Bjerstedt, 1958), and some in recent years (e.g., Yuen, 2005). CISV participation has been found to help children enhance their communication skills (Yuen, 2005).

Yuen's (2005) study of CISV participants did not include a control group, and therefore the findings cannot unequivocally be attributed to the CISV programme. Competing explanations such as the experience of traveling to a new country, separating from one's family for four weeks, or others, cannot be completely ruled out, which weakens Yuen's conclusions. The study described herein is a longitudinal field study, also without a control group. The decision to forego a control group was deliberate and will be expanded upon later in this chapter. Instead, and as a proxy for a control group proper, a thorough search of the literature reporting similar contact interventions with control groups was conducted.[15]

Importance of Control Groups

Control groups are employed in psychological experiments to ensure that the results of the experiments have validity, or that they measure what they are claimed to measure (Kelley, 1927). Participants are randomly assigned to either the experimental group or the control group, ensuring that people in both conditions are representative of the same population. The experimental group receives the experimental manipulation, whereas the control group does not. Any changes that then occur can with stronger confidence be attributed to the manipulation, and not to pre-existing differences between the two groups. Control groups are not necessary to all scientific experiments, but are

[15] Three research assistants spent four months searching the literature for studies that were not included in Denson (2009) and Pettigrew and Tropp (2006). Criteria for inclusion were: use of a control group, high school or undergraduate student sample, a concrete intervention, quantitative outcomes, and reporting of effect sizes. 45 published articles were discovered, of these 11 were included (see Appendix B).

extremely useful in studies in which the experimental conditions are complex and/or difficult to isolate. Control groups are particularly important in studies attempting to establish causality because without it, one cannot be sure whether the experimental manipulation worked and, if it did, in what ways it worked. Competing explanations such as placebo effects and maturation become a problem.

Given the importance of control groups, this research was weakened by the lack one. The decision to not include a control group was based on three factors: (a) within-group changes occurring in RCN students were the focus; (b) lack of RCN student background information; (c) no available and/or accessible control groups similar enough to ensure equivalence across it and the RCN group.

First, this field study was a within-group study. The main focus was on how RCN students develop over two years, assessed by comparing their survey responses at four different time points. In 2010, more than 12,000 students applied to study at a UWC school, college, or short program (www.uwc.org). UWCs select only the students with the highest merit and potential, but this does not imply that RCN students form a homogenous group. National Committees follow different acceptance criteria and do not make decisions based on gender, race, ethnicity, religious views, political affiliations, or economic background. There is therefore wide variability across students in individual differences other than merit and potential. Findings are therefore expected to generalize to the other 12 UWCs worldwide. Noting that there are around 2,600 enrolled UWC students at any given time in addition to an ever-growing force of around 40,000 alumni (yearly, about 1,500 students graduate from a UWC school or college, or complete a UWC short program), I contend that studying within-changes in RCN students, even

without a control group, is extremely important for furthering theory and research on intergroup contact and for furthering the development of the UWC education.

Second, lack of RCN student information regarding family socio-economic status, parents' professions, and general life histories complicates the quest for a comparable control group. The decision to apply to, and the acceptance to attend a United World College likely set RCN students apart from potentially comparable, in age, gender, and so on, high school students. The UWC selection criteria are stringent, requiring incoming students to be at the top of their class academically while also engaging in extra-academic activities such as music, sports, or volunteering. However, there are no official statistics suggesting how RCN students differ from Norwegian high school students, or how UWC students generally differ from other comparable high school students. Such statistics would be complicated by the fact that each UWC national committee has its own selection criteria. Paluck and Green (2009) lamented the use of control groups that are substantially different from the participants under study, such as younger students or students in a different school. A non-RCN control group would raise concerns regarding the internal validity of the study, because the two groups would not be comparable at baseline (e.g., in socio-economic status, national background, language). The decision was made to forego a control group rather than use such a significantly different group.

Finally, RCN sets itself apart from other high schools by being an extremely diverse multicultural boarding school. At best, this study could be a quasi-experiment in which RCN students were compared to students at other high schools, but no other group of high school students is similar enough to ensure equivalent groups across any analyses. Using a sample from a regular high school as a control group would not tease apart the

effects of the diversity at RCN versus the effects of the peace-oriented education. Besides, if a regular high school were to be used as a control group, which high school in which country should be used? Given the immense diversity at RCN, it would not make sense to use a control group from just Norway, or just the United States. Relevant control groups would include students at a homogenous peace-oriented boarding school, or international students at a regular International Baccalaureate (IB) school. The first control group would help demonstrate the effects of a multicultural student body, whereas the second would help demonstrate those of a peace-oriented curriculum. Non-boarding schools could potentially also serve as control schools if they were either peace-oriented or educated a multicultural student body, but none have been located within the greater Minneapolis area or in Norway that adhere sufficiently to these requirements.

Another possibility would be to identify and track students that applied, but that did not get accepted to UWC. UWCs do not maintain an official waiting list of students, but some national committees do. In Germany, ongoing research compares admitted and non-admitted students, though the sample is small (Appel, personal communication, March 4, 2014). Ideally, the national committees would maintain records of all students applying, as well as records of how far in the application process students go, from application to tests to interviews to acceptance.

In sum, obtaining a relevant control group for this fieldwork proved impossible. The aim instead was to find a stand-in for the absent control group. There are myriad studies conducted that resemble this one, in which young participants were assessed before and after a prejudice reduction program. As a proxy for a RCN control group, the

literature on peace and diversity education was examined to find research on high school and college prejudice reduction interventions that did have control groups.

Conceptual Replication

The use of similar studies that did have a control group as a proxy should be considered a kind of conceptual replication, that is, an examination of the relationship between intergroup contact and intergroup bias in other samples with other study designs. The aim was to generalize across the samples and to gain confidence that if this study had indeed employed a control group, findings and effect sizes would closely mirror those of similar studies. What makes such generalizations possible is the use of standardized indexes, such as effect sizes, that can be compared across samples of different sizes and compositions. Effect sizes represent the magnitude and direction of the relationship of interest, thus standardizing findings across studies such that study findings can be directly compared. Types of effect sizes include standardized mean differences (or Cohen's *d*), odd-ratios, and correlation coefficients; Cohen's *d* was used here.

The collection of studies below is not a formal meta-analysis, but just like formal meta-analyses it likely fell, to some extent, victim to the infamous file drawer problem (Rosenthal, 1979). Called so because unpublished results are imagined to be tucked away in researchers' file cabinets, the file drawer problem arises because usually only published studies are included in meta-analyses. Studies with non-siginificant findings often go unpublished because of experimenter and journal editor biases against

presentations of null findings. The inclusion of such studies in meta-analyses would mitigate overall effect sizes found.[16]

Research on the effects of diversity. Past research on the effects of diversity in education can be classified into three categories (Gurin, Dey, Hurtado, & Gurin, 2002; Milem, 2003; Terenzini, Cabrera, Colbeck, Parente, & Bjorklund, 2001): structural diversity, curricular and co-curricular diversity, and informal interactional diversity. Structural diversity refers to the demographic makeup of different cultural groups represented on a campus, curricular and co-curricular diversity refers to institutionally structured and purposeful programmatic efforts to help students engage in diversity both through coursework and through participation in activities such as racial awareness workshops, and informal interactional diversity refers to the frequency and quality of intergroup interactions that occur during the normal course of student life (Denson, 2009). Structural diversity, curricular and co-curricular diversity, and informal interactional diversity are all present at RCN, thus research and meta-analyses of the effects of all three kinds are presented here. The aim was to present similar interventions to the one reported here; but interventions that did employ control groups. The fact that similar

[16] One popular method for calculating the number of non-significant studies that would need to be tucked away to undermine a meta-analysis' finding is Rosenthal's (1979) fail-safe file-drawer method (Scargle, 2000; Sutton, Song, Gilbody, & Abrams, 2000), though several more recent and rigorous methods have been established (e.g., the "trim-and-fill" method, general linear model approaches). Most recent studies acknowledge the threat of the file drawer problem. Pettigrew and Tropp's (2006) meta-analysis, for example, would require more than 1,200 missing samples that would need to average no effect in order to mitigate the meta-analysis' findings of effects.

interventions with control groups found positive effects strengthens confidence in the outcomes reported herein despite the lack of a control group.

Research on structural diversity. Of the three diversity categories, structural diversity has been the topic of least empirical interest, representing the smallest number of diversity-related studies (Chang, 2002; Terenzini, Cabrera, Colbeck, Bjorklund, & Parente, 2001). The degree to which racially diverse groups of students are represented in the student body is positively associated with problem-solving skills and group functioning skills (Terenzini et al., 2001). No meta-analyses have been done specifically on the impact of structural diversity. Pettigrew and Tropp's (2006) meta-analysis described below did not set out to investigate structural diversity per se, but rather included it as a study variable. Stronger negative relations between intergroup contact and prejudice were found in structured programs (r = -.287) than in contact situations that were not part of structured programs (r = -.204).

Meta-analysis of curricular and co-curricular diversity activities. Denson (2009) conducted a meta-analysis of curricular and co-curricular diversity activities to determine whether such initiatives reduce racial bias, and what characteristics of programs and students impact effectiveness. In response to changing demographics on American college campuses, Denson explained, institutions have implemented diversity-related initiatives to promote positive intergroup relations. Past reviews of the effectiveness of such initiatives were inconclusive (see Engberg, 2004, for an example of a qualitative review), thus the motivation was not only to statistically synthesize past findings in a meta-analysis, but also to look at the various characteristics of the initiatives and students involved that impacted effectiveness.

Denson (2009) sought studies in which curricular and co-curricular diversity activities were used explicitly to reduce racial bias. The following search words were used: "*diversity, ethnic studies, women studies, bias, prejudice, stereotype, discrimination, higher education* and *college students*" (p. 812, italics in original). Studies were included if they investigated the relationship between curricular and/or co-curricular diversity activities and a racial bias outcome, and if they reported quantitative data in sufficient detail for the calculation of a standardized mean difference effect size. The selection criteria resulted in 27 primary studies, 15 of which were used, which resulted in 30 effect sizes. The mean unweighted effect size for the standardized mean difference racial bias outcomes was $d = .54$, "a medium effect of curricular/co-curricular activities on reducing bias" (p. 816). Pedagogical approach, type of sample, publication type, covariate quality, and the employment of controls were found to moderate the effect size.

Meta-analyses of informal interactional diversity activities. Informal interactional diversity activities are also known simply as intergroup contact. Such "activities" are informal in nature, tend to occur outside the classroom, and involve various settings such as dorm rooms on a high school or college campus, sports events, and social activities. Pettigrew and Tropp's (2006) extensive meta-analysis on the effects of intergroup contact provides conclusive evidence that intergroup friendships in particular are a powerful tool for reducing intergroup bias. With 713 independent samples from 515 studies, this meta-analysis is the single most complete quantitative synthesis of research on the intergroup contact theory. In direct response to weaknesses of earlier reviews, Pettigrew and Tropp included the entire relevant research base, employed stringent inclusion rules (i.e., studies in which intergroup contact was the

independent variable and prejudice the dependent variable, in which contact involved members of discreet groups, and in which direct intergroup interaction was reported), and used fully quantitative assessments of contact effects.

The rich database was obtained through computer searches of several online periodicals and journals using 54 different search terms by title words, keyword, and subject, by writing personal letters to researchers who published relevant research soliciting unpublished papers, by perusing reference lists from located studies, and by requesting materials through e-mail networks of social psychologists worldwide (Pettigrew & Tropp, 2006). These methods yielded in total 713 independent samples, and a total of 1,383 tests. Using random effects analyses, the mean correlation coefficients ranged from r = -.205 to r = -.214, indicating that intergroup contact resulted in a decline in intergroup prejudice. Directly related to the current study, the effects were stronger for studies in which participants had no choice but to participate in intergroup contact (r = -.280) versus some choice (r = -.190) or full choice (r = -.218), for experiments (r = -.336) versus quasi-experiments (r = -.237) versus surveys and field studies (r = -.204), for studies measuring observed contact (r = -.246) versus self-reported contact (r = -.210), for research reporting the use of multiple-item measures of contact (r = -.298) and prejudice (r = -.246) versus single-item measures of contact (r = -.195) and prejudice (r = -.233), for studies of children (1-12 years; r = -.239) versus adolescents (r = -.208) versus college students (r = -.231) versus adults (r = -.197), and for studies of women (r = -.214) versus men (r = -.185). Finally, studies employing within-subject designs had an average effect (r = -.221) that did not differ significantly from that of all between-subjects samples combined (r = -.217).

In a similar vein, but with a more focused sample, Davies, Tropp, Aron, Pettigrew, and Wright (2011) conducted a meta-analysis on all studies reporting friendships as the intergroup contact variable. Pettigrew and Tropp (2006) found that studies in which contact was assessed using some variety of a friendship variable the effects were stronger than they were for the remaining studies that assessed all types of contact (r = -.246 versus r = -.212). Davies and colleagues sought to extend these meta-analytic findings, by examining the effect of intergroup friendships on positive attitudes. In their sample of 208 studies (501 tests), Davies and colleagues found that friendships indeed predict positive intergroup attitudes (r = .258). The effect was stronger for studies employing multiple-item friendship or attitude measures of high reliability (r = .307 and r = .280 respectively) versus single- or multiple-item friendship or attitude measures of low reliability (r = .223 and r = .206 respectively). Non-significant differences were found between studies using only surveys (r = .261) and studies also employing an implicit attitude measure (r = .267), and between studies assessing experimental friendships (r = .163) versus natural friendships (r = .260).

Summary and Implications for the Current Study

A summary of the eleven studies included for conceptual comparison can be found in Appendix B. The unweighted average effect sizes for the studies not included in Denson (2009) and Pettigrew and Tropp (2006) were d = .390 for racial prejudice (ranging from d = .000 to d = .930), d = .670 for racial stereotyping (ranging from d = .590 to d = .750), d = .800 for mental health stereotyping (single effect size), d = .298 for sexual orientation prejudice (ranging from d = .269 to d = .362), d = .625 for changes

in bias directed at the self (single effect size), and $d = .267$ for changes in bias directed at others (ranging from $d = .190$ to $d = .419$),

The average effect sizes of prejudice reduction interventions for high school and college-aged participants that did employ a control group, in addition to the evidence provided by Denson (2009) and Pettigrew and Tropp (2006), provide encouragement that had a control group been employed in this study, effect sizes found would like remain as high. Moderately high effect sizes would have been expected because the RCN education employs both cognitive (e.g., coursework) and affective (e.g., intergroup friendships) approaches to intergroup bias reduction (Denson, 2009), involves adolescent and college-age students, and gives students no choice but to participate in intergroup contact (e.g., in the students' rooms), and the measures of intergroup contact and outgroup bias were multiple-item measures (Davies, Tropp, Aron, Pettigrew, & Wright, 2011; Pettigrew & Tropp, 2006).

The dearth of studies in the literature relevant to a real world socioenvironmental setting such as the RCN must be noted. Denson's (2009) meta-analysis of curricular and/or co-curricular diversity activities in higher education found only sixteen studies that contained enough information for the calculation of effect sizes, and thirty effect sizes were found. Pettigrew and Tropp's (2006) samples drew heavily on experimental and/or laboratory-based studies, reducing the generalizability to spontaneous, genuine intergroup contact situations. Nevo and Brem (2002) and Paluck and Green (2009) have lamented the lack of prejudice reduction interventions that have been thoroughly and scientifically evaluated. In an analysis of evaluation studies in peace education, Nevo and Brem (2002) did an extensive review of over 1000 articles, book chapters, and

conference documents published on questions of peace education in the period 1981-2000. Some 300 publications described a concrete peace education program, but only about a third of these referred in any form to methods for the evaluation of the program. 79 publications reported on evaluations, and in 51 of these the intervention measures were evaluated as being successful (in the remaining, the measures were of mixed results, or indicated lack of success). Nevo and Brem listed limitations to the few peace education programs that were evaluated: (a) most were not aimed at changes in behavior; (b) peace education programs appealed to reason or feelings, but not both; (c) program duration was consistently short; (d) none conducted follow-up tests. This field study, despite its lack of a control group, thus fills a large gap in the literature by evaluating a program that is aimed at changing behaviors by teaching students skills, that appeals to reason, aims at feelings, and spans the time of two years, and by including a concurrent follow-up of alumni.

Chapter 4

Methods

Participants

Current students. 270 students aged 15-26 and representing a total of 99 countries completed at least one of the four surveys. 61.9% were women, 38.1% men. Sample size, gender proportions, and age across Times 1, 2, 3, and 4 are listed in Table 5.

Interview participants. 28 current students (13 women, 15 men) participated in interviews. Three students were unavailable for follow-up interviews: Singapore and South Sudan in May 2013 and Costa Rica in May 2014, resulting in 53 total interviews, or 25 complete pre- and post-interviews (12 women, 13 men). Interviewed students represented 8 relatively peaceful countries (Canada, Costa Rica, Estonia, Greenland, Namibia, Norway, Singapore, and Switzerland) and 11 countries that recently and/or currently were experiencing some kind of conflict (Afghanistan, Egypt, El Salvador, Israel, Mexico, Morocco, Palestine, Rwanda, South Sudan, Sri Lanka, and Thailand).

Alumni. 256 alumni aged 16-59 ($M = 27.5$, $SD = 7.58$) completed the survey. 65.5% identified as women, 34.5% as men. Alumni represented ten UWCs and 77 countries (see Table 3[17]).

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[17] Current students' and alumni's countries of birth were considered the countries they represented while at UWC, despite some participants listing other nationalities than those of their countries of birth. The measure was complicated by the fact that a sizeable portion of participants reported having grown up in more than one country (19.1% of alumni and 10% of current students), thus the reliance on countries of birth. Wrote one alumna in her survey, "'home' is not always an easy concept for UWCers."

Procedures

This study took place in Norway, thus rules and regulations of both the University of Minnesota Institutional Review Board and Norway's Data Protection Agency were maintained. Data were transmitted from Norway to the United States according to the European Union Data Protection Directive. The official language in Norway is Norwegian, but the language taught and spoken at RCN is English. Accordingly, this study was conducted in English. RCN maintains legal guardianship over minors and gave approval to invite all 409 students on campus 2011-2014 to participate in the study.

August 2012 example. Second year students (n = 100) arrived at RCN on Sunday, August 19, 2012. First year students (n = 100) arrived three days later, on Tuesday, August 21, 2012. That same day I held a 15-minute presentation about the study to all 200 students during a mandatory College Meeting. Immediately after the College Meeting, all students received a printed consent form (see Appendix C) and a sheet of paper with the study link and their unique participation number (see Appendix D), adorned by a Post-It note that said "Thank you for your participation!" Students also received blind carbon copied e-mails with the study link and their participation number. On August 22, first year students began Introduction Week Rotations, during which they rotated to different stations in groups of 20 to learn about their classes, the college, the campus, and the local surroundings. Because first year students were so busy during this first week, time was dedicated to completing the surveys during their mandatory introductory meetings with their academic advisors on August 23. Second year students, who did not have a set schedule that week and who were mainly working on their Extended Essays, were asked to complete the survey at their first and best opportunity.

14 first year students were asked during the College Meeting to participate in interviews. Interview participants were identified based on their home country, and represented 8 relatively peaceful countries (Canada, Costa Rica, El Salvador, Estonia, Greenland, Namibia, Norway, Singapore) and 6 countries that recently and/or currently were experiencing some kind of conflict (Egypt, Israel, Morocco, Palestine, South Sudan, Thailand). The 14 countries were presented on a projector screen and students representing the countries were asked to come forward after the presentation. If more than one student represented a country identified for the interview (e.g., Norway), the first student to approach was chosen for the interview. Interview times were set up at the participants' convenience. With RCN faculty and staff's approval, participants skipped non-critical Introduction Week Rotations (e.g., walk to Flekke and around the student village) in order to participate in the interview. During the initial interview, participants were told that after the second interview, two years later, they would be able to listen to the recording of their first interview.

Follow-up e-mails were sent to the entire student body one and three weeks after visiting RCN, to encourage further survey completion. I sent the first e-mail one week after my visit. Madhulika Singh, Director of Extra Academic Programmes, sent the second e-mail three weeks after my visit.

The procedures described here were observed in August 2011, August 2012, and August 2013, the only differences being the dates and times of student arrivals and College Meeting presentations. In May 2012, 2013, and 2014, there was no College Meeting presentation. Students were sent e-mails about the surveys and received consent forms and a paper with the participation link and their unique participation numbers in

their mailboxes. Follow-up interviews in May 2013 and May 2014 were scheduled directly with participants before my arrival on campus.

Alumni. Since the first UWC was founded in 1962, almost 40,000 alumni have graduated from the twelve UWC colleges worldwide. Alumni from all UWCs were attempted identified and contacted, mainly to ensure large enough samples for sufficient power (see Footnote 22 on pages 85-86 for an explanation of power). If the sample was large enough, then a subset of alumni from RCN would be compared to current students. Using alumni webpages administered by each school (e.g., https://uwcrcn.no/alumni.html) as well as social media (e.g., Facebook, LinkedIn), several hundred alumni were contacted (see sample contact letter in Appendix E). Rather than send survey links indiscriminately, alumni invited via e-mail and/or Facebook and LinkedIn message were requested to reply to the message to obtain the survey link. The identification of and messaging to alumni took part from September 2012 to January 2014. The alumni survey was closed on March 1, 2014.

Materials

Surveys. Time 1 refers to the first two weeks of students' first school year at RCN (i.e., August 2011, August 2012, or August 2013), Time 2 to the last two weeks of students' first school year, Time 3 to the first two weeks of students' second school year, and Time 4 to the last two weeks of students' second school year, regardless of the actual date, because students on average took two weeks to complete the surveys.

Surveys were administered online using Qualtrics survey software (Qualtrics, 2013). The consent form was presented first, along with a yes/no question, "Do you agree to take part in this survey?" A "yes" response continued the survey; a "no"

response ended the survey. The measures described below were administered four times to current students and once to alumni.[18] Differences between current student surveys and alumni surveys are noted (see Appendix C). Means, standard deviations, and Cronbach's alpha coefficients for each measure at each time point for current students and alumni are reported in Tables 6, 7, 8, and 9.

Demographics. Participants first indicated their participation number. Demographic items asked for age, gender, country of birth, country/countries of upbringing, nationality, and how diverse participants' home environment was, i.e., on a scale from 1 (Not at all diverse) to 7 (Extremely diverse), "How diverse was your home environment growing up?" Alumni surveys also asked for the year of graduation from UWC and from which UWC alumni graduated, highest level of education (high school/some college/bachelor's degree or associate degree/some graduate work/master's/PhD/post-doctorate), and current occupation.

Plans for the future. Two open-ended questions asked, "Why did you decide to come to UWC?" and "Do you plan on moving home after graduating from RCNUWC[19]?" A follow-up question came next, "If you answered "no," where are you planning on going?" Alumni surveys asked, "Why did you decide to attend UWC?" and "Did you move home after graduating from your UWC?" The follow-up question asked, "If not, where did you go?"

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[18] Many participants started the survey, exited, and then started the survey from scratch later. Several instances of half-finished surveys with the same participation numbers as completed surveys were deleted.

[19] Rebranding of the college names occurred halfway through this project. Whereas before the name of the school came first – Red Cross Nordic United World College – after the rebranding, UWC comes first – UWC Red Cross Nordic. Inconsistency in RCN's name in the surveys is due to this rebranding.

Friends and roommates. Participants were asked to list "as many or as few friends as you would like," of their best friends "at home" and "the people at Red Cross Nordic you consider your best friends." Furthermore, participants indicated how many times a week they hang out with and how many hours a week they spend with friends at RCN (i.e., none, 1-3, 4-9, 10-19, more than 20). Finally, participants were asked to list their roommates' genders and countries of origin. Alumni were asked the same five questions, substituting "current best friends" for "best friends at home" and "UWC" for "Red Cross Nordic."

Coursework and EACs. Participants were asked in open-ended questions to list which classes they were taking, what their EACs were, and what other activities they took part in at and around RCN. Participants also indicated how many times a week and how many hours a week they did, or planned to (in case of incoming first years), take part in EACs (i.e., none, 1-3, 4-9, 10-19, more than 20). Alumni were asked the same five questions, worded in past tense.

Predictors drawn from contact theories. Twenty-nine items measured seven predictors drawn from the three models of intergroup conflict reduction. Seventeen items were adapted from Gaertner, Rust, Dovidio, Bachman, and Anastasio (1994) to measure the five conditions of the Contact Hypothesis. On a scale from 1 (Not at all) to 4 (A lot), participants' indicated their agreement or disagreement with items such as "Teachers are fair to all groups of students" (equal status), "Students at RCN have common goals" (common goals), "There is cooperation between students in academics (for example, helping each other with math)" (intergroup cooperation), and "Teachers encourage students to make friends with students from other groups" (supportive norms).

Friendship potential was measured by two related items asking how many times a week and how many hours a week students spent with friends (None, 1-3, 4-9, 10-19, More than 20). Alumni were given the same seventeen items, substituting "UWC" for "RCN." Participants also indicated their perceptions of their own and other students' typicality and acting as exemplars of their national/cultural groups, on a 5-point scale ranging from 1 (Not at all typical/Never) to 5 (Completely typical/All the time). These four items measured intergroup salience, a condition of Brown and Hewstone's (2005) Intergroup Contact Model.[20] Finally, participants were asked how strongly they identify with their national identity and the RCN student identity, with eight items such as, "I am proud of being [nationality supplied from demographic question]," and "I feel committed to other Red Cross Nordic students." Participants indicated agreement on a scale ranging from 1 (Not at all true) to 5 (Absolutely true). For alumni, "UWC alumna/us" substituted "Red Cross Nordic student." These items measured the common ingroup identity condition of Dovidio and Gaertner's (2000) common ingroup identity model.

Outgroup bias. Outgroup bias was evaluated with six items assessing negative outgroup emotions and five items assessing desire for social distance (Binder et al, 2009). First, participants were asked to "Think of a country that your country considers itself very different from. This could be a neighboring country or a country far away," and to

[20] Two items measured own intergroup salience, e.g., "how typical of your national/cultural group are you?" and two items measured others' intergroup salience, e.g., "how typical, in general, are the other RCN students of their national/cultural group?" The two items measuring own intergroup salience correlated $r = .323$, $p < .000$ with the two items measuring others' intergroup salience. Because others' intergroup salience was more strongly correlated with the three outcome variables, the two items measuring own intergroup salience were removed from the scale.

specify, "What is this country's nationality?" Participants then indicated negative outgroup emotions by considering the question, "In general, what are your feelings toward [the outgroup supplied from previous question]?" followed by a list of three positive (admiration, trust, liking) and three negative (anger, irritation, annoyance) emotions.[21] Participants indicated agreement or disagreement on a 5-point scale ranging from -2 (Not at all) to 2 (Completely). Desire for social distance was assessed by asking participants, "How much would you like/be bothered by having a person from [the outgroup supplied from previous question] as your…" followed by "king/president/prime minister," "neighbor," "guest in your home," "classmate," "in-law," and "friend," using the scale ranging from -2 (Extremely bothered) to 2 (Would like a lot).

The Big Five. John and Srivastava's (1999) 44-item Big Five Inventory (BFI) was administered to measure five broad aspects of participants' personalities: neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. On a 5-point scale from 1 (Disagree) to 5 (Agree), participants indicated their agreement with items such as "I see myself as someone who is talkative" and "I see myself as someone who is inventive."

Intergroup anxiety. A six-item scale of intergroup anxiety was adapted from Stephan and Stephan (1985). On a 10-point scale ranging from 1 (Not at all) to 10 (Extremely), participants were asked to indicate how they would feel when interacting

[21] Given the nature of this study and the aims of the research, other emotion words might have provided a better fit for the sample, for example, "fear" and "hate" for negative emotions and "respect" and "compassion" for positive emotions. The same goes for the desire for social distance; other social roles such as "roommate" and "girlfriend/boyfriend" could have been used.

with strangers of other racial, ethnic, religious, or cultural groups: comfortable, uncertain, confident, awkward, anxious, and at ease.

Closedmindedness. The short version of the revised need for closure scale (NCS; Kruglanski, Webster, & Klem, 1993; Roets & Van Hiel, 2007, 2011) was used as a measure of closedmindedness. 15 items, for example, "I don't like situations that are uncertain," were responded to on a scale ranging from 1 (Strongly disagree) to 6 (Strongly agree).

Trust. To measure trust, Rosenberg's (1958) six-item Faith in People was used (Robinson, Shaver, & Wrightsman, 1991). Participants were asked to indicate their agreement or disagreement on a 5-point scale from 1 (Strongly disagree) to 5 (Strongly agree) with items such as, "generally speaking, most people can be trusted," and "people are mostly looking out for themselves." In a pilot sample of 67 students from RCN, collected in August 2011, the 6-item trust scale obtained an alpha of .85. Despite there being other trust scales available (e.g., in the revised version of the NEO Personality Inventory; Costa & McCrae, 1992; in the Temperament and Character Inventory; Cloninger, Przybeck, Svrakic, & Wetzel, 1994), the high alpha found for the low number of items encouraged the continued use of Rosenberg's scale.

Generalized ethnocentrism. Participants' generalized ethnocentrism were assessed using 20 items such as "my country should be the role model of the world," and "I'm not interested in the values and customs of other countries." Items were adapted from Neuliep and McCroskey's (1997) United States Ethnocentrism Scale. Participants indicated agreement on a 5-point scale ranging from 1 (Disagree) to 5 (Agree).

Empathy. Five items from the 20-item Basic Empathy Scale (BES, Jolliffe & Farrington, 2006) were employed. An example item is, "I become sad when I see other people when they are sad." Agreement or disagreement was indicated on a scale ranging from 1 (Disagree) to 5 (Agree).

Religiosity. Religiosity was measured with a 8-item scale taken from the International Personality Item Pool (similar to the Values in Action Inventory of Strengths; Peterson & Seligman, 2004; Park, Peterson & Seligman, 2004). Participants answered "yes" or "no" to items such as "you are a spiritual person," and "you do not believe in a universal power or a God."

Political orientation. A single left-right self-placement item, "what do you identify as?" was used to assess participants' liberal/conservative orientation. The one-item response scale ranged from 1 (Liberal) to 10 (Conservative).

Social Dominance Orientation (SDO). To assess participants' ideology I used the 16-item SDO scale (Pratto, Sidanious, Stallworth, & Malle, 1994). Examples of items include "some groups of people are just inferior to others" (agreement indicates high SDO) and "we would have fewer problems if we treated all groups equally" (agreement indicates low SDO). Agreement or disagreement was indicated on a scale ranging from 1 (Strongly disagree) to 7 (Strongly agree).

Hopefulness. First, participants were asked whether they could "think of a conflict (ethnic, political, religious, territorial, etc.) in [their] home country?" If they answered yes, participants were then asked four open-ended questions assessing the current level of conflict, who the main actors of the conflict are, and participants' hopefulness for the resolution of the conflict. A composite hopefulness measure was

created from the three numerical items: “On a scale from 1 to 10, where 1 is the least and 10 is the most, what would you say is the current level of conflict in your home country?” (this item was multiplied by 10 to make it comparable to the next two items), “How likely (out of 100%) do you think it is that this conflict will be solved within the next 5 years?” and “How likely (out of 100%) do you think it is that this conflict will be solved within the next 20 years?”

Secondary supportive measures. ***SAT scores.*** Including a measure of intelligence in the surveys, even brief versions, was decided against in the interest of time and space. Instead, SAT scores, used as a standardized test of ability for adolescents applying to undergraduate university programs, was solicited to serve as a proxy for students’ intelligence (Frey & Detterman, 2004; Jackson & Rushton, 2006). Frey and Detterman (2004) found overall high correlations between SAT scores and various measures of general intelligence (g; Spearman, 1904), such as the Armed Services Vocational Aptitude Battery ($r = .82$) and Raven’s Advanced Progressive Matrices (Raven, 1978) ($r = .72$). Unfortunately, because of confidentiality, only aggregate reports on students’ SAT performance was available. 73 students took the SAT during 2012-2013, 42 women and 31 men. 63 were second years, and 9 were first years. Overall mean scores, mean scores by gender, and mean scores by year in school were not detailed enough for the purposes of this project.

Academic calendar. Out of the 39 or 37 weeks first year students and second year students spend, respectively, at RCN a year (not counting the 4 weeks over Christmas break, when some students elect to stay with local host families), 1 week is dedicated Introduction Week, 2 weeks, one in fall and one in spring, are dedicated Project

Based Learning Weeks, one of which is concurrently dedicated Model United Nations week, 2 weeks are vacation weeks, November Break in fall and Easter Break in spring, 1 week is Reading week for second years and "Friluftsveka" [Ski week] for first years, and finally, second years have 4 weeks of IB exams whereas first years have 1 week of first year exams. In other words, four full weeks each year are dedicated to Introductions, Project Based Learning, and being outdoors. Additionally, at least two full-day Global Concerns are launched each year. Students also go through four daylong Special Programs: UWC Red Cross Nordic, Health, Youth Leadership, and 17. Mai [Norway's constitution day]. RCN's academic calendar and overviews of Project Based Learning weeks were perused alongside the results of this dissertation to investigate whether changes could be made that might increase intergroup contact success and strengthen reductions in intergroup bias.

Interviews. In addition to the quantitative survey item measures, qualitative interview data were used to supplement findings. McCracken (1988) promoted interviews as the preferred method when cultural themes are under investigation and noted that interviews complement quantitative techniques. He further recommended a range of eight to twelve interviews to obtain a satisfactory saturation of data. Two rounds of interviews were completed: with students graduating from RCN in 2013 and with students graduating from RCN in 2014. The first interviews informed the second round of interviews of which questions to retain, which to change, and which to add. Interview questions are in Appendix (H).

The first questions asked in the interview were participants' age and home country. The first round of interviews asked participants for genders, but given that the

interviews were recoded and gender could be deduced by the voice, this question was dropped from the second round of interviews. The open-ended question, "tell me a little bit about yourself," came next, and participants were allowed and encouraged to talk freely for 5-10 minutes about issues important to them. Then participants were asked to list the students they felt closest to, and where these students were from. We discussed conflict resolution, trust, and empathy, and whether and how the participants would change after two years at RCN. This last question was revisited at Time 4, when participants were asked how they had changed over the last two years. All topics were welcome, but the interviews focused particularly on intergroup friendships, conflict, trust, and empathy. Effective conflict resolution at home and at RCN, for example, would be an indicator of successful interpersonal interactions and of having learned the knowledge, skills, and abilities necessary to solve interpersonal conflicts.

The interviews were semi-structured in which I engaged in small amounts of self-disclosure, always and only to the benefit of the conversation. The interview questions guided the conversation with all participants, but if they wished to deviate from the topic they were given time to digress (e.g., the follow-up interview with Morocco lasted 1 hour and 14 minutes). Without regards for time, all interview questions were asked of all interview participants.

Five research assistants assisted in the transcription of interviews. Research assistants, in teams of two or three, would first transcribe an interview separately. Then, one of the research assistants designated the lead on that particular interview would consolidate the three transcription files, clarifying with all research assistants in cases of disagreement. Because of the heavy accents of some students and the frequent use of

RCN-specific or home country-specific words, nouns, and places, there were no interviews in which there were no disagreements. After the research assistants agreed, to the best of their ability, on a single solution, the file was sent to me. My experience with RCN and UWC more broadly, and the exposure I gained to the various accents of the world while I was a student at RCN, made the process easier for me. All disagreements between research assistants were resolved with my help.

Once successfully transcribed, interviews were prepared in plain text format for the statistical analysis of word counts and content. Digital coding programs can be used with moderate statistical rigor in testing research questions (Brier & Hopp, 2011). Pennebaker, Francis, and Booth's (2001) Linguistic Inquiry and Word Count (LIWC) was here to analyze changes between discourses over time. LIWC scans transcriptions searching for words categorized on seventy different dimensions including standard language categories, psychological processes, cognitive processes, and traditional word content dimensions. After the program calculates the frequency of words within each category, the raw count scores are converted into percentages of total words, which can then be used in statistical analyses such as comparisons of means. LIWC is sufficiently flexible to allow for user-defined categories, but none were established in this project.

Brier and Hopp (2011) warned against the uncritical use of digital coding software, noting the potential misleading conclusions that might be drawn unless the data has been carefully examined. "There is really no substitute," they noted, "for taking the trouble to become familiar, at least, with the basic orthography and word usage of the body of text to be considered" (p. 110). Open coding (Strauss, 1987; Berg, 2006) was therefore done in addition to the LIWC analyses. Strauss (1987) outlined four basic

guidelines for conducting open coding: (a) ask the data a specific and consistent set of questions; (b) analyze the data minutely; (c) frequently interrupt the coding to write a theoretical note; (d) never assume the analytical relevance of any traditional variables such as age, sex, social class, and so on, until the data have shown it to be relevant.

Transcribed interviews were read and re-read by the research assistants and myself, leading to the identification of a number of themes that were prominent across the interviews: knowledge of conflict in home country and around the world (e.g., listing more than the most known conflicts in the world such as the Israeli Palestinian conflict), critical thinking in defining the terms "peace," "conflict," "trust," and "empathy" (e.g., allowing for doubt in definitions and talking through mental models of the terms), ability and willingness to trust and show empathy toward others (e.g., identifying oneself as more or less trusting), conflict management skills (e.g., giving example of a time when a conflict with a fellow student at RCN was successfully resolved, at Time 4), and growth (e.g., comparing current self to past self, at Time 4). Spontaneous themes across interviews that were not the direct answer to any of the interview questions were of particular interest: consistency in thinking over time and increased importance assigned values such as health, happiness, and freedom.

Statistical Overview

Collins (2006) argued that the best kind of longitudinal research is characterized by the smooth and coherent integration of three elements: (a) a theoretical model of change, (b) a temporal design, and (c) a statistical model of change that is an operationalization of the theoretical model. This research sought to include all three elements by basing the changes that were to be observed on theory-driven frameworks

(i.e., the contact hypothesis), by carefully designing the process of timing, frequency, and spacing of observations, and by operationalizing the theoretical models into statistical models of change. The benefit of a longitudinal design is that major sources of variability in the data (e.g., gender, environmental influences, social factors) are eliminated when a participant's responses are compared at two or more time points, resulting in a very precise estimate of change (Fitzmaurice, Laird, & Ware, 2004).

The objective of the longitudinal data analyses in this study was to investigate: (a) do the three outcome measures of intergroup bias (i.e., negative outgroup emotions, desire for social distance, generalized ethnocentrism) generally increase or decrease over time at RCN, (b) which model of intergroup contact (based first on theory and next on statistical fit) best predicts changes in outgroup bias over time, and (c) are there appreciable differences across relevant subgroups such as men and women? To examine the associations between intergroup contact and intergroup bias, linear mixed-effects (LME) models were used to model the change in outgroup bias across the four time points for all participants who completed at least one survey (n = 270).

LME modeling is a flexible approach that can be applied to evaluate within-individual change over time (Fitzmaurice, Laird, & Ware, 2004; Frees, 2004). In LME analyses, the number of observations is allowed to vary across persons. Even data from individuals who were tested on only a single occasion can be used to stabilize estimates of the mean and variance. In this way, all available data are included in the analyses. The larger the sample, the more power there is for testing parameters (see Footnote 22 on pages 85-86 for an explanation of power). This is a major advantage of conducting

analyses within the mixed-effects framework; by contrast, missing data pose major problems in conventional repeated measures analyses of variance.

Features of the data. Deciding which probability distributions underlie the statistical models requires a careful consideration of the features of the data, established by descriptive and graphical methods. The data were formatted in the wide format for SPSS analyses of descriptive statistics (IBM Corp., 2013) and in the univariate (long) format for RStudio graphs and LME modeling (R, 2013; RStudio, 2013).

Balance and incompleteness. A balanced design refers to a design in which participants are measured at the exact same time points. Because time points in this study were broadly defined as "within the first two weeks of the school year" and "within the last two weeks of the school year," the design of this study can be said to be balanced. The data were incomplete because some observations were planned but not realized. The data are therefore balanced, but incomplete. The impact of the missing data is described further below.

Multivariate normality. The assumption for LME parameter estimation using maximum likelihood is that the outcome variable is multivariate normally distributed. Including non-normal variables into LME analyses results in loss of power (see Footnote 22 on pages 85-86). Univariate normality in all variables is essential, but not sufficient, for the longitudinal data to be multivariate normal. Because there do not exist direct tests for multivariate normality, histograms and normal probability plots were drawn for all variables at all time points to investigate univariate normality (see Figure 2; Devore & Peck, 2001).

Missingness. In LME analysis, missing values are allowed on the outcome variable depending on certain assumptions about the missingness. 52.5% of the missing data in this study was Missing Completely at Random (MCAR; see Table 10). Second year students in the school year 2011-2012 and first year students in the school year 2013-2014 were given the opportunity to participate in the study only twice. The process of missingness was a product of the study design, and was therefore completely random and unrelated to observed or missing data. Under the assumption of MCAR, the incomplete observed sample is assumed to be a random sample of the unobserved complete data. The remaining 47.5% of the missing data in this study was Missing at Random (MAR). When missing values occur only for the outcome variable, a participant is included in longitudinal LME analysis as long as they have at least one non-missing time point. However, when missing values occur for a static and/or time-invariant predictor, then the entire record of the participant is deleted from the analysis. This explains the changes in *n* in the various analyses reported in the Results section.

R runs Full-Information Maximum Likelihood (FIML) models by default. FIML uses all available data to generate maximum likelihood-based sufficient statistics, and is considered better than other approaches to missing data (e.g., multiple imputation; see Graham, Olchowski, & Gilreath, 2007).

Independent error structure. The error structure represents the background variability that LME fixed effects are tested against. The variability not explained by the fixed effects is modeled in the error structure and it is therefore important to choose an appropriate error structure for the data at hand. If the error structure is too simple, then the Type 1 error rate increases, but if the error structure is too complex, then power and

efficiency decrease (Littell, Pendergast, & Natarajan, 2000).[22] LME models fit with R assume independent error structures, which implies a diagonal matrix with the same error variances on the diagonal, and all covariances fixed to zero (Fitzmaurice, Laird, & Ware, 2004). To confirm the appropriateness of the independent error structure to the current data, models were fit with different covariance structures[23] and the Bayesian Information Criteria (*BIC*) for the models were compared (Schwarz, 1978). *BIC* is a goodness-of-fit criterion for model selection among a set of models, based in part on the likelihood function. Here, *BIC*s were used to compare the LME models for fit. A lower *BIC* meant that the model is a better fit for the given data, relative to the other models tested.

Statistical models. To evaluate the longitudinal impact of the three intergroup contact model predictors on intergroup bias, basic LME models were first defined before covariates were introduced and tested. At the basic level, linear models were fit because of the established equal weights assigned each of the contact conditions (e.g., Allport,

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[22] A Type 1 error is the incorrect rejection of a true null hypothesis, leading to the conclusion that an analysis is significant when in fact it is not. A Type 2 error (β) is the failure to reject a false null hypothesis, leading to the conclusion that an analysis is not significant when in fact it is. Power refers to the sensitivity to correctly reject a null hypothesis when the null hypothesis is false. The power of a test is equal to 1-β. See Peck and Devore (2011).

[23] A thorough review of the social psychological literature indicated no consensus with regards to type of error structure assumed for longitudinal data. Although LME models were used in a few similar lines of research (e.g., Laurence, 2011; Poteat & Anderson, 2012), the estimated error structures were not introduced in the publications. More popular data analysis techniques include Structural Equation Modeling, Hierarchical Linear Modeling, and Hierarchical Moderated Regression Analysis.

1954; Pettigrew, 1998), though a quadratic model was also included. Five basic models were tested for each of the three outcome measures of intergroup bias:

Model 1: $y_{ij} = (\beta_0 + b_{0i}) + (\beta_1 + b_{1i})x_j + e_{ij}$

Model 2: $y_{ij} = (\beta_0 + b_{0i}) + \beta_1 x_j + e_{ij}$

Model 3: $y_{ij} = \beta_0 + (\beta_1 + b_{1i})x_j + e_{ij}$

Model 4: $y_{ij} = \beta_0 + \beta_1 x_j + e_{ij}$

Model 5: $y_{ij} = (\beta_0 + b_{0i}) + (\beta_1 + b_{1i})x_j + (\beta_1 + b_{1i})x_j^2 + e_{ij}$

where y_{ij} is the predicted outcome score for participant i at time j, β_0 is the fixed intercept effect, β_1 is the fixed slope effect, b_0 is the random intercept effect, b_1 is the random slope effect, x_j is the time covariate, and e_{ij} is the error for participant i at time j.

Model 2, consisting of a fixed and random effect for the intercept and a fixed effect for the slope, proved the best fit to the data across the three outcome variables (see Table 11), thus this basic model was established for the introduction of covariates. Next, eight covariates representing the three different models of intergroup contact were added to the model, one at a time: equal status, common goals, intergroup cooperation, institutional support, acquaintance potential, intergroup salience, common ingroup identity, and RCN identity. Each covariate was introduced individually to the basic model to establish whether the final models should allow for the estimation of random slope effects. Including a random effect of the slope increased the *BIC* of all models, indicating that including a random effect reduced the fit of the models. Furthermore, the variances of the random effects of the slopes were in all small, indicating that the random effects did not capture much of the variance explained by the model.

Based on the above analyses, the final models were fitted without random slope effects. All possible combinations of intergroup contact model predictors were analyzed as predictors of all the three outcome measures of intergroup bias for a data-driven approach to the best model, resulting in 78 models for the contact hypothesis, 93 models for the intergroup contact model, and 9 models for the common ingroup identity model, in total 180 models. Two LME models were retained for each model of intergroup contact: one theory-driven and one data-driven. The theory-driven models included all the conditions indicated in the literature to increase the success of intergroup contact. The data-driven models were chosen on the basis of their *BIC* values, or fit to the data. Two models per three theories per three outcome variables resulted in eighteen mixed-effects models that were retained for model comparisons.

In the following chapter, CH refers to LMEs built on the contact hypothesis, ICM refers to LMEs built on the intergroup contact model, and CIIM refers to LMEs built on the common ingroup identity model. Each of the models will have an additional letter depending on the outcome it predicted: N for negative outgroup emotions, D for desire for social distance, and G for generalized ethnocentrism. Finally, a subscript $_D$ for data-driven or $_T$ for theory-driven completes the model name. Thus, CHN_D is to the data-driven LME model based on the contact hypothesis with negative outgroup emotions as the outcome. $CIIMG_T$ is the theory-driven LME model based on the common ingroup identity model with generalized ethnocentrism as the outcome.

For each of the eighteen mixed-effects models, characteristics of the individual (e.g., age, gender, personality traits) were entered as independent variables to explain between-subjects variation in the intercept and linear slope.

Chapter 5

Results

Features of the Data

Multivariate normality. Means, standard deviations, and Cronbach's alpha coefficients for all measures at all times and for alumni are reported in Tables 6, 7, 8, and 9.[24] Plots of the means and standard deviations of the three outcome variables over time were graphed to examine the data for outliers (see Figure 3); no outliers were found.

Skewness and kurtosis. The test statistic Z_G is a two-tailed test of skewness $\neq 0$ and kurtosis $\neq 0$ at roughly the .05 significance level. Z_G is adapted from Cramer (1997) and has a critical value of approximately 2. If $Z_G < -2$, the population is likely negatively skewed and/or has negative excess kurtosis, if $Z_G > 2$, the population is likely positively skewed and/or has positive excess kurtosis. Z_G values between -2 and 2 are inconclusive about the skewness and kurtosis of the population. Because there exist no direct tests of multivariate normality, tests of skewness and kurtosis at the variable level help establish whether the complete data can be confidently assumed to be multivariate normal.

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[24] Convention in social psychological research requires a Cronbach's alpha > .70 (Schmitt, 1996). One item was removed from each of the following scales due to small corrected item-total correlations: common goals (removing item with $r = .068$ raised alpha from .544 to .669), desire for social distance (removing item with $r = .061$ raised alpha from .824 to .905), generalized ethnocentrism (removing item with $r = -.006$ increased alpha from .790 to .803), openness to experience (removing item with $r = .057$ increased alpha from .663 to .704), and empathy (removing item with $r = -.006$ increased alpha from .480 to .579). The same items were removed from the alumni scales for consistency across measures although the corrected inter-item correlations were larger: common goals ($r = .131$), desire for social distance ($r = .239$), generalized ethnocentrism ($r = .265$), openness to experience ($r = .182$), and empathy ($r = .177$).

In this sample, 7 variables were significantly skewed at Time 1: equal status (Z_G = -5.39), intergroup cooperation (Z_G = -2.75), institutional support (Z_G = -8.30), common ingroup identity (Z_G = -2.05), RCN identity (Z_G = -5.53), political orientation (Z_G = 3.49), and social dominance orientation (Z_G =2.33). At Time 2, 4 variables were significantly skewed: intergroup cooperation (Z_G = -3.76), national identity (Z_G = -3.78), RCN identity (Z_G = -2.65), and political orientation (Z_G = 3.43). At Time 3, 6 variables were significantly skewed: equal status (Z_G = -2.34), intergroup cooperation (Z_G = -2.33), institutional support (Z_G = -2.28), national identity (Z_G = -2.10), RCN identity (Z_G = -3.55), and political orientation (Z_G = 3.97). At time 4, 3 variables were significantly skewed: national identity (Z_G = -4.85), RCN identity (Z_G = -4.93), and political orientation (Z_G = 3.31). As for kurtosis, 6 variables were significantly kurtotic at Time 1: equal status (Z_G = 2.12), institutional support (Z_G = 7.78), RCN identity (Z_G = 3.67), empathy (Z_G = -2.04), religiosity (Z_G = -2.29), and hopefulness for the future (Z_G = -2.23). At Time 2, one variable was significantly kurtotic: religiosity (Z_G = -2.12). At Time 3, 3 variables were significantly kurtotic: equal status (Z_G = 3.10), religiosity (Z_G = -2.39), and political orientation (Z_G = 2.03). At Time 4, 6 variables were significantly kurotic: acquaintance potential (Z_G = -2.16), national identity (Z_G = 3.72), RCN identity (Z_G = 5.00), negative outgroup emotions (Z_G = -2.01), desire for social distance (Z_G = -2.13), and empathy (Z_G = -2.02).

Across all time points, national identity, RCN identity, and political orientation were consistently significantly skewed. The only variable of the three to play a role in the LME models was RCN identity. No variables were significantly kurtotic across all time points; religiosity was kurtotic across Times 1, 2, and 3. At Time 4, two of the three

outcome variables were significantly kurtotic, but only just so. Although these analyses suggest some skewness and kurtosis in some measures, due to relative small sample sizes of each individual variable and the large number of measures showing normality, the assumption of multivariate normality in the data overall is presumed to hold.

Missingness. Some significant differences between participants with and without missing data were found (see Table 10).[25] For none of the 10 variables for which there were differences between participants, were there significant patterns in the data. Patterns that would have caused concern include higher or lower levels of the variable with more instances of missingness. Such a linear pattern would have been present had participants with no missing data had, for example, higher levels of RCN identity than participants with one missing data point, both of which had higher scores than participants with two missing data points, all three groups of which had higher scores than participants with three missing data points. Instead, the levels of the 10 variables seemed random across the groups of participants with different amounts of missing data. Because the total sample size was rather small, running a random subset of the LME models excluding the participants whose scores were significantly different from the rest would not have been feasible.

Independent error structures. For independent error structures, the covariances between the errors are assumed to be zero. Although graphs depicting the pairwise residual elements between each time point suggest slight negative correlations between the errors for negative outgroup emotions, slight positive correlations between the errors

[25] 30 ANOVAs were run to investigate differences between participants with and without missing data. Given $a = .05$, chances are that at least one of the significant effects was in fact due to chance.

for need for distance, and no correlations between the errors for generalized anxiety (see examples in Figure 4), the small sample sizes (time 1 vs. time 4, time 2 vs. time 3, time 2 vs. time 4) make questionable the robustness of these correlations.

Instead, to verify that the independent error structure was the best fit for the data, LME models were ran with different error structures substituted: unstructured, compound symmetry, and first-order autoregressive. Toeplitz was considered, but deemed inappropriate for the dat. For LME modeling of negative outgroup emotions, the *BIC* value was the lowest for models run with independent error structures (CHN_D *BIC* = 733, $ICMN_D$ *BIC* = 732, $CIIMN_D$ *BIC* = 726) compared to unstructured (CHN_D *BIC* = 765, $ICMN_D$ *BIC* = 764, $CIIMN_D$ *BIC* = 757), compound symmetry (CHN_D *BIC* = 739, $ICMN_D$ *BIC* = 738, $CIIMN_D$ *BIC* = 731), and first-order autoregressive (CHN_D *BIC* = 739, $ICMN_D$ *BIC* = 762, $CIIMN_D$ *BIC* = 731). Similarly, for LME modeling of desire for social distance, the *BIC* value was the lowest for models run with independent error structures (CHD_D *BIC* = 726, $ICMD_D$ *BIC* = 727, $CIIMD_D$ *BIC* = 726) compared to unstructured (CHD_D *BIC* = 758, $ICMD_D$ *BIC* = 758, $CIIMD_D$ *BIC* = 755), compound symmetry (CHD_D *BIC* = 732, $ICMD_D$ *BIC* = 732, $CIIMD_D$ *BIC* = 730), and first-order autoregressive (CHD_D *BIC* = 731, $ICMD_D$ *BIC* = 731, $CIIMD_D$ *BIC* = 729). Finally and in further support of the independent error structure, for LME modeling of generalized anxiety, the *BIC* value was the lowest for models run with independent error structures (CHG_D *BIC* = 415, $ICMG_D$ *BIC* = 397, $CIIMG_D$ *BIC* = 432) compared to unstructured (CHG_D *BIC* = 432, $ICMG_D$ *BIC* = 411, $CIIMG_D$ *BIC* = 452), compound symmetry (CHG_D *BIC* = 420, $ICMG_D$ *BIC* = 402, $CIIMG_D$ *BIC* = 438), and first-order autoregressive (CHG_D *BIC* = 420, $ICMG_D$ *BIC* = 401, $CIIMG_D$ *BIC* = 436). The

assumption that independent error structures are the best fit for the data was decided met. See examples of the pairwise residual elements between the three variables for the data-driven models at the different time points in Figure 4.

Correlations between measures. Because of the four time points and 26 variables, only the subset of correlations of interest to the study's research questions was explored here. Despite the problematic nature of establishing causation from correlations, correlations were explored to investigate relationships between measures. Any expected or unexpected relationships could then be further explored in the LME models, which are better able to establish causality, or later with new studies or more data. First, the 26 variables were correlated with themselves over time. Strong correlations between a measure taken at one time and the same measure taken at a later time indicate high reliability over time, or that students who scored high on a measure at Time 1 would score high at the same measure at Time 2 had nothing changed in between the two time points (called test-retest reliability). This, however, resulted in low ns, in particular for Time 3 (n = 11-71). The measures of trust, acquaintance potential, national identity, RCN identity, generalized ethnocentrism, the five Big Five personality traits, closedmindedness, religiosity, social dominance orientation, political orientation, and hopefulness showed the highest test-retest reliability.

By contrasting the more stable individual differences such as the Big Five (depending on their age, most RCN students' personalities should have begun to level out), closedmindedness, religiosity, and political orientation, all of which correlated across all or almost all of the four times, with students' perceptions, it became clear that a lot of changes were taking place. Perceptions of equal status were only significantly

correlated between Time 1 and Time 4, and Time 3 and Time 4, perceptions of common goals were significantly correlated between Time 2 and Time 3, and Time 2 and Time 4, perceptions of intergroup cooperation were significantly correlated between Time 2 and Time 3, and Time 3 and Time 4, perceptions of institutional support were significantly correlated between Time 1 and Time 2, and Time 3 and Time 4, and perceptions of acquaintance potential were significantly correlated between Time 1 and Time 2, Time 2 and Time 3, and Time 3 and Time 4. Perceptions of intergroup salience were only significantly correlated between Time 2 and Time 3, and perceptions of a common ingroup identity were only significantly correlated between Time 1 and Time 3, and Time 3 and Time 4. The lack of significant correlations across all time points for all the measures is likely due to the low *n*s, but could also be due to the fact that, over time, students' perceptions fluctuated in no particularly consistent direction. The increase and decrease in some mean scores over time were also difficult to explain (see Figure 3).

The following include all participants and all time points. Important information in certain correlations between, for example, Time 1 perceptions of equal status and Time 2 negative outgroup emotions, was captured by the LME models (the *n*s would have been too low for meaningful correlations). The only other variables in addition to time point of data collection that correlated significantly with age were national identity ($r = .12$, $p = .038$) and generalized ethnocentrism ($r = -.12$, $p = .045$). The latter finding suggests the important role played by maturity in the reduction in intergroup bias. All adolescents mature, but as will be seen in the interview data, many RCN students attributed their speedy and extensive maturation to various components of RCN. Maturity might act as a mediator between multicultural peace education and intergroup bias.

As expected, age was significantly correlated with time point of data collection (r = .54, p < .000). Contrary to expectations, the following variables were significantly negatively correlated with time point of data collection: equal status (r = -.31, p < .000), common goals (r = -.24, p < .000), institutional support (r = -.39, p < .000), common ingroup identity (r = -.33, p < .000), and hopefulness for the future (r = -.13, p = .043). Over time, students agreed less with statements noting the presence of facilitating intergroup contact conditions at RCN.

Further contrary to expectations, the three outcome variables were not correlated with time point of data collection: negative outgroup emotions (r = .05, p = .423), desire for social distance (r = -.02, p = .776), and generalized ethnocentrism (r = -.01, p = .893). It was expected that levels of these three variables would decrease over time as RCN students became acquainted and comfortable with people from their outgroups. Students indicated reduced negative otugroup emotions, desire for social distance, and generalized ethnocentrism over time (see Figure 5), but these changes were not significant.

Gender, higher levels indicating women, correlated negatively with intergroup salience (r = -.11, p = .044) and social dominance orientation (r = -.14, p = .018), and positively with neuroticism (r = .23, p < .000) and empathy (r = .16, p = .001). Women generally score lower than men on social dominance orientation, and generally higher than men on neuroticism, so these findings lend confidence to the fact that the brief scales used for the surveys measured what they were meant to measure (i.e., construct validity).

Of the 10 correlations between the five contact hypothesis conditions, one was significantly negative (equal status and acquaintance potential r = .12, p = .041), three were non-significant (between acquaintance potential and common goals r = .06, p =

.267, and intergroup cooperation $r = .09$, $p = .115$, and institutional support $r = .09$, $p = .115$), and the remaining six were positive and significant. Intergroup salience correlated significantly positively with common goals ($r = .18$, $p = .002$), intergroup cooperation ($r = .13$, $p = .021$), acquaintance potential ($r = .12$, $p = .038$), national identity ($r = .14$, $p = .018$), and RCN identity ($r = .16$, $p = .004$). Common ingroup identity correlated significantly positively with equal status ($r = .37$, $p < .000$), common goals ($r = .43$, $p < .000$), intergroup cooperation ($r = .45$, $p = .000$), institutional support ($r = .44$, $p < .000$), and RCN identity ($r = .39$, $p < .000$).

Of interest, RCN identity correlated positively with all five contact hypothesis conditions (equal status $r = .27$, $p < .000$, common goals $r = .31$, $p < .000$, intergroup cooperation $r = .46$, $p < .000$, institutional support $r = .29$, $p < .000$, and acquaintance potential $r = .17$, $p = .002$), with intergroup salience ($r = .16$, $p = .004$), and with common ingroup identity ($r = .39$, $p < .000$). RCN identity also correlated negatively with the three outcome variables: negative outgroup emotions ($r = -.19$, $p = .002$), desire for social distance ($r = -.19$, $p = .003$), and generalized ethnocentrism ($r = -.16$, $p = .016$). The correlations between RCN identity and the three outcome variables were negative at all four time points, but because of low *n*s at Times 2, 3, and 4, the only significantly negative correlations were at Time 1.

1. Change Over Time

1. a. Which individual difference variables changed over time? One-way ANOVAs were run to establish which individual difference variables changed significantly over time. A lot of changes were expected from RCN students, and quantifying these changes would mean a better understanding of how RCN's education

works. A graph of the variables' trajectories can be seen in Figure 5. Age was, not surprisingly, significantly different between the four time points ($F(3, 460) = 67.4$, $p <$ .000), but neither religiosity nor political orientation changed. Over time, students reported less hours spent each week on extra-academic commitments (T1 $M = 3.27$, T2 $M = 3.20$, T3 $M = 3.09$, T4 $M = 2.65$, $F(3, 311) = 10.1$, $p < .000$), but reported no change in the hours spent with friends.

Of the intergroup contact conditions, equal status ($F(3, 306) = 15.5$, $p < .000$), common goals ($F(3, 310) = 9.91$, $p < .000$), institutional support ($F(3, 310) = 22.7$, $p <$ .000), and common ingroup identity ($F(3, 310) = 17.9$, $p = .000$) changed significantly over time. Particularly interesting are the patterns: the levels reported by students decreased between Times 1 and 2, increased between Times 2 and 3, and decreased again between Times 3 and 4 (see Figure 5): Equal status T1 $M = 3.62$, T2 $M = 3.13$, T3 $M =$ 3.21, T4 $M = 3.04$, common goals T1 $M = 2.93$, T2 $M = 2.52$, T3 $M = 2.63$, T4 $M = 2.52$, institutional support T1 $M = 3.63$, T2 $M = 3.01$, T3 $M = 3.17$, T4 $M = 2.73$, and common ingroup identity T1 $M = 3.12$, T2 $M = 2.72$, T3 $M = 2.81$, T4 $M = 2.61$.

Levels of intergroup anxiety ($F(3, 303) = 3.32$, $p = .020$) and trust ($F(3, 403) =$ 4.00, $p = .008$) differed significantly between Times 1, 2, 3, and 4. Levels of trust followed the same pattern as did the contact conditions, T1 $M = 3.39$, T2 $M = 3.09$, T3 M = 3.21, T4 $M = 3.19$, whereas levels of intergroup anxiety rose from Time 1 to Time 3, before dropping at Time 4, T1 $M = 3.79$, T2 $M = 3.87$, T3 $M = 4.01$, T4 $M = 3.26$.

1. b. Did measures of intergroup bias (negative outgroup emotions, desire for social distance, and generalized ethnocentrism) decrease over time? One of the main goals of the UWC education is to reduce intergroup bias between students, and RCN has

implemented a number of educational, social, and structural elements into its experience that should facilitate that goal. However, no significant differences were found in students' levels of negative outgroup emotions ($F(3, 309) = .761$, $p = .517$), desire for social distance ($F(3, 307) = 1.42$, $p = .237$), and generalized ethnocentrism ($F(3, 280) = 1.06$, $p = .366$) over the two years at RCN. Negative outgroup emotions and desire for social distance evidenced a pattern wherein levels rose from Time 1 to Time 2 to Time 3, then dropped at Time 4 to pre-Time 2 level for negative outgroup emotions and pre-Time 1 level for desire for social distance (negative outgroup emotions T1 $M = 2.45$, T2 $M = 2.37$, T3 $M = 2.41$, T4 $M = 2,31$ and desire for social distance T1 $M = 2.05$, T2 $M = 2.12$, T3 $M = 2.23$, T4 $M = 1.95$). Levels of generalized ethnocentrism evidenced the same pattern as did the contact conditions described above, where levels decreased from Time 1 to Time 2, increased from Time 2 to Time 3, and then decreased again from Time 3 to Time 4 (T1 $M = 2.38$, T2 $M = 2.35$, T3 $M = 2.48$, T4 $M = 2.32$). This pattern is suggestive of a change toward pre-RCN levels as a result of the summer vacation, which could question the sustainability of changes after students leave RCN.

1. c. Did individual difference variables related to intergroup bias (e.g., trust, empathy) change in the direction suggested by the literature to be related to reduced levels of outgroup bias? Despite there being no changes found in direct measures of intergroup bias, if changes in individual difference variables related to intergroup bias were found, then perhaps these would act as moderators of eventual decreases in intergroup bias. As noted above, levels of both intergroup anxiety ($F(3, 303) = 3.32$, $p = .020$) and trust ($F(3, 403) = 4.00$, $p = .008$) differed significantly between Times 1, 2, 3, and 4. By Time 4, levels of trust were lower than at Time 1, but so were levels of

intergroup anxiety. Levels of trust followed the same pattern as did the contact conditions, T1 *M* = 3.39, T2 *M* = 3.09, T3 *M* = 3.21, T4 *M* = 3.19, whereas levels of intergroup anxiety rose from Time 1 to Time 2 to Time 3, before they dropped at Time 4, T1 *M* = 3.79, T2 *M* = 3.87, T3 *M* = 4.01, T4 *M* = 3.26. No other individual difference variables related to intergroup bias changed in the direction suggested by the literature to be related to reduced levels of outgroup bias.

2. Comparing Models of Intergroup Contact

2. a. Comparing Linear Mixed Effects models derived from the three theories of intergroup contact with Linear Mixed Effects models derived from the data, which model best predicted levels of outgroup bias? To fully take advantage of the longitudinal data, LME models were used to investigate which computations of the three different models of intergroup contact best described the small changes in intergroup bias. Additionally, data-driven models were compared with the theoretical models in an effort to determine, in this sample at this school, which one model best fit the data? Establishing one model at RNC would greatly reduce the amount of exploration needed to conduct similar research at RCN in the future or at the other UWCs, serving as a starting point for building idiosyncratic models that would fit those environments. Such models could also inform basic research on the relations between the contact conditions.

Although the three measures of intergroup bias did not significantly decrease over time, an understanding of the predictors that did explain the small increases would help interventions trying to increase the small effect. The theory-driven equations for the LME contact models did not differ across the three measures of intergroup bias, and were as follows:

Contact hypothesis (CH_T): $y_{ij} = (\beta_0 + b_{0i}) + \beta_1 x_{1j} + \beta_2 x_{2j} + \beta_3 x_{3j} + \beta_4 x_{4j} + \beta_5 x_{5j} + \beta_6 x_{6j} + e_{ij}$

Intergroup contact model (ICM_T): $y_{ij} = (\beta_0 + b_{0i}) + \beta_1 x_{1j} + \beta_2 x_{2j} + \beta_3 x_{3j} + \beta_4 x_{4j} + \beta_5 x_{5j} + \beta_6 x_{6j} + \beta_7 x_{7j} + e_{ij}$

Common ingroup identity model ($CIIM_T$): $y_{ij} = (\beta_0 + b_{0i}) + \beta_1 x_{1j} + \beta_8 x_{8j} + e_{ij}$

where y_{ij} is the predicted outcome score for participant i at time j (negative intergroup emotion, desire for social distance, and generalized ethnocentrism), β_0 through β_8 are the fixed effects coefficients, b_0 is the random intercept effect, x_{1j} through x_{8j} are the covariates (x_{1j} = time, x_{2j} = equal status, x_{3j} = common goals, x_{4j} = intergroup cooperation, x_{5j} = institutional support, x_{6j} = acquaintance potential, x_{7j} = intergroup salience, x_{8j} = common ingroup identity, and x_{9j} = RCN identity), and e_{ij} is the error for participant i at time j.

The best-fitting data-driven LME equations for negative outgroup emotions were:

Contact hypothesis (CHN_D): $y_{ij} = (\beta_0 + b_{0i}) + \beta_1 x_{1j} + \beta_2 x_{2j} + \beta_3 x_{3j} + e_{ij}$

Intergroup contact model ($ICMN_D$): $y_{ij} = (\beta_0 + b_{0i}) + \beta_1 x_{1j} + \beta_2 x_{2j} + \beta_3 x_{3j} + \beta_7 x_{7j} + e_{ij}$

Common ingroup identity model ($CIIMN_D$): $y_{ij} = (\beta_0 + b_{0i}) + \beta_1 x_{1j} + \beta_8 x_{8j} + \beta_9 x_{9j} + e_{ij}$

The best-fitting data-driven LME equations for desire for social distance were:

Contact hypothesis (CHD_D): $y_{ij} = (\beta_0 + b_{0i}) + \beta_1 x_{1j} + \beta_2 x_{2j} + \beta_4 x_{4j} + e_{ij}$

Intergroup contact model ($ICMD_D$): $y_{ij} = (\beta_0 + b_{0i}) + \beta_1 x_{1j} + \beta_2 x_{2j} + \beta_4 x_{4j} + \beta_7 x_{7j} + e_{ij}$

Common ingroup identity model ($CIIMD_D$): $y_{ij} = (\beta_0 + b_{0i}) + \beta_1 x_{1j} + \beta_8 x_{8j} + \beta_9 x_{9j} + e_{ij}$

The best-fitting data-driven LME equations for generalized ethnocentrism were:

Contact hypothesis (CHG_D): $y_{ij} = (\beta_0 + b_{0i}) + \beta_1 x_{1j} + ß_4 x_{4j} + ß_6 x_{6j} + e_{ij}$

Intergroup contact model ($ICMG_D$): $y_{ij} = (\beta_0 + b_{0i}) + \beta_1 x_{1j} + ß_4 x_{4j} + \beta_7 x_{7j} + e_{ij}$

Common ingroup identity model ($CIIMG_D$): $y_{ij} = (\beta_0 + b_{0i}) + \beta_1 x_{1j} + \beta_8 x_{8j} + e_{ij}$

Across the eighteen models, data-driven intergroup contact models were the consistent best fit for the data, as reflected in these models' lower *BIC* values. Of interest, the covariates included in the intergroup contact models differed depending on the outcome variable. For negative outgroup emotions the covariates included equal status, common goals, and intergroup salience (model $ICMN_D$); for need for social distance the covariates included equal status, intergroup cooperation, and intergroup salience (model $ICMD_D$); for generalized ethnocentrism the covariates included intergroup cooperation and intergroup salience (model $ICMG_D$).

Negative outgroup emotions. Comparing the six LME models with negative outgroup emotions as the outcome, the data-driven intergroup contact model obtained a weight of evidence of .56.[26] The next best model, the data-driven intergroup contact model, had a weight of evidence of .41. The evidence ratio, which indicates the odds of the next best model actually being the best fit compared to the best fitting model, between these two best-fitting models was just 1.4:1. The weight of evidence for the third best-fitting model was .01, suggesting that while it is less unclear which of the first two models is the true best fit for the data, the third and rest of the models are not the best fit. Generally, models with more parameters are more difficult to fit to data than models with fewer parameters. The data-driven common ingroup identity model had 6 degrees of freedom, compared to the data-driven intergroup contact model's 7 degrees of freedom, which, if equalized, could result in the two models being equally good fits for the data.

[26] Weight of evidence indicates probability that the model in question is the best model out of the ones tested. Weights > .90 indicate that robust inferences can be made using just that model.

Desire for social distance. Comparing the six LME models with desire for social distance as the outcome, the data-driven intergroup contact model obtained a weight of evidence of .74. In comparison, the next best model, the data-driven common ingroup identity model, had a weight of evidence of .11. The evidence ratio between these two best-fitting models was 6.2, indicating with a higher level of confidence than in the previous case that the data-driven intergroup contact model in fact was the best fit for the data at hand. The weight of evidence for the third best-fitting model was .01, suggesting again, the third and rest of the models are not the best fit.

Generalized ethnocentrism. Comparing the six LME models with generalized ethnocentrism as the outcome, the data-driven intergroup contact model obtained a weight of evidence of .98, which sets it apart as the clear best fit for the data at hand. The next best model, the data-driven common ingroup identity model, had a weight of evidence of just .02. The evidence ratio between these two best-fitting models was 58.1:1, indicating with a very high level of confidence that the data-driven intergroup contact model in fact is the best fit for the data.

It must be noted that the models overall proved a better fit for generalized ethnocentrism, compared to negative outgroup emotions and desire for social distance. Whereas the *BIC*-values for negative outgroup emotions and desire for social distance were generally in the 600s, the *BIC*s for generalized ethnocentrism were overall in the high 400s. Thus, not all outcome variables are created equal. This increased fit might have resulted from generalized ethnocentrism's measure being longer, more narrative, and likely easier for students to identify with. The other two measures asked about six concrete emotions and comfort with an outgroup member's position, respectively.

The importance of intergroup salience. Adding intergroup salience as a predictor to the common ingroup identity model's LME improves the models' fit above and beyond all the best-fitting models discussed thus far for negative outgroup emotions and desire for social distance (see Table 12). Adding intergroup salience to $CIIMN_D$ increased the weight of evidence from .56 to .98; adding intergroup salience to $CIIMD_D$ increased the weight of evidence from .12 to .82. Only for generalized ethnocentrism did this new, mixed model not prove a better fit. The weight of evidence for the intergroup contact model remained .98 with the addition of the common ingroup identity model with intergroup salience to the comparison. Note, however, that that the best-fitting model for generalized ethnocentrism already contained intergroup salience.

2. b. Did any of the demographic and individual difference variables affect the model outcomes, and if so, in what direction? This research sought to identify natural subgroups at RCN that might further explain differences in changes in intergroup bias over time. As noted above, gender (men = 1, women = 2) correlated negatively with intergroup salience (r = -.11, p = .044) and social dominance orientation (r = -.14, p = .018), and positively with neuroticism (r = .23, p < .000) and empathy (r = .16, p = .001). To explore these relations, the three data-driven intergroup contact LME models were used as the comparison models and ANOVAs were run to evaluate the differences between these baseline models and models that included demographic covariates. Eight models were run for each of the three outcome variables, with the following covariates added one at a time: age, age by time interaction, gender, gender by time interaction, religiosity, religiosity by time interaction, political orientation, and political orientation by time interaction.

For negative outgroup emotions and for desire for social distance, neither age nor gender significantly improved the fit of the models to the data. ANOVAs comparing the data-driven models with covariates equal status, common goals, and intergroup salience (for negative outgroup emotions) and equal status and intergroup salience (for desire for social distance) with the same model added demographic covariates were significant for religiosity, religiosity by time interaction, political orientation, and political orientation by time interaction (see Table 15). The only fixed effects significantly different from zero, however, were the intercept effect of religiosity (negative outgroup emotions $t(1) = 3.32$, $p = .001$, desire for social distance $t(1) = 2.19$, $p = .029$). This indicates that for every .041 increase in religiosity, there would result a 1-point increase in negative outgroup emotion at the intercept (.028 for desire for social distance).

For generalized ethnocentrism, the pattern was different. ANOVAs comparing the data-driven model with covariates common goals, intergroup cooperation, acquaintance potential, and intergroup salience with the same model added demographic covariates were significant for age, age by time interaction, religiosity, religiosity by time interaction, political orientation, and political orientation by time interaction. The fixed effects significantly different from zero were the intercept effect of age ($t(1) = 2.84$, $p = .005$), slope effect of age ($t(2) = -2.31$, $p = .022$), intercept effect of religiosity ($t(1) = -1.66$, $p = .099$), and slope effect of religiosity ($t(2) = 4.34$, $p < .001$). This indicates that for every .15 increase in age and every .02 decrease in religiosity, there would result a 1-point increase in generalized ethnocentrism at the intercept. The fixed effects for slope indicates the amount by which generalized ethnocentrism is expected to change over time; a .08 decrease in slope per age, and a .20 increase in slope per religiosity.

3. Alumni

3. a. Which individual difference variables were significantly similar and which were significantly different for alumni compared to current students? To draw longitudinal conclusions on the effects of the RCN education based on the alumni sample, it should be determined that the alumni entering RCN and other UWCs years ago were similar to the current students entering RCN. The alumni data were gathered to investigate potential long-term effects beyond UWC, therefore it seemed most pertinent to compare students who were just finishing their RCN degrees to alumni. The alumni data were cross-sectional, and were compared to longitudinal current student data. Therefore, it was imperative to show that the two groups were as similar as possible to ensure apples-to-apples comparisons across the two sets of data. As the following set of independent samples t-tests showed, however, alumni differed significantly from Time 4 students on almost all measures (see Table 14).

As was expected, the mean age and age distributions differed significantly between Time 4 students and alumni. The distribution of men and women was similar for the two groups; 69.1% of Time 4 students were women whereas 65.5% of alumni were women (see Table 14). Alumni reported significantly higher levels of religiosity, but indicated significantly more liberal political orientations and significantly lower levels of closedmindedness and social dominance orientation.

Alumni were not significantly more extraverted or agreeable, or significantly less neurotic than Time 4 students, as the research literature on personality development over the life span would suggest. However, in line with the personality literature, alumni reported significantly higher levels of conscientiousness. Contrary to the literature, but in

line with expectations of current students' experience at UWC, alumni reported significantly lower levels of openness to experience.

There were no differences in levels of negative outgroup emotions and desire for social difference reported by alumni and Time 4 students. However, alumni reported significantly lower levels of generalized ethnocentrism than did Time 4 students. Also, alumni indicated significantly lower levels of intergroup anxiety. On measures of trust and empathy, alumni scored significantly higher than did Time 4 students.

Of the eight contact conditions drawn from the three theoretical models (equal status, common goals, intergroup cooperation, institutional support, acquaintance potential, intergroup salience, common ingroup identity, and RCN identity), only intergroup salience did not differ between the two groups. Intergroup salience was also the only variable of the eight for which alumni scored lower than did Time 4 students.

3. b. Did subgroups within alumni (e.g., college of graduation, gender, highest level of education) explain some of the differences? The only two variables to correlate with age were estimating the resolution of home country conflict within the next 5 years (r = -.25, p = .005) and estimating the resolution of home country conflict within the next 20 years (r = -.32, p < .000), thus alumni subgroups based on age were not created and tested. That old and young alumni do not differ from each other strengthens confidence in the use of alumni as a comparison group for current RCN students.

Only four variables correlated with gender, but because three of these four were the measures of outgroup bias, they were subjected to t-test comparisons. The four were (negative correlation indicates that men reported higher levels of the variables than did women): negative outgroup emotions (r = -.16, p = .026), desire for social distance (r = -

.24, p = .001), generalized ethnocentrism (r = -.23, p = .002), and social dominance orientation (r = -.26, p = .000). The t-tests indicated that men and women scored significantly different on all four measures: negative outgroup emotions $t(204) = 2.24$, p = .026, desire for social distance $t(203) = 3.46$, p = .001, generalized ethnocentrism $t(181) = 3.19$, p = .002, and social dominance orientation $t(174) = 3.49$, p = .001.

The UWC representation was as follows: UWC Atlantic n = 18, UWC Pearson n = 23, UWC South East Asia n = 3, UWC Waterford Kamhlaba n = 17, UWC Armand Hammer n = 31, UWC Adriatic n = 4, UWC Li Po Chun n = 5, UWC Red Cross Nordic n = 133, UWC Mahindra n = 9, UWC Costa Rica n = 7, UWC Mostar n = 2, UWC Maastricht n = 2, for a total of 254 alumni. Because the representation from RCN was so large, t-tests were first run on differences between alumni from RCN compared to alumni from all the other UWCs. RCN alumni were significantly younger ($t(252) = 3.09$, p = .002) and reported significantly lower levels of openness to experience ($t(192) = 2.95$, p = .004), but no other differences were found. Running ANOVAs to compare alumni from the 10 colleges indicated only two significant differences: age ($F(11, 242) = 5.65$, $p <$ .000) and closedmindedness ($F(10, 176) = 2.42$, p = .010). UWC Atlantic alumni were on average the oldest (M = 32.5 years) whereas UWC Maastricht alumni were on average the youngest (M = 18.5 years). This is likely related to the fact that UWC Atlantic was founded in 1962, whereas UWC Maastricht was founded in 2009. UWC South East Asia in Singapore alumni reported the highest levels of closedmindedness (M = 3.96) whereas UWC Li Po Chun in Hong Kong alumni reported the lowest (M = 1.53).

40 alumni reported the IB program being the highest level of education achieved (30 of which had graduated from UWC less than 5 years ago), 1 reported a technical

degree, 2 reported completing non-degree programs, 113 reported finishing or being in the process of finishing a bachelor's degree, 68 reported completing or being in the process of completing a master's degree, 24 had obtained or were in the process of obtaining doctorate degrees, and 5 had obtained post-graduate degrees. The technical degree and non-degree program categories were collapsed into the bachelor's degrees, and the post-graduate degrees were collapsed into the doctorate degrees. Unsurprisingly, age differed significantly across the four groups ($F(4, 251) = 26.7$, $p < .000$), increasing with higher levels of education earned. Three other variables differed across groups: common ingroup identity ($F(4, 210) = 3.20$, $p = .014$), intergroup anxiety ($F(4, 189) = 2.88$, $p = .024$), and social dominance orientation ($F(4, 171) = 2.82$, $p = .027$). Perceptions of common ingroup identity while at UWC was the only variable to show a linear pattern wherein levels would decrease with higher levels of education earned: UWC $M = 3.19$, bachelor's $M = 2.97$, master's $M = 2.82$, and doctorate $M = 2.73$. Alumni with or obtaining doctorate degrees reported the highest levels of intergroup anxiety (UWC $M = 2.16$, bachelor's $M = 2.59$, master's $M = 2.35$, and doctorate $M = 3.02$), whereas alumni with or obtaining master's degrees reported the highest levels of social dominance orientation (UWC $M = 1.55$, bachelor's $M = 1.83$, master's $M = 2.08$, and doctorate $M = 1.44$).

3. c. Did cross-sectional analyses of the three theories of intergroup contact confirm the best-fitting model from the current student sample? The same 180 models that were run on the longitudinal current student data (8 models for the contact hypothesis, 93 models for the intergroup contact model, and 9 models for the common ingroup identity model) were run on the alumni data. Because of the cross-sectional

nature of the data, LME models were inappropriate and linear regressions were used. Analyses were done for two purposes: (a) to compare the model fit of the best-fitting models from the current student sample to the alumni data; (b) investigate the effect of years since graduation on the eight contact conditions as well as the three intergroup bias outcome variables. If the same contact conditions deemed most successful in the student sample were confirmed in the alumni sample, then this would lend confidence to the increased focus on these conditions, and away from the remaining conditions, in planning educational, social, and structural changes to RCN.

The best-fitting LME models in the current student data were not the best-fitting models in the alumni data (see Table 13). The best-fitting linear regression predicting negative outgroup emotions included as predictors equal status, common goals, intergroup cooperation, institutional support, and acquaintance potential (the contact hypothesis, exactly; R^2 = .116, F = 4.39, p = .000). Individually, only intergroup cooperation (b = -.304, t = -2.50, p = .013) and institutional support (b = .399, t = 4.66, p = .000) were significant predictors. Adding intergroup salience to the model did not decrease the R^2, but it decreased the significance slightly (R^2 = .116, F = 3.75, p = .001). Surprisingly, these two regressions suggest that stronger perceptions of institutional support lead to increased levels of negative outgroup emotions.

There were four best-fitting linear regression predicting desire for social distance: common goals, intergroup cooperation, and institutional support (R^2 = .026, F = 1.32, p = .265), common goals, intergroup cooperation, institutional support, and acquaintance potential (R^2 = .026, F = 1.05, p = .388), equal status, common goals, intergroup cooperation, and institutional support (R^2 = .026, F = 1.07, p = .381), and equal status,

common goals, intergroup cooperation, institutional support, and acquaintance potential (R^2 = .026, F = .987, p = .506). Institutional support was the only predictor that was significant across all the four models (barely significant for the fourth model, b = .172, t = 1.93, p = .056). Similarly to the models predicting negative outgroup emotions, higher levels of institutional support predicted higher levels of desire for social distance.

There were two best-fitting linear regression predicting generalized ethnocentrism: equal status, intergroup cooperation, institutional support, and acquaintance potential (R^2 = .040, F = 1.46, p = .206); equal status, common goals, intergroup cooperation, institutional support, and acquaintance potential (R^2 = .040, F = 1.22, p = .300). The only significant predictor was intergroup cooperation (b = .240, t = 2.17, p = .031 for the first model, and b = .247, t = 2.12, p = .036 for the second model. Contrary to the regression models for negative outgroup emotions and desire for social distance, institutional support was not a significant predictor of generalized ethnocentrism. Of interest, intergroup salience did not play a large role in the alumni sample as it did in the current student sample. In fact, intergroup salience was not a predictor in any of the best-fitting models.

3. d. Did any of the individual difference variables, and most importantly the three measures of intergroup bias, relate to years since graduation? If sustainable change did not occur, then alumni should have reported increased levels of intergroup bias as the years went on. However, the three measures of intergroup bias were not related to years since graduation. This suggests that some part of the UWC education remains with alumni, such that any changes that occurred while at UWC were not significantly overridden by life experiences that occurred later.

The following variable were significantly correlated with years since graduation: hours a week reported spent with friends at UWC (r = -.20, p = .004), common goals (r = .14, p = .042), intergroup cooperation (r = -.19, p = .005), institutional support (r = -.14, p = .049), acquaintance potential (r = -.19, p = .003), intergroup salience (r = -.24, p = .001), UWC identity (r = -.23, p = .001), extraversion (r = -.20, p = .005), agreeableness (r = -.17, p = .015), neuroticism (r = -.22, p = .002), openness to experience (r = -.21, p = .003), intergroup anxiety (r = -.18, p = .013), closedmindedness (r = -.21, p = .004), trust (r = -.21, p = .004), empathy (r = -.24, p = .001), religiosity (r = -.22, p = .004), social dominance orientation (r = -.16, p = .040), estimating the resolution of home country conflict within the next 5 years (r = -.25, p = .004), and estimating the resolution of home country conflict within the next 20 years (r = -.32, p < .000). Common goals was the only contact condition and the only variable to be positively related with years since graduation. Perceptions of the presence of the other contact conditions, just as reported by current students at RCN, decreased over time.

4. Interviews

4. a. What subjective content analysis themes emerged in the interviews?

Interviews aimed to gather subjective perceptions of the effect the RCN education had on students, to confirm and elaborate on the quantitative survey findings. The following themes were established for interview analyses: knowledge of conflict in home country and around the world, critical thinking, ability and willingness to trust and show empathy toward others, conflict management skills, and growth. Additionally, themes that emerged spontaneously across the interviews included consistency in thinking and an increased importance assigned values such as health, happiness, and freedom. Some

students (Costa Rica and South Sudan in August 2011, and Thailand in August 2012) spoke extremely poor English, resulting in short interviews that were not included in the following analyses. To maintain anonymity and to increase the readability of the following pages, home countries are used in lieu of students' names; several countries were represented by more than one student: Canada, Costa Rica, Estonia, Israel, Norway, Palestine, South Sudan, and Thailand.

Knowledge of conflicts. Questions about conflict in their home countries and knowledge about conflicts around the world were asked of the 2011-2013 cohort of students. Students were knowledgeable of many conflicts upon arrival at RCN, and of many kinds of conflict. When asked if they knew of any conflicts in their home country, only Switzerland replied that he did not. Peaceful countries like Norway and Canada brought up national issues such as immigration and the rights of aborigines. Other non-war conflicts mentioned included drug trafficking (Mexico) and land disputes (Costa Rica). Some of the students were hesitant to call these conflicts, noting that other students they had met at RCN clearly had experienced worse conflicts than they had.

The students who knew the most about conflicts around the world seemed to be the students who themselves came from conflicted countries. Israel, for example, claimed that she did not have much knowledge about conflicts worldwide, but continued to list five major conflicts on three continents. In comparison, Canada stated that she thought she knew quite a bit, but did not list any particular conflict. Both Switzerland and Norway lamented the fact that their countries either did not like talking about conflict or did not publicize information about other conflicts than those with which the country had a particular invested interest (e.g., Norway's role in Afghanistan).

> Q: How much would you say you know about conflict worldwide?
>
> I know because if you live in (…) a conflict country (…), so I know much more about many conflicts. I know there are conflict between India and Pakistan about Kashmir (…). There is a conflict (…) between Russia and Chechnya, and there is conflict between Israel and Palestine. There is conflict between North Korea and South Korea. There is conflict between China and Japan about water, and many more conflicts. And now we have conflict in Arabic countries, especially in Libya, and Syria, and Yemen. (Afghanistan, August 2011)

Although not appreciated as such, the Socratic paradox seemed to play a role in students' awareness of their knowledge of conflicts around the world. Whereas most students claimed, upon arriving at RCN, that they were quite well versed with the conflicts of the world and that they knew many or most of them, upon departure, many noticed how they before had known very little and now knew more. Said Palestine in May 2013, "before I come here, I didn't know much at all. For example, Western Sahara, I never heard of it."

Critical thinking. Critical thinking might help reduce instances of intergroup conflict as parties reach deeper than surface causes and pause to think about why things are as they are. Critical thinking was clearly evident in students' thoughts and definitions of terms after their two years at RCN. Indicating an increased understanding of the breadth of education, Morocco noted in May 2014 that, "when I came to this school the whole idea about education changed because I found that you cannot really be an educated person if you don't contribute to charitable projects or you don't fundraise or you don't play football." Similarly, students' understanding of trust and empathy

deepened. El Salvador agreed, upon arrival in August 2013, that trust is important "in every, in every way." Two years later, his thinking about trust was more critical:

> Yeah, I think that [trust] is important. Without trust, I think that you cannot establish a friendship, a relationship at all. I think that's one of the major things on campus that in order to, like, people get along with each other, they have to be trustworthy. (El Salvador, May 2014)

Norway, too, evidenced critical thinking about trust, and empathy:

> If everyone trusted each other it would be a great world, but that doesn't mean that everyone should be trusted. If everyone was empathic, it would be a great world because then we would understand different people's viewpoints, but that doesn't mean that everyone would act to comfort their peers or and act in empathetic [ways] towards their peers. (Norway, May 2013)

Thinking critically about most things, students even began questioning the UWC system, suggesting ways in which the program could be changed and improved. Costa Rica claimed the bureaucracy was getting in the way of real impact. Sri Lanka lamented in May 2013, "I don't know whether we are like integrating because we are forced to understand each other, or because we want to." He noted that during the first few weeks of students' first year, people mill about and talk to everyone, but after a couple of weeks, they settle into their groups: "if you sit in the kantina, and you can see sometimes, Europeans in one side, the Latinos together, and the Africans together." Estonia explained in August 2012, "I think I will be hanging out more like, with the people who're like from the countries which is close to Estonia. (…) It always goes like this." Egypt listed Serbia, East Timor, Thailand, China, Yemen, and Palestine as the people she

spent the most time with upon arrival to RCN. Two years later, her best friend was Wasim: "We have the same language, same subjects. (…) We could easily, from the first two weeks we met, just say very deep emotions and things we have." None of the students noted spending time with people they had more in common with, even if these people were culturally similar to them, as a negative thing, however, and most were aware of it. "We were actually talking about this not so long ago" said Canada in May 2014, "that it is interesting that your closest friends are from similar backgrounds as you. (…) It makes sense. (…) You find people that you're comfortable around and those are usually people that you have a lot in common with."

Trust and empathy. Somewhat contrary to what one might expect, it seemed that the students from the more conflicted countries were the most trusting of other people, whereas students from the more peaceful countries were less trusting. Afghanistan, for example, noted that he was very trusting of other people, and particularly so in Norway. Egypt claimed she doesn't "trust a lot of people," but to her trust meant openly expressing feelings and emotions. My impression during the interview was that, save perhaps for emotion words, Egypt was indeed trusting. Morocco too, indicated trust:

> I trust Moroccans. You know why? Because I live with them and I just know that with modest people, when you live a modest life, when people just care of living a great life where there is a little happiness, little stress and everything is alright, you can trust them. (Morocco, August 2013)

However, both Canada and Norway said that they were not that trusting of other people. Canada said, "I always have some sort of doubt" and Norway said, "I'm skeptic towards the people." Norway also noted that he was "less [trusting] now than (…) when

I came [to RCN]." He explained that he had met people at RCN who had had to fight their way to the college, in contrast to Norwegian students, for whom there is less competition. These people, he explained, would lie and manipulate to protect themselves, and he had gotten hurt "a lot of times here because [he] was a trusting person." Estonia claimed that, "Estonians don't trust people very easily," and the Estonian who arrived at RCN one year later agreed: "Not at all. No, [Estonians] are not [trustful]." However, as a great example of how individual differences exist within groups, she said that personally, she "really trust[s] people" (August 2012) and that she "always tend[s] to trust people" (May 2014).

Of importance to the reduction of intergroup bias and conflict, many students explained that being trusted often lead to trusting others, and that trust is an extremely important component of friendships and relationships. Said Greenland in May 2014: "It's nice to know that somebody trusts you and it brings this intimacy into the relationship. (…) By them trusting you, you feel that you can also trust them." In agreement with their views about trust, students also advocated for empathy. "How would the world be without empathy? We'd all be cold towards each other. There would be no love. There would be no understanding" (Greenland, May 2014).

No consensus was found when asking students which one of the two, trust or empathy, they would choose as the most important one. Of the students interviewed in May 2013, five said trust (Afghanistan, Costa Rica, Mexico, Palestine, and Sri Lanka), and five said empathy (Canada, Israel, Norway, Rwanda, and Switzerland). Of the students interviewed in May 2014, three said trust (El Salvador, Israel, and Morocco), and eight said empathy (Canada, Egypt, Estonia, Greenland, Namibia, Palestine, South

Sudan, and Thailand). Norway declined to choose one, saying they were both equally important in various situations. Singapore did not quite answer the question, stating that "empathy is on a more personal level, but trust is in the wider community. They are important on different levels."

Of particular interest was the finding that most students closely linked the two, sometimes flip-flopping their definitions. In August 2012, Canada said trust was more important: "trust leads to empathy, and empathy does not necessarily lead to trust," but in May 2014, she said empathy: "because with empathy, trust comes naturally." El Salvador also changed his opinions of which of the two is more important, but in the tradition of no consensus in the definition of these two terms, there was no clear pattern in choosing one over the other as a result of the RCN experience.

Conflict management. When asked how to solve a conflict, students overwhelmingly reported either "education" or "talking" as the best way to resolution. Morocco explained that whereas he before coming to RCN would have yelled to get his way, "the person I am now (…) would never do that. I will go and talk to them respectfully." Other suggestions included mutual understanding, compromise, mediation, and outside intervention (suggested by Palestine, who then explained that he would not trust outside intervention unless it was explicitly and exclusively for humanitarian reasons). Tenets of realistic conflict theory[27] arose in three interviews. Palestine suggested outside intervention usually occurred because the outside parties thought they had something to gain. Norway explained, "if we didn't consume as much then that

[27] Extremely briefly described, realistic conflict theory holds that intergroup hostility arises as a result of conflicting goals and competition over limited resources.

would solve the conflict. (…) There would be no oil wars, there would be no fight for political power over areas that have resources." Morocco explained that Moroccans are a trustworthy people because they are modest and not "searing for something very, very huge. They just want to live."

The second round of students interviewed were asked about specific examples of conflict they had resolved at home (asked at Time 1) and at RCN (asked at Time 4). Most of the examples given involved roommates and the inevitable conflicts that arise from placing five girls or boys with different preferences in one room. Greenland explained that her biggest conflict had been with her roommate from Sierra Leone. Greenland preferred the room cool; Sierra Leone hot. "We resolved it," Greenland explained, "by simply deciding that (…) we wouldn't have [the temperature] extremely high or having it extremely off, we would have it in between, so compromise." Students at RCN are encouraged to solve such conflicts by themselves, thus encouraging conflict management skills and empowering students to find solutions together. This was not always easy:

> Over the 2 years here, I think the biggest conflicts have come through student council. But it is also difficult to resolve those conflicts. (…) We like to think that we have this maturity and this ability to separate ourselves and take our personal opinions out. But I think we all struggled with that. (Canada, May 2014)

An overarching theme of students' thinking about UWC generally and RCN in particular was their noting the peace and diversity that permeated campus and the UWC culture. Said Afghanistan in August 2011 about his summer course[28] experiences, "the guy from Palestine was sitting here, and the girl from Israel was sitting in front of her

[28] A month-long pre-RCN course for students who needed to learn or wanted to improve their English.

[sic], and they were talking really friendly. (…) This is the best thing, and this is the education that I can say is peaceful." Mexico, too, was learning from his fellow students:

> For me it was like weird seeing (…) Israel and (…) Palestine and they're eating together and all that, and you say like oh, this is really respect, this is really tolerance. So, in Mexico (…) you respect each other when you don't kick him in the face. (Mexico, August 2011).

Neither Israel nor Palestine, however, were hopeful about the resolution of the Israeli Palestinian conflict, stating in August 2011 that they did not believe the conflict could or would be solved. Despite their pessimism, Israel and Palestine became close friends over the two years at RCN. In May 2012, Israel said "I don't think [the conflict] will be solved ever, but still, I hope that we can reach an agreement and we can both recognize each other's right. (…) Because we both of us have history in this piece of land so we need to recognize it." She continued, about Palestine, "he is like my little brother. I really like him, and we don't talk about the conflict at all, because we both have really different opinions so when we talk about, it's a war, but we just leave it aside and we're really good friends." Palestine grew in his respect for Israel too, stating in August 2011 that she was his "enemy" though he also said "I'm very good with her because she's good with me so I must be good with her." Despite their friendship, Palestine was not hopeful in May 2012 that their conflict ever would be solved.

Growth. Most students agreed that they had changed from their RCN experience: "I think it's inevitable that you do gain a lot of perspective coming here" (Canada, May 2014). Even students who thought that they would not change at all, such as El Salvador, looked back and saw change: "I became more confident. (…) I got to know more about

myself. (…) I became more (…) aware of what of the things I do. How they affect other people." One of the main ways in which students noted that they had grown included the awareness and care for other people. "Coming here, you realize that there is a connection that you share with everyone because you are human. (…) You may believe in a different God than I do but you still love your mum the same way" (Canada, May 2014). Estonia agreed: "I'm more (…) empathetic towards others. Because in here I see how different people are, so I can understand much better."

Several students evidenced the kind of RCN and broader UWC identity that will help the effects of the college reach beyond the individual students who attended. Morocco indicated that after an education in the United States, he wanted to return to Morocco to teach for free and volunteer, sharing his experiences from UWC. Afghanistan and Thailand, too, indicated that they try to spread what they find important:

> What I'm doing is to talk with my friend, and then talk about my experience here, that we are very small community, and then we are from different cultures, different backgrounds, how we tolerate each other. (…) I try to talk to as much people as possible back home and then say that (…) we have to promote mutual understanding between each other. (Afghanistan, May 2013)

"As I go back to my home country or going somewhere, I will talk about UWC more and more. I guess if some people can't attend UWC but they can learn from others" (Thailand, May 2013).

Consistency.[29] Despite two years of social and academic challenges, the rise and fall of cross-cultural friendships, and new experiences, students' responses to the interview questions were remarkably consistent over time. For example, asked what multiculturalism is, Canada immediately replied "Canada!" in both August 2011 and May 2012. Students recounted practically the same exciting stories of their journeys from hearing about UWC to applying, to going through rounds of interviews, to being accepted, to coming to RCN. This could be because the interview was the only opportunity they had to tell this story and so they did not have the chance to change the storylines over two years. However, Afghanistan, Canada, Costa Rica, Rwanda, Switzerland, and Sri Lanka did not change their views of what is required to solve a conflict, even after two years of discussing issues of global concern and frequently recommending solutions.

Increased importance assigned values such as health and happiness. Finally, students seemed to have grown in their appreciation of alternative routes to a fulfilling life, giving credit to RCN for making them realize that there are many kinds of success to aspire to. Canada, changing his plans of pursuing academic success in the US and instead planning to return to Canada, credited the Scandinavian culture for instilling in him the "appreciation of having a healthy life and (…) being happy all the time, (…) doing things that you enjoy rather than things that you have to do." Morocco, too, mentioned changes: "My Norwegian roommate taught me a lot of things when it comes to (…) being quiet, being healthy, having a balanced lifestyle." Costa Rica concurred,

[29] Some noted remembering their answers to the questions posted during the first interview. I believe that they generally answered what came to mind regardless of what their answers had been before.

stating, “I think that being healthy is important now. I try to sleep well now, eat well, study, enjoy, socialize.” Other students noted their newfound appreciation of others. Estonia said, likely referring to summer break, “when I went back home, I was much more open to everything and helping others. (…) I think I become warmer towards other people than I was before.” As Canada and Morocco observed, changes in values were likely a result of the college’s location and immersion in Norwegian culture. Strong values in Norway include democracy, freedom of expression, fairness, health, the outdoors, and happiness.

4. b. Using Pennebaker, Francis, and Booth’s (2001) Linguistic Inquiry and Word Count (LIWC), were there significant differences in the frequencies and kinds of words used by: students at Time 4 compared to students at Time 1; students from relatively conflicted countries compared to students from relatively peaceful countries; and men compared to women? Results are organized by LIWC’s grouping of words analyzed: proficiency in English (word count, six-or-more-lettered words, dictionary words, nonfluencies, fillers), personal pronouns (I, we, you, they), time (past, present, future), people (family, friends, humans), positive and negative emotions (anxiety, anger, sadness), growth (insight, causality, discrepancy, tentativeness, certainty, inhibition, inclusiveness, exclusiveness), perception (seeing, hearing, feeling, body, health, relativity, motion, space, time), and values (work, achievement, leisure, home, money, religion, death).

First, students evidenced a statistical improvement in their proficiency in English over the two years at RCN. Compared to Time 1, at Time 4, students used significantly more complicated words (defined by LIWC as having six or more letters; T1 $M = 12.6$,

T2 M = 14.4, $t(48)$ = -2.69, p = .010) and a significantly higher proportion of the words used were actual dictionary words (T1 M = 93.0, T2 M = 94.4, $t(48)$ = -2.58, p = .013). Interviews were transcribed verbatim, including fillers and errors, so that this increase in English proficiency could be established. Men's average word count was 2,137 whereas women's was 1,585, but due to the high standard deviations (Men SD = 2,032, Women SD = 1,297) this difference was insignificant. Women used significantly more dictionary words than did men (Women M = 94.4, Men M = 93.0, $t(48)$ = -2.47, p = .017). Although the use of fillers decreased, this difference was not significant (T1 M = 1.73, T2 M = 1.34, $t(48)$ = .844, p = .403). Likely related to their improved mastery of English, Time 4 interviews were longer and students spoke more words (this difference approached significance; T1 M = 1,446, T2 M = 2,298, $t(48)$ = -1.788, p = .080). The range of words spoken increased dramatically from 2,813 words at Time 1 to 10,650 words at Time 4.

The findings above are important because students' ability to express themselves in English hinge on them knowing the language. Estonia, for example, when asked how she would change over her two years at RCN answered, "I think I will be (…) I don't know how to say. I know more things about world and different cultures and, I can't say the words in English, I don't know." Israel agreed, explaining that, "when someone doesn't speak English here, they are like little kids. Then it's really hard to get friends." Some students (South Sudan in August 2012 and Thailand in August 2013) did not even speak enough English at Time 1 to explain that they were unable to answer the interview questions. There were no statistically significant differences in the English proficiencies of students who came from conflicted countries compared to students who came from peaceful countries.

Second, there were no statistically significant differences in students' use of pronouns such as "I," "we," "you," and "they" at Time 1 compared to Time 4. Women more frequently used the word "they" (Women $M = 1.70$, Men $M = 1.22$, $t(48) = -2.12$, $p = .039$), whereas students from conflicted countries more frequently used the word "we" (conflicted $M = 1.4$, T2 $M = .93$, $t(48) = 2.41$, $p = .020$). However, these differences might have been due to a number of factors, such as the stories women chose to tell or the way in which students from conflicted countries interpreted the interview questions.

Third, no differences were found between students' referrals to the past, to the present, or to the future at Time 1 compared to Time 4, for women compared to men, or for students from conflicted countries compared to students from peaceful countries.

Fourth, students at Time 1 talked significantly more about their families than they did at Time 4 (T1 $M = .40$, T2 $M = .19$, $t(48) = 2.38$, $p = .021$). However, no differences were found between men and women or between students from conflicted countries and students from peaceful countries.

Fifth, no differences were found between students at Time 1 and Time 4 or between men and women in the use of positive or negative emotion words. However, students from conflicted countries used significantly more negative emotion words than did students from peaceful countries (conflicted $M = 1.48$, peaceful $M = .98$, $t(48) = 3.40$, $p = .001$), true at Time 1 and at Time 4. Although not significantly so, all students used more negative emotions words at Time 4 than they did at Time 1.

Sixth, students at Time 4 evidenced significantly more insight (T1 $M = 3.45$, T2 $M = 4.61$, $t(48) = -3.49$, $p = .001$) and significantly more tentativeness (T1 $M = 3.51$, T2 $M = 4.23$, $t(48) = -2.35$, $p = .023$). Women showed more insight than did men (women M

= 4.46, men M = 3.63, t(48) = -2.34, p = .023). There were no differences between students from conflicted countries and students from peaceful countries.

Seventh, there were statistically significant differences in students' perceptions and mention of feelings at Time 4 compared to Time 1; students evidenced more perceptions (T1 M = 1.60, T2 M = 1.96, t(48) = -2.17, p = .035) and more feelings (T1 M = .49, T2 M = .78, t(48) = -2.47, p = .017). Compared to men, women spoke more frequently of perceptions (women M = 1.96, men M = 1.62, t(48) = -2.11, p = .040), feelings (women M = .76, men M = .52, t(48) = -2.07, p = .044), and space (women M = 6.23, men M = 4.70, t(48) = -2.25, p = .029), but less frequently of health (women M = .12, men M = .27, t(48) = 3.19, p = .002), relativity (women M = 7.60, men M = 10.84, t(48) = 3.17, p = .003), , and time (women M = 4.78, men M = 6.09, t(48) = 2.02, p = .049). Students from conflicted countries spoke more frequently than did students from peaceful countries about hearing (conflicted M = .78, peaceful M = .52, t(48) = 2.36, p = .022) and about body (conflicted M = 2.00, peaceful M = .09, t(48) = 2.29, p = .026).

Finally, although students at Time 4 spoke more frequently about achievement, home, and religion than they did at Time 1, and less frequently about leisure and death, these differences were not statistically significant. Compared to men, women spoke more frequently of achievement (women M = 2.60, men M = 1.41, t(48) = -2.39, p = .021), leisure (women M = .91, men M = .51, t(48) = -2.83, p = .007), home (women M = .66, men M = .27, t(48) = -3.79, p < .001), and religion (women M = .28, men M = .12, t(48) = -2.07, p = .044). The only difference between students from conflicted countries and students from peaceful countries to achieve significance was the frequency with which students spoke about death (conflicted M = .13, peaceful M = .05, t(48) = 2.42, p = .020).

Chapter 6

Discussion

Multicultural and peace-oriented curricula are related to lower levels of racial prejudice and higher levels of cultural self-awareness (Castillo, Brossart, Reyes, Conoley, & Phoummarath, 2007) and on average significant reductions in racial bias (Denson, 2009; Pettigrew & Tropp, 2006). The expected benefits for students from spending two years in constant intergroup contact, with peace-oriented classes, programs, and events a significant part of the college calendar, are vast. At RCN, students become acutely aware of the idiosyncrasies of their own cultures as they are launched into contact with people from cultures they might never have heard of. They live together five to the room, eat all their meals together, attend classes together, struggle through the IB curriculum together, and develop and mature together through the last two years of their adolescence. Formal learning aside, students fall in love with people from more restrictive or more open cultures than their own, develop conflict management skills to mitigate skirmishes between roommates, learn to cook foods native to countries on the opposite side of the globe, and develop empathy for those whose lives they realize are more difficult than their own. Perhaps because of the seemingly obvious outcomes of such an education, the RCN program had until the launch of this project not before been evaluated.

In this three-year longitudinal field study, the multicultural peace education program at RCN was evaluated with a particular regard toward reductions in students' negative outgroup emotions, desire for social distance, and generalized ethnocentrism. The aim of this dissertation was to confirm the effectiveness of RCN in particular, and to be able to speak more broadly of the UWCs worldwide in general.

A balanced panel design was used to survey current RCN students four times over their two years at the boarding school. The contact hypothesis, the intergroup contact model, and the common ingroup identity model, veritable giants in the field of social psychology, provided the theoretical foundation upon which this project stands. Each of the three's models of intergroup contact were dissected into measurable conditions for successful intergroup contact: the contact hypothesis' equal status, common goals, intergroup cooperation, institutional support, and acquaintance potential, the intergroup contact model's equal status, common goals, intergroup cooperation, institutional support, acquaintance potential, and intergroup salience, and the common ingroup identity model's common ingroup identity and RCN identity. Additionally, cross-sectional surveys of alumni worldwide and pre- and post-RCN interviews of students were conducted to add depth and breadth to the data.

Current Student Findings

This research addressed several gaps in the research literature, beginning with the formal and scientific evaluation of a multicultural peace education program. Furthermore, two basic problems with Allport's (1954) contact hypothesis, listed by Pettigrew (1998), were addressed: The longitudinal design overcame the limitations of the many cross-sectional studies of intergroup contact, and rather than expanding and diluting the contact conditions by adding facilitating conditions, only the five originally described by Allport were used. Theory-driven LME models of three contact models were compared to data-driven models to establish which model best predicted which of the three measures of intergroup bias. The models' fit were compared and contrasted across every possible combination of contact conditions within each of the three models. The data-driven

common ingroup model proved most predictive of changes in negative outgroup emotions and desire for social distance, whereas the data-driven intergroup contact hypothesis proved the most predictive of changes in generalized ethnocentrism.

It is a difficult task to compare and contrast three different models that vary in complexity and predictors for contact success. Comparing just the contact hypothesis and the intergroup contact model would have been easier; the one is a replication of the other with the addition of one variable. Comparing either of these two with the common ingroup identity model result in challenges. First, the statistical methods used here generally penalize models that carry more predictors, suggesting that the common ingroup identity model might have had an unfair advantage. This was not the case, given the fact that the common ingroup identity model with its two predictors (common ingroup identity and RCN identity) was not the best fit unless intergroup salience was introduced. Second, the exact nature of the predictors differs across models. The common ingroup identity model specifies that intergroup bias be reduced when groups endorse a common ingroup identity, whereas the contact hypothesis specifies that intergroup bias be reduced after intergroup contact, for which five conditions are necessary. The intergroup salience model and contact hypothesis are easier to compare because the processes through which bias reduction is thought to occur is the same for both models, with the exception of one variable.

Intergroup salience. An important finding to come out of this research is that some contact conditions, such as equal status and intergroup cooperation, were more stable across various outcome measures, whereas others varied. Of the best-fitting data-driven LME models that built on Allport's five contact conditions, equal status and

intergroup cooperation were significant predictors in four of six models, common goals was significant in two models, and acquaintance potential in one model. Strongest of the predictors, however, was intergroup salience. Comparing the data-driven LME models across the contact hypothesis, the intergroup contact model, and the common ingroup identity model, intergroup salience was a stable factor in all the best-fitting models.

A related finding of value was that the best-fitting contact conditions depend on the outcome variable. Although negative outgroup emotions and desire for social distance both measured a general aversion toward a specific outgroup that participants themselves listed, reductions in the first were predicted by equal status, common goals, and intergroup salience, whereas the second was predicted by equal status, intergroup cooperation, and intergroup salience. Comparing *BIC* values indicated that generalized ethnocentrism was much better predicted by the contact conditions than were negative outgroup emotions and desire for social distance. Also in contrast to the other two outcome variables, reductions in generalized ethnocentrism were predicted by Allport's intergroup cooperation and acquaintance potential, until intergroup salience was added to the model and acquaintance potential no longer added significant value. For the other two, intergroup salience added value over and above the two contact conditions that best predicted the model.

In an effort to best explain the data, and to compare the three models' influence in an indirect way, intergroup salience was split from the intergroup contact model and added to the common ingroup identity model. This mixed model proved the best fit for the data, much more so than the previous data-driven best fit, for negative outgroup emotions and desire for social distance. The mixed model must be explored in other data

as well, given the particularly strong influence in this sample of intergroup salience and RCN identity. Perhaps more than the "best model," this mixed model was a composite of the two strongest predictors. Although it seems as if RCN identity as a common ingroup identity and intergroup salience might work against each other, the one fostering one group and the other encouraging difference, the two might instead collectively measure an orientation toward multiculturalism. Endorsing one common ingroup, RCN identity, while also acknowledging intergroup salience might be the recipe for students to develop empathy toward each other and toward people from other groups in general.

RCN identity. RCN identity was found to correlate positively with all of the contact conditions deemed necessary for successful intergroup contact. Correlations do not establish causal relationships, but the fact that RCN identity correlated positively with the contact conditions suggests that it likely plays an important role in students' perceptions of the RCN campus. It makes sense that students who more strongly identify with the RCN identity should agree that campus fosters successful intergroup contact because this is one of the tenets of the RCN education. This finding was somewhat unexpected, however, in that other variables, in particular the contact condition variables, were expected to play a larger role in students' perceptions of RCN.

Pattern of change over time. In Chapter 2, I discussed the difficulty of obtaining sustainable change. Surveys were administered at RCN at 4 time points in an effort to determine whether sustainable change could be expected. Changes between Time 2, right before summer vacation, and Time 3, right after summer vacation, could show return to pre-RCN changes, as students returned home for close to three months. Although not significantly so, levels of negative outgroup emotions and generalized

ethnocentrism followed this pattern exactly: decreasing from Time 1 to Time 2, increasing from Time 2 to Time 3, and then decreasing again from Time 3 to Time 4 (see Figure 5). Desire for social distance, however, increased from Time 1 to Time 2 to Time 3, then decreased to below Time 1 levels at Time 4.

Although this pattern suggests that some positive changes to result from RCN might be reversed once students return to their home countries, two other findings suggest a more optimistic outcome: (a) most students do not return home to their home countries; (b) individual difference variables known to mitigate intergroup bias, such as empathy, increased steadily over time at RCN, whereas others known to exacerbate bias, such as intergroup anxiety, decreased at least by Time 4.

Intergroup bias. Contrary to expectations, students at RCN evidenced non-significant changes in negative outgroup emotions, desire for social distance, and generalized ethnocentrism over time. Several reasons might explain why no effects were found: (a) there were no effects; (b) the effects were masked by the measures; (c) the effects were masked by the statistics; (d) the effects were obscured by changes in students' standards of rating or in students' understanding of the constructs; (e) additional relevant effects should have been measured.

First, and simplest, there might not have been an effect. Despite its strong and long-lasting intervention, RCN's program might not influence its students to the level expected. It is likely that students who entered RCN were already quite low on measures of intergroup bias (these averages were the lowest of all variables measured on the scales of 1-4 or 1-5, see Figure 5). This would have resulted in range restriction, and students' inability to report much lower levels than what they already did. However, interview

findings do not suggest that students had no biases when they first came to RCN. Sri Lanka, for example, explained that "before coming here, I had a steer clear of Africans, because I see the movies and I hear stuff like, they are really violent." Palestine called Israel his "enemy" when he first arrived at RCN, and his "best friend" two years later.

Although the mean levels of the three variables stayed level across time, the standard deviation decreased, suggesting regression toward the mean. Regression toward the mean indicates that responses become less extreme over time, congregating toward the group's average. Despite this, there were students that reported much lower levels of intergroup bias at the end of the four years, and students that reported higher levels of bias. Thus, the finding that there was no effect does not guarantee that for some students there were not great effects.

Second, the effect might have been masked by the wrong kinds of measures. Despite overt intergroup bias such as the three outcomes measured here not changing, perhaps implicit attitudes changed. Researchers agree that people have two systems of attitudes: explicit or overt and implicit or covert. One line of research on intergroup friendships found that only two of seven explicit measures of prejudice were reduced as a result of the intergroup contact (Aberson, Shoemaker, & Tomolillo, 2004), though implicit measures might have shown more change. Despite the difficulties inherent in the measurement of implicit attitudes, people's implicit associations sometimes predict attitudes and behaviors over and above explicit attitudes (e.g., Knowles, Lowery, & Shaumberg, 2010). Some studies find no correlations between explicit and implicit attitudes (e.g., Turner, Hewstone, & Voci, 2007; Vezzali & Giovannini, 2010), encouraging the inclusion of both measures in studies of intergroup contact and prejudice.

Though the most popular kinds of implicit measures use pictures as part of the manipulations, there are versions that employ words such as "us" and "we" and "them" and "they." Such tests would corroborate evidence for students' attitudes toward outgroups in general, and should be considered in future research.

Third, the effect might have been masked by the wrong kinds of statistics. Change scores for individual measurements have significantly lower reliability than do the original Times 1, 2, 3, and 4 measures due to Lord's paradox.[30] Because of decreases in reliability, the test statistic has a smaller chance of gaining significance. This problem only relates to the ANOVAs testing for significant differences over time. Capturing multiple waves of data, as this collection did, allows for the plotting of change curves (which was done with the LME models). Because no change scores were involved in the models, the reliability issues were eliminated.

Fourth, even if behaviors actually changed, called "alpha" change by Millsap and Hartog (1988), these changes might have been masked by "beta" and/or "gamma" change, or students' differential interpretation of the test items over time. Beta and gamma change are particularly difficult to tease apart from alpha change in data collected from self-report. Beta change involves a change in participants' standards, such that scores on a scale that were at Time 1 considered average were perhaps at Time 4 considered low. Maybe students witnessed less intergroup bias over the two years than they expected, leading them to think that the average was lower than they originally thought, thus they maintained their intergroup bias scores at Time 4 even though they thought they had

[30] Lord's paradox states that the higher the correlation between measures, the less differential variance, and therefore the lower the reliability.

actually changed. Gamma change involves changes due to participants' learning about the constructs in question and reaching new understandings about their own behaviors. Perhaps students thought that they had initially reported too low levels of intergroup bias, now that they knew exactly what intergroup bias meant, thus even when they changed over time they maintained the same scores. The increased alphas over time for most scales in this study indicate that some differential interpretation likely occurred.

One recommendation for teasing alpha change apart from beta and gamma change suggests using behaviorally anchored rating scales (BARS) rather than more popular Likert scales, which were used in this research. Likert scales ask "on a scale from 1 to 7 where 1 means "strongly disagree," 4 means "neutral or undecided," and 7 means "strongly agree," indicate your agreement with the following statement: I spend time with people from other racial and ethnic groups." BARS, in contrast, are anchored on each end of a behavior continuum by actual behaviors, such as "I have no desire to spend time with people from other racial and ethnic groups" to "I sometimes take the time to hang out with people from other racial and ethnic groups" to "I frequently and regularly spend time with people from other racial and ethnic groups."

Finally, rather than measuring changes in students' levels of intergroup bias, perhaps what should have been measured were students' ability to cope with their intergroup bias. Said one alumni in his survey, "I'm not any less prejudiced now than I was when I came. Now, I just know how to deal with it!" RCN has a reputation for tolerant and open-minded students, creating social expectations on every new cohort of students that arrives. Students who find themselves disagreeing over matters of diversity

probably choose not to verbalize their opinions.[31] There are several well-established measures of social desirability bias and willingness to control prejudice that would have been fitting for use in this project. The question then moves from being one of true change in intergroup bias to one of change in the manifestation of intergroup bias.

The alternative explanations listed here read as a to-do list for basic and applied researchers alike. Future research should build on the findings, and lack thereof, in this dissertation research. Avenues for future research are listed in the Implications.

Alumni Findings

To what extent could evidence of impact from the two-year long UWC education be found? The cross-sectional survey of alumni representing 77 countries investigated how alumni remembered their time at UWC in terms of the three models of intergroup contact, and the extent to which they are still affected by their UWC experience. Although alumni's current-day reflections did not necessarily describe the reality of their UWC days, responses were valuable indicators of the personal impact of the UWC education. Additionally, the age gap between the youngest and the oldest alumni allowed for an exploration of how perceptions change over time. Collecting data on global UWC alumni thus broadened the scope of this study to examining the effects of the UWC and, in a subsample, of the RCN experience over the life span.

Alumni, however, were not similar enough to current students to warrant direct comparisons. Alumni reported significantly higher levels of religiosity, but indicated

[31] Notable exceptions exist. During Model United Nations one year, the student from Haiti was assigned the Vatican State. Role-playing the Pope, the student aggressively asserted his views against "Chi-chi men," the Haitian slang for homosexuals. It was well known that these views were his own, and not just those of the Vatican State.

significantly more liberal political orientations and significantly lower levels of closedmindedness and social dominance orientation than did current students. Alumni also reported significantly higher levels of conscientiousness and significantly lower levels of openness to experience. Alumni scored significantly higher than did current students on measures of trust and empathy.

Alumni also showed significantly more positive views of the UWC environment than did Time 4 students. Alumni indicated higher levels of equal status, common goals, intergroup cooperation, institutional support, acquaintance potential, common ingroup identity, and UWC identity than did Time 4 students. For most, the UWC experience was likely one remembered positively. Perhaps then, over the years, positive elements remained whereas the negative ones diminished. In support of this idea, some research shows that people selectively remember positive events over negative ones (Skowronski, Betz, Thompson, & Shannon, 1991; Taylor, 1991).[32]

There is the real possibility that students need time to process their two years at UWC. Because of the though IB curriculum and days packed with EACs and social events, students likely have few chances to mull over the things they are learning. Said Greenland in May 2014, in response to the question "How have you changed over your two years here?"

> It's really hard to say. I don't feel like I've changed that much, but I think it's also got to do with the fact that I'm still in the process so I think as soon as I'm able to go back home and take a little bit of distance, I might be able to see.

[32] Other researchers, however, suggest that "bad is stronger than good" (Baumeister, Brataslavsky, Finkenauer, & Vohs, 2001, p. 323).

One of the main roles played by the alumni data were as a comparison data set for the current student models. The same 180 models that were run on current students were run on alumni, though the linear mixed-effects models were replaced by regressions due to the cross-sectional nature of the data. The data-driven models that best described intergroup bias over time in current students were not the best models for the alumni sample. For alumni, the best-fitting models included as predictors equal status, common goals, intergroup cooperation, institutional support, and acquaintance potential (negative outgroup emotions), common goals, intergroup cooperation, and institutional support (desire for social distance), and equal status, intergroup cooperation, institutional support, and acquaintance potential (generalized ethnocentrism). The lack of consistency in best-fitting models across the current student and alumni samples might have been for several reasons: (a) the small and insignificant changes in intergroup bias over time in current students resulted in a lack of variability that might have skewed the models' predictors; (b) the alumni differed to such an extent from current students that model comparison proved untenable; (c) other, unanticipated confounds such as, for example, the weakness of a certain measure in a certain sample.

In contrast to the current student findings, intergroup salience was not a predictor in any of the best-fitting regression models for alumni. Only Allport's contact conditions were found to predict alumni's levels of intergroup bias. UWC identity did not play a role, either. The mechanisms in play in the current student sample must therefore be quite different from those in the alumni sample, given that two of the strongest predictors in one sample were not significant in the other. Perhaps RCN is a unique case wherein intergroup salience and RCN identity dominate the effects, though this was not found in

the subset of alumni who graduated from RCN. Instead, as alumni mature and immerse themselves in new and different cultures, different values might become more apparent. There are few places outside of UWC where intergroup difference is celebrated as often as at RCN, so intergroup salience likely does not figure in alumni's lives. Instead, they might now find themselves as the minority, as most alumni go to the United States at least for university once they graduate.

Furthermore, current students did not, over time, evidence the kinds of changes that were expected. However, profiles of alumni's scores did: strong perceptions of the UWC environment being characterized by equal status, common goals, intergroup cooperation, institutional support, acquaintance potential, intergroup salience, common ingroup identity, and UWC identity, low levels of negative outgroup emotions, desire for social distance, generalized ethnocentrism, and intergroup anxiety, and high levels of trust and empathy. The only measure that indicated worse outcomes for alumni was hopefulness for the future, which was significantly lower for alumni than for Time 4 students. The lower levels of hopefulness for the future could be explained by the fact that, years after graduating from UWC, alumni might not have seen the changes they had wished for.

Because the current student sample and the alumni sample were so different, drawing conclusions in one based on the other was not feasible. The question becomes instead, why were alumni so different? Presumably the same self-selection that current students engage in would be at play for alumni, which should have made the samples more similar. However, it is impossible to tease apart the potential influences of external factors such as maturation, cohort effects, and history. Even if alumni attended UWCs

that were isolated from local events, they were to some extent influenced by the happenings in the world at that formative time of their lives. It would be possible to collect a control group as diverse as the alumni, which could help explain why the alumni differed to such a degree from current students.

Interviews

The 25 complete pre- and post-interviews of current students at RCN painted a rich picture of change that complemented the longitudinal data. First, students had learned a tremendous amount about conflicts worldwide, about the importance of trust and empathy in interpersonal relationships, and about effective conflict management with fellow students. Students spoke warmly of their RCN experiences and demonstrated increased amounts of critical thinking (much of the kind that is fostered by TOK). Though, not all changes were for the better. Students from conflicted countries felt at peace in Norway, whereas students form peaceful countries (for example, Norway), stated that they had learned to be more wary of other people. This regression toward the mean is likely inevitable in a place where people of myriad cultures must learn to accommodate each other. Alumni from Scandinavian countries complained that the rules at RCN were too strict; alumni from countries such as Western Sahara explained how difficult it was to adapt to such an open culture as Norway.

In addition to gaining proficiency in English, learning critical thinking, and becoming aware of the many challenges worldwide, students also noted that they had gotten to know themselves better. A likely artifact of surviving adolescence, students claimed increased confidence in their own abilities, increased willingness to advocate for their own rights, and increased willingness to confront people about things they disagreed

with. Some students explained that their time at RCN had been the best, and the worst, in their lives. Said Palestine, "this place make you reveal and release everything inside you, all of your character, and then you can see what was the bad, what was the good, and then in the future, you can avoid the bad and follow the good." The increased self-awareness also resulted in changes in values. Several students described how their values had changed from academic success and achievement to pursuing health and happiness.

Limitations

Generalizability. A general discussion of all the UWCs was included to provide context and background for the study, however, the primary focus of the study was the experience of current students at RCN, and thus this study is limited in drawing generalizable conclusions. There are inherent limitations to a non-experimental field study focusing on only one socioenvironmental setting. RCN students are likely different from other high school students of similar age and backgrounds in that they intentionally selected to leave their home countries to attend a trying curriculum at an international boarding school in a vastly remote location. Change over time evidenced by RCN students may have been due to outside events or to maturation, or self-reported changes may be due to students' greater familiarity with the questionnaires or their increasing mastery of English (Paluck & Green, 2009).

Lack of control group. This observational fieldwork study was a study without a control group. Control groups are employed to ensure that the results of the experiments have validity, or that they measure what they are claimed to measure (Kelley, 1927). The decision to forego a control group was deliberate (see Chapter 3 for an extended discussion). Despite the limitations fundamental to an observational study such as this

one, the non-experimental research literature is considered both important and informative (e.g., Stephan & Stephan, 2001).

Self-selection. Selection through national committees means that the conflicts and diversity of students on any given UWC campus is intentional, somewhat mitigating the potential confounding effect of self-selection. Although students self-select to UWC, national committees select which of the twelve UWCs the students attend. In most national committees' interview process, students are not allowed to rank their preferred UWCs. One particular limitation to self-selection noted by some students during the interviews is the fact that for a subset of students, UWC serves mainly as a stepping stone. For some, this means access to the United States, for others, access to a high quality education. Whatever the motivation upon arrival, however, chances are that students will benefit from the multicultural peace education whether they intended to or not. Furthermore, students who come just for academic are, because of the academics, going to be in better positions to help influence the world in the future. Additionally, there was self-selection with regards to which students chose to complete the survey.

Language. The data collection reported here was complicated by the fact that few RCN students call English their first language. Research suggests that thinking in a foreign language makes accessible different schemas (Bond & Yang, 1982), such as when a bilingual Chinese participant asked to fill out the Schwartz Value Survey (SVS; Schwartz, 1992) in English prioritizes more individualistic values than do his or her fellow Chinese participants who fill out the SVS in Chinese (Ralston, Cunniff, & Gustafson, 1995). With this in mind, straightforward simply worded measures were employed. Metaphors and culture-specific statements, such as "I am generally

lighthearted" or "I sometimes feel blue" were avoided as far as possible. Future research should consider using certain software engines (e.g., Qualtrics) that offer a translation tool to be inserted into surveys, which takes the participant straight to Google Translate for an immediate translation of items.

Surveys. One limitation that arose unexpectedly was that students' self-reported outgroups at Time 1 were not inserted into their surveys at Times 2, 3, and 4. Inserting student-defined outgroups was intended to maintain consistency in the outgroup bias measures over time, however, due to miscommunication during the survey creation stage, this advanced survey logic was not implemented. The use of inserted outgroups at Times 2, 3, and 4 would likely have reduced the variability in students' responses to the measures of negative outgroup emotions and desire for social distance. Some students listed countries that conceptually might have garnered similar responses, for example "Denmark" and "America" (peaceful, Western countries), "Syria" and "North Korea" (extremely conflicted countries), "Iran" and "Afghanistan" (neighboring countries), and "Serbia" and "Russia" (common history). Others listed vastly different countries, for example "Colombia," "UAE," and "Estonia," or "USA," "Religious," "Chinese," and "Afghanistan." To complicate matters further, some students listed whole regions: "Middle East," "Any non-African country," and some students wrote "I don't know." Only a small subset of students list the same outgroup over time.

The complete online survey took 30-60 minutes to complete. Because the surveys were administered online, participants were required to sit at a desktop or laptop computer with a stable Internet connection. For participants that are easily distracted or find focusing difficult, the task of completing such a lengthy and time-consuming survey,

in particular during such an exciting time as the first few days at a new school in a foreign country, may have proven difficult. In the future, 192-question surveys should be avoided, if the tradeoff of less data is deemed valuable enough. This study was exploratory and asked a myriad questions, therefore it was useful to include more measures at the risk of lower response rates.

Response rates. Because of the long surveys, much effort was directed toward ensuring high return rates: (a) individualized and personalized e-mails were sent to all students with their unique participation numbers; (b) Madhulika Singh, Director of Extra Academic Programmes, helped send follow-up e-mails with more authority; (c) mid-year check-in e-mails were sent with updates about the project to ensure that students felt part of an ongoing process; (d) hand-written thank you notes were included on all consent forms and sheets with links handed out to students; (e) while on campus, I spent all my non-interviewing time socializing and making an effort to get to know students in order to increase their awareness of my project, to answer questions, and to instill enthusiasm.

However, and possibly because of the online nature and the length of the surveys, the return rate was 66.5% for completing at least one of the four surveys, but only 12% for completing all four. A low return rate of surveys can lead to significant bias with regards to quantitative results because the sample measured might not be representative of the sample sought. Less sophisticated statistical methods than LME would have suffered tremendously from the low number of students who completed all four surveys.

Rewards. Participants were not closely monitored, and there were no rewards for completing the survey. Some of the blame must be shouldered by cultural norms, which with respect to research are different in Norway than in the United States. Unlike in the

United States, in Norway it is often considered inappropriate to reward or pay people for their participation, as researchers feel the promise of a reward or payment can remove the element of voluntariness by biasing people to participate. Therefore, RCN students did not receive any kind of compensation for their participation.

With the benefit of hindsight, a small financial investment into token items of compensation such as a University of Minnesota chocolate bar would likely have outweighed the cost. Other types of compensation to consider could be items distributed by the national committee. Such items could serve two purposes: increase the response rate and, depending on the nature of the item, increase students' ingroup identity (i.e., a pen with the UWC logo and an inspirational motto). A different way of increasing the response rate, and one that could be automated at little effort, would be to provide participants with some sort of feedback from the surveys that they so laboriously completed. Even without giving away the intent of the surveys, participants could have received reports with their Big Five scores (and at later time points with their Big Five scores over time). Perhaps even in the interest of the RCN's education, levels of intergroup bias could be reported back to participants at each time point, with the intent to make them self-aware and potentially encourage them to further reduce these levels.

Alumni. Limitations to the alumni data are inherent in the cross-sectional design employed for data collection. Despite advanced statistical techniques, the threat of unmeasured differences between current students and alumni prevent the establishment of causality. The problem of confounding variables also limits strong conclusions to be drawn from the alumni data. Findings from the alumni sample could be due to the alumni's UWC education, to their post-UWC education, to their current jobs, to their

relationships, to their psychological maturation, or to other causes entirely. Only careful conclusions can be drawn from the comparison between current students and alumni.

Interviews. Students' interviews were not linked with their surveys scores because the interview consent forms did not inform students of this use of their data. To link interviews and surveys, some identifying information about the students would have had to be recorded. Even if only students' unique participation numbers were solicited at the beginning of the interview, this would likely have impacted their participation in the interviews. Making students feel comfortable to encourage them to speak freely was a main concern of the interview procedures. However, this cost the ability to do in-depth case studies, highlighting with narratives and students' own explanations why certain changes in their survey scores did or did not occur.

Another potentially fruitful venue for future interview research involves creating LIWC categories based on the content themes wished to investigate in the interview. Had custom LIWC categories been created for this project, likely categories would be "conflict," "conflict management," "trust," "empathy," and "growth." The inherent difficulties in running word count analyses on transcribed interviews with students from all over the world are large. LIWC does not accommodate local types of "English." Additionally, students from one country might have grown up using more emotion words than do students from other countries, or in other ways using the same language differently. Such complications were mitigated here by the use of content analyses.

Implications

Imagine the positive ripple effects on students' friends and families in their home countries upon hearing stories from RCN during weekly calls, vacations, and upon

students' graduation. Vicarious and extended contact has been found to reduce prejudice much like direct intergroup contact can (Dovidio, Eller, & Hewstone, 2011). For students, the RCN experience prepares them for positive intergroup contact with people from nations they have come to know, and for contact with groups they have yet to encounter. For families and friends, the vicarious, extended, and perhaps imagined contact prepares them for intergroup situations they before had never anticipated.

It is not, however, inconceivable that students' friends and families already are less prejudiced and biased than their peers. Because students self-selected to UWC, it is reasonable to expect that they knew what kind of environment that they would immerse themselves in and chose to do so. An important idea in social psychology is that before examining how a situation influences an individual, one must examine the individual that chose to put him- or herself in that situation. This research mainly examined the situation – the RCN education and experience – but did not to the same extent examine the students' who chose to come to RCN. One open-ended question in the survey that asked students "why did you decide to come to UWC?" The majority of responses fell into one of two categories: wanting to experience multiculturalism, and wanting to learn in general. Because students were seemingly interested and wanting to engage in intergroup contact, there was likely restriction of range in the measures of intergroup bias, resulting in the small changes over time. It thus becomes an interesting thought to envision what kinds of changes might have manifested themselves in students who are not as eager to for cultural diversity.

In many ways, this research effort has resulted in more questions raised than answered, in particular with regards to the three measures of intergroup bias. An insight

that follows is that pure change, from one time point to another, might not always be the most important thing. Despite levels of intergroup bias remaining fairly level, students likely experienced deepened commitments to their goals of sustainable peace, increased understanding of and empathy for people of other cultures, and widened knowledge of non-violent conflict resolution options. The effects of a UWC education are vast, and the implications of conducting research at one or more of these colleges reach both basic and applied psychological interests. The re-examination of the contact hypothesis in comparison and contrast with the intergroup contact model and common ingroup identity model was the most important contribution of this work to social psychology's basic endeavors, whereas the evaluation of program elements of the RCN education and experience speaks to social psychology's applied interests.

Implications for basic research. Although there are specific prejudice-reduction programs designed around a single fundamental concept (e.g., equal status), many intergroup contact programs, such as RCN, combine aspects of, for example, equal status, intergroup cooperation, trust, and empathy. No one model is found to underlie the UWC education. In fact, UWC's founder Kurt Hahn did not believe that his ideas were original, nor was this important to him. He deliberately chose the elements from other education programs that seemed to work, and imbued these with physical exercise, expeditions, and service. Two years at RCN can be thus be likened to an amalgamation of strong interventions, in which knowledge is acquired, values are challenged, and skills are learned daily. RCN, in some ways, leaves no stone unturned on its quest of reducing intergroup prejudice and bias, and promoting friendship and cooperation. One of the aims of this dissertation was therefore to provide the scientific rigor and empiricism that

previous research on UWC lacked, to explore the extent to which RCN successfully accomplished its goals. A related aim was to provide suggestions for future research that would take the effects out of the field and into the laboratory for closer scrutiny.

Blincoe and Harris (2009) designed laboratory studies to identity which focus of intergroup cooperation (i.e., cooperation, political tolerance, or respect) is most efficient. They found that priming cooperation led to the largest decrease in implicit race bias scores and that priming respect lead to the largest decrease in scores on the Modern Racism Scale (MRS; McConahay, 1986), compared to priming intelligence (control). Other research supports these findings (e.g., Hogan & Mallott, 2005; Kim, 2007). With the insights gained from this study at RCN, the next step in the study of multicultural peace education would be experimental studies à la Blincoe and Harris (2009), to tease apart the various processes that may underlie successful multicultural education. This study informs future studies by suggesting which relations between which variables should be investigated more in-depth. In particular, this research highlights the importance of intergroup salience in combination with other contact conditions, and the relatively important stand-alone role played by RCN identity.

The findings from the LME models deserve particular scrutiny in a controlled environment like an experiment. The non-linear nature of many of the changes at RCN suggest that quadratic, or even cubic, predictors should be explored to best describe the outcomes. Perceptions of the presence of Allport's five contact conditions at RCN decreased from Time 1 to Time 2, increased from Time 2 to Time 3, and then decreased again from Time 3 to Time 4. Negative outgroup emotions and generalized ethnocentrism showed the same trend. Comparing these trends side by side seems to

suggest that reductions in perceptions of facilitating conditions relate to reductions in intergroup bias. Because this relation was not found to be significant, it becomes important to investigate what drove the two trends (for example, including variables that might have confounded the relationship, using other measures, or following up the measures used here with more targeted and in-depth questions).

Another method altogether that should be considered for future endeavors involves cross-lagged panel analysis. Cross-lagged panel analyses are frequently used when data is collected on the same individuals over time, in an effort to establish causality between two or more variables. In this research, for example, a cross-lagged panel analysis could estimate the strength of the causal effects of intergroup salience at Time 1 and negative outgroup emotions at Time 4. Particularly in samples with more than two time points, a rich amount of information could be gleaned about how processes unfold over time. This might help explain patterns such as those found here, where perceptions of, for example, equal status, decreased from Time 1 to Time 2, increased from Time 2 to Time 3, and decreased from Time 3 to Time 4.

Finally, studies such as this are conducive to the use of growth mixture models, which is a type of latent growth class models. In short, growth mixture models have the ability to use the data a priori to look for patterns in individuals that can be further investigated. For example, the trajectory of negative outgroup emotions over time would be scrutinized for the variables that influenced low, medium, and high levels of change.

Implications for applied research. The applied implications of this project extend to school program evaluators, policy makers, and practitioners of school interventions alike, and in particular those who build interventions on social

psychological models of intergroup conflict reduction. By comparing and contrasting three highly regarded social psychological models of intergroup conflict reduction this project contributes to the literature by providing information on the particular efficacy of each models' predictors compared to the others. The results showed the clear and important role played by intergroup salience and RCN identity.

Because of the particularly large role played by intergroup salience in these models, and to the best of my knowledge for the first time in this field, intergroup salience was added to the common ingroup identity model to compare the resulting mixed-models' fit to the data. Adding intergroup salience as a predictor to the common ingroup identity model's LME greatly improved the models' fit above and beyond all the best-fitting models for negative outgroup emotions and desire for social distance, though not so for generalized ethnocentrism. What is particularly encouraging about the role played by intergroup salience is the way in which students at RCN are encouraged to perceive other students as typical of their groups and as representatives, a tenet of the intergroup contact theory. This can be an effective approach to reducing intergroup bias because students' perceptions of their own representativeness are independent from other students' perceptions of their representativeness. In the interviews, for example, Egypt explained that she was surprised by other students' fascination over her belly dancing. What for her was neither an "Egyptian thing" nor something she considered herself particularly good at became for her Scandinavian friends a quality that defined her. In support of the idea that own and others' perceived own representativeness are not necessarily correlated, students reported lower levels of own intergroup salience than of

other's intergroup salience, and in general, levels of other's intergroup salience stayed consistent over the two years.

RCN identity was found to correlate positively with all five contact hypothesis conditions, with intergroup salience, and with common ingroup identity. Furthermore, RCN identity correlated negatively with all three measures of intergroup bias. Although correlations do not establish causal relationships, this finding suggests that RCN identity is strongly related to the conditions that make intergroup contact successful. Prioritizing to increase students' RCN identity is more feasible than it would be to set out to increase students' perceptions of equal status, common goals, intergroup cooperation, institutional support, acquaintance potential, intergroup salience, and common ingroup identity all at once, while also reducing intergroup bias. Combined with the importance of intergroup salience, it could thus be suggested that for further decreases in negative outgroup emotions, desire for social distance, and generalized ethnocentrism, faculty and staff at RCN should focus more on encouraging diversity events and cultural learning, versus for example extra-academic commitment and curricular achievement.

One applied idea that did not get any mention in this project is that of social connectedness and cliques. New and creative survey engines and analytics software such as KeyHubs are drawing awareness to the importance of mapping the social structure of an environment such as RCN. Social mapping is hugely successful in businesses, where time and again it is shown that the "enablers," the people that other people turn to in times of need, are rarely those one would expect based on formal hierarchy. This idea ties back to Gladwell's "connectors," or people who "have a special gift for bringing the world together" (Gladwell, 2000, p. 38). Students at RCN who would be such connectors

would play a particularly important role to help perpetuate the college's goals. However, adolescence is a time during which young men and women strive particularly hard for others' acceptance. The importance of being cool might overshadow the importance of encouraging one's friends of diverse groups to spend time together. This tenuous balance between social enabling and social status would particularly difficult in a high school aged student group, and should be dedicated more research time and resources.

Finally, programmatic efforts using this and other research already conducted on UWCs should be dedicated to the investigation of vicarious and extended contact's benefits on friends and family of UWC students.[33] The implications and positive outcomes that are promised by a program such as the UWC cannot be understated. More than 1,500 children, youth, and young adults graduate yearly from the various UWC programs, including short summer programs, pre-college school programs, and colleges. Because of the diversity these students represent, they likely spread into the world with unparalleled potential to influence people everywhere. Most people who hear about the UWCs intuitively agree that the movement must effect change. However, the impact on funding, promotion, and support of UWC would likely be greatly enhanced with qualitative and quantitative data that speak directly to the effects. Proving the value of its program is not a task designed just for UWC; schools and interventions alike that wish to advertise their ability to reduce intergroup bias or reach other effects must be able to quantify and scientifically back their claims.

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[33] The UWC International Office in London recently begun tracking alumni to understand the impact that they are having around the world and to grasp their views and perspectives on their respective colleges and on the UWC movement. Sylvia Malo, Alumni Impact Researcher, reached out to ask for permission to include this research into their study on alumni impact.

Implications for the design of school programs. What was learned in this project extends far beyond experiments and social psychological research and into the design and measurement of school and intervention programs. It should be remembered that for any sort of measurement or research, consent must always be obtained either by students, or if the students are underage, by their parents or legal guardians.

One of the first claims that should be established conclusively is that, regardless of whether positive outcomes exist, negative outcomes do not exist. In such a public environment as RCN, there were likely situations that caused the school's program to backfire. Using late dictator of North Korea Kim Jong Il's grandson Kim Han Sol as an example, the contact he had with his fellow classmates at UWC Bosnia Herzegovina could have been the only contact he had ever had with people from other countries, making each individual in effect a representative of his or her nation. If Kim Han Sol had irreconcilable conflicts with one of his roommates, it is likely that he will remember for years to come. What becomes important, however, is whether he remembers this *one* roommate, or whether he generalizes to the roommates' culture and country. RCN could play an important part in prevention of the latter. The college knows that many students are lone representatives of their countries. Said Palestine in August 2011, "I want to represent my country. (…) If I'm a good person, (…) then I'm representing my country by a good way." However, even Palestine would have had a bad day or would have had conflicts with fellow students. RCN, and other schools that brings together students from myriad nationalities or cultures, could help mitigate the potential generalization from such encounters away from the countries and cultures students represent.

Along these lines, RCN and similar schools should attempt to identify students for which the program does not seem to be working. These students could be identified by their lack of commitment to extra-curricular activities that involve learning about diversity, unwillingness to spend time with people from outside their ingroups, strong objections or quiet resignation to peace- or multiculturally- oriented events such as shows and social events, or even by the choices they make about their lives after they graduate. At RCN for example, Israel explained that people she knew who had gone to UWC tended to go one of two ways: toward sustainable peace ("a lot of Israeli people that came here and they change the way they act for other people in the world"), or against it ("some of them make more want to go to the army because they don't like him [probably referring to the Palestinians"). If the goal was to imbue students with pacifism, then identifying students who would otherwise go to the military would be a priority.

What is learned from this study at RCN teaches important things to other schools and colleges as well. Returning to experiments to clarify the findings of this project would be of further benefit. For example, knowing that women in general have lower social dominance orientation scores than do men, and that people high in social dominance orientation in general demonstrate more negative affect toward and stereotyping of minority groups, greater care could be taken on tracking frequency and level of conflict in boys' dorm rooms or in activities dominated by boys. Beyond obviously available characteristics such as age and gender, knowledge of students' individual differences such as closedmindedness and levels of trust could also help tailor the kinds of experiences students are exposed to. People high in need for closure, a common measure of closedmindedness, benefit more from diversity programs to reduce

prejudice. Although tricky, students high in closedmindedness, as evidenced by for example their preference from homogenous teams, could be lured into situations meant to teach successful intergroup contact.

Once patterns such as these are established, more individualized and targeted education experiences are made possible, such that each individual student may gain as much as possible out of their experience. In many ways, this is the direction in which education is heading: increased individual choice in subjects and extra-curricular activities, in the case of IB different levels of the same course to satisfy students' desire for depth, in universities, the ability to create from scratch one's own major. At universities, it is becoming increasingly common for students to go through some sort of testing of skills, abilities, and interests, in order to tailor their educational trajectories toward jobs that would be rewarding, that students would be good at, and that would exist into the future. Increased individual focus at RCN or other schools could be done in two ways: raise students' awareness of their own traits and dispositions in a way to encourage participation in line with those, or raise students' awareness of the different ways in which the school hopes to effect change.

It is a compelling question to ponder whether students would benefit even more from RCN than what they do now if they were taught how to "use" the college. Said Israel upon graduating in May 2014, "I think that if you use it as this place wants you to use it, it can be the most amazing place. But it can be very lonely too." Some changes are best implemented when people are unaware of them, whereas others take conscious effort. Would students be offended by the idea that they had to be taught how to interact upon first arriving at RCN? Would they be offended, but still benefit from such a pre-

course? Or would it make no difference at all? Would learning about intergroup bias have made a difference for Morocco, who said that he struggled during his first few weeks at RCN because "[he] wasn't really used to the idea that you can make best friend out of people that you don't really know," and who was "confronted with some stereotypes about Nordics"? A theme in several interviews was the idea that to succeed at RCN, some sort of balance had to be struck between students' wants and students' obligations, between their stereotypes and the people they met at RCN. It is up to each student to find and manage that balance, but perhaps the awareness would help increase students' success.

One important insight about RCN that arises from this research is that the college can well be more transparent in its attempts to satisfy the contact conditions that facilitate successful intergroup contact and that might lead to reduced intergroup bias. If RCN, which is so openly committed to peace and a sustainable future, experienced decreased student perceptions of the presence of contact conditions over time, then it is likely that other schools or similar intervention programs would too. Care should be taken to rejuvenate interest at regular intervals and "booster shots" (e.g., e-mail communications, films showed, class discussions, online exercises) to increase awareness of the importance of successful intergroup contact should be administered.

When it comes to the facilitating contact conditions, equal status could be encouraged more openly in communications to students. Common goals, even those that already exist, could be clarified and presented as such, and support could be rallied around, for example, fundraising for something the college needs. Intergroup cooperation, already infusing students' everyday lives, could also be defined as such

when it happens and be promoted and even rewarded. Institutional support was the contact condition that students perceived the least of at RCN, and it might be particularly difficult to strike a balance where students perceive support, but do not feel unduly controlled (a difficult balance students' parents too likely would have struggled with, had students lived the last two years of their adolescence at home). Many of the ways in which perceptions of these conditions could be increased would involve small, but consistent reminders. All these encouragements could be housed within a promotion of students' common ingroup identity and RCN identity.

Summarizing the far-reaching implications of this research, the following recommendations are distilled for RCN, UWC, and other schools and programs that seek to increase intergroup harmony and reduce intergroup bias:

1. Use the mission as a guide. The UWC mission and the RCN pillars of Environmental, Nordic, and Humanitarian are great inspirations for measurement and action. These are overarching statements that set the direction of students' experience. UWC's mission, to "make education a force to unite people, nations and cultures for peace and a sustainable future," suggests the relative importance of lectures on peace building over, for example, animal rights. By always keeping the mission front and center, decisions on important academic and extra-academic elements should be easier to decide upon. Trade-offs will be necessary, but with a clear and established mission in the minds of all decision makers, it is more likely that all will agree on decisions made. Using the mission also ensures that research and program development efforts across colleges will be targeted toward the same overarching goal.

2. Set concrete, measurable goals. No doubt faculty and alumni of RCN would hail the RCN experience a success, but on what grounds? The mission, useful as a guide, is vague in terms of measureable goals. For a faculty member, success could be that his or her philosophy students were able to debate whether multiculturalism or monoculturalism works best in a given society. For a student, success could be achieving a grade point average of 36/42 or higher, learning how to roll a kayak without paddles, or founding a fundraising group. Academic success is measured at RCN by the number of students that goes on to university, by students' SAT scores, and by students' final grade point average. Intergroup success, however, is not currently measured. Commitment to RCN's three pillars is not measured. The success of the UWC mission is not measured. Depending on the goals of the college, these might not need to be measured. However, in order to quantify impact and tell a compelling story about the RCN experience, first the college must set concrete, measureable goals.

3. Measure progress toward the goals. Once goals are set, progress toward the goals must be measured. This could be done through unobtrusive measures such as students' grades and acceptance to university or the frequency and degree of conflict between roommates, or it could be done using surveys and interviews. This study's extensive data collection using both longitudinal and cross-sectional surveys, and interviews, would likely be too complex for an ongoing measurement of progress. However, bringing in outside parties such as alumni and interested researchers can provide helpful foundation and preliminary findings that can inspire the development of quicker and easier follow-ups to continue monitoring progress.

4. Make mid-course and end-of-year adjustments as dictated by the data.

Colleges and programs do not exist in a vacuum. Internal and external events can and will happen that necessitate adjustments, such as the expulsion of a student or conflict in the local area. Additionally, as goals have been made concrete and progress toward the goals are being measured, there will likely be insights mid-course that necessitate adjustments. Perhaps students report that they are tired of being measured. Perhaps an intervention is found to backfire. Perhaps an intervention is found to work so well that it makes financial or practical sense to move away from cost- and time-consuming efforts and toward the intervention found to work. End-of-year adjustment should become standard protocol, with the acknowledgement that if everything was found to work well, than nothing will necessarily change.

5. Include students in the process. This is perhaps the most important recommendation. Students experience daily what faculty members might only hear rumors about. Students are *in* the experience, whereas those charged with creating the experience stand on the sideline. Why not tap into the expertise of those who live the intervention every day? In addition to providing valuable insight, including students in the process likely increases their perceptions of institutional support and common goals. Including students moves the focus away from an intervention being done to them, to an intervention being done for them. Inclusion likely increases acceptance of changes.

Conclusion

This research makes a genuine contribution to the fields of social psychology and intergroup relations due to three factors: (a) intergroup contact was examined within a real world socioenvironmental setting; (b) students from near ninety different countries

were asked to react to an equal number of self-identified outgroups; (c) three theoretical models of intergroup contact were compared and contrasted. Furthermore, the study went in depth to examine the social psychological processes at work in the very specific context of United World College Red Cross Nordic, with the ambitious aim to starting a research tradition to span the twelve current UWCs.

The RCN experience comes a long way toward meetings its goals, but there is much left that can be done. In every way, RCN is a manifestation of social psychological theorizing on successful intergroup contact: contact is frequent and varied, opportunities to develop genuine friendships abound, students enjoy equal status, common goals, intergroup cooperation, institutional support, and the encouragement of a common ingroup identity. Students are encouraged to act as representatives of their home countries, thereby increasing the intergroup salience perceived by others and also the chances of successful generalization from intergroup contact with one person to that person's group. However, results indicate that perceptions of the presence of contact conditions decrease over time. Changes in negative outgroup emotions, desire for social distance, and generalized ethnocentrism were in the expected negative direction, but changes were small and not statistically or practically significant. With the identification of RCN's concrete goals for its education and peace-oriented experience, it will be easier to employ the right measures to track meaningful progress.

In addition to facilitating contact conditions known to increase the success of intergroup contact, RCN selects students from all countries, cultures, religions, socioeconomic groups, and so on as an essential component of its educational framework. The goal is to maximize the representation of outgroups for every one student;

maximizing diversity gives representation to the "others" from a wide variety of conflicts. RCN intentionally increases the frequency and intensity of intergroup contact by, among others, having a remote campus, placing five students from different backgrounds in each dorm room, and providing joint challenges such as Project Based Learning weeks and weekly and monthly mini-conferences. This research suggests at least two important components that RCN should focus on: increasing students' perceptions of their fellow students as typical and representative of the countries they represented (others' intergroup salience), and increasing and strengthening students' RCN identity. Such initiatives would be well worth the effort; the single most important predictor of changes in negative outgroup emotions, desire for social distance, and generalized ethnocentrism intergroup salience. RCN identity was the only measure to relate positively and significantly with all contact conditions deemed necessary for successful intergroup contact.

RCN puts young men and women who might otherwise never meet in contact, knowing that conflict will arise, and guides its students through them. The college becomes a steady presence during students' last two adolescent years, years fraught with emotion, growth, and crystallization of values. At RCN, students get a taste of the conflicts and war that ravage the world, but RCN also provides a glimpse of peace to students who have never before experienced it. The students who leave RCN will likely never unlearn how to navigate intergroup contact, and if they are anything like the students surveyed and interviewed here, they will go into the world hoping to use what they learned from their UWC experience to create peace and a sustainable future.

Table 1
Differences and Similarities between Three Models of Intergroup Contact

	The Contact Hypothesis	**Common Ingroup Identity Model**	**Intergroup Contact Model**	**RCN predictors**
Equal status	Groups enjoy equal status within the contact situation.		Groups enjoy equal status within the contact situation.	Perceptions of status equality between students.
Common goals	Work toward common goals.		Work toward common goals. Groups are interdependent.	Engagement in student chores, perception of common goals.
Intergroup cooperation	There is intergroup cooperation.		There is intergroup cooperation.	Cooperation with other students in academics and in extra-academic activities.
Institutional support	Support from local authorities, norms.		Support from local authorities, norms.	Perceptions of faculty support.
Common ingroup identity		Common ingroup identity.		Endorsement of "RCN student," and/or cultural/national identities.
Intergroup salience			Maintenance of intergroup salience.	Participation in or attendance at cultural shows, celebrations, and events.
Acquaintance potential	There is opportunity for interactions that go beyond the superficial.			Number of friends and hours spent with them. Number of outgroup versus ingroup friends.

Table 2
Countries Represented at RCN

2011-2012		2012-2013		2013-2014	
Aaland Islands	Lithuania	Aaland Islands	***Mexico***	Aaland Islands	*Madagascar*
Afghanistan	Madagascar	**Afghanistan**	Moldova	Afghanistan	Malawi
Albania	*Malawi*	*Albania*	Montenegro	*Albania*	Maldives
Algeria	*Maldives*	*Algeria*	***Morocco***	Algeria	*Mexico*
Angola	**Mexico**	*Angola*	***Namibia***	*Angola*	Montenegro
Argentina	Montenegro	*Argentina*	*Nepal*	Argentina	***Morocco***
Belarus	*Morocco*	*Belarus*	*Nicaragua*	*Belarus*	Myanmar
Belgium	*Mozambique*	*Bolivia*	*Nigeria*	Belgium	***Namibia***
Bhutan	Namibia	*Bosnia & Herzeg.*	***Norway***	*Bhutan*	*Nepal*
Bolivia	*Nepal*	Brazil	Pakistan	Bolivia	Nicaragua
Bosnia & Herzeg.	New Zealand	*Bulgaria*	***Palestinian Terr.***	*Bosnia & Herzeg.*	Nigeria
Brazil	*Nicaragua*	*Cambodia*	*Panama*	*Brazil*	***Norway***
Bulgaria	***Norway***	*Cameroon*	*Paraguay*	*Bulgaria*	Pakistan
Cambodia	Pakistan	***Canada***	*Peru*	*Cambodia*	**Palestinian Terr.**
Cameroon	**Palestinian Terr.**	*Chile*	*Poland*	*Cameroon*	Panama
Canada	*Panama*	*China*	*Portugal*	***Canada***	*Paraguay*
Chile	Paraguay	*Colombia*	Russian Federat.	Chile	*Peru*
China	Peru	*Congo*	***Rwanda***	*China*	*Poland*
Colombia	*Poland*	***Costa Rica***	*Senegal*	*Colombia*	*Portugal*
Costa Rica	*Portugal*	*Croatia*	Serbia	Congo	Romania
Croatia	*Romania*	*Czech Republic*	*Sierra Leone*	*Costa Rica*	Russian Federat.
Czech Republic	Russian Federat.	*Denmark*	***Singapore***	*Côte d'Ivoire*	Rwanda
Denmark	***Rwanda***	*DRC*	*Slovakia*	*Croatia*	Senegal
DRC	*Senegal*	*East Timor*	*South Africa*	Czech Republic	Serbia
East Timor	Sierra Leone	*Ecuador*	***South Sudan***	*Denmark*	*Sierra Leone*
Ecuador	***Singapore***	***Egypt***	*Spain*	*East Timor*	***Singapore***
Egypt	*Slovakia*	***El Salvador***	***Sri Lanka***	*Ecuador*	Slovakia
El Salvador	South Africa	***Estonia***	*Swaziland*	***Egypt***	***South Sudan***
Estonia	**South Sudan**	*Ethiopia*	*Sweden*	***El Salvador***	*Spain*
Ethiopia	*Spain*	*Faroe Islands*	***Switzerland***	***Estonia***	Sri Lanka
Faroe Islands	***Sri Lanka***	*Finland*	*Tajikistan*	*Ethiopia*	Sudan
Finland	*Swaziland*	*Germany*	*Tanzania*	Faroe Islands	*Swaziland*
Gambia	*Sweden*	*Ghana*	***Thailand***	*Finland*	*Sweden*
Germany	***Switzerland***	***Greenland***	*The Netherlands*	*Germany*	Switzerland
Ghana	*Tajikistan*	*Guatemala*	*Uganda*	*Ghana*	*Tajikistan*
Greenland	*Tanzania*	*Honduras*	*Ukraine*	Greece	Tanzania
Guatemala	***Thailand***	*Hong Kong*	*United Kingdom*	***Greenland***	***Thailand***
Haiti	*The Netherlands*	*Hungary*	*Uruguay*	Guatemala	*The Netherlands*
Honduras	*Tibet*	*Iceland*	*USA*	*Honduras*	*Uganda*
Hong Kong	*Togo*	*India*	*Venezuela*	*Hong Kong*	*Ukraine*
Hungary	Tunisia	*Indonesia*	*Vietnam*	*Hungary*	*United Kingdom*
India	*Uganda*	***Israel***	*Western Sahara*	*Iceland*	*Uruguay*
Indonesia	*Ukraine*	*Italy*	*Yemen*	*India*	*USA*
Iran	*United Kingdom*	*Jordan*	*Zambia*	*Indonesia*	*Venezuela*
Iraq	Uruguay	*Latvia*	Zimbabwe	***Israel***	Vietnam
Ireland	*USA*	*Lebanon*		*Italy*	Western Sahara
Israel	*Venezuela*	Lesotho		*Jordan*	Yemen
Italy	Vietnam	Libya		*Kazakhstan*	Zambia
Jordan	Western Sahara	*Lithuania*		*Latvia*	
Kyrgyzstan	*Yemen*	*Madagascar*		*Lebanon*	
Latvia	*Zambia*	*Malawi*		*Lesotho*	
Lebanon	*Zimbabwe*	*Maldives*		*Lithuania*	

Notes. Italicized countries were represented in surveys; bolded countries were represented in interviews. The school year 2012-2013 saw more interviews because the second round of interviews were started in August 201 and the first round of interviews were completed in May 2013.

Table 3
Countries Represented by Alumni

Alumni	
Albania	Macedonia
Argentina	Madagascar
Australia	Malaysia
Austria	Mexico
Bangladesh	Montenegro
Barbados	Mozambique
Belarus	Nepal
Belgium	New Zealand
Bermuda	Nicaragua
Bolivia	Norway
Brazil	Panama
Bulgaria	Paraguay
Burundi	Peru
Canada	Poland
Chile	Portugal
China	Romania
Congo	Russian Feder.
Croatia	Singapore
Czech Republic	Slovakia
Denmark	Slovenia
Ecuador	South Africa
Faroe Islands	Spain
Finland	Swaziland
France	Sweden
Germany	Switzerland
Guatemala	The Netherlands
Honduras	The Philippines
Hong Kong	Turkey
Hungary	UAE
Iceland	Uganda
India	UK
Iran	Uruguay
Israel	USA
Italy	Uzbekistan
Japan	Venezuela
Jordan	Yugoslavia
Kazakhstan	Zambia
Latvia	Zimbabwe
Lithuania	

Table 4
Where Students Go Upon Graduation

Grad. year	Straight to univ.	Univ. in the US	Univ. in home country	Other univ.	Gap year/ work	Volunteer	Military/ civil	Unknown	Class total
2014	88	58	20	10	5	1	1	0	95
2013	85	56	6	23	11	0	0	0	96
2012	61	64	11	16	8	1	0	0	100
2011	83	64	11	8	4	6	3	2	98
2010	81	58	11	12	11	2	1	4	99
2009	83	60	11	12	6	2	3	0	94
2008	78	53	8	16	6	8	4	5	100
2007	62	40	11	11	14	14	0	6	96
2006	69	48	6	15	10	14	3	4	100
2005	76	45	16	15	15	2	3	3	99
2004	79	46	15	18	4	14	2	0	99

Notes. Numbers in cells indicate counts. A gap year is usually a yearlong volunteer/semi-paid commitment through a non-profit organization or charity organization in a foreign country. Military/civil statistic contains mostly Israeli students, who are conscripted and required to complete two (for women) or three (for men) years of military service. Most Israeli students go on to university upon completing their military commitments.

Table 5
Demographics at Times 1, 2, 3, and 4 and for Alumni

	Time 1	Time 2	Time 3	Time 4	Alumni
N	270	270	270	270	256
% men	38.1	38.1	38.1	38.1	34.5
% women	61.9	61.9	61.9	61.9	65.5
Mean age	16.9	17.7	17.9	18.6	27.5
Std. dev. age	1.07	.89	.77	.83	7.58
Minimum age	15	16	16	17	16
Maximum age	26	21	21	21	59

Notes. The total sample size and the percentages of men and women completing surveys at Times 1, 2, 3, and 4 are the same because four cases were created per participant, regardless of whether the participant completed all four surveys. For example, participant 208 from South Sudan completed 3 out of 4 surveys; data that was known (e.g., gender and home country) was imputed into the missing case. For more accurate sample sizes, see "Not Missing" in Table 10.

Table 6
Scale Mean, Standard Deviation, Minimum, and Maximum at Times 1, 2, 3, and 4

Variable	Time 1					Time 2				
	n	*mean*	*SD*	*min*	*max*	*n*	*mean*	*SD*	*min*	*max*
Equal status	107	3.62	.50	2.00	4.00	74	3.13	.67	2.00	4.00
Common goals	111	2.93	.59	1.67	4.00	74	2.52	.60	1.33	4.00
Intergroup cooperation	110	3.51	.36	2.25	4.00	74	3.46	.49	2.00	4.00
Institutional support	111	3.63	.59	1.00	4.00	74	3.01	.73	1.00	4.00
Acquaintance potential	116	7.16	2.1	2.00	10.0	78	7.35	1.87	3.00	10.0
Intergroup salience	108	3.47	.58	2.50	5.00	74	3.39	.66	1.50	5.00
Common ingroup identity	111	3.12	.54	1.60	4.00	74	2.72	.46	1.60	4.00
RCN identity	113	4.43	.54	2.50	5.00	74	4.30	.62	2.67	5.00
Negative outgroup emotions	112	2.25	.81	1.00	4.50	73	2.37	.83	1.00	4.17
Desire for social distance	111	2.05	.81	1.00	4.40	72	2.12	.79	1.00	4.60
Generalized ethnocentrism	101	2.38	.48	1.40	3.80	65	2.35	.57	1.05	4.00
Extraversion	111	3.48	.67	2.13	5.00	70	3.37	.79	1.38	4.88
Agreeableness	111	3.90	.61	2.22	5.00	70	3.70	.64	2.33	4.78
Conscientiousness	111	3.62	.65	2.22	4.89	70	3.49	.72	1.78	5.00
Neuroticism	111	2.58	.66	1.25	4.50	70	2.79	.64	1.50	4.14
Openness to experience	111	3.62	.49	2.44	4.89	70	3.67	.52	2.44	4.67
Intergroup anxiety	110	3.79	1.4	1.00	9.00	71	3.87	1.45	1.00	7.67
Closedmindedness	106	3.42	.77	1.47	5.29	68	3.41	.76	1.33	5.13
Trust	124	3.93	.68	1.67	4.83	95	3.09	.58	1.50	4.67
Empathy	123	3.88	.69	2.25	5.00	91	3.87	.61	2.75	5.00
Religiosity	104	1.50	.28	1.00	2.00	64	1.47	.32	1.00	2.00
Political orientation	103	3.54	2.1	1.00	10.0	64	3.42	2.02	1.00	10.0
Social dominance orientation	99	2.39	1.0	1.00	5.00	61	2.52	1.05	1.00	5.00
Hopefulness for the future	83	61.9	23.5	15.0	100	53	44.9	25.5	8.34	100

Variable	Time 3					Time 4				
	n	*mean*	*SD*	*min*	*max*	*n*	*mean*	*SD*	*min*	*max*
Equal status	65	3.21	.59	1.00	4.00	64	3.04	.77	1.00	4.00
Common goals	65	2.63	.60	1.33	4.00	64	2.52	.64	1.00	4.00
Intergroup cooperation	65	3.43	.45	2.25	4.00	64	3.38	.53	2.00	4.00
Institutional support	65	3.17	.77	1.00	4.00	64	2.73	.96	1.00	4.00
Acquaintance potential	67	7.31	1.77	2.00	10.0	70	7.46	1.81	4.00	10.0
Intergroup salience	65	3.55	.51	2.50	5.00	64	3.40	.60	2.00	5.00
Common ingroup identity	65	2.81	.45	2.00	3.60	64	2.61	.51	1.60	3.60
RCN identity	64	4.29	.65	2.25	5.00	64	4.30	.72	1.50	5.00
Negative outgroup emotions	64	2.41	.75	1.00	4.00	64	2.31	.71	1.00	3.67
Desire for social distance	64	2.23	.84	1.00	4.00	64	1.95	.78	1.00	3.60
Generalized ethnocentrism	59	2.48	.57	1.30	3.85	59	2.32	.52	1.05	3.60
Extraversion	63	3.47	.65	2.13	4.88	63	3.56	.57	2.25	4.71
Agreeableness	63	3.77	.56	2.11	4.89	63	3.77	.69	1.89	5.00
Conscientiousness	63	3.47	.72	1.22	4.78	63	3.56	.68	1.78	4.89
Neuroticism	63	2.67	.74	1.13	4.88	63	2.71	.76	1.25	4.50
Openness to experience	63	3.56	.52	2.11	4.56	63	3.70	.45	2.89	4.67
Intergroup anxiety	63	4.01	1.61	1.33	8.00	63	3.26	1.38	1.00	6.33
Closedmindedness	61	3.32	.66	1.87	4.60	63	3.41	.86	1.87	6.00
Trust	104	3.21	.74	1.33	5.00	84	3.19	.69	1.17	4.83
Empathy	101	3.97	.62	2.00	5.00	80	4.00	.65	2.60	5.00
Religiosity	57	1.47	.36	1.00	2.00	59	1.47	.30	1.00	2.00
Political orientation	58	3.48	2.07	1.00	10.0	59	3.69	2.39	1.00	10.0
Social dominance orientation	54	2.62	1.01	1.00	4.88	58	2.41	.90	1.00	4.50
Hopefulness for the future	68	55.5	24.6	4.00	100	44	50.4	27.2	3.34	100

Table 7
Scale Mean, Standard Deviation, Minimum, and Maximum for Alumni

Variable	Alumni				
	n	*mean*	*SD*	*min*	*max*
Equal status	213	3.31	.66	1.00	4.00
Common goals	213	2.80	.57	1.33	4.00
Intergroup cooperation	213	3.50	.38	2.50	4.00
Institutional support	212	3.17	.69	1.00	4.00
Acquaintance potential	231	8.24	1.89	2.00	10.0
Intergroup salience	209	3.26	.62	1.50	4.50
Common ingroup identity	213	3.01	.51	1.60	4.00
UWC identity	205	4.51	.53	2.25	5.00
Negative outgroup emotions	202	2.28	.74	1.00	4.00
Desire for social distance	203	1.90	.79	1.00	3.40
Generalized ethnocentrism	175	2.10	.55	1.05	3.75
Extraversion	194	3.67	.76	1.38	5.00
Agreeableness	194	3.84	.61	2.22	5.00
Conscientiousness	194	3.79	.67	2.13	5.00
Neuroticism	194	2.65	.77	1.13	4.63
Openness to experience	194	2.65	.77	2.78	4.78
Intergroup anxiety	192	2.55	1.15	1.00	6.00
Closedmindedness	181	3.14	.64	1.53	5.27
Trust	181	3.50	.77	1.00	5.00
Empathy	173	4.30	.57	2.60	5.00
Religiosity	173	1.57	.34	1.00	2.00
Political orientation	175	2.86	1.75	1.00	10.0
Social dominance orientation	167	1.91	.82	1.00	4.31
Hopefulness for the future	138	37.9	21.1	3.33	81.3

Table 8
Scale reliability (Cronbach's Alpha) at Times 1, 2, 3, and 4

Variable	No. of items	Time 1		Time 2		Time 3		Time 4		Total	
		α	*n*	*α*	*n*	*α*	*n*	*α*	*n*	*α*	*n*
Equal status	2	**.58**	103	**.69**	74	.70	63	.79	64	.73	304
Common goals	3	.71	102	**.60**	71	**.62**	61	**.67**	60	**.68**	294
Intergroup cooperation	4	**.31**	93	**.66**	74	**.62**	63	.75	63	**.61**	293
Institutional support	2	.72	105	**.63**	74	**.70**	63	.83	64	.76	306
Acquaintance potential	2	.85	111	.87	77	.76	66	.76	68	.82	322
Intergroup salience	2	**.54**	105	.78	74	**.45**	65	.70	64	**.63**	308
Common ingroup identity	5	**.69**	98	**.38**	70	**.37**	62	**.54**	62	**.60**	292
RCN identity	4	**.68**	111	.74	72	.79	64	.85	.63	.76	310
Negative outgroup emotions	6	.86	112	.89	72	.84	64	.87	61	.87	309
Desire for social distance	5	.91	109	.89	72	.91	63	.90	64	.91	308
Generalized ethnocentrism	20	.75	90	.84	61	.83	50	.80	56	.80	257
Extraversion	8	.77	95	.86	65	.79	59	**.68**	59	.79	278
Agreeableness	9	.73	97	.77	66	.71	58	.79	58	.76	279
Conscientiousness	9	.77	95	.83	60	.84	59	.81	59	.81	273
Neuroticism	8	.75	103	**.67**	66	.81	58	.83	61	.77	288
Openness to experience	9	**.70**	102	.74	62	.75	57	**.65**	58	.71	279
Intergroup anxiety	6	**.67**	102	**.67**	68	.81	58	.75	61	.72	289
Closedmindedness	15	.84	91	.84	61	.75	55	.88	59	.84	266
Trust	6	.70	113	**.52**	93	.78	103	**.66**	84	**.69**	393
Empathy	5	**.56**	101	**.64**	62	**.51**	57	**.64**	59	**.58**	279
Religiosity	8	.74	94	.83	62	.87	53	.80	58	.81	267
Social dominance orientation	16	.91	90	.90	55	.89	52	.83	55	.89	252
Hopefulness for the future	3	**.68**	64	**.63**	24	**.66**	53	**.66**	22	**.67**	163

Notes. Cronbach's alphas < .70 are bolded.

Table 9
Scale reliability (Cronbach's Alpha) at for Alumni

Variable	No. of items	Alumni	
		α	*n*
Equal status	2	.76	213
Common goals	3	.70	209
Intergroup cooperation	4	**.48**	201
Institutional support	2	**.61**	209
Acquaintance potential	2	.71	214
Intergroup salience	2	.70	207
Common ingroup identity	5	**.63**	203
UWC identity	4	.80	203
Negative outgroup emotions	6	.85	194
Desire for social distance	5	.93	199
Generalized ethnocentrism	20	.85	160
Extraversion	8	.85	179
Agreeableness	9	.77	185
Conscientiousness	9	.82	184
Neuroticism	8	.83	188
Openness to experience	9	.71	182
Intergroup anxiety	6	.81	190
Closedmindedness	15	.81	172
Trust	6	.83	180
Empathy	5	**.69**	172
Religiosity	8	.86	162
Social dominance orientation	16	.89	160
Hopefulness for the future	3	**.63**	124

Notes. Cronbach's alphas < .70 are bolded.

Table 10
Frequency and Type of Missing Data at Times 1, 2, 3, and 4, and Missingness ANOVAs

	Time 1	Time 2	Time 3	Time 4	Total
By design (MCAR)	51	51	55	55	212
By participant (MAR)	79	106	99	120	404
Not missing	140	113	116	95	464
Total	270	270	270	270	1080
	Time 1	Time 2	Time 3	Time 4	Total
Missing one	102	102	102	102	408
Missing two	56	56	56	56	224
Missing three	63	63	63	63	252
None missing	49	49	49	49	196

	1	2	3	4	*F*	*df*	*p*
Percent women	73.5	63.7	58.5	52.4	-	-	-
Percent moving home after RCN	22.0	25.0	31.2	21.2	-	-	-
Percent listing conflict in home country	60.0	66.4	65.2	76.7	-	-	-
Mean age	17.8	17.72	17.62	17.51	1.19	3, 460	.313
Diversity of home environment (1-7)	3.00	3.19	3.35	3.40	1.03	3, 347	.377
Hours a week spent with friends (1-5)	3.96	3.78	3.67	3.62	1.76	3, 321	.155
Hours a week spent on EACs (1-5)	3.13	3.02	3.13	3.13	.44	3, 311	.722
Equal status	3.43	3.23	3.23	3.35	1.76	3, 306	.150
Common goals	2.82	2.60	2.70	2.65	1.85	3, 310	.138
Intergroup cooperation	3.60	3.37	3.44	3.43	3.80	3, 309	**.011**
Institutional support	3.30	3.02	3.26	3.34	2.67	3, 310	**.047**
Acquaintance potential	7.60	7.18	7.28	7.13	.96	3, 327	.411
Intergroup salience	3.47	3.40	3.48	3.49	.46	3, 307	.710
Common ingroup identity	2.98	2.75	2.84	2.92	2.85	3, 310	**.038**
RCN identity	4.53	4.29	4.21	4.39	4.05	3, 311	**.008**
Negative outgroup emotions	2.38	2.30	2.30	2.32	.18	3, 309	.913
Desire for social distance	1.95	2.03	2.16	2.28	2.07	3, 307	.105
Generalized ethnocentrism	2.23	2.44	2.44	2.43	2.80	3, 280	**.040**
Extraversion	3.45	3.40	3.46	3.64	1.40	3, 304	.244
Agreeableness	3.88	3.63	3.86	3.94	3.98	3, 303	**.008**
Conscientiousness	3.61	3.52	3.50	3.58	.43	3, 303	.732
Neuroticism	2.54	2.80	2.75	2.50	3.33	3, 303	**.020**
Openness to experience	3.71	3.58	3.66	3.61	1.10	3, 303	.348
Intergroup anxiety	3.74	3.62	3.90	3.73	.55	3, 303	.650
Closedmindedness	3.35	3.52	3.38	3.21	1.88	3, 294	.134
Trust	3.33	3.18	3.16	3.30	1.63	3, 403	.181
Empathy	3.82	3.91	4.01	4.03	2.06	3, 391	.105
Religiosity	1.34	1.53	1.51	1.56	7.04	3, 280	**.000**
Political orientation	2.52	3.60	3.46	3.59	10.2	3, 280	**.000**
Social dominance orientation	2.04	2.63	2.60	2.70	6.63	3, 268	**.000**
Level of conflict in home country (1-7)	6.37	5.84	6.11	5.31	1.06	3, 240	.366
Conflict will be solved in 5 years (%)	42.2	38.4	32.8	35.7	.74	3, 164	.528
Conflict will be solved in 20 years (%)	63.6	63.3	53.1	53.4	1.27	3, 164	.286

Notes. Participants responded to as many or as few of the four surveys as they wanted to. Additionally, the design of the study resulted in two groups of students with Missing Completely At Random (MCAR) data: second years during the school year 2011-2012 and first year during the school year 2013-2014. 1 = no missing data, 2 = one instance of Missing At Random (MAR), 3 = two instances of MAR, 4 = three instances of MAR. Significant p-values are bolded.

Table 11
Establishing Basic Linear Mixed-Effects Models

Outcome Variables	Model 1 *BIC*	Model 2 *BIC*	Model 3 *BIC*	Model 4 *BIC*	Model 5 *BIC*
Negative outgroup emotions	747	738	754	751	766
Desire for social distance	752	741	760	765	777
Generalized ethnocentrism	422	416	433	462	432

Proceeding with Model 2	Negative Outgroup Emotions		Desire for Social Distance		Generalized Ethnocentrism	
Covariates	*BIC*	*Variance*	*BIC*	*Variance*	*BIC*	*Variance*
Fixed + random equal status	728	.09	733	.00	418	.01
Fixed equal status	718	-	721	-	411	-
Fixed + random common goals	729	.09	734	.00	419	.07
Fixed common goals	720	-	722	-	415	-
Fixed + random intergroup cooperation	731	.02	726	.02	404	.00
Fixed intergroup cooperation	721	-	717	-	393	-
Fixed + random institutional support	735	.00	737	.07	419	.00
Fixed institutional support	724	-	727	-	411	-
Fixed + random acquaintance potential	744	.01	749	.00	425	.00
Fixed acquaintance potential	735	-	737	-	415	-
Fixed + random intergroup salience	735	.01	737	.00	418	.03
Fixed intergroup salience	724	-	726	-	409	-
Fixed + random common ingroup identity	732	.01	726	.08	426	.00
Fixed common ingroup identity	720	-	715	-	415	-
Fixed + random RCN identity	731	.02	732	.03	425	.02
Fixed RCN identity	723	-	725	-	415	-

Notes. Models with only fixed effects for the covariates do not have variance of the random effect. All models provided a better fit for the data allowing for only a fixed effect of the covariate.

Table 12

Weight of Evidence and Evidence Ratios for the Top Theory-Driven and Data-Driven LME Models Each Predicting Negative Outgroup Emotions, Desire for Social Distance, and Generalized Ethnocentrism, Plus Data-Driven Common Ingroup Identity Models with Intergroup Salience Added as a Predictor

LME Models	*df*	*Weight of evidence*	*Evidence ratio*	*BIC*
Negative outgroup emotions				
CHN_T	9	< .001	24823	729
$ICMN_T$	10	< .001	4790	727
$CIIMN_T$	5	< .001	48477	720
CHN_D	6	< .001	3382	718
$ICMN_D$	7	.009	115	714
$CIIMN_D$	6	.012	84.8	710
$CIIMN_D$ + intergroup salience	**7**	**.979**	**1.0**	**704**
Desire for social distance				
CHD_T	9	.006	147	719
$ICMD_T$	10	.013	62.5	719
$CIIMD_T$	5	< .001	2943	715
CHD_D	7	.007	112	714
$ICMD_D$	7	.134	6.1	708
$CIIMD_D$	6	.021	38.3	709
$CIIMD_D$ + intergroup salience	**7**	**.819**	**1.0**	**705**
Generalized ethnocentrism				
CHG_T	9	< .001	129189	409
$ICMG_T$	10	.017	58.1	395
$CIIMG_T$	5	< .001	439205450	415
CHG_D	6	< .001	2760	394
$ICMG_D$	**6**	**.983**	**1.0**	**378**
$CIIMG_D$	6	< .001	46813543	414
$CIIMG_D$ + intergroup salience	7	<. 001	127169	404

Notes. Bolded models were the best fit for the data, based on the *BIC* values, weights of evidence, and evidence ratios.

Table 13

R^2, F-value, and Significance for the Current Student Identified Top Theory-Driven and Data-Driven LME Models Each Predicting Negative Outgroup Emotions, Desire for Social Distance, and Generalized Ethnocentrism for Alumni, Plus Data-Driven Common Ingroup Identity Models with Intergroup Salience Added as a Predictor

LME Models	*df*	R^2	*F*	*p*	*Significant predictors*
Negative outgroup emotions					
CHN_T	6	.12	4.39	.000	Intergroup cooperation, institutional support
$ICMN_T$	7	.12	3.75	.001	Intergroup cooperation, institutional support
$CIIMN_T$	2	.01	.818	.443	
CHN_D	3	.01	.639	.591	
$ICMN_D$	4	.01	.513	.727	
$CIIMN_D$	3	.01	.739	.530	
$CIIMN_D$ + intergroup salience	4	.01	.586	.673	
Desire for social distance					
CHD_T	6	.03	.887	.506	
$ICMD_T$	7	.03	.758	.623	
$CIIMD_T$	2	.00	.123	.884	
CHD_D	3	.00	.247	.863	
$ICMD_D$	4	.00	.210	.933	
$CIIMD_D$	3	.00	.100	.960	
$CIIMD_D$ + intergroup salience	4	.00	.095	.984	
Generalized ethnocentrism					
CHG_T	6	.04	1.22	.300	Intergroup cooperation
$ICMG_T$	7	.04	1.07	.382	
$CIIMG_T$	2	.01	.621	.538	
CHG_D	3	.03	1.80	.149	
$ICMG_D$	4	.03	1.37	.247	
$CIIMG_D$	3	.01	.418	.740	
$CIIMG_D$ + intergroup salience	4	.01	.525	.717	

Notes. These models have 1 more degree of freedom than do the models listed in Table 12 because Years since graduation was added as an independent variable to all models.

Table 14
T-tests of Differences Between Time 4 Students' Responses and Alumni's Responses

	Time 4	Alumni	*t*	*df*	*p*	*d*
Percent women	61.9	65.5	-	-	-	-
Mean age	18.6	27.5	-	-	-	-
Percent planning to moving home after RCN / moved home after UWC	25.3	30.1	-	-	-	-
Diversity of home environment (1-7)	3.22	3.11	.08	605	.418	-
Hours a week spent with friends*	3.77	4.38	7.57	539	**.000**	.65
Hours a week spent on EACs*	3.10	3.41	4.37	513	**.000**	.39
Equal status	3.04	3.31	2.76	275	**.006**	.33
Common goals	2.52	2.80	3.37	275	**.001**	.41
Intergroup cooperation	3.38	3.50	2.01	275	**.045**	.24
Institutional support	2.73	3.17	4.06	274	**.000**	.49
Acquaintance potential	7.46	8.24	3.05	299	**.003**	.35
Intergroup salience	3.40	3.26	1.59	271	.113	-
Common ingroup identity	2.61	3.01	5.51	275	**.000**	.67
RCN identity	4.30	4.51	2.53	267	**.012**	.31
Negative outgroup emotions	2.31	2.28	.03	264	.779	-
Desire for social distance	1.95	1.90	.44	265	.657	-
Generalized ethnocentrism	2.32	2.10	2.70	232	**.008**	.35
Extraversion	3.56	3.67	1.05	255	.294	-
Agreeableness	3.77	3.84	.77	255	.443	-
Conscientiousness	3.56	3.79	2.36	255	**.019**	.30
Neuroticism	2.71	2.65	.54	255	.588	-
Openness to experience	3.70	2.65	10.3	255	**.000**	1.3
Intergroup anxiety	3.26	2.55	4.04	253	**.000**	.51
Closedmindedness	3.41	3.14	2.64	242	**.009**	.34
Trust	3.19	3.50	3.15	263	**.002**	.39
Empathy	4.00	4.30	3.73	251	**.000**	.47
Religiosity	1.47	1.57	2.03	230	**.044**	.27
Political orientation	3.69	2.86	2.86	232	**.005**	.38
Social dominance orientation	2.41	1.91	3.92	223	**.000**	.53
Percent listing conflict in home country	65.5	82.5	-	-	-	-
Level of conflict in home country (1-7)	5.98	4.30	5.69	380	**.000**	.58
Conflict will be solved in 5 years (%)	37.4	25.6	3.44	292	**.000**	.40
Conflict will be solved in 20 years (%)	59.3	46.8	3.16	290	**.002**	.37

Notes. Significant p-values are bolded. *1 = None, 2 = 1-3 hours, 3 = 4-9 hours, 4 = 10-19 hours, 5 = more than 20 hours.

Table 15
Comparing LME Models to Establish Effect of Demographic Covariates

	ANOVA			Covariate		
Negative outgroup emotions	χ^2	*df*	*p*	*est.*	*t*	*p*
Equal status, common goals, intergroup salience + age	1.06	1	.303	-.07	-1.03	.303
Equal status, common goals, intergroup salience + age*time	1.08	2	.583	-.01	-.13	.894
Equal status, common goals, intergroup salience + gender	1.36	1	.243	-.14	-1.17	.243
Equal status, common goals, intergroup salience + gender*time	3.88	2	.143	-.15	-1.62	.106
Equal status, common goals, intergroup salience + religiosity	61.0	1	.000	.04	3.32	.001
Equal status, common goals, intergroup salience + religiosity*time	62.6	2	.000	.07	1.30	.196
Equal status, common goals, intergroup salience + political orientation	54.8	1	.000	-.03	-1.20	.220
Equal status, common goals, intergroup salience + political orientation*time	54.1	2	.000	.01	.55	.581
Desire for social distance	χ^2	*df*	*p*	*est.*	*t*	*p*
Equal status, intergroup salience + age	1.29	1	.257	-.06	-1.14	.257
Equal status, intergroup salience + age*time	1.31	2	.519	.01	.16	.873
Equal status, intergroup salience + gender	.05	1	.827	.03	.22	.827
Equal status, intergroup salience + gender*time	.05	2	.973	-.01	-.08	.935
Equal status, intergroup salience + religiosity	53.1	1	.000	.03	2.19	.029
Equal status, intergroup salience + religiosity*time	53.4	2	.000	-.03	-.54	.593
Equal status, intergroup salience + political orientation	53.9	1	.000	.05	1.62	.107
Equal status, intergroup salience + political orientation*time	54.5	2	.000	-.02	-.81	.421
Generalized ethnocentrism	χ^2	*df*	*p*	*est.*	*t*	*p*
Common goals, intergroup cooperation, acquaintance potential, intergroup salience + age	7.93	1	.005	.15	2.84	.005
Common goals, intergroup cooperation, acquaintance potential, intergroup salience + age*time	13.2	2	.001	-.08	-2.31	.022
Common goals, intergroup cooperation, acquaintance potential, intergroup salience + gender	.14	1	.706	-.04	-.38	.706
Common goals, intergroup cooperation, acquaintance potential, intergroup salience + gender*time	.15	2	.927	-.01	-.10	.922
Common goals, intergroup cooperation, acquaintance potential, intergroup salience + religiosity	6.10	1	.014	-.02	-1.66	.099
Common goals, intergroup cooperation, acquaintance potential, intergroup salience + religiosity*time	24.2	2	.000	.20	4.34	.000
Common goals, intergroup cooperation, acquaintance potential, intergroup salience + political orientation	4.12	1	.042	-.01	-.43	.665
Common goals, intergroup cooperation, acquaintance potential, intergroup salience + political orientation*time	4.71	2	.095	-.01	-.77	.444

Notes. Models including demographic variables were compared to the baseline models established as the best fit for each of the three outcome variables. The baseline models were for negative outgroup emotions: equal status, common goals, and intergroup salience; for desire for social distance; equal status and intergroup salience; and for generalized ethnocentrism: common goals, intergroup cooperation, acquaintance potential, and intergroup salience. + age means a covariate for the age was introduced to the model to establish whether age affects the intercept; + age*time indicates a covariate for the age introduced to establish whether age affects the slope.

Figure 1
Representation of UWCs around the Globe

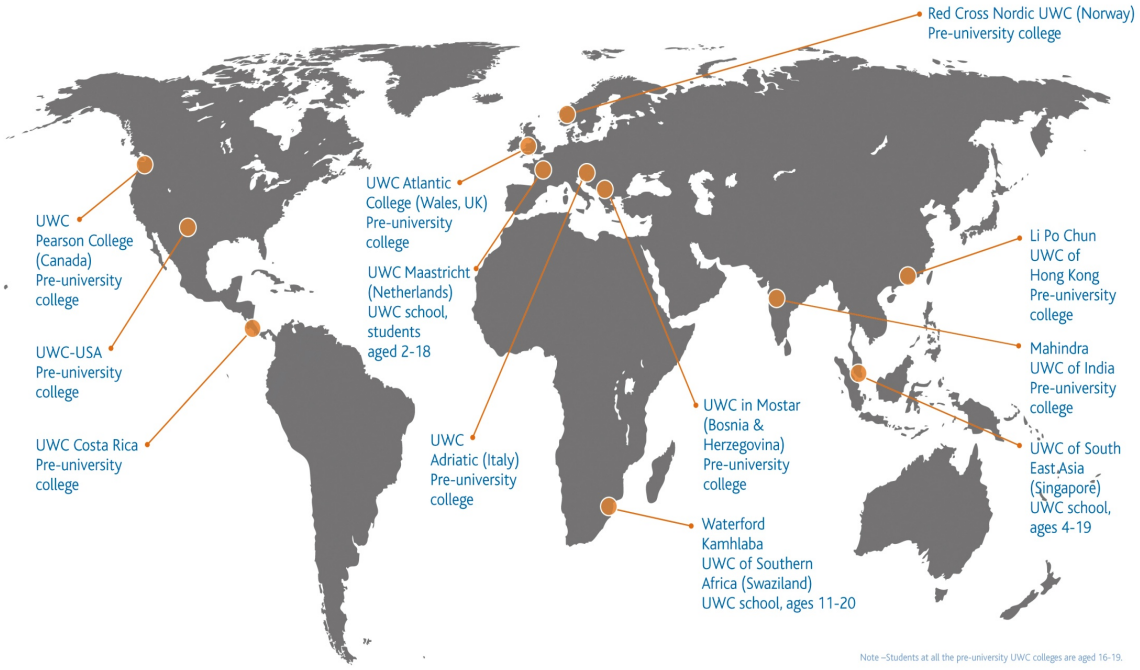
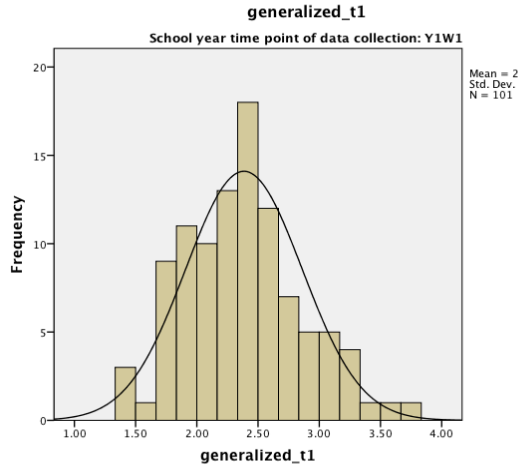
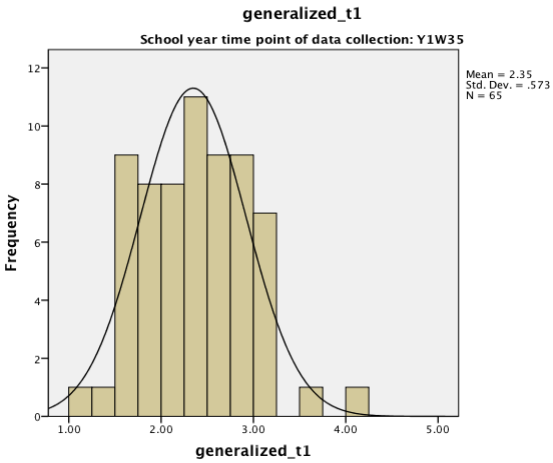


Figure 2

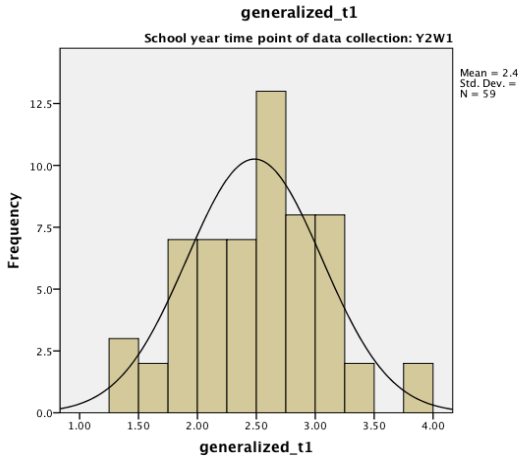
Histograms of Generalized Ethnocentrism at Times 1, 2, 3, 4, and Overall



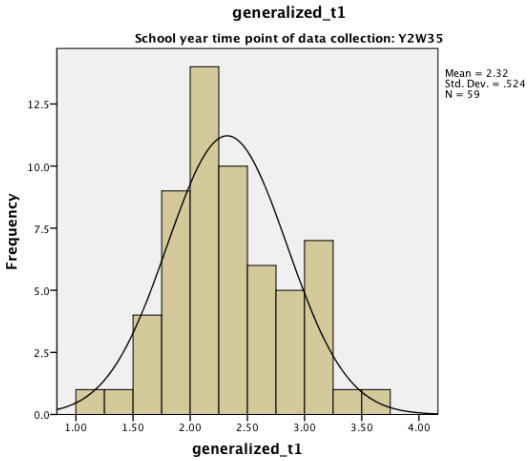
Time 1



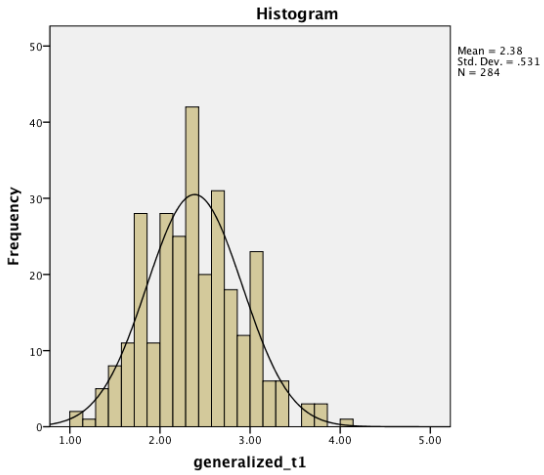
Time 2



Time 3



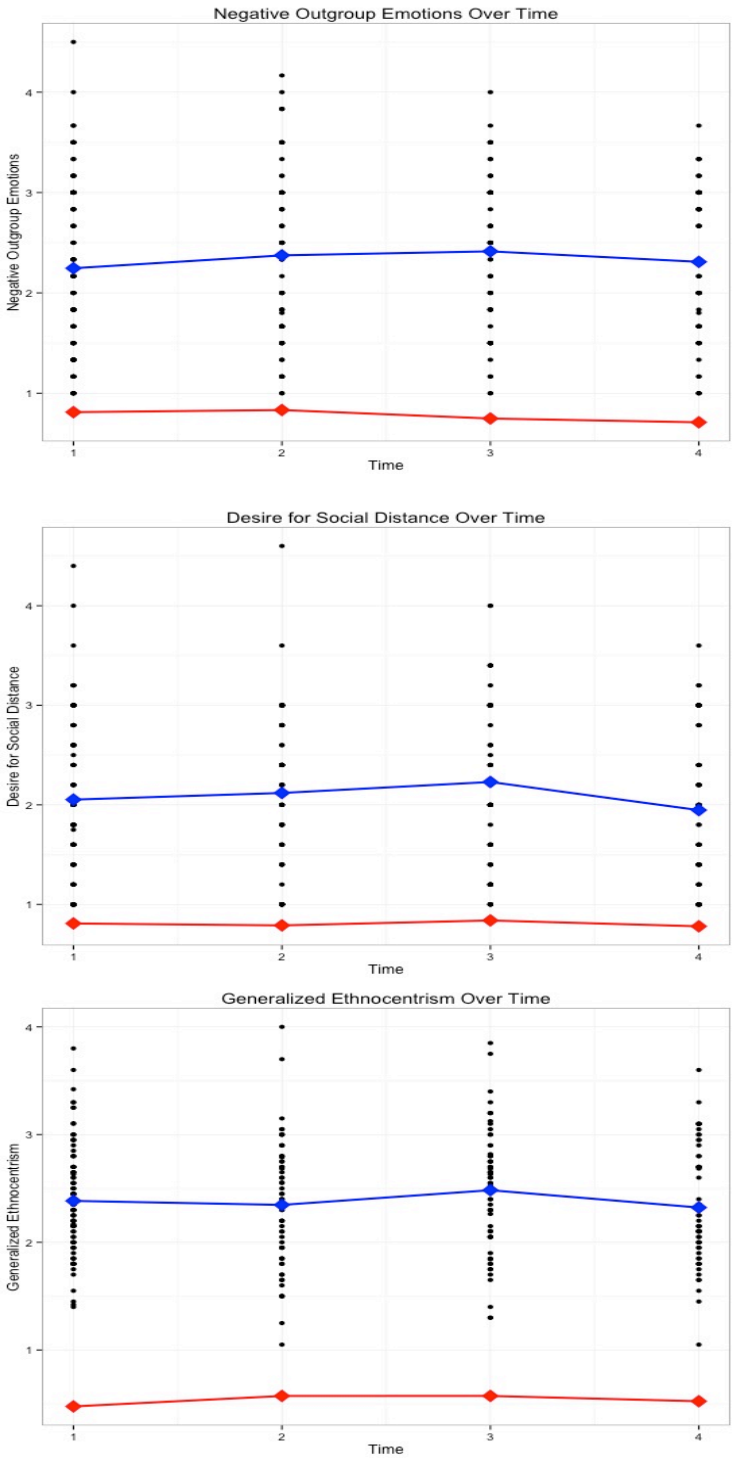
Time 4



Overall

Figure 3

Negative Outgroup Emotions, Need for Social Distance, and Generalized Ethnocentrism: Mean and Standard Deviation Over Time



Notes. The blue line indicates the mean, whereas the red line indicates the standard deviation.

Figure 4

Pairwise Residual Elements Between Each Time Point for Negative Outgroup Emotions Predicted by the Theory-driven Contact Hypothesis Model (top), for Need for Social Distance Predicted by the Data-driven Intergroup Contact Model (middle), and for Generalized Anxiety Predicted by the Theory-driven Common Ingroup Identity Model (bottom)

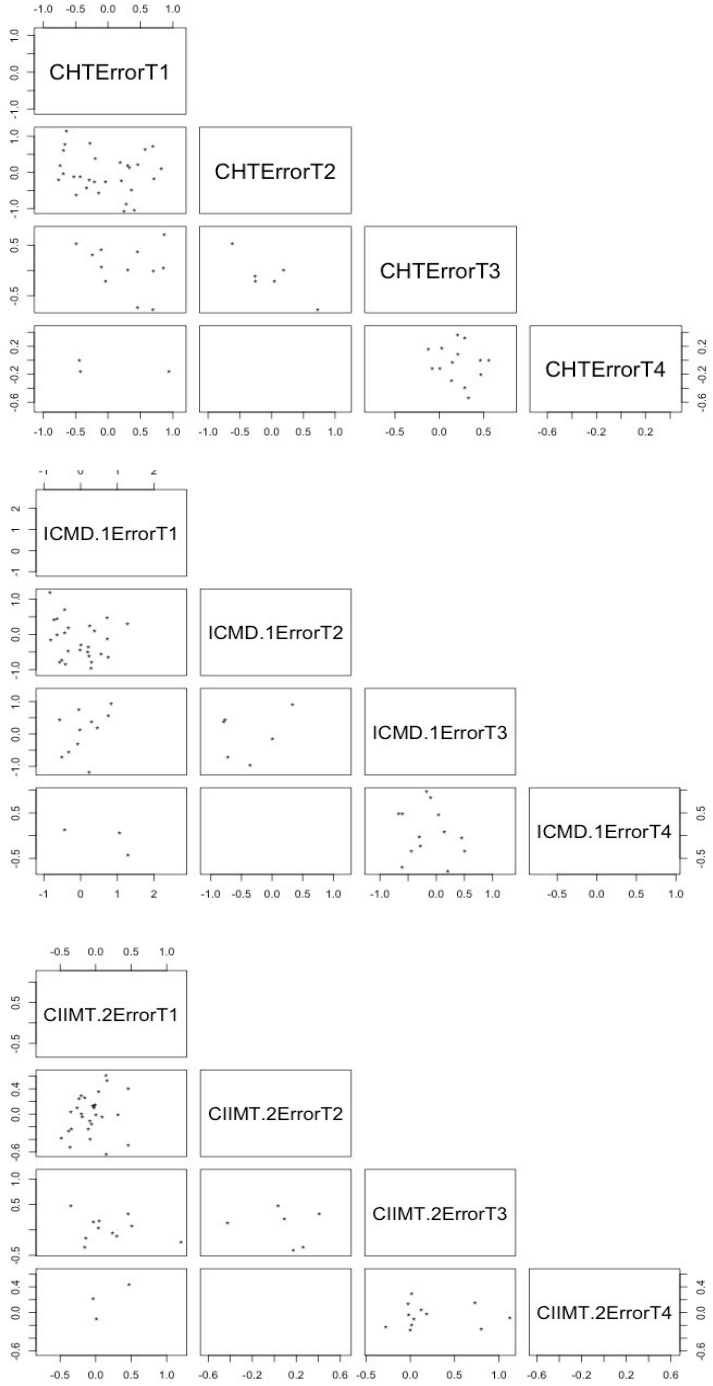
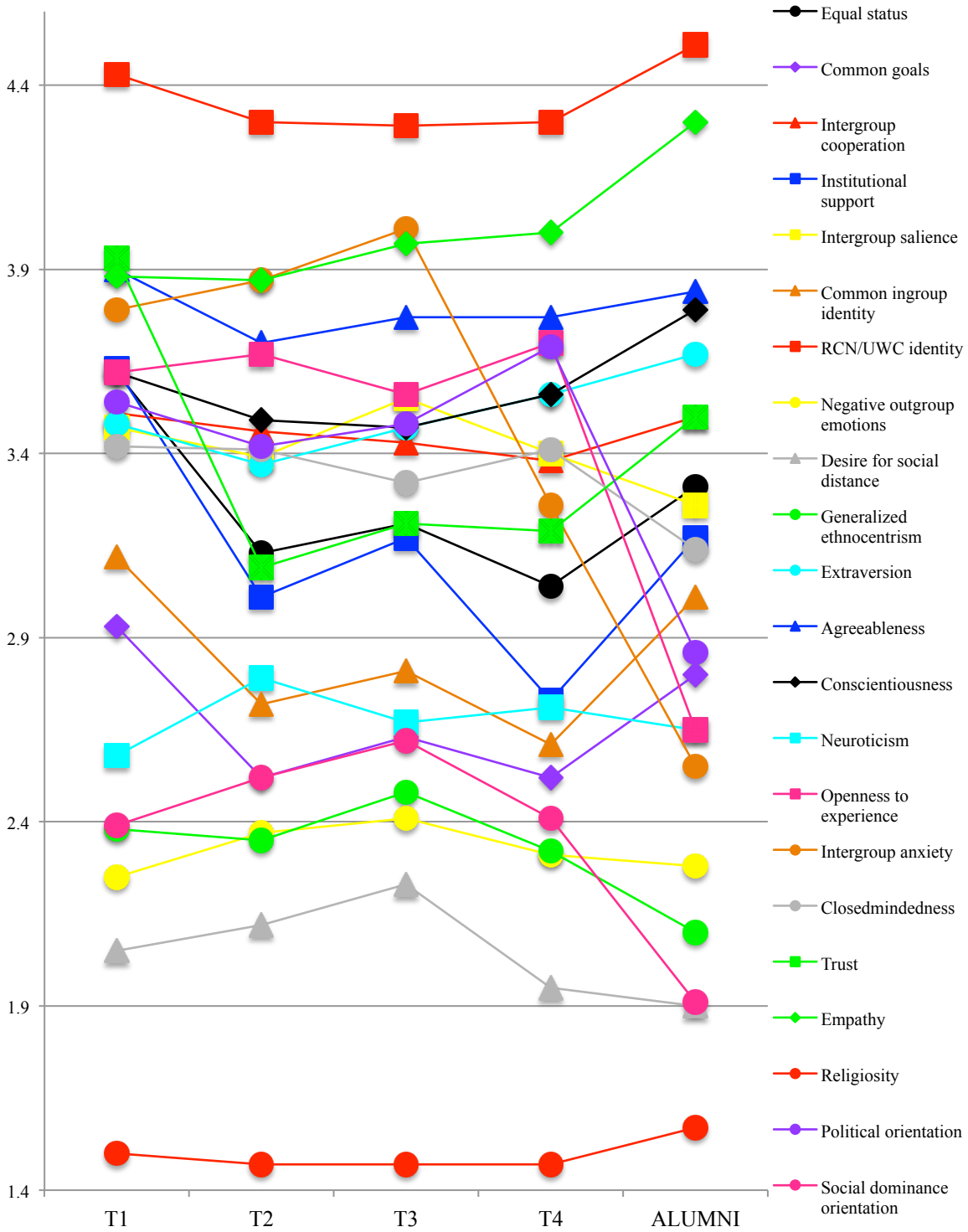


Figure 4

Means across Times 1, 2, 3, and 4, and Alumni



Notes. Acquaintance potential and hopefulness for the future were not included here due to values being out of range. Ranges were 1-5 for all variables except for religiosity (1-2), equal status, common goals, intergroup cooperation, institutional support, common ingroup identity (1-4), closedmindedness (1-6), social dominance orientation (1-7), and intergroup anxiety and political orientation (1-10).

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APPENDIX A

CAS	Creativity, Action, and Service: 3-4 hours a week (or 300-400 hours in total over two years) devoted to creative activities, athletics or physical activity, and service or community work.
EAC	Extra-Academic Commitment: an umbrella term that encompasses CAS, campus responsibilities, and other chosen activities.
EE	Extended Essay: an independent research essay of no more than 4,000 words in a subject from a list of approved subjects.
Global Concerns	Student-led full-day conference on social, political, or environmental issues of global concern.
HL	Higher Level: the IB recommends > 240 hours of instruction for HL courses, of which students may choose three or four.
IB	International Baccalaureate: the RCN curriculum.
Leirskule	Kids' week-long camp arranged at nearby Haugland for 7th grade children from semi-local schools. Most activities are run or supervised by RCN students.
MUN	Model United Nations: a conference similar to the United Nations in which students participate as delegates to various UN Committees. Participants research and formulate actual political positions based on the countries they are assigned to represent.
PBL	Project Based Learning: a colloquialism referring to the whole week that students and staff devote to a project of their choice.
På Flukt	[On the Run]: A 24-hour role play arranged by the Red Cross to mimic the challenges met by refugees fleeing their home countries. See: https://uwcrcn.no/News/newsPaFlukt.html.
Ski Week	In February, first year students and first aider second year students head for the mountains and a week of immersion into Norwegian ski sports, while second years have a reading week before Mock Exams.
SL	Standard Level: the IB recommends > 150 hours of instruction for SL courses, of which students may choose two or three.
Snikkarbua	A boathouse on the shore where students arrange weekly cafés.
Student Village	The collection of 5 student houses where the 200 students live.
Teacher's Hill	The hill overseeing the Student Village, where most teachers live.
TOK	Theory of Knowledge: obligatory course that teaches basic epistemology and critical thinking, culminating in an externally assessed essay from a choice of ten titles and an internally assessed presentation on a student's chosen topic.
World Today	Weekly student-led half-day workshop with focus on a particular country.

APPENDIX B

Author(s)	Year	Study	Sample	Size	Status	Age (*M*)	Age (*SD*)	Racial prejud	Racial stereot	Mental health stereot	Sexual orient prejud	Self direct	Other direct	Type of intervention versus control
Alimo	2012		White	365	Ugrads	20.5						.625	.419	Moderated intergroup dialogue vs. waitlisted peers
Case & Stewart	2010	1		87	Ugrads	28.7	9.03				.326			Women's studies vs. non-diversity course: Views on lesbians
		1		87	Ugrads	28.7	9.03				.269			Women's studies vs. non-diversity cours: Views on gays
Gurin, Nagda & Lopez	2004	1	Mixed	174	Seniors								.300	The Intergroup Relations Program
		1	Mixed	174	Seniors								.350	Participation in campus politics
		1	Mixed	174	Seniors								.200	Participation in community service
Hogan & Mallott	2005		Whites	116	College	21.7		.505						Non-required diversity course
Hussey, Fleck, & Warner	2010		Mixed	63	Ugrads	20	1.06	.236						Diversity classroom teaching
Radloff	2010		Whites	128	Ugrads			.513						Completed a diversity requirement vs. not yet having completed
Rudman, Ashmore, & Gary	2000	1	Whites	35		22		.930	.750					Prejudice and conflict seminar vs. research methods course
		2	Whites	86		22		.150	.590					Prejudice and conflict seminar vs. lecture course or research methods
Soble, Spanierman, & Liao	2011		Whites	138		20.2	1.69	.000						20-min educational video vs. 20-min neutral video
Springer, Palmer, Terenzini, Pascarella, & Nora	1996		Whites	1061	Freshmen			.396						Racial/cultural awareness workshop vs. no workshop
Stathi, Tsantila, & Crisp	2012		Whites	57	Ugrads	22.5	4.87			.800				Imagining contact with a person with schizophrenia vs. neutral imagination.
Umbach & Kuhn	2003	1	Mixed		Freshmen								.210	Liberal arts vs. DRU-Extensive
		1	Mixed		Seniors								.190	Liberal arts vs. DRU-Extensive
		1	Mixed		Freshmen								.240	Liberal arts vs. DRU-Intensive
		1	Mixed		Seniors								.250	Liberal arts vs. DRU-Intensive
		1	Mixed		Freshmen								.270	Liberal arts vs. MA I & II
		1	Mixed		Seniors								.190	Liberal arts vs. MA I & II
		1	Mixed		Freshmen								.300	Liberal arts vs. BACGEN
		1	Mixed		Seniors								.280	Liberal arts vs. BACGEN

Notes. DRU-Extensive = Doctoral/Research-Extensive, DRU-Intensive = Doctoral/Research Intensive, MA I & II = Master's I and II, BACGEN = Baccalaureate Colleges = General (see Umbach & Kuhn, 2003).

APPENDIX C IRB approval # **1204P13562**

SURVEY CONSENT FORM

Because you are a student at RCNUWC you are invited to complete a survey focusing on intergroup interactions and peace education. The study is voluntary. Please read this form carefully before agreeing to take part in the study.

Background information:
This study is my doctoral dissertation study for the University of Minnesota. The purpose of the study is to investigate how you and your fellow students develop during your years at RCNUWC. My goal is to explore the benefits of a multicultural peace education, and the benefits of students of 86 different ethnic, religious, and cultural backgrounds living and studying together for two years.

Procedure:
If you agree to take part in the study, I will ask you to fill out an online survey, which will take 30-40 minutes to complete. The survey includes questions about your personality and values, your extra-academic activities, and your roommates and friends. An example question is, "How typical of your national/cultural group are you?" There are no right or wrong answers to these questions, so answer each question as honestly as possible. Please read each question carefully before responding.

I realize that few of you call English your first language and some questions may be confusing to you. Answer each question to the best of your ability. If you are in doubt or confused about the meaning of a question, you may guess an answer or you may skip the question.

First years: In May 2013, August 2013, and May 2014 I will contact you to fill out another online survey, which may change slightly from the one you fill out now. The new survey will take no more than 30-40 minutes to complete. Because this study is conducted over time, your participation at all four time points is extremely important and valuable to me.

Second years: In May 2013 I will contact you to fill out another online survey, which may change slightly from the one you fill out now. It will take no more than 30-40 minutes to complete. Because this study is conducted over time, your participation at both time points is extremely important and valuable to me.

Risks and benefits:
This study involved minimal risk. The survey includes questions about race/ethnicity and religious affiliation. There are no direct benefits to participation. You will not receive payment for your participation in this study.

Voluntary nature of the study: IRB approval # **1204P13562**
This study is entirely voluntary. You are free not answer questions or to quit the survey at any time. Doing so will in no way affect your relationship with the school.

Confidentiality:
The records of the study will be kept private. In any sort of report I make public, I will not include any information that will make it possible to identify you. Hard copy research records will be stored securely in a locked filing cabinet and electronic research records will be stored on the University of Minnesota Department of Psychology's secure server, password protected. Only my research collaborators and I will have access to records.

I will process the data at the University of Minnesota, pending approval from the University of Minnesota Institutional Review Board. Data will be transmitted according to the European Union Data Protection Directive.

Contacts and questions:
The study is conducted by Susanne Gabrielsen (supervised by Dr. Mark Snyder), Department of Psychology, University of Minnesota, with permission from Haugland Internasjonale Forsknings- og Utviklingssenter (HIFUS), and from Red Cross Nordic United World College.

If you have any questions about this study or about the survey you are about to begin, you are encouraged to contact me:

Susanne Gabrielsen
N331 Elliott Hall
75 East River Road, Minneapolis MN 55455
+1 (612) 594-9494
gabri153@umn.edu

If you have any questions or concerns regarding the study and would like to talk to someone other than the researcher, you are encouraged to contact the Research Subjects' Advocate Line, D-528 Mayo, 420 Delaware Street SE, Minneapolis, MN 55455, at (+1) 612-625-1650, or at irb@umn.edu. You may also contact Norway's National Committee for Research Ethics in the Social Sciences and the Humanities (NESH) at post@etikkom.no or at (+47) 23 31 83 02.

Please keep this information for your records.

Record your participation number here: _____

When you are asked to fill out the questionnaire again next year, knowing your participation number will ensure your anonymity. Your participation number was assigned to you randomly.

APPENDIX C (cont'd) IRB approval # **1204P13562**

SURVEY CONSENT FORM (T2, T3, and T4)

Survey consent forms for T2, T3, and T4 were replicates of the consent form for T1, save for two paragraphs that were changed.

T2:

First years: In August 2013 and May 2014 I will contact you to fill out another online survey, which may change slightly from the one you fill out now. The new survey will take no more than 25-30 minutes to complete. Because this study is conducted over time, your participation at all four time points is extremely important and valuable to me.

Second years: Thank you so much for your participation in August 2012 and now!

T3:

First years: In May 2014 I will contact you to fill out another online survey, which may change slightly from the one you fill out now. The new survey will take no more than 25-30 minutes to complete. Because this study is conducted over time, your participation at both time points is extremely important and valuable to me.

Second years: In May 2014 I will contact you to fill out another online survey, which may change slightly from the one you fill out now. It will take no more than 25-30 minutes to complete. Because this study is conducted over time, your participation at all four time points is extremely important and valuable to me.

T4:

First years: Thank you so much for your participation in August 2013 and now!

Second years: Thank you so much for your participation in August 2012, May 2013, August 2013, and now!

APPENDIX C (cont'd) IRB approval # **1204P13562**

SURVEY CONSENT FORM (Alumni)

Because you are a United World College alumnus/alumna you are invited to complete a survey looking at peace education, interpersonal contact, the development of friendships, and personality. The study is voluntary. Please read this form carefully before agreeing to take part in the study.

Background information:
This study is my doctoral dissertation study for the University of Minnesota. The purpose of the study is to investigate how you and other UWC alumni carry with you the experiences from your years at UWC. My goal is to explore the benefits of having students of different ethnic, religious, and cultural backgrounds living and studying together for two years.

Procedure:
If you agree to take part in the study, I will ask you to fill out an online survey, which will take 25-30 minutes to complete. The survey includes questions about your personality and values, work and hobbies, and friends. There are no right or wrong answers to these questions, so answer each question as honestly as possible. Read each question carefully before responding.

Risks and benefits:
I do not anticipate any risks to you participating in this study, other than those encountered in day-to-day life. There are no direct benefits to participation.

Confidentiality:
The records of the study will be kept private. In any sort of report I make public, I will not include any information that will make it possible to identify you. Hard copy research records will be stored securely in a locked filing cabinet and electronic research records will be stored on the University of Minnesota Department of Psychology's secure server, password protected. Only my research collaborators and I will have access to records.

Contacts and questions:
The study is conducted by Susanne Gabrielsen (supervised by Dr. Mark Snyder), Department of Psychology, University of Minnesota, by Haugland Internasjonale Forsknings- og Utviklingssenter (HIFUS), and by Red Cross Nordic United World College.

If you have any questions about this study or about the survey you are about to begin, you are encouraged to contact me:

Susanne Gabrielsen
+1 (612) 594-9494
gabri153@umn.edu

N331 Elliott Hall
75 East River Road, Minneapolis MN 55455

APPENDIX D

Red Cross Nordic United World College Survey

LINK:

https://survey.cla.umn.edu/168345

Your participation number:

_____

APPENDIX E

Hello _____,

My name is Anne and I am a research assistant at the University of Minnesota-Twin Cities, working with Susanne Gabrielsen on her dissertation project and contacting you with permission and on behalf of Susanne. Susanne is a 4th year PhD student in Social Psychology who is advised under Dr. Mark Snyder. Her dissertation project is, UWC Red Cross Nordic: A Movement, a High School, a Catalyst for Change. One of the main goals of this project is to measure students' intergroup bias (in other words, preferring one's own group over the other group) and prejudice as they experience the unique educational environment at UWC RCN. In other words, the project is concerned about how (if any) prejudice and intergroup bias changes in students over time while at UWC RCN; or how peace education affects prejudice and intergroup interaction among students. So far, Susanne has conducted Time 1 data collection at UWC RCN and is currently looking to collect cross-sectional alumni data from all the UWC schools world-wide.

By helping us gather as much completed surveys from alumni in all the UWC schools world-wide, every participant will be contributing in helping Susanne discover the wonderful benefits of multicultural education. If you would like to learn more about Susanne, please visit her Linkedln profile here. She has also been featured UWC RCN news and also have been interviewed by *Bergens Tidende*, the main Bergen newspaper (you can view it here and here (Bergen).

The survey is entirely confidential and no personal information or any information that makes it likely to identify you will not be used and will not be made public. Keep in mind that this survey is voluntary and should you agree to participate, it is not obligatory that you answer. You are free to quit the survey at any time. The survey takes about 60 minutes to complete and will be conducted on-line, should you volunteer to participate.

The link to the survey is here:

https://survey.cla.umn.edu/240152

I thank you so much for your time. Feel free to ask any questions you have and feel free to share the link to the survey with other alumni!

Best,

Anne

APPENDIX F

Note: Differences between current student surveys and alumni surveys are noted in brackets.

Welcome to The Red Cross Nordic United World College Study [UWC Alumni Survey].

Please click "next" to continue.

Consent form on screen.

Do you agree to take part in this survey? (Yes: Continue, No: End survey)

Demographic Questions (6 Q)
Open-ended, forced-choice, 1 to 7 Likert scale

1. Please indicate your participation number (found in your mailbox): [not in alumni survey]
2. What is your age?
3. With what gender do you identify (check one)?
   Male/Female/Other
4. What is your country of birth?
5. In which country (in which countries) did you grow up?
6. Please list your nationality.
7. How diverse was your home environment growing up?
   7-point Likert scale from 1: Not at all diverse to 7: Extremely diverse

[About UWC Education (7 Q)]
[Open-ended, forced-choice]

1. [From which UWC did you graduate?]
2. [In which year did you graduate from UWC?]
3. [What is your highest level of education?]
4. [What is your current occupation?]
5. [Why did you decide to attend UWC?]
6. [Did you move home after graduating from UWC?]
   Yes/No
7. [If you answered "no," where did you go?]

Plans for the Future (3 Q)
Open-ended, forced-choice

8. Why did you decide to come to UWC?
9. Do you plan on moving home after graduating from RCNUWC?
   Yes/No
10. If you answered "no," where are you planning on going?

Friends and Roommates (5 Q)
Open-ended, forced-choice

11. Think about your best friends at home [current best friends]. Provide gender and country of origin of as many or as few friends as you would like (do not include names).
12. Think about the people at Red Cross Nordic you consider your best friends, even if you have only been here a few days [your best friends at UWC]. Provide gender and country of origin on as many or as few friends as you would like (do not include names).
13. In total, how many times a week do [did] you hang out with friends at RCN [at UWC]?
    None, 1-3, 4-9, 10-19, more than 20
14. In total, how many hours a week do [did] you spend with friends at RCN [at UWC]?
    None, 1-3, 4-9, 10-19, more than 20
15. List your [UWC] roommates' gender [not in alumni survey] and country of origin (do not include names).

Multicultural/Peace Education (5 Q)
Open-ended, forced-choice

16. Which [IB] classes are you taking [did you take] (include higher/standard level description)?
17. What are your extra-academic commitments (EACs)?
18. What other activities do you, or do you plan to, [did you] take part in at and around the school [your UWC]?
19. In total [at UWC], how many times a week do you, or do you plan to, [did you] take part in extra-academic commitments?
    None, 1-3, 4-9, 10-19, more than 20
20. In total [at UWC], how many hours a week do you, or do you plan to, [did you] take part in extra-academic commitments?
    None, 1-3, 4-9, 10-19, more than 20

Models of Intergroup Contact (17 Q)
4-point Likert scale from 1: None to 4: A lot
The statements below describe what a high school environment might be like. Using the radio buttons, indicate how much you agree with the following at Red Cross Nordic [UWC]:

21. Teachers are fair to all groups of students.
22. All students at RCN [UWC] are treated equally.
23. Students at RCN [UWC] have common goals.
24. At RCN [UWC], students focus on and work toward the same thing.
25. After students from different groups get to know each other, they find they have important things in common.
26. The different groups of students at RCN [UWC] have important things to offer each other.
27. Students at RCN [UWC] are all part of the same group.
28. RCN [UWC] students believe in something bigger than themselves.
29. Students from different groups at this school [UWC] need each other.

30. Students at RCN [UWC] follow only their own individual goals.
31. There is cooperation between students in academics (for example, helping each other with math).
32. There is cooperation between students in extra-curricular activities (for example, teaching each other how to tie rock climbing knots).
33. The student body at RCN [UWC] is made up of independent individuals.
34. Most students at RCN [UWC] belong to several groups.
35. At RCN [UWC], we are all on the same team.
36. Teachers encourage students to make friends with students from other groups.
37. RCN [UWC] is a school where everyone is encouraged to be friends.

Intergroup Salience (4 Q)
5-point Likert scale from 1: Not at all typical/Never to 3: Neither atypical nor typical/Some of the time to 5: Completely typical/All the time
Read the statements below, and indicate how much you agree or disagree by using the scale provided.

38. How typical of your national/cultural group are you?
39. How much do you act as an example of your national/cultural group?
40. How typical, in general, are the other RCN [UWC] students of their national/cultural groups?
41. How much do the other RCN [UWC] students act as examples of their national/cultural groups?

Identities (8 Q)
5-point Likert scale from 1: Not at All True to 3: Neutral to 5: Absolutely True
These questions ask you about your identity representing your country, and about your identity representing Red Cross Nordic.
National Identity (nationality supplied from Q6 above)

42. I am proud of being [ ].
43. I feel committed to other [ ].
44. I have a lot in common with other [ ].
45. Being [ ] is an important part of my identity.

RCN Identity

46. I am proud of being a Red Cross Nordic student [a UWC alumna/us].
47. I feel committed to other Red Cross Nordic students [UWC alumni].
48. I have a lot in common with other Red Cross Nordic students [UWC alumni].
49. Being a Red Cross Nordic student [a UWC alumna/us] is an important part of my identity.

Negative Outgroup Emotions (7 Q)
Open-ended

50. Think of a country that your country considers itself very different from. This could be a neighboring country or a country far away. What is this country's nationality?

5-point Likert scale from -2: Not at all to 2: Completely
In general, what are your feelings toward [the outgroup]?

51. Do you admire them?
52. Do you trust them?
53. Do you like them?
54. Do you feel angry toward them?
55. Do you feel irritated by them?
56. Do you feel annoyed by them?

Desire for Social Distance (6 Q)
5-point Likert scale from -2: Extremely bothered to 2: Would like a lot
Using the scales below indicate how bothered or happy you would be in each example.
How much would you like/be bothered by having a person from [the outgroup] as your…

57. King (Queen)/president/prime minister?
58. Neighbor?
59. Guest in your home?
60. Classmate?
61. In-law?
62. Friend?

The Big Five (44 Q)
5-point Likert scale from 1: Disagree to 5: Agree
These statements may or may not describe you. Use the scale below to indicate how much you agree or disagree with each.
I see myself as someone who…

63. Is talkative.
64. Tends to find fault with others.
65. Does a thorough job.
66. Is depressed, blue.
67. Is original, comes up with new ideas.
68. Is reserved.
69. Is helpful and unselfish with others.
70. Can be somewhat careless.
71. Is relaxed, handles stress well.
72. Is curious about many different things.
73. Is full of energy.
74. Starts quarrels with others.
75. Is a reliable worker.
76. Can be tense.
77. Is ingenious, a deep thinker.
78. Generates a lot of enthusiasm.
79. Has a forgiving nature.
80. Tends to be disorganized.
81. Worries a lot.
82. Has an active imagination.
83. Tends to be quiet.
84. Is generally trusting.
85. Tends to be lazy.

86. Is emotionally stable, not easily upset.
87. Is inventive.
88. Has an assertive personality.
89. Can be cold and aloof.
90. Perseveres until the task is finished.
91. Can be moody.
92. Values artistic, aesthetic experiences.
93. Is sometimes shy, inhibited.
94. Is considerate and kind to almost everyone.
95. Does things efficiently.
96. Remains calm in tense situations.
97. Prefers work that is routine.
98. Is outgoing, sociable.
99. Is sometimes rude to others.
100. Makes plans and follows through with them.
101. Gets nervous easily.
102. Likes to reflect, play with ideas.
103. Has few artistic interests.
104. Likes to cooperate with others.
105. Is easily distracted.
106. Is sophisticated in art, music, or literature.

Intergroup Anxiety (6 Q)

10-point Likert scale from 1: Not at all to 10: Extremely

For each of the items listed below, indicate how you would feel when interacting with strangers of other racial, ethnic, religious, or cultural groups?

107. Comfortable
108. Uncertain
109. Confident
110. Awkward
111. Anxious
112. At ease

Closemindedness (15 Q)

6-point Likert scale from 1: Strongly Disagree to 6: Strongly Agree

These statements may or may not describe you. Use the scale below to indicate how much you agree or disagree with each.

113. I don't like situations that are uncertain.
114. I dislike questions that could be answered in many different ways.
115. I find that a well-ordered life with regular hour suits my temperament.
116. I feel uncomfortable when I don't understand the reason why an event occurred in my life.
117. I feel irritated when one person disagrees with what everyone else in a group believes.
118. I don't like to go into a situation without knowing what I can expect from it.
119. When I have made a decision, I feel relieved.

120. When I am confronted with a problem, I'm dying to reach a solution very quickly.
121. I would quickly become impatient and irritated if I would not find a solution to a problem immediately.
122. I don't like to be with people who are capable of unexpected actions.
123. I dislike it when a person's statement could mean many different things.
124. I find that establishing a consistent routine enables me to enjoy life more.
125. I enjoy having a clear and structured mode of life.
126. I do not usually consult many different opinions before forming my own view.
127. I dislike unpredictable situations.

Trust (6 Q)
5-point Likert scale from 1: Strongly Disagree to 5: Strongly Agree
Indicate how much you agree or disagree with the statements below.

128. Generally speaking, most can people be trusted.
129. Most people would try to take advantage of you if they got a chance.
130. Most of the time people try to be helpful.
131. You can't be too careful in dealing with people.
132. Most people try to be fair.
133. People are mostly looking out for themselves.

General Ethnocentrism (21 Q)
5-point Likert scale from 1: Disagree to 5: Agree
Indicate how much you agree or disagree with the statements below.

134. Other countries should model themselves after my country
135. People in my country have just about the best lifestyles of anywhere else.
136. My country should be the role model of the world.
137. Most other countries are backward in comparison with my country.
138. Most people would be happier if they lived like people in my country.
139. My country is a poor example of how to run a country.
140. My country is a poor role model for other countries.
141. Lifestyles in other countries are just as valid as those in my country.
142. Countries are smart to look up to my country.
143. Life in my country is much better than most other places.
144. People in my country could learn a lot from people of other countries.
145. Countries really should not use my country as a role model.
146. A lot of other countries are primitive compared to my country.
147. I enjoy learning about the customs and values of other countries.
148. Although different, most countries have equally valid value systems.
149. I'm not interested in the values and customs of other countries.
150. Many other countries have really strange and unusual customs as compared to mine.
151. People from other countries act strange and unusual when they come into my country.
152. People should respect the values and customs of other countries.
153. I have little respect for the values and customs of other countries.
154. Most people from other countries just don't know what is good for them.

Empathy (6 Q)

5-point Likert scale from 1: Disagree to 5: Agree

Indicate how much you agree or disagree with the statements below.

155. I become sad when I see other people when they are sad.
156. I usually feel calm when other people are scared.
157. I can usually realize when a person is angry.
158. It is hard for me to understand when my friends are sad.
159. I usually understand how people are feeling when they are happy.
160. My friends' emotions don't affect me much.

Religiosity/Spirituality (9 Q)

Yes/no

You…

161. Believe in a universal power or God.
162. Am a spiritual person.
163. Do not practice any religion.
164. Keep my faith even during hard times.
165. Have spent at least 30 minutes in the last 24 hours in prayer or meditation.
166. Do not believe in a universal power or a God.
167. Am who I am because of my faith.
168. Believe each person has a purpose in life.

Liberal/Conservative (1 Q)

10-point Likert scale from 1: Liberal to 10: Conservative

169. What do you identify as?

Social Dominance Orientation (16 Q)

7-point Likert scale from 1: Strongly Disagree to 7: Strongly Agree

How much do you agree or disagree with the statements below?

170. Some groups of people are simply inferior to other groups.
171. In getting what you want, it is sometimes necessary to use force against other groups.
172. It is OK if some groups have more of a chance in life than others.
173. To get ahead in life, it is sometimes necessary to step on other groups.
174. If certain groups stayed in their place, we would have fewer problems.
175. It is probably a good thing that certain groups are at the top and other groups are at the bottom.
176. Inferior groups should stay in their place.
177. Sometimes other groups must be kept in their place.
178. It would be good if groups could be equal.
179. Group equality should be our ideal.
180. All groups should be given an equal chance in life.
181. We should do what we can to equalize conditions for different groups.
182. Increased social equality.
183. We would have fewer problems if we treated people more equally.
184. We should strive to make incomes as equal as possible.

185. No group should dominate in society.

Hopefulness for the Future (7 Q)

Yes/no, open-ended

186. Can you think of a conflict (ethnic, political, religious, territorial, etc.) in your home country?

Yes: Continue, No: End survey

187. On a scale from 1 to 10, where 1 is the least and 10 is the most, what would you say is the current level of conflict in your home country?
188. If there are several conflicts in your home country, please think of one in particular. Who are the main actors in the conflict?
189. How likely (out of 100%) do you think it is that this conflict will be solved within the next 5 years?
190. How likely (out of 100%) do you think it is that this conflict will be solved within the next 20 years?

Submit survey.

Thank you for completing this survey.

APPENDIX G IRB approval # **1204P13562**

INTERVIEW CONSENT FORM

Because you are a student at RCNUWC you are invited to complete a survey focusing on intergroup interactions and peace education. The study is voluntary. Please read this form carefully before agreeing to take part in the study.

Background information:
This study is my doctoral dissertation study for the University of Minnesota. The purpose of the study is to investigate how you and your fellow students develop during your years at RCNUWC. My goal is to explore the benefits of a multicultural peace education, and the benefits of students of 86 different ethnic, religious, and cultural backgrounds living and studying together for two years.

Procedure:
If you agree to take part in the study, you will meet with me, Susanne Gabrielsen, for an interview, which will last 30 minutes. I will ask you open-ended questions about your home country, and your values and opinions about conflict. Some questions will ask about your personal attitudes and values. An example question is "Tell me about a time someone trusted you." There are no right or wrong answers to these questions, so please answer each question as honestly as possible. The interview will be recorded to ensure accurate transcription of your responses. Please indicate if you are not comfortable with being recorded, in which case I will take notes of your responses.

I realize that few of you call English your first language and some questions may be confusing to you. Answer each question to the best of your ability.

In April or May 2014 I will contact you to conduct a follow-up interview, which will last 30 minutes. Because the study is conducted over time, your participation at both time points is extremely important and valuable to me.

Risks and benefits:
This study involved minimal risk. The survey includes questions about race/ethnicity and religious affiliation. There are no direct benefits to participation. You will not receive payment for your participation in this study.

Voluntary nature of the study:
This study is entirely voluntary. You are free not answer questions or to quit the survey at any time. Doing so will in no way affect your relationship with the school.

IRB approval # **1204P13562**

Confidentiality:
The records of the study will be kept private. In any sort of report I make public, I will not include any information that will make it possible to identify you. Hard copy research records will be stored securely in a locked filing cabinet and electronic research records will be stored on the University of Minnesota Department of Psychology's secure server, password protected. Only my research collaborators and I will have access to records.

Confidentiality continued:
I will process the data at the University of Minnesota, pending approval from the University of Minnesota Institutional Review Board. Data will be transmitted according to the European Union Data Protection Directive.

Contacts and questions:
The study is conducted by Susanne Gabrielsen (supervised by Dr. Mark Snyder), Department of Psychology, University of Minnesota, with permission from Haugland Internasjonale Forsknings- og Utviklingssenter (HIFUS), and from Red Cross Nordic United World College.

If you have any questions about this study or about the survey you are about to begin, you are encouraged to contact me:

Susanne Gabrielsen
N331 Elliott Hall
75 East River Road, Minneapolis MN 55455
+1 (612) 594-9494
gabri153@umn.edu

If you have any questions or concerns regarding the study and would like to talk to someone other than the researcher, you are encouraged to contact the Research Subjects' Advocate Line, D-528 Mayo, 420 Delaware Street SE, Minneapolis, MN 55455, at (+1) 612-625-1650, or at irb@umn.edu. You may also contact Norway's National Committee for Research Ethics in the Social Sciences and the Humanities (NESH) at post@etikkom.no or at (+47) 23 31 83 02.

Please keep this information for your records.

APPENDIX G (cont'd) IRB approval # **1204P13562**

INTERVIEW CONSENT FORM (T4)

Interview consent forms for Time 4 will be replicates of the consent form for T1, save for two paragraphs that will be deleted:

I realize that few of you call English your first language and some questions may be confusing to you. Answer each question to the best of your ability.

In April or May 2014 I will contact you to conduct a follow-up interview, which will last 30 minutes. Because the study is conducted over time, your participation at both time points is extremely important and valuable to me.

APPENDIX H

Interview Questions

Note: Differences between 2011-2013 and 2012-2014 interviews are noted in brackets.

Where are you from?
What is your age?
[2011-2013: What is your gender?]

[2012-2014: Tell me a little bit about yourself.]

Why did you decide to come to UWC?

[2011-2013: Are there any conflicts in your home country?]
[2011-2013: How is the conflict handled by the government and/or the people?]
[2011-2013: What do you think is needed for the conflict to be solved?]
[2011-2013: How hopeful are you that the conflict one day will be solved?]
[2011-2013: Are you part of any sorts of reconciliation efforts?]
[2011-2013: How much do you know about conflicts in the rest of the world?]

[2012-2014: Which people here do you feel closest to, and where are they from?]
[2012-2014: Why do you think that is?]

[2011-2013: What does peace education mean to you?]
[2011-2013: So some of the things that are included in peace education are World Today, Global Concerns, Model United Nations. How much do you think you'll participate in these events here at RCN?]

[2011-2013: What is peace?]
[2011-2013: What is conflict?]
[2011-2013: When there is a conflict, what is needed to solve it?]
[2011-2013: What is multiculturalism?]
[2011-2013: What is trust?]

[2012-2014: Tell me about a time someone trusted you.]
[2012-2014: How about a time when you trusted someone else?]
[2012-2014: How trusting would you say that you are?]

Why do people trust each other?

[2012-2014: Is being trusting a/an … (nationality) thing?]

[2011-2013: What is empathy?]

[2012-2014: Tell me about a time when you felt empathy toward someone.]
[2012-2014: How empathetic would you say that you are?]

Do you think empathy is important? Why/why not?

[2012-2014: Is being empathetic a/an … (nationality) thing?]
[2012-2014: If you had to choose one of them as more important, which would you choose: trust or empathy?]

[2012-2014: Can you think of a time at home (Time 1)/at RCN (Time 4) when you were involved in a conflict? Tell me how you solved it.]

[2012-2014 Time 1: How do you think you will change during your two years at RCN?]
[2012-2014 Time 4: How have you changed during these two years at RCN?]

[2012-2014: That was my last question. Is there anything that you would like to add?]