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More than just virtual communication: Examining Canadian volunteers' virtual contact experiences with refugees

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Abstract

Canada plays a key role in addressing the 'global refugee crisis' as it accepts more refugees per capita than any other country. Although Canadians increasingly view support for immigration and multiculturalism as integral components of their national identity, the number of immigrants and refugees Canada accepts yearly is an increasingly polarized issue. In line with the Intergroup Contact Hypothesis, the current study investigated how Canadian volunteers' repeated virtual contact experiences with refugees affected their generalized attitudes towards refugees over time. Our findings did not suggest that the quality and quantity of participants' virtual contact experiences affected their attitudes. The findings did suggest, however, that potentially related variables, such as feelings of intergroup anxiety, were associated with the volunteers' generalized attitudes. The implications of the results, and suggestions for future research, are discussed.

Keywords

Summary for Lay Audience

In 2021, the UNHCR reported that there are more than 84 million forcibly displaced people around the world, of whom more than 30 million are refugees and asylum seekers. Due to the global pandemic, climate disasters and recent armed conflicts, this number is expected to continue increasing for the foreseeable future (UNHCR, 2022). In Canada, successful refugee integration relies heavily on publicly funded resettlement programs, highlighting the importance of public support for refugee resettlement. Although Canadians increasingly view support for immigration and multiculturalism as integral components of their national identity (Environics, 2019), the number of immigrants and refugees Canada accepts yearly is an increasingly polarized issue (Environics, 2019). Given that the global refugee crisis is projected to worsen in the years to come (UNHCR, 2022), it is important to address negative misconceptions about refugees so that people continue to support programs and services aimed at helping refugees in Canada. As such, my thesis examines repeated virtual contact experiences over a 6-month time span between Canadian volunteers and refugees, and their potential associations with generalized attitudes towards refugees. To examine this association, volunteers involved in a matching program with refugees were surveyed at multiple time points throughout their time in the program. These results were then compared to a comparison group consisting of participants with no involvement in a matching program with refugees. We predicted that the volunteers' either positive or negative experiences in the program would have a significant association with their generalized attitudes towards refugees as assessed when the program was complete. In addition, we predicted that the volunteers' attitudes would differ when measured before and after their involvement in the matching program, while there would not be any notable changes for the participants in the comparison group. Although we did not find any changes in the volunteers' attitudes towards refugees from before to after the program, the overall results suggest that established Canadians hold overall favorable attitudes towards refugees. As such, the positive preexisting attitudes towards refugees of the volunteers in the matching program remained consistent despite varying experiences in the program.

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1   Introduction

There is currently an unprecedented number of people fleeing persecution, war, and conflict, with 30 million refugees and asylum seekers around the world in 2020, and this number is expected to continue increasing for the foreseeable future (UNHCR, 2021). According to the 1951 United Nations Refugee Convention, a refugee is defined as "*a person who is unable or unwilling to return to their country of origin owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion*" (U.N., Treaty Series, vol. 189, p. 137). A person seeking refuge is considered a refugee claimant or asylum seeker until they are recognized as a convention refugee by the UNHCR or by the receiving country. The distinction between convention refugees and asylum seekers is often blurred and unknown by the public; consequently, they are often viewed and treated similarly (Esses et al., 2017).

The coronavirus pandemic in 2020 and 2021 has caused tremendous suffering on a global scale. According to a recent report by the UNHCR (2021), the COVID-19 pandemic affected refugee populations disproportionately in several ways. Besides the significant health threats, limited testing, and limited access to vaccinations, refugees and forcibly displaced people around the world also faced economic and social challenges. For example, during the peak of the pandemic in 2020, more than 168 countries either fully or partially closed their borders and at least 100 did not make exceptions for asylum claims. This has had a significant impact on the already challenging situation of refugees and refugee claimants. As such, now more than ever, countries worldwide must work to find effective and sustainable solutions to resettle and integrate refugees.

As a nation, Canada plays a key role in addressing the 'global refugee crisis' as it accepts more refugees than any other country (UNHCR, 2019), with the capacity to resettle even more (IRCC, 2020). Although Canadians view support for immigration and multiculturalism as integral components of their national identity (Environics, 2020),

opinions on immigration and refugee resettlement tend to be polarized among the public (Environics, 2020). In addition, there is significant evidence suggesting that feelings of perceived threat among the receiving community may trigger negative attitudes and behaviors towards refugees (e.g., Esses et al., 2017; Murray & Marx, 2013; Riek et al., 2006).

Feelings of threat may be caused by a number of factors, such as perceived competition for employment opportunities, perceived health threat, and perceived threat to one's cultural or religious values. Research also suggests that perceived threat may be associated with reduced support for programs and policies aimed at helping refugees (see e.g., Chiricos et al., 2014; Cowling et al., 2019; Esses et al., 2001). Similarly, recent research investigating the impacts of the COVID-19 pandemic suggests that there is a general increase in uncertainty, lack of control and perceived threat that likely caused an increase in anti-immigration attitudes (e.g., Esses & Hamilton, 2021). These trends have been noticed in Canada as the number of police reported crimes motivated by hatred of a race or ethnicity are at an alarming high. A recent report indicated that hate crimes in Canada increased by 37% in just the first year of the pandemic, largely due to an increase in incidents targeting visible minorities (Statistics Canada, 2022). While there is no explicit evidence that these targets have been singled out due to their immigration status, the intersection of immigration status, ethnicity and race is often blurred. As such, given that many immigrants and refugees in Canada identify as belonging to a visible minority group (Statistics Canada, 2017), this may make them increasingly vulnerable to be targets of such crimes.

Although some people may feel threatened by the idea of refugees resettling in their community (Esses et al., 2017), extensive research suggests that continued, positive, intergroup contact can mitigate these prejudices (Pettigrew & Tropp, 2006). Some studies have examined determinants of negative attitudes towards refugees (Esses et al., 2017; 1998; Stephan et al., 2005), as well as intergroup contact as a method of facilitating positive cross group attitudes (Pettigrew & Tropp, 2008; Tropp et al., 2018). As such, in this thesis project I examine repeated virtual contact experiences during a 6-month time span between Canadian volunteers and refugees, and their potential associations with

generalized attitudes towards refugees. To examine this association, volunteers involved in a real-world matching program with refugees were surveyed at multiple time points throughout their time in the program. The participants' virtual contact experiences during the matching program and the potential associations and changes to generalized attitudes towards refugees were examined. These results were then compared to a comparison group consisting of participants with no involvement in a matching program with refugees.

1.1   The importance of welcoming communities

Although the premigration and migration experiences of refugees are often associated with severe physical and psychological hardships, new challenges emerge during the integration process. Further, the extent to which a refugee can integrate into the receiving society is largely influenced by the social policies and programs in place in the receiving community. What defines successful refugee resettlement and integration is often related to their access to resources and opportunities, and feelings of social inclusion and belonging in the community (e.g., Hynie et al., 2016,). Feelings of social inclusion and belonging are positively associated with perceived social status and feelings of being welcomed within a community. Similarly, feelings of belonging or social inclusion are negatively associated with experiences of discrimination and feelings of isolation (Hynie et al., 2016). Research suggests that both experiences of discrimination and perceptions of discrimination are linked to significant negative outcomes for both the newcomers themselves and receiving societies (Esses, 2021). Some of these negative outcomes include unemployment and underemployment in the local area (e.g., Reitz et al., 2014), mistrust in others (Wilkes & Wu, 2019) and negative mental health outcomes such as, lower perceived life satisfaction (e.g., Houle & Schellenberg, 2010). As such, the receiving community plays an essential role in laying the foundation for creating a place where refugees feel welcomed, as 'welcoming communities' – defined as "a collective effort to create a place where individuals feel valued and included" (Esses et al., 2010) – are essential for successful integration. Specifically in Canada, refugee resettlement and integration largely rely on publicly funded programs that are implemented at the local

level (IRCC, 2020), thus highlighting the importance of fostering welcoming and accepting communities.

Of importance, I will first briefly introduce the current perceptions and attitudes towards refugees, asylum seekers and refugee integration in Canada. Next, I provide an overview of the research literature on intergroup contact theory and virtual contact, focused on the ways in which such intergroup contact may facilitate more positive attitudes towards refugees. I then discuss the methodology and findings of this project. I close with a discussion of the implications of these findings and how virtual intergroup contact in this context may serve as an effective method of refugee integration, thus fostering a more welcoming receiving society.

2   Literature review: Public opinion on refugees

A recent Ipsos poll that surveyed more than 17,000 adults across 26 countries (including Canada) revealed that there seems to be a global consensus that seeking refuge in another country is a human right, as approximately seven in ten (72%) people globally agreed with that statement (Ipsos, 2020). However, approximately 60% of people globally think that individuals seeking refuge are not genuine and approximately 49% believe their country's borders should be closed entirely to refugees during the pandemic. In addition, the poll revealed that people think their country should welcome fewer refugees now compared to before the COVID-19 outbreak. Among Canadians, when asked if "*people should be able to take refuge in other countries, including in Canada, to escape from war or persecution,*" 77% agreed very much or somewhat, ranking Canadians above the global average on this measure (Ipsos, 2020). Similarly, when Canadians were asked whether individuals who seek refuge are not genuine, 44% strongly agreed or somewhat agreed with the statement "*Most foreigners who want to get into my country as a refugee really aren't refugees. They just want to come here for economic reasons, or to take advantage of our welfare services,*" thus ranking Canadians lower than the global average of 60% who agreed or somewhat agreed with that statement (Ipsos, 2020).

Conversely, when compared to attitudes towards other migrant groups, research suggests that refugees tend to be viewed more favorably among the public. However, asylum seekers tend to be viewed less favorably than refugees. This is likely due to misconception of illegitimate asylum seekers, while refugees may be perceived as more in need of resettlement and public assistance (Dempster, Leach & Hargrave, 2020).

In Canada, in the context of the pandemic, 44% of Canadians wanted a "more open country" for welcoming refugees post pandemic and 66% wanted a "less open country," compared to pre pandemic. However, Canadians seem to be more welcoming now than in the previous years as 45% think that refugees will successfully integrate, which is up significantly since 2019 (Ipsos, 2020). In line with this trend, a recent Environics focus poll conducted in September 2020 revealed that Canadians are overall more accepting of refugees than in the previous four years (Environics, 2020). However, what exactly drives these trends in the past year is not completely clear. A division exists along regional, political, and generational lines, with individuals with lower education, those who are more supportive of the Conservative Party, and those who reside in rural areas less welcoming of immigrants and refugees in Canada (Environics, 2020). In addition, recent research conducted during the summer of 2020 suggests that a sense of community connectedness and helping behaviors increased during this time, likely due to the unprecedented levels of uncertainty in communities (e.g., Anderson, 2021).

2.1   Individual drivers of attitudes toward refugees

What drives people's attitudes towards refugees and refugee claimants? The literature surrounding attitudes towards refugees and migrants in general suggests that there are both individual factors and contextual factors that serve as key drivers for shaping these opinions. On an individual level, individual characteristics such as personality type, political attitudes and ideology, education level, and previous experiences are known to shape attitudes towards migrants (e.g., Dennison & Dražanová, 2018; Esses, 2021). For example, some research has found that individuals who are politically more conservative, express a stronger sense of nationalism, and are less educated are likely to hold more negative attitudes toward refugees compared to their counterparts (e.g., highly educated,

politically more liberal, and less nationally identified) (e.g., Anderson, 2018; Cowling et al., 2019). Demographic variables such as gender and age have also been identified as significant predictors of attitudes towards refugees and refugee claimants, as individuals who are older (McKay et al., 2012) and identify as male (Cowling et al., 2019) tend to hold more negative attitudes. In terms of personality types, research suggests that higher levels of openness and agreeableness are positively associated with more favorable attitudes towards refugees (Talay & De Coninck, 2020). In addition, research suggests that people high in social dominance orientation (SDO) – individuals' desire for one's social group to dominate other groups that are considered inferior (Pratto et al., 1994) – tend to hold more anti-immigration attitudes (e.g., Danso et al., 2007; Esses, 2021). Literature suggests that higher levels of right wing authoritarianism (RWA) are associated with more negative attitudes towards immigrants and refugees (Craig & Richeson, 2014; Peresman et al., 2021), specifically towards groups who are perceived as cultural threats (Duckitt, 2006).

2.2   Perceptions of threat and competition

There are several theoretical frameworks that have been applied to examine perceptions of threat and how they may contribute to negative attitudes toward refugees. For example, the Integrated Threat Theory explores predictors of negative attitudes towards social outgroups, and it has been examined in the context of attitudes towards immigrants and refugees (e.g., Stephen & Stephen, 1985; Stephen et al., 2005). The Integrated Threat Theory involves two types of perceived threats: realistic threats (a person's physical, mental, and financial well-being) and symbolic threat (a perceived threat to one's culture, values, and traditions; Stephen & Stephen, 2000). The perceptions of threat, whether realistic or symbolic, are caused by a number of factors such as prior or current intergroup relations and contact experiences, individual characteristics, and personality traits, as well as various situational factors (e.g., perceived competition). These perceptions are significant as they may arouse powerful negative emotions such as anger or fear which can activate negative behavioral responses towards the outgroup (Stephen et al., 2005). Similarly, the Instrumental Model of Group Conflict suggests that prejudice and discrimination stem from the combination of situational factors (i.e., limited

economic opportunities or other situations) and personal beliefs and ideologies (e.g., strength of group identification) which contribute to perceived competition between groups and an increased perception of threat (Esses et al., 1998; 2005). In the context of refugees, public opinion polls in the last decade have suggested that fear of violence and crime are linked to feelings of perceived threat from refugees. For example, a Pew Research Poll (2016) revealed that people in several countries think that some refugees and refugee claimants are illegitimate and that they bring violence and crime with them to their host countries.

2.2.1 Media portrayal of refugees

These perceptions of illegitimacy are often fueled by media depictions and political rhetoric as some research suggests that media coverage of refugees often promotes uncertainty and perceptions of illegitimate migration, portraying refugees as threats to the public (e.g., Esses et al., 2013). In addition, refugees and refugee claimants are often portrayed as competitors to the general public for resources, such as employment opportunities, social assistance and healthcare (Esses et al., 2013, 2017). Another common type of media depiction surrounding refugees promotes a refugee identity of helplessness and dependency on humanitarian agencies and aid. These depictions not only strengthen the refugee stereotype of "a helpless victim" but may also have a dehumanizing effect (e.g., Esses et al., 2013, 2017; Kotzur et al., 2019). An example of these types of negative media depictions are demonstrated by researchers in their examination of the media portrayal in Canada of the arrival of Tamil refugees (Bradimore & Bauder, 2012). The research suggested that the media coverage was overall negative emphasizing criminality and terrorism. Further, the discussion in the media following the arrival focused largely on security issues, rather than human rights or the welcoming of these refugees (Bradimore & Bauder, 2012).

Perceptions of legitimacy are an important determinant of attitudes toward refugees and asylum seekers as recent research has demonstrated that media depictions and political rhetoric on this issue may have significant effects on the public perceptions (e.g., Dennison & Dražanová, 2018) . In addition, research suggests that these stereotypes and

dehumanizing portrayals of refugees do not go away after resettlement. Rather, these perceptions have significant negative effects on the refugees themselves and the integration process (e.g, Esses et al., 2017; Hynie, 2018; Hynie et al., 2016). For example, the negative stereotypes and dehumanizing beliefs about refugees may lead to decreased support for programs and policies aimed at helping refugees (Esses et al., 2008; Esses, 2021).

As it is known that negative media depictions influence the dehumanization of refugees and asylum seekers, there has also been some research investigating the impacts of positive media coverage. For example, a study conducted by Gaucher, and colleagues (2018) examined the Canadian public's attitudes towards refugees in light of the positive media coverage and political language by the Liberal government in response to the Syrian refugee crisis in 2015. Hashtags such as *#welcomeRefugees*, news stories that emphasized "*the Canadian identity*" as inclusive and welcoming, as well as actively engaging the Canadian community in assisting the newly arrived refugees was emphasized in all forms of Canadian media. The study revealed a significant increase in positive attitudes and perceptions of refugees among the public at this time, especially among those who were high in system justification (i.e., those who are especially likely to support and defend the legitimacy of the status quo; Jost & Banaji, 1994).

2.2.2   Disease avoidance

Another perception of threat that is important to mention is threat associated with disease avoidance. Research suggests that concerns about disease and health threats are associated with less support for foreign outgroups or unfamiliar immigrants (Faulkner et al., 2004). This theory has since been examined in the context of the COVID-19 pandemic. For example, a recent study done in Japan found that as infection prevention behaviors increased, so did exclusionary attitudes towards foreigners (Yamagata et al., 2020). Similarly, a study done in the UK in February 2020 (when COVID-19 first reached the UK) found that previous intergroup contact experiences with Chinese people significantly predicted the extent to which people felt threatened in the context of the pandemic, which in turn predicted individuals' support for discriminatory policies towards Chinese people in the UK (Alston et al., 2020).

Although the COVID-19 pandemic is not over and we do not know for certain whether there is a causal effect of the pandemic on prejudicial attitudes towards refugees, recent research suggests that the combination of uncertainty, increased feelings of various forms of threat (i.e., economic, safety, and health) and the lack of control will likely have effects on attitudes toward immigrants (Esses & Hamilton, 2021). Similarly, a survey investigating the role of national attachment and perceptions of threat on attitudes towards immigrants and immigration among Canadians in August 2020 suggested that higher levels of nationalism, lower levels of patriotism, and higher levels of perceived economic threat (both on a national and individual level), predicted more negative attitudes towards immigrants (Esses et al., 2021).

Conversely, there is preliminary evidence suggesting that the COVID-19 pandemic may not necessarily mean that attitudes towards refugees will become more negative (Adam-Troian & Bagci, 2021). For instance, research suggests that when faced with a common threat or danger (e.g., COVID-19 pandemic) people have a natural tendency to work collaboratively and express more helping behaviors (Adam-Troian & Bagci, 2021; Bavel et al., 2020; Mawson, 2005). Further, sharing a *common victim identity* among groups (i.e., members of different groups identify with a common sense of 'victimhood' of a common threat) has been shown to decrease the perception of intergroup competition and threat (Flade et al., 2019; Vollhardt, 2015). In addition, literature suggesting that the COVID-19 pandemic serves as a common threat on a global scale indicates that there are numerous examples of global collaboration, such as sharing medical supplies across borders, vaccination programs, etc., which increases the saliency of a unified and collaborative group identity (Bavel et al., 2020).

Drawing on this theory and examples of cooperation, Adam-Troian and Bagci (2021) examined the association between the perception of COVID-19 threat and attitudes towards refugees among a Turkish population. Interestingly, they found evidence for both more positive attitudes and more negative attitudes. Specifically, higher perceived COVID-19 threat was related to increased feelings of threat towards refugees, which was associated with less positive attitudes. On the other hand, individuals who more strongly identified as 'COVID-19 victims' were more likely to have more positive attitudes

towards refugees and more helping tendencies. While this evidence is somewhat contradictory, it provides an interesting perspective on the potential effects of COVID-19 on immigration attitudes, especially those concerning refugees.

3   Literature review: Intergroup Contact Theory

While much research surrounding attitudes towards refugees and asylum seekers focuses on perceptions of threat and its association with prejudice, the common proposed solution to reducing these group tensions is positive intergroup contact. The original contact hypothesis (Allport, 1954) suggested that repeated, positive, direct contact between group members reduces group boundaries and enables more positive intergroup relations. In addition, Allport (1954) proposed four conditions that need to be met in order to optimize the positive effects of this intergroup contact:

1. *Equal Status*: Any status differences between the members of the different groups should be minimized as much as possible.
2. *Common goals*: There should be a common goal that the members of the different groups work towards.
3. *Intergroup cooperation*: similar to the common goal, the group members should work together in a non-competitive manner.
4. *Support of authorities, laws, or customs*: Intergroup contact should be supported by laws, policies, and authority figures.

The conditions for optimal contact proposed by Allport (1954) have been investigated extensively through research and have received considerable empirical validation (e.g., Dovidio et al., 2017; Pettigrew, 1998; Pettigrew & Tropp, 2006). For example, a meta-analysis including over 500 studies investigated direct intergroup contact and demonstrated its effect on reducing negative intergroup attitudes (Pettigrew & Tropp, 2006). Of importance, the results demonstrated that the optimal conditions set by Allport (1954) are not essential but may enhance the positive effects of contact when present. In addition, the intergroup contact hypothesis has been examined within the context of interethnic contact and mitigating prejudice toward ethnic minority groups and immigrants. For example, Tropp et al. (2018) investigated whether contact experiences influenced more welcoming tendencies towards immigrants (Mexicans and Indians)

among established Americans in two metropolitan areas (Philadelphia and Atlanta) in the U.S. With a total sample of 2,006 participants, their findings suggested that more positive (quality) contact experiences with immigrants contributed to more welcoming tendencies, as well as feelings of being welcomed among the immigrants. In line with these findings, De Coninck and colleagues (2020) investigated the extent to which indirect and direct intergroup contact between long term residents and refugees in four European countries (Belgium, France, the Netherlands, and Sweden) impacted attitudes toward refugees. The study revealed a positive relationship between intergroup contact and attitudes towards refugees. Of importance, the perceived quality of direct contact was found to be a more significant predictor than frequency when it comes to attitude formation.

In addition, Pettigrew and Tropp (2008) compiled more than 500 studies, specifically examining the most studied mediators in intergroup contact research. This meta-analysis revealed that 1. *reduced intergroup anxiety* and 2. *increased empathy or perspective taking,* are significant mediators when it comes to optimizing the positive effects of contact and reducing prejudice. Similarly, *cross-group friendship* has been labeled as an important variable as it facilitates positive interactions between groups (i.e. 'more friendly or higher quality' interactions), reduces intergroup anxiety (Page-Gould et al., 2008a; Stephan & Stephan, 1985), increases knowledge about the outgroup, and increases empathy and understanding (Pettigrew & Tropp, 2008). In situations where close friendship is formed, the literature suggests that it may enable increased perspective taking and empathy towards the outgroup, while reducing any feelings of intergroup anxiety in the process (Page-Gould et al., 2008b).

3.1 The role of intergroup anxiety and empathy

The literature suggests that general feelings of uncertainty and anxiety among the public may lead to feelings of threat which in turn can encourage people to engage in more anti-immigrant behaviors (e.g., Hogg, 2014). Similarly, feelings of uncertainty regarding government policies on immigration and refugee resettlement may cause increasingly polarized attitudes among the public – either more negative or more positive shifts (Hynie, 2018). Given these research findings, it is to no surprise that feelings of intergroup anxiety have been shown to reduce any positive effects of intergroup contact. Further, interactions with outgroup members may cause increased intergroup anxiety which can lead to negative contact experiences, thus negatively influencing perceptions of future contact situations (Stephan & Stephan, 1985). Relatedly, Murray and Marx (2013) found that when people felt anxious about interacting with refugees, they are less supportive of policies aimed at helping refugees and hold less positive attitudes toward them. A study involving refugees in Australia demonstrated that individuals who reported having contact with refugees experienced more positive contact interactions, which had a direct association to less prejudicial attitudes, compared to those who reported no contact experiences or uncertainty about who refugees are (Turoy-Smith et al., 2013).

In addition to reduced feelings of anxiety towards the outgroup, increased feelings of empathy are also a key element for enhancing the positive effects of intergroup contact (Pettigrew & Tropp, 2008). Feelings of empathy or perspective taking are often described as the extent to which someone is able to, or willing to, imagine the thoughts or feelings of others in their particular situation (Todd & Galinsky, 2014). In the context of attitudes toward refugees, feelings of empathy may be elicited as refugees are often associated with the discussion of humanitarian aid and helplessness (Hynie, 2018). The positive effect of empathy on attitudes toward refugees and refugee claimants was found in an Australian study focusing on these relations (Pedersen & Thomas, 2013). In addition, charitable organizations and programs often appeal to empathic feelings in the hope that it encourages people to donate and volunteer (Johnson, 2011). While this tactic is beneficial for supporting charitable causes, it may reinforce the stereotype of a "helpless migrant", as seen in mainstream media (e.g., Esses et al., 2013, 2017).

3.2   What if the contact experiences are negative?

As positive contact experiences can have significant effects on reducing prejudice toward an outgroup, research suggests that negative contact experiences can have the opposite effect – that is, negative contact experiences may increase prejudice or reinforce pre-existing negative assumptions (e.g., see Barlow et al., 2012; Paolini & McIntyre, 2019; Schäfer et al., 2021). In addition, research on both negative and positive contact experiences suggest that there is no consensus on whether the negative effects of negative contact experiences or the positive effects of positive experiences yield a stronger effect as some studies have found a stronger effect from negative contact experiences (e.g., Barlow et al., 2012; Paolini & McIntyre, 2019), while other studies have found no significant strength difference (e.g., Árnadóttir et al., 2018; Schäfer et al., 2021). Further, there are several factors that influence the strengths of these effects such as prior contact experiences (Paolini et al., 2014) and expectations or stereotypes (Zingora et al., 2020). Recent research has suggested that, particularly in real world settings, the effects of negative contact experiences may be particularly relevant to examine as it is more challenging to achieve optimal contact conditions, and what defines a positive or negative experience may be difficult to interpret on an individual level (Schäfer et al., 2021). In addition, research has demonstrated that in real world settings, positive intergroup contact occurs more frequently than negative contact (Pettigrew et al., 2011).

Research investigating specifically negative contact experiences has largely focused on key factors contributing to the negative experience, such as disagreement or social discomfort on an individual level (e.g., Wright et al., 2017). For example, Barlow and colleagues (2012) investigated how perceived contact quality affected prejudice toward Black Australians, Muslim Australians, and refugee claimants. They found that while both positive and negative contact experiences significantly predicted racism and avoidance (i.e., positive contact experiences predicting less racism and avoidance while negative contact experiences predicted more racism and avoidance) though in different directions, it was negative contact experiences that served as a stronger predictor – negative contact experiences significantly predicted higher levels of racism and prejudice

toward the groups. Similarly, research suggests that relying on spontaneous intergroup contact may be counterproductive as factors that are associated with negative contact experiences, such as perceived discrimination towards one's group, is associated with unwillingness to engage in contact with members of the other group (Pettigrew & Tropp, 2006). For example, Tropp (2007) found that when Black Americans perceived discrimination toward their group, they were less likely to experience friendly contact with White Americans. In addition, a study found that in an area where a large number of refugees stayed only for short amounts of time (e.g., areas close to refugee camps) and interactions with the receiving community were inconsistent and short, negative views of refugees increased among the residents of the receiving community (Hangartner et al., 2019).

3.3   Indirect intergroup contact

Researchers have extended the contact hypothesis to examine various forms of both direct and indirect contact (e.g., Lemmer & Wagner, 2015; Pettigrew et al., 2011; Pettigrew & Tropp, 2006; Tropp et al., 2018; Wright et al., 2017). Perhaps the most studied indirect form of contact relates to the extended contact hypothesis, which suggests that people who know of a friendship between an ingroup and outgroup member may develop more positive attitudes toward the outgroup compared to people without such awareness (e.g., Gómez et al., 2018; S. Wright et al., 1997; S. C. Wright et al., 2009). For instance, De Tezanos-Pinto et al. (2009) discovered that both indirect and direct contact in diverse classroom settings influenced the social norms and improved attitudes towards the outgroup members (in this case, ethnic minority students). The results of this study support the general ideas of the extended contact hypothesis, demonstrating that the effects of intergroup contact are not limited to the physical interaction with an out-group member. Similarly, Wilson-Daily et al. (2018) found that students belonging to an ethnic majority group who attended schools with a higher proportion of students belonging to an ethnic minority had more positive attitudes towards immigration than students from very ethnically homogenous schools. Another form of indirect contact is *imagined contact*, which involves people actively imagining positive contact situations. While the effects of imagined contact have not been widely

examined, the literature suggests that imagined contact may somewhat reduce negative attitudes towards outgroups and could be a beneficial part of programs aimed at reducing intergroup prejudices (e.g., Harwood et al., 2013). Similarly, potential effects of *vicarious contact,* or engaging in contact that involves observing an out-group member via some form of medium, have been mostly examined through experimental studies of various forms of media exposure and television shows (e.g., Schiappa et al., 2005). This research has shown that this type of exposure may have the ability to influence people both consciously and unconsciously (Mazziotta et al., 2011).

3.3.1 Virtual contact

Perhaps the most recent form of indirect contact, and of direct relevance to the current study, is virtual contact and its potential for mitigating intergroup tensions. Virtual contact involves computer-mediated communication that facilitates interaction among individuals (Lemmer &Wagner, 2015). Given the nature of human social interactions in the 21st century, this form of contact is receiving increased attention within the contact literature.

A recent meta-analysis examined 23 studies involving online or virtual contact and revealed that this is an effective method of improving intergroup relations (Imperato et al., 2021). The studies involved various minority and majority target groups including those based on religious affiliation, ethnicity, sexual orientation, and student affiliations. Both spontaneous and experimentally induced forms of online contact were included in the analysis. While the meta-analysis revealed a significant effect of all forms of virtual contact, there was a marginal difference between experimental studies using structured contact programs or interventions, compared to survey studies involving more naturalistic and spontaneous contact. The positive effect was stronger in more naturalistic and spontaneous contact settings, likely due to an increased willingness to engage in contact among the individuals who choose to engage spontaneously.

Virtual contact may also be a valuable option for enhancing the positive effects of intergroup contact as some research has suggested that the online environment allows people to feel less worried and reduces feelings of anxiety (Amichai-Hamburger &

Furnham, 2007). In addition, forms of online communication have been linked to increased self-disclosure between members of different groups, which enhances the development of friendships (Imperato et al., 2021). In addition, in the past two years virtual social interactions have achieved primacy as they served as the main form of human interaction in many parts of the world due to the need to physically distance to avoid the spread of COVID-19. Further, the constant advancements of virtual communications (e.g., video calls, phone calls, text messaging) makes this form of contact an increasingly accessible option regardless of time zone or geographical location.

As outlined thus far, a vast body of literature provides significant evidence of how high quality both direct and indirect intergroup contact experiences with outgroup members can reduce group tensions and improve attitudes toward members of other groups. Although Allport originally outlined several conditions for contact to be effective—such as equal status, common goals, cooperation, and support of authorities—the literature has since demonstrated that these conditions are not necessary for a significant effect, though they may enhance effects (Pettigrew & Tropp, 2006). In addition, the advances of this theory propose significant effects outside the lab in real world contexts (Lemmer & Wagner, 2015) as well as effects of emerging forms of social interaction that we have grown very used to in the past years (i.e., virtual or online contact). Although evidence suggests that the effects of virtual contact may not be as strong as direct face-face contact, the effects are still significant (Imperato et al., 2021).

While the literature surrounding intergroup contact experiences involving native-born individuals and refugees is limited compared to that of other inter-ethnic contact, there is substantial evidence that suggests that intergroup contact could serve as a valuable way of reducing prejudice toward refugees among the receiving communities while subsequently fostering more welcoming communities (e.g., Ghosn et al., 2019; Kotzur et al., 2019). To date, however, there is an absence of research that has investigated the impact of virtual contact experiences between Canadians and refugees. As such, the aim of this thesis project is to examine how involvement in a matching program that pairs established Canadians with refugees for approximately six months of virtual contact

support affects generalized attitudes toward refugees. Specifically, the reported frequency, quality and form of virtual contact are analyzed to determine their association with generalized attitudes towards refugees over time. In addition, the attitudes of those participating in the matching program are compared to a comparison group that has not been part of the matching program. Given that Canada has a significant role in refugee resettlement, the results of this project will 1. Allow for a better understanding of virtual contact and its effects on generalized attitudes toward refugees in the time of the COVID-19 pandemic and 2. Allow for potential contributions to policy work aimed towards enhancing successful refugee integration.

4   Current Research

To better understand the association between repeated virtual contact interactions and generalized attitudes towards refugees and Canadian refugee policies, volunteers from a Canadian resettlement organization in Toronto (the Together Project) were recruited to take part in this study. The Together Project, a charitable initiative of Tides Canada, was established in response to the large number of government assisted refugees being resettled in Toronto at the time of the Syrian refugee crisis starting in 2015. The program matches newly resettled government assisted refugees and refugee claimants with Canadian volunteers for approximately six months of social support. The aim of the matching program is to provide social support to the newcomers and ease the process of integration. As part of the matching program the volunteers form 'welcome groups' consisting of one to five volunteers per group who are then matched with government assisted refugee or refugee claimant individuals or families. The volunteers in a welcome group generally know each other from before as they are encouraged to sign up with friends or family members. However, if a single volunteer wishes to take part in the program they are introduced to other volunteers who then form a welcome group. Once volunteers sign up for the matching program and are a part of a welcome group, they attend a virtual training session to build their capacity to support newcomers in the community. During the match, the typical time commitment for the volunteers is around 3-4 hours a month though they are encouraged to interact with their refugee match

regularly to build better relationships for the duration of the program. At first, volunteers are encouraged to focus on practical ways to help their refugee match, such as language practice, accessing services, tutoring youth as easy ways to start building a social connection. After six months, volunteers are encouraged to stay in contact with their refugee match informally if they wish. Due to the COVID-19 pandemic, the in-person support was shifted to fully online, virtual support in 2020 and 2021.

As such, this study focuses on examining the virtual contact experiences between Canadian volunteers and refugees, and the potential impact of these experiences on attitudes, by surveying a sample of volunteers at multiple time points throughout their time in the program. These results were then compared to a comparison group consisting of participants with no involvement in a matching program with refugees.

The hypotheses are as follows:

(1) It is anticipated that at baseline (Time 1), before their interactions with refugees, volunteers in the Together Project will already have more favorable attitudes towards refugees, refugee claimants, immigrants in general, and refugee policy in Canada compared to the attitudes of the comparison group participants. It is also expected that the Together Project volunteers will at Time 1 have lower levels of intergroup anxiety, higher levels of feelings of empathy for refugees, be more willing to engage in future contact and have more previous contact experiences than those in the comparison group.

(2) It is anticipated that regardless of group, at baseline and six months later, participants who have more favorable attitudes towards refugees will also have more favorable attitudes towards refugee claimants, immigrants in general, and Canada's refugee policy as well as be more willing to engage in future contact with refugees. It is also expected that there will be significant associations between the frequency of prior contact experiences, quality of prior contact, feelings of intergroup anxiety, feelings of empathy for refugees, and overall attitudes towards refugees.

(3) During the program it is anticipated that volunteers who report having more meaningful and cooperative interactions (higher mean scores of optimal contact) will also report lower levels of anxiety and higher levels of empathy for refugees.

(4) It is anticipated that volunteers who report being more satisfied, have more meaningful and cooperative interactions, and lower levels of intergroup anxiety throughout the program will be more willing to engage in future contact with refugees post-program.

(5) It is anticipated that the participants in the comparison group will not see any significant changes from baseline to six months later for any of the variables of interest, and the potential associations between the variables at the end of six months will be similar to those at baseline.

5   Methodology

This research study was approved by the Office of Human Research Ethics at Western University (certificate of approval can be found in Appendix D). All survey responses were collected through Qualtrics online survey software.

5.1.1   The Together Project volunteers

The Together Project participants were recruited with the help of the co-directors of the Together Project. The program volunteers were asked if they would be interested in participating in a study examining their experiences with refugees. If interested (with consent) their email addresses were added to a document that was shared with the researcher. Participants were admitted on a rolling basis between June 2020-January 2021.The researcher then sent a recruitment email with a link to the consent document and survey. If the participants provided their consent, they then proceeded to the first survey of the study. Following the first survey, participants were sent surveys at four additional time points: after the first month of the program (Time 2), after three months (Time 3), after five months (Time 4), and once the program was finished, after approximately six months (final survey/Time 5). Depending on when the participants enrolled in the study, final surveys were sent between January 2021 and July 2021.

Following each submitted survey, participants received a $5 electronic gift card as compensation for their time. After the last survey of the study, participants were debriefed and thanked for their participation. The volunteers in this study were part of welcome groups ranging from 1-4 volunteers matched with government assisted refugee or refugee claimant individuals or families (refugee match family sizes ranged from 1-9 members).

As is typical with longitudinal research, the volunteer sample suffered some attrition by Times 2, 3, 4 and 5. The initial sample of volunteers who completed the Time 1 survey was 81 participants. Only 54 of these individuals also completed the final survey (Time 5), and 33 completed all five surveys (Time 1, 2, 3, 4, 5). As such, the 54 volunteers who completed both Time 1 and Time 5 were analyzed as one sample to determine the potential change from pre- to post-program and compared to the comparison group, and the 33 Together Project participants who completed all 5 surveys were analyzed as a subsample to determine their experiences and the impact of these experiences in the matching program.

Among the 54-volunteer sample, participants reported diverse backgrounds, with 28% of the participants identifying as White, 18.9% as Black, 15.1% as South Asian, 13.2% as Middle Eastern, 7.5% as Southeast Asian, 5.7% as Chinese, and 5.7% as Korean. In addition, 5.7% of participants identified with multiple ethnicities or with an ethnicity that was not listed. Of the participants, 84.9% identified as female, and 15.1% as male. Further, 50.9% of participants indicated that they were born in Canada, while 49.1% were not. Among those not born in Canada, 57% selected economic immigrant as their immigration category, while 23.1% selected family sponsorship, 11.5% selected refugee, and 7.7% selected not listed. Participants were 20-62 years old ($M = 31.61$, $SD = 10.17$).

Among the 33 volunteers who completed all 5 surveys, 87.5% of participants identified as female and 12.5% as male, with an age range of 20-62 years old ($M = 33.41$, $SD = 10.95$). Among the participants in this subsample, 28.1% identified as South Asian, 28.1% as White, 12.5% as Black, 12.5% as Middle Eastern, 9.4% as Southeast Asian, 3.1% as Chinese, 3.1% as Korean, and 3.1% as other or mixed ethnicity. Of these

participants 59.4% indicated that they were not born in Canada while 40.6% were born in Canada. Among those not born in Canada 47.7% indicated being economic immigrants, 31.6% as immigrant sponsored by a family member, 10.5% as refugees, and 10.5% as other/not listed.

5.1.2   Comparison group participants

The comparison group participants were recruited with the help of Forum Research Inc. Forum Research recruited participants from their panel database which is built using random digit dialing. Based on the participant demographics we collected from the Together Project participants at baseline (Time 1), we had gender and age quotas in place to ensure that we got a relatively comparable sample. Similarly, the control group sample consisted of participants located in the Greater Toronto Area. The Time 1 comparison group survey was collected between November 25, 2020 and December 11, 2020. The participants who submitted the Time 1 survey were then re-contacted six months later for the final survey, between May 26 and June 10, 2021 (For the purpose of the study and to remain consistent with the Together Project volunteers' surveys, the survey that the comparison group completed six months later will be referred to as Time 5). These two surveys were identical to the surveys that the Together Project Volunteers completed at Time 1 and Time 5. Similar to the Together Project sample, this sample also suffered some attrition by the final survey. The initial sample for Time 1 was $N = 152$; the final sample was $N = 112$ (73% of the initial sample).

Among the final comparison group sample ($N = 112$), the same demographic characteristics were collected. Regarding self-reported ethnicity, 53.2% of the participants identified as White, 12.6% as South Asian, 8.1% as Black, 8.1% as Chinese, 3.6% as Middle Eastern, and 3.6% as Southeast Asian. In addition, 10.8% of participants identified with multiple ethnicities or with an ethnicity that was not listed. Of the participants, 65% identified as female, and 33.9% as male, with one participant identifying as non-binary. Further, 66.1% of participants indicated that they were born in Canada, while 33.9% were not. Among those not born in Canada, 36.8% selected family sponsorship as their immigration category, 34.2% selected economic immigrant, 2.6%

selected refugee, and 26.3% selected other-not listed. The age range among these participants was 18-65 years old ($M = 39.82$, $SD = 13.87$).

5.2   Measures

This section begins with Tables 1 and 2 that provide an overview of what measures were administered to participants at which time points. Following this, descriptions of each measure are provided. Full details of the scales are provided in Appendix A.

Table 1. *List of measures used at Time 1 and Time 5 – Together Project and comparison group participants*

Measures	Number of items	Possible range	Measure reliability	
			T1	T5
Attitudes towards refugees *	2	1-7	.85	.93
Attitudes towards refugee claimants *	2	1-7	.88	.90
Attitudes towards immigrants *	2	1-7	.87	.86
Attitudes towards Canada's refugee policy	7	1-7	.94	.93
Prior frequency of contact*	2	1-4	.67	.66
Prior contact quality*	2	1-5	.78	.86
Intergroup anxiety	5	1-7	.87	.88
Feelings of empathy for refugees	7	1-5	.69	.68
Willingness to engage in future contact	12	1-7	.94	.95

Note. * Spearman Brown correlation coefficient calculated for two item measures, $p < .001$. Cronbach's alpha calculated for all other measures. Reliability calculated based on the combined sample of Together Project volunteers and the participants in the comparison group (Total N=166)

Table 2. *List of measures at T2, T3, T4 – Together Project participants' subsample*

Measures	Number of items	Possible range	Cronbach's alpha		
			T2	T3	T4
Type of virtual contact	1	N/A			
Frequency of virtual contact in the past month of program	1	N/A			
Contact quality—Level of satisfaction with virtual interactions in past month.	1	1-7			
Optimal contact	5	1-7	.85	.92	.91
Intergroup anxiety*	5	1-7	.86	.82	.85
Feelings of empathy for refugees*	7	1-5	.61	.54	.52

Note. *Variables that were also measured at T1 and T5 (see table 1). Together Project participants sample total N = 33.

5.2.1 General attitudes towards refugees, refugee claimants, and immigrants

To measure general attitudes towards refugees, refugee claimants and immigrants in general, participants were asked to indicate their 'overall attitude towards the following groups (1-extremely unfavorable, 7-extremely favorable)' and 'overall, how positive, or negative do you feel toward the following groups (1-extremely negative, 7-extremely positive): Refugees, Refugee Claimants, Immigrants in General, Indigenous Canadians, French Canadians, Asian Canadians, and Americans. A mean score of the two items for each group was computed. The mean scores for the three target groups of interest were used in the analyses: Refugees, Refugee Claimants, and Immigrants in General.

5.2.2 Attitudes towards Canada's refugee policy

To measure participants' attitudes towards Canada's refugee policy, 7-items using a 7-point Likert scale (1-strongly disagree, 7-strongly agree) were adapted from Esses et al., (2003). Sample items include, *"Refugees should be encouraged to come to Canada"*, "*Refugees are a drain on Canadian resources*", and *"If it were your job to plan Canada's refugee policy, would you increase the number of refugees."* Negatively worded items were reverse coded and a score for each participant was calculated as the average of the 7 items.

5.2.3 Frequency of prior contact experiences

In addition, participants in both conditions were asked at Time 1 and at Time 5 to indicate the extent to which they had previously interacted with people they think are refugees, 1. around their neighborhood and 2. In public places (1- Never, 2- Rarely, 3- Sometimes, 4 - Often). These items were adapted from Tropp et al., (2018). Scores for each participant were calculated as the average of the 2 items.

5.2.4 Contact quality of prior experiences

The reported quality of contact experiences was assessed in two ways. First, similar to the reported frequency of contact, participants at Time 1 who reported having interacted with people they think are refugees were asked to indicate how those interactions felt (1-very unfriendly, 2-somewhat unfriendly, 3-neither unfriendly nor friendly, 4-somewhat friendly, 5-very friendly). Participants who indicated never having interacted with people they think are refugees were not asked about the quality of those experiences. These items were adapted from Tropp et al., (2018). Scores for each participant were calculated as the average of the 2 items.

5.2.5 Intergroup anxiety

Feelings of intergroup anxiety were measured with five items adapted from Hayward et al., (2017), using a 7-point Likert scale (1-strongly disagree, 7-strongly agree). Sample questions include "*When I interact with or think about interacting with refugees, I feel anxious*", or "*When I interact with or think about interacting with refugees, I feel*

uncomfortable". Reverse worded items were reverse coded so that a higher score indicated greater feelings of intergroup anxiety. Scores for each participant were calculated as the average of the 5 items.

5.2.6   Feelings of empathy for refugees

Feelings of empathy were measured with 7 items adapted from the Ethnocultural Empathy scale developed by Wang et al. (2003), using a 5-point Likert scale (1-strongly disagree, 5-strongly agree). Sample questions include '*It is easy for me to understand what it would feel like to be a person who is forced to flee their homeland to escape war, persecution, or natural disaster'* or '*I know what it feels like to be the only person of a certain type in a group of people.'* Negatively worded items were reverse coded so that a higher score indicated greater feelings of empathy for refugees. Scores for each participant were calculated as the average of the 7 items.

5.2.7   Willingness to engage in future contact with refugees

The extent to which participants were willing to engage in future contact with refugees was measured using a 12 item Likert scale (1-not at all willing, 7-extremely willing) adapted from Esses & Dovidio (2002). Sample items include, "*Please indicate your willingness to engage in a range of contact behaviors with a refugee if given the opportunity*: "a*ttend a cultural activity sponsored by a refugee organization*", "*accept a refugee as a work colleague*", or "*visit a refugee in their home*". Scores for each participant were calculated as the average of the 12 items, with a higher score indicating more willingness to engage in future contact.

5.2.8   Type of virtual contact

The Together Project participants were asked at Times 2, 3, and 4 about the type of virtual contact they engaged in. Participants were asked to think back on the past month of the program and rank which method of virtual contact they used most frequently to least frequently. These options included: 1. Text message, 2. Video chat, 3. Phone call, 4. Email, 5. Other. If "Other" was selected participants were asked to specify.

5.2.9 Frequency of virtual contact in the past month of program

The Together Project participants were asked at Times 2, 3, and 4 how frequently they engaged in virtual contact with their refugee match. Participants were asked to think back on the last month of the program and indicate how frequently they interacted with their refugee match virtually (1= 0 times, 2 = 1-2 times, 3 = 3-4 times, 4 = 5 or more times).

5.2.10 Contact quality – Level of satisfaction with the virtual contact experiences during the program

The Together Project participants were asked at Times 2, 3, and 4 how satisfied they felt about their interactions with their refugee match. Participants were asked to think back on the last month of the program and rate to what extent they felt satisfied with the overall quality of the interactions between them and their refugee matches (1-not satisfied at all, 7-extremely satisfied).

5.2.11 Optimal contact

To assess the extent to which the participants in the matching program had "optimal contact" interactions (i.e., the conditions originally set by Allport, 1954), the Together Project participants were asked at Times 2, 3, and 4 to indicate to what extent they felt as though '*a common goal was achieved*', '*meaningful social connections were created*', they were '*able to successfully collaborate on tasks*', and '*the interactions were equally meaningful for the for the volunteer and refugee match*' on a 1 to 7 scale (1-strongly disagree, 7- strongly agree).

6   Results

As mentioned, the data at Time 1 and Time 5 were analyzed to compare the potential differences between the Together Project volunteer participants (N=54) and the comparison group participants (N=112). In addition, to investigate the Together Project volunteers' experiences in the program, data were analyzed from Times 1, 2, 3, 4, and 5 (pre-program, bi-monthly questionnaires during the matching program, and post program) from a subsample of Together Project volunteers who completed all 5 surveys (N=33). As such, the results will be presented in two separate sections: 1. Results focusing on the between (groups) and within participants change from Time 1 and Time 5 based on the sample consisting of the Together Project (N=54) volunteers and the participants in the comparison group (N=112); 2. The results examining the Together Project volunteers experiences in the matching program based on the volunteer sample who successfully completed surveys at all five timepoints (N=33). All data were analyzed using IBM's SPSS Statistics 27.0 and the Jamovi project (2021) software. Prior to analysis, normality was assessed using skewness < 3 and kurtosis < 8 as cut off values as per the recommendations of Kline (2011). The data were additionally assessed to review attention checks throughout.

6.1 Results 1— Between groups and within participant changes from Time 1 to Time 5

To examine if involvement in the matching program had a significant effect on participants' attitudes towards refugees, refugee claimants, immigrants, Canada's refugee policy, as well as feelings of intergroup anxiety, empathy for refugees and their willingness to engage in future contact, a series of 2-by-2 within and between participants ANOVAs were conducted. Independent sample t-tests and paired sample t-tests were conducted as post hoc analyses to determine the between group differences and within participants change from Time 1 to Time 5. In addition, simple bivariate correlation analyses were conducted to examine the associations between the variables for both the Together Project sample and the comparison group at Time 1 and Time 5.

6.1.1   Attitudes towards refugees

A 2-by-2 within and between participants ANOVA revealed a significant interaction of participant group and time on attitudes towards refugees, $F(1,163) = 5.44$, $p=.021$, $\eta p^2 = .032$, as well as a main effect of group, $F(1,163) = 36.40$, $p < .001$, $\eta p^2 = .183$. As hypothesized, post hoc analyses confirmed that the Together Project volunteers reported on average more favorable attitudes towards refugees at Time 1 and Time 5, compared to the comparison group participants (see Tables 3 and 4). In addition, simple main effects analyses using paired samples t-tests indicated that the comparison group participants reported slightly more favorable attitudes towards refugees when asked at Time 5 compared to Time 1, $t(111) = -3.20$, $p =.002$, $d = -.303$ (see Figure 1), which did not support our hypothesis. No significant within participant change was found for the participants in the Together Project group ($p = .569$).
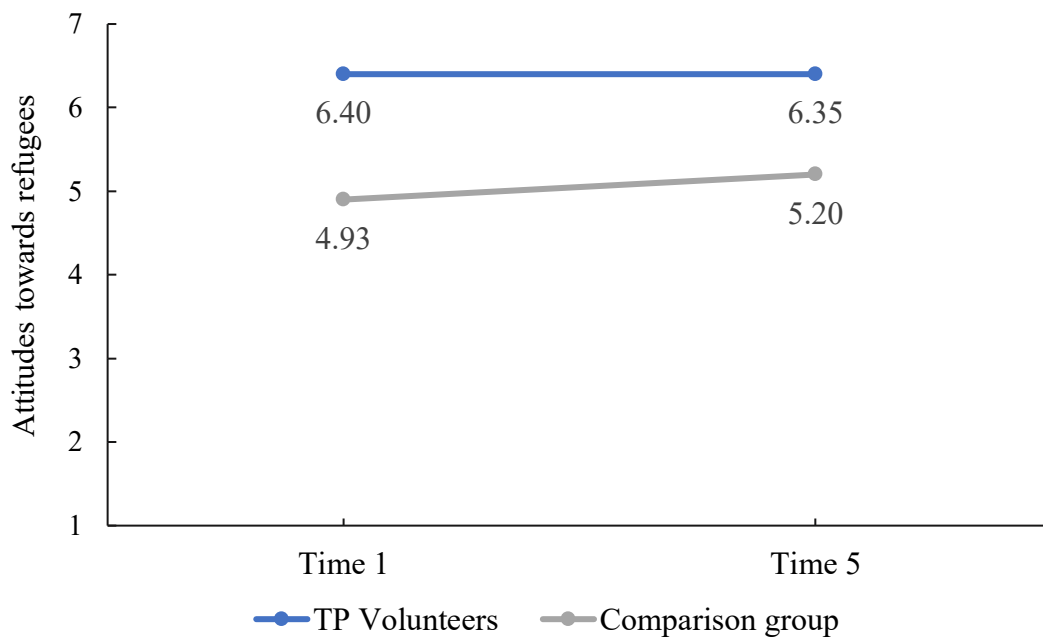
Figure 1. *Change in attitudes towards refugees over time for the Together Project volunteers and comparison group*

6.1.2 Attitudes towards refugee claimants

Similar to the results of attitudes towards refugees, a 2-by-2 within and between participants ANOVA revealed a significant interaction of participant group and time on attitudes towards refugee claimants, $F(1,163) = 4.86$, $p = .029$, $\eta p^2 = .029$, as well as a main effect of group, $F(1,163) = 40.38$, $p < .001$, $\eta p^2 = .199$. As hypothesized, post hoc analyses confirmed that the Together Project volunteers reported on average more favorable attitudes towards refugee claimants at Time 1 and Time 5, compared to the comparison group participants (see Tables 3 and 4). Unexpectedly, simple main effects analyses using paired samples t-tests indicated that the comparison group participants reported more favorable attitudes towards refugee claimants at Time 5 compared to Time 1, $t(111) = -4.02$, $p < .001$, $d = -.380$ (see Figure 2). No significant within participant change was found for the participants in the Together Project group ($p = .880$).
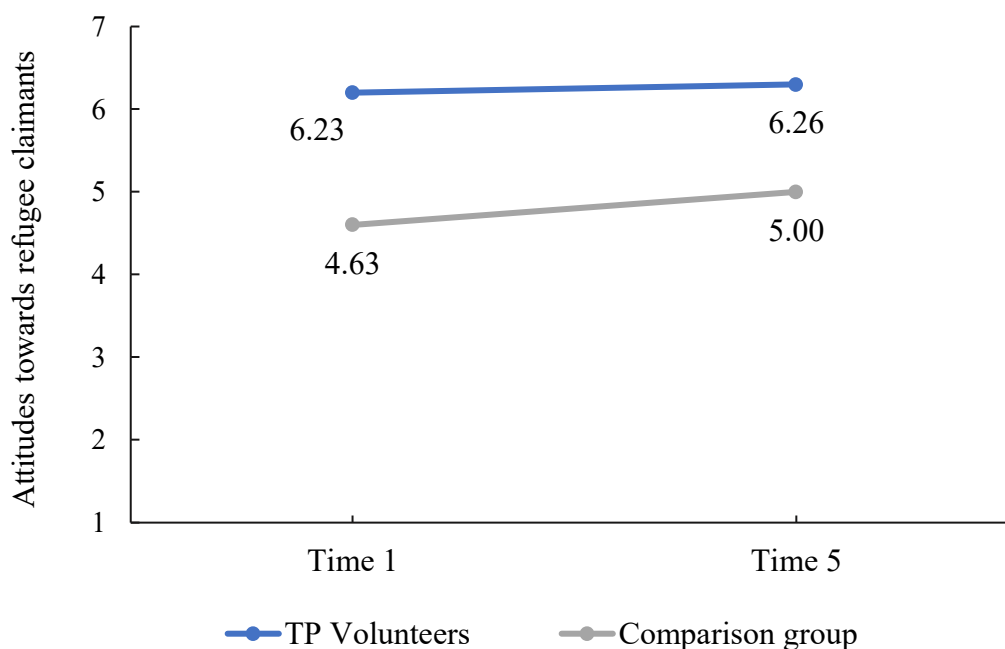
Figure 2. *Change in attitudes towards refugee claimants over time for the Together Project volunteers and comparison group*

6.1.3   Attitudes towards Immigrants

Regarding attitudes towards immigrants, analyses did not suggest an interaction effect of participant group and time ($p = .400$); however, a significant main effect of group was found, $F(1,163) = 24.57, p < .001, \eta p^2 = .131$. As hypothesized, post hoc analyses confirmed that the Together Project volunteers reported on average more favorable attitudes towards refugee claimants at Time 1 and Time 5, compared to the comparison group participants (see Tables 3 and 4). Simple main effect analyses did not suggest any significant differences from Time 1 to Time 5 for the participants in either group.

6.1.4   Attitudes towards Canada's refugee policy

A 2-by-2 within and between-participant ANOVA revealed no significant interaction effect of participant group and time on attitudes towards Canada's refugee policy ($p = .447$); however, a significant main effect of group was found, $F(1,163) = 38.39, p < .001, \eta p^2 = .191$. As hypothesized, post hoc analyses confirmed that the Together Project volunteers reported on average more favorable attitudes towards Canada's refugee policies at Time 1 and Time 5, compared to the comparison group participants (see Tables 3 and 4). Simple main effect analyses did not suggest any significant differences from Time 1 to Time 5 for the participants in either group.

6.1.5   Frequency and quality of prior contact experiences

While no significant between or within participant effects were found for prior contact frequency, analyses did confirm a significant main effect of group on quality of prior contact, $F(1,134) = 13.62, p < .001, \eta p^2 = .092$. Post hoc analyses confirmed that the Together Project volunteers reported on average having experienced slightly more friendly interactions with refugees at Time 1 and Time 5, compared to the comparison group participants (see Tables 3 and 4). Simple main effect analyses did not suggest any significant differences from Time 1 to Time 5 for the participants in either group.

6.1.6   Feelings of intergroup anxiety

A 2-by-2 within and between-participants ANOVA revealed no significant interaction between participant group and time on reported feelings of intergroup anxiety ($p= .222$); however, a significant main effect of group was found, $F(1,163) = 9.06$, $p = .003$, $\eta p^2 = .052$. As hypothesized, post hoc analyses confirmed that the Together Project volunteers reported on average lower levels of intergroup anxiety at Time 1 and Time 5, compared to the comparison group participants (see Tables 3 and 4). Simple main effect analyses did not suggest any significant differences from Time 1 to Time 5 for the participants in either group.

6.1.7   Feelings of empathy for refugees

A 2-by-2 within and between-participant ANOVA revealed no significant interaction between participant group and time on feelings of empathy for refugees ($p = .723$); however, a significant main effect of group was found, $F(1,163) = 10.97$, $p < .001$, $\eta p^2 = .063$. As hypothesized, post hoc analyses confirmed that the Together Project volunteers reported relatively higher feelings of empathy for refugees at Time 1 and Time 5 compared to the comparison group participants (see Tables 3 and 4). In addition, simple main effect analyses did not suggest any significant differences from Time 1 to Time 5 for participants in either group.

6.1.8   Willingness to engage in future contact

A 2-by-2 within and between-participant ANOVA revealed no significant interaction between participant group and time on willingness to engage in future contact ($p = .335$); however, a significant main effect of group was found, $F(1,155) = 12.65$, $p < .001$, $\eta p^2 = .075$. As hypothesized, post hoc analyses confirmed that the Together Project volunteers reported being more willing to engage in future contact with refugees at Time 1 and Time 5, compared to the comparison group participants (see Tables 3 and 4). Simple main effect analyses did not suggest any significant differences from Time 1 to Time 5 for the participants in either group.

Table 3. *Mean differences between the Together Project and comparison group participants at Time 1* (T1)

	Together Project Volunteers	Comparison Group	t (df)	p	Cohen's d
	M (SD)				
Attitudes refugees[a]	6.40 (.72)	4.93 (1.64)	7.99 (162.22)	<.001	1.16
Attitudes refugee claimants[a]	6.23 (.85)	4.63 (1.70)	8.10 (162.54)	<.001	1.19
Attitudes immigrants[a]	6.41 (.67)	5.43 (1.40)	6.05 (162.91)	<.001	.889
Attitudes Canada's refugee policy[a]	6.00 (.71)	4.65 (1.62)	7.68 (162.31)	<.001	1.12
Prior frequency of contact	2.76 (.76)	2.59 (.82)	1.21 (163)	.229	.201
Prior contact quality	4.19 (.84)	3.73 (.86)	2.97 (138)	.004	.531
Intergroup anxiety[a]	2.15 (.94)	2.79 (1.31)	-3.59 (140.47)	<.001	-.560
Feelings of empathy	3.71 (.76)	3.34 (.70)	3.12 (163)	.002	.520
Willingness to engage in future contact [a]	6.30 (.73)	5.66 (1.34)	3.86 (146.67)	<.001	.592

Note. [a] Welch t test (applies a correction for any level of unequal variances) is reported because Levene's test indicated that the homogeneity of variances assumption was not met for this variable.

Table 4. *Mean differences between the Together Project and comparison group participants at Time 5 (T5)*

	Together Project Volunteers	Comparison Group	t (df)	p	Cohen's d
	M (SD)				
Attitudes refugees[a]	6.35 (.81)	5.20 (1.49)	6.42 (161.45)	<.001	.958
Attitudes refugee claimants[a]	6.26 (.89)	5.00 (1.54)	6.69 (158.54)	<.001	1.01
Attitudes immigrants[a]	6.33 (.86)	5.50 (1.35)	4.83(151.53)	<.001	.738
Attitudes Canada's refugee policy[a]	6.10 (.81)	4.80 (1.48)	7.47 (161.41)	<.001	1.12
Prior frequency of contact	2.79 (.73)	2.54 (.76)	1.92 (164)	.057	.317
Prior contact quality	4.23 (.81)	3.71 (.92)	3.41 (148)	<.001	.588
Intergroup anxiety	2.20 (1.07)	2.64 (1.21)	-2.28 (164)	.024	-.378
Feelings of empathy	3.64 (.70)	3.30 (.69)	2.92 (164)	.004	.484
Willingness to engage in future contact [a]	6.48 (.69)	5.73(1.31)	4.80 (161.07)	<.001	.717

Note. [a] Welch t-test (applies a correction for any level of unequal variances) is reported because Levene's test indicated that the homogeneity of variances assumption was not met for this variable.

6.1.9   Bivariate correlations at Time 1.

Simple bivariate correlation analyses were conducted to examine the associations between the variables for participants in both groups at Time 1. Given the significant differences between the two groups, separate analyses were conducted for each group of participants.

As hypothesized, participants in both groups with more favorable attitudes towards refugees also reported more favorable attitudes towards refugee claimants, immigrants, and Canada's refugee policy. Similarly, more favorable attitudes towards refugees among participants in both groups was consistently associated with being more willing to engage in future contact with refugees. In addition, having interacted with refugees more frequently was associated with more favorable attitudes towards refugees and refugee claimants, and less feelings of anxiety.

For the comparison group participants only, feeling anxious about interacting with refugees was negatively associated with feelings of empathy for refugees and being more willing to engage in future contact. In addition, prior contact experiences, specifically the perceived quality of the interactions, seemed to have a greater impact as it was consistently strongly associated with the other variables, supporting the second hypothesis (comparison group only). However, the results suggest that the Together Project volunteers' perceived quality of previous contact experiences with refugees had no significant associations with their overall attitudes towards refugees, feelings of anxiety related to interacting with refugees, feelings of empathy for refugees or their willingness to engage in future contact with refugees—which did not support the second hypothesis.

Table 5. *Bivariate correlations per group among all variables at Time 1*

Measure	1	2	3	4	5	6	7	8	9
1.Attitudes refugees	1	.864***	.708***	.451*	.298*	.032	-.416**	.268	.452**
2.Attitudes refugee claimants	.866***	1	.680***	.550***	.276*	.060	-.345*	.160	.508***
3.Attitudes immigrants	.695***	.702***	1	.322*	.199	-.071	-.331*	.381**	.292*
4.Attitudes Canada's refugee policy	.875***	.866***	.686***	1	.194	.178	-.363**	.204	.377**
5.Prior frequency of contact	.240*	.310*	.233*	.183	1	.071	-.309*	.224	-.131
6.Prior contact quality	.630***	.640***	.411***	.572***	.177	1	-.111	.004	-.103
7.Intergroup anxiety	-.528***	-.575***	-.488***	-.555***	-.290**	-.489***	1	-.250	-.159
8.Feelings of empathy	.211*	.238*	.217*	.196*	.519***	.142	-.358***	1	.004
9.Willingness to engage in future contact	.665***	.668***	.555***	.712***	.217*	.550***	-.648***	.132	1

Note. Together Project participants correlations at Time 1 are reported above the diagonal; Comparison group correlations at Time 1 are reported below the diagonal. * p < .05. ** p < .01. *** p ≤ .001.

6.1.10 Bivariate correlations at Time 5

Similar to the analyses at Time 1, simple bivariate correlation analyses were conducted to examine the associations between the variables for participants in both groups at Time 5. Given the significant differences between the two groups at Time 5, separate analyses were conducted for each group of participants.

As hypothesized and similar to the results at Time 1, attitudes towards refugees, refugee claimants, immigrants, Canada's refugee policy, as well as participants' willingness to engage in future contact were all strongly positively correlated for both the Together Project volunteers and the comparison group participants. These significant associations suggest that regardless of whether participants were involved in the matching program or not, these associations remained consistent to Time 1. Similarly, in line with our predictions, regardless of group, participants who indicated feeling less anxious about interacting with refugees reported overall more favorable attitudes toward refugees, and higher feelings of empathy for refugees.

Different from the results at Time 1, for both groups of participants, intergroup anxiety was associated with less willingness to engage in future contact with refugees (at Time 1 this was only significant for the comparison group). In addition, participants in both groups who reported having experienced higher quality of contact in the past also reported more favorable attitudes towards refugees, refugee claimants, immigrants, Canada's refugee policy, less intergroup anxiety, and being more willing to engage in future contact with refugees. Although the items asking about the quality of 'prior contact experiences' did not explicitly ask about the participants' experiences in the matching program, it is likely that the Together Project participants were thinking of the recent experiences related to the program when answering these items at Time 5. As such, the Together Project participants' perceived quality of recent experiences in the program were of greater significance in relation to their overall attitudes towards refugees at Time 5 compared to Time 1 (no significant associations between prior contact quality and other variables).

Table 6. *Bivariate correlations per group among all variables at Time 5*

Measure	1	2	3	4	5	6	7	8	9
1.Attitudes refugees	1	.899***	.832**	.687***	.230	.539***	-.524***	.205	.733***
2.Attitudes refugee claimants	.916***	1	.819***	.657***	.294*	.541***	-.476***	.165	.700***
3.Attitudes immigrants	.795***	.785***	1	.544***	.218	558***	-.489***	.163	.624***
4.Attitudes Canada's refugee policy	.828***	.802***	.692***	1	.171	.535***	-.418**	.185	.695***
5.Prior frequency of contact	.255**	.289**	.292**	.245**	1	.305*	-.095	.099	.393***
6.Prior contact quality	.592***	.577***	.482***	.530***	.341***	1	-.438**	.182	.489***
7.Intergroup anxiety	-.564***	-.577***	-.532***	-.566***	-.331***	-.568***	1	-.524***	-.502***
8.Feelings of empathy	.040	.039	.144	.023	.334***	.027	-.222*	1	.204
9.Willingness to engage in future contact	.742***	.710***	.567***	.738***	.233*	.502***	-.638***	.045	1

Note. Together Project participants correlations at Time 5 are reported above the diagonal; Comparison group correlations at Time 5 are reported below the diagonal. * $p < .05$. ** $p < .01$. *** $p \leq .001$.

6.2 Results 2—Together Project volunteers' experiences in the matching program

As mentioned, following the first survey, participants involved with the Together Project matching program were sent surveys at four additional time points: after the first month of the program (Time 2), after three months (Time 3), after five months (Time 4), and once the program was finished, after approximately six months (final survey/Time 5). To examine the Together Project participants' change in experiences in the program over time, a series of one-way repeated measure ANOVAs were conducted. Prior to conducting the one-way within participant ANOVAs, the assumption of normality was confirmed and Mauchly's test of sphericity was conducted to address the assumption of sphericity. Paired samples t-tests were then conducted to make post hoc comparisons between time points. In addition, simple bivariate correlation analyses were conducted to examine the associations between the variables at each time point, as well as the associations between the variables at all five timepoints. Prior to these analyses, the potential effect of participants' volunteer group size, as well as their refugee match family size, were examined through correlational analyses. In addition, I conducted an exploratory factor analysis of the optimal contact measure.

6.2.1   Preliminary analyses: Optimal Contact exploratory factor analysis

The Together Project participants were asked at times 2, 3, and 4 to what extent they felt as though '*a common goal was achieved*', '*meaningful social connections were created*', '*able to successfully collaborate on tasks*', and '*the interactions were equally meaningful for the volunteer and refugee match*'. These items were created to assess the extent to which the interactions met the optimal contact conditions set by Allport (1954). Because these items were specifically created for this study, an exploratory factor analysis was conducted along with a reliability analysis to test whether the items made up a unidimensional scale at each timepoint.

An exploratory factor analysis using maximum likelihood estimation and oblimin rotation confirmed a unidimensional factor at all timepoints (See full EFA details in Appendix B).

In addition, Bartlett's test of sphericity was significant for all time points; Time 2 $\chi2$ (10) = 82.61, $p < .001$; Time 3 $\chi2$ (10) = 118.69, $p < .001$; Time 4 $\chi2$ (10) = 157.65, $p < .001$. The assumption of sampling adequacy was also met for all three time points, per recommendations of Hooper (2012) as the results for Kaiser-Meyer-Olkin (KMO) were all >.60.

6.2.2   Preliminary analyses: Nesting effect

Given that the Together Project participants were nested in groups of volunteers (ranging from 1 to 5 volunteers) who were matched with either individual refugees/refugee claimants or refugee/refugee claimant families (ranging from 1-9 family members), analyses were conducted first to investigate whether the volunteer group size or refugee match family size had significant associations with the variables of interest throughout the program. To investigate this, correlational analyses were conducted and revealed a significant association between the refugee match family size, perceived contact quality at Time 3, $r(31) = .39$, $p = .026$, and "optimal contact score" at Time 3, $r(31) = .38$, $p = .028$, and Time 4, $r(31) = .39$, $p = .027$. In addition, the refugee match family size had a significant association with how frequent the interactions were at Time 2, $r(31) = .45$, $p = .009$. This suggests that volunteers who engaged with refugee matches with the larger families reported more frequent interactions with their match in the first month of the program and indicated that the interactions later in the program (Time 3 and 4) were perceived as more collaborative and meaningful. There was also a significant association between the volunteer group size and the reported frequency of interactions at Time 2, $r(31) = -.53$, $p < .002$, suggesting that the larger the volunteer group size was, the fewer online interactions they had in the first month of the program. No other significant associations were found between volunteer group size, refugee match family size and the other variables (see Appendix C for full correlation matrix).

6.2.3 Feelings of empathy for refugees and intergroup anxiety change over time

Measures of intergroup anxiety and feelings of empathy for refugees were included at all five timepoints for the Together Project volunteers. As such, to examine the Together Project participants' change over time, one-way repeated measure ANOVAs were conducted. Regarding feelings of intergroup anxiety, a one-way repeated measure ANOVA suggested no significant effect of time, $F(4,120) = .532$, $p = .712$.

A one-way repeated measures ANOVA with a Greenhouse-Geisser correction confirmed that reported feelings of empathy for refugees differed significantly between the five time points, $F(2.53,75.92) = 29.79$, $p < .001$, $\eta p2 = 0.50$. Post hoc analyses using a Bonferroni correction confirmed that the reported feelings of empathy for refugees decreased significantly from Time 1 to Time 2, (mean difference = 1.21, $p < .001$). In addition, between Time 2 and Time 3 analyses suggested a significant increase in reported empathy for refugees (mean difference = .48, $p =.002$). Though there was no significant difference found in the reported levels of empathy for refugees between Time 3 and Time 4, from Time 4 to Time 5 there was a significant increase (mean difference = .62, $p <.001$). As such, these analyses suggested that the volunteers' empathy for refugees dropped early on and then increased over the course of the program so that by the end, their empathy was similar to baseline levels (see Figure 3).
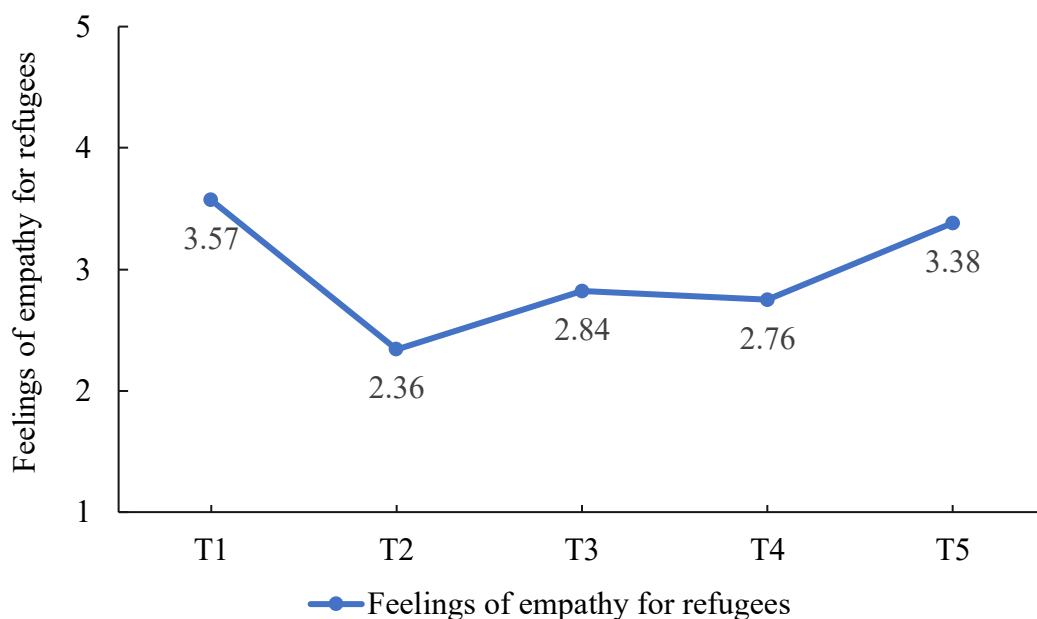
Figure 3. *Together Project participants' feelings of empathy for refugees across the six months of the program*

6.2.4   Together Project volunteers' experiences during the program

At all three timepoints the most frequently used method of virtual contact reported was "other" and when asked to specify, the most common answer provided was WhatsApp. WhatsApp is a communication social media app which allows communication via text messages, phone calls, and video chat. Participants reported on average the most frequent virtual contact after the first month of the program (3-4 times on average in the past month at T2) followed by Time 3, and least frequently near the end of the program (T4). Participants reported being on average most satisfied with the interactions in the first month of the program, compared to later in the program. Similarly, participants reported on average having the most meaningful and cooperative interactions earlier on in the program. However, analyses did not suggest a significant difference between timepoints for either contact quality ($p= .236$) or optimal contact ($p= .153$).

A one-way repeated measure ANOVA confirmed that there were significant differences between time points regarding the frequency of online contact, $F(2,64) = 7.81$, $p < .001$, $\eta p2 = 0.20$ (Mauchly's test of sphericity indicated that the assumption of sphericity was met, $p = .576$). Three paired samples t-tests were used to make post hoc comparisons between time points. Analyses confirmed that the volunteers reported on average engaging in more virtual interactions with their refugee match at Time 2 (one month into the program) compared to near the end of the program (Time 4); this decline in frequency was statistically significant $t(32) = 3.56$, $p = .001$, $d = .621$. In addition, the mean difference between Time 3 and Time 4 in reported frequency of contact was statistically significant $t(32) = 3.60$, $p = .001$, $d = .627$. A third paired samples t-test indicated that there was no significant difference in frequency between Time 2 and Time 3 ($p = .879$).

Table 7. *Descriptive statistics for bi-monthly surveys completed by Together Project volunteers (N=33)*

	M (SD)		
Measure	T2	T3	T4
Virtual contact frequency	3.06(.70)	3.03(.95)	2.42(.97)
Contact quality	5.09(1.55)	4.82(1.81)	4.55(1.86)
Intergroup anxiety	2.23(1.06)	2.27(1.03)	2.31(1.14)
Empathy	2.36(.60)	2.84(.49)	2.76(.53)
Optimal contact	5.30(1.09)	5.28(1.31)	4.90(1.53)

6.2.5   Influence of volunteers' immigrant status

As mentioned, among the volunteer subsample, 59% indicated that they were not born in Canada while 40.6% were born in Canada. Given the demographic split among the volunteers, we decided to examine the potential influence of volunteers' immigrant status on their experiences and change over time in the program. A series of repeated measure between participant (born in Canada vs not born in Canada) and within participant ANOVAs were conducted. These analyses did not suggest any significant between group differences or significant interaction effects of group and time for any of the variables of interest; frequency of contact (*p =.54, p = .48),* contact quality (*p =.95, p = .93),* intergroup anxiety (*p =.96, p = .20),* feelings of empathy for refugees (*p =.32, p = .26),* and optimal contact (*p =.62, p = .77).*

6.2.6   Experiences at Time 2—Correlation analyses

Analyses suggested that when participants were asked to think back to the first month of the program, how satisfied they felt with their virtual interactions with their refugee match was found to be significantly positively correlated with their optimal contact score, $r(31) = .60, p < .001$. As such, participants who reported having more collaborative and meaningful interactions also reported being overall more satisfied with their virtual interactions in the first month of the program. No other variables at this time were significantly correlated.

Table 8. *Bivariate correlation analyses for Together Project volunteers at Time 2*

Measures	1	2	3	4	5
1.Virtual Contact Frequency	1				
2. How satisfied (Contact Quality)	.109	1			
3. Anxiety	-.310	-.058	1		
4. Empathy	.127	.185	-.002	1	
5.Optimal Contact	-.017	.595***	-.112	.036	1

Note. * p < .05. ** p < .01. *** p ≤ .001.

6.2.7   Experiences at Time 3—Correlation analyses

Analyses suggested that participants who reported having engaged in more frequent virtual contact at Time 3 consistently reported being more satisfied with their interactions, $r(31) = .53$, p =.002, and having more meaningful and collaborative interactions (higher optimal contact score*)*, $r(31) = .50$, $p =.003$. In addition, results indicated that participants who interacted more frequently with their refugee match reported lower feelings of intergroup anxiety, $r(31) = -.37$, $p =.039$. Feelings of intergroup anxiety were also negatively correlated with the extent to which the participant felt satisfied with their interactions in the past month, $r(31) = -.51$, $p =.003$, as well as how meaningful and collaborative the interactions were, i.e., "optimal contact conditions", $r(31) = -.55$, $p =.001$. These findings suggest that participants who generally felt satisfied with their interactions had fewer anxious feelings about interacting with refugees. Feelings of empathy for refugees were not significantly associated with the other variables at Time 3.

Table 9. *Bivariate correlation analyses for Together Project volunteers at Time 3*

Measures	1	2	3	4	5
1.Virtual Contact Frequency	1				
2. How satisfied (Contact Quality)	.529**	1			
3. Anxiety	-.367*	-.514**	1		
4. Empathy	-.216	.036	.051	1	
5. Optimal Contact Score	.501**	.776***	-.551**	.172	1

Note. * p < .05. ** p < .01. *** p ≤ .001.

6.2.8   Experiences at Time 4—Correlation analyses

The relation between experiences reported at Time 4 (after the fifth month of the program) were similar to those at Time 3. The participants who reported feeling satisfied with their interactions at Time 4 also indicated having overall meaningful and collaborative interactions (optimal contact), $r(31) = .77, p < .001$. Analyses also confirmed that the participants who interacted more frequently with their refugee match reported having more meaningful and collaborative interactions, $r(31) = .58, p < .001$, as well as being overall more satisfied, $r(31) = .53, p = .002$. Similar to Time 3, how frequently the participants interacted with their refugee match was also negatively associated with feelings of anxiety $r(31) = -.58, p < .001$, and feelings of intergroup anxiety were negatively correlated with the extent to which participants reported having meaningful and collaborative interactions (optimal contact*), $r(31) = -.48, p =.005$. However, despite there being a significant association between feelings of intergroup anxiety and how satisfied the volunteers were with their interactions after month three of the program (T3), at Time 4 there was no significant association ($p = .068$)**. Similarly, there were no significant associations found between reported feelings of empathy and any other variables at Time 4.

Table 10. *Bivariate correlation analyses for Together Project volunteers at Time 4*

Measures	1	2	3	4	5
1.Virtual Contact Frequency	1				
2. How satisfied (Contact Quality)	.528**	1			
3. Anxiety	-.575***	-.321	1		
4. Empathy	.099	.041	-.171	1	
5. Optimal Contact Score	.580***	.767***	-.476**	.156	1

Note. * p < .05. ** p < .01. *** p ≤ .001.

6.2.9   Associations between time 2, 3, 4—Correlation analyses

In addition to examining the change between time points, associations between the variables within time points and across time were investigated. Reported quality of contact experiences after the first month of the program (Time 2) was found to be significantly associated with the reported quality of those experiences at Time 3, $r(31) = .35$, $p = .045$, and the reported quality at Time 4, $r(31) = .36$, $p = .038$. In addition, the reported quality of the virtual contact experiences at Time 2 was significantly associated with the reported frequency at Time 3, $r(31) = .36$, $p = .040$. Similarly, the reported frequency of contact at Time 3 was significantly associated with the reported frequency at Time 4, $r(31) = .49$, $p =.004$. This suggests that the volunteers who reported on average being more satisfied with their experiences after the first month of the program typically engaged in more virtual interactions with their refugee match later in the program and reported being overall more satisfied with those experiences at 2 and 4 months later.

Volunteers who reported higher scores of optimal contact at Time 2 generally also reported higher optimal contact scores at Time 3, $r(31) = .47$, $p = .005$. Similarly, those who reported higher scores of optimal contact at Time 3 generally also reported higher optimal contact scores at Time 4, $r(31) = .72$, $p < .001$. However, there was no significant correlation found between optimal contact at Time 2 and Time 4. In addition, volunteers

who reported higher optimal contact scores at Time 3 generally also reported having engaged in more frequent virtual interactions during the last month of the program (Time 4), $r(31) = .59$, $p < .001$.

In addition, participants' reported levels of intergroup anxiety after the first month of the program (Time 2) were significantly positively associated with the reported feelings of anxiety at Time 3, $r(31) = .73$, $p < .001$, and at Time 4, $r(31) = .66$, $p < .001$. Although there were significant correlations between the reported feelings of anxiety at Time 3 and the frequency of virtual interactions at Time 4, $r(31) = -.69$, $p < .001$, the reported feelings of anxiety at Time 2 did not have a significant correlation with the reported frequency of interactions two months later (Time 3). This suggests that the participants who reported higher levels of anxiety after the third month of the program (Time 3) engaged in fewer virtual interactions in the last month, though this was not the case after the first month of the program. Similarly, volunteers who reported higher levels of intergroup anxiety at Time 2 generally engaged in fewer virtual interactions at Time 4, four months later, $r(31) = -.52$, $p = .002$. However, given the correlational nature of these findings, there is no way to determine the causal connections between the variables.

There was also a significant negative association found between the reported feelings of anxiety at Time 2 and the extent to which the interactions were considered 'optimal' at Time 3, $r(31) = -.36$, $p = .037$, which only supports hypothesis 3 at one of the time points. In addition, participants who reported higher feelings of anxiety at Time 3 were less satisfied with their interactions at Time 3, $r(31) = -.51$, $p = .003$ and Time 4, $r(31) = -.44$, $p = .013$, and reported lower scores of optimal contact at Time 3, $r(31) = -.55$, $p < .001$ and Time 4 $r(31) = -.44$, $p = .012$.

Lastly, reported feelings of empathy for refugees after the first month of the program (Time 2) were significantly correlated with the reported feelings of empathy for refugees at Time 3, $r(31) = .37$, $p = .038$, and Time 4, $r(31) = .67$, $p < .001$. Similarly, feelings of empathy at Time 3 were positively associated with the reported feelings of empathy for refugees at Time 4, $r(31) = .56$, $p < .001$, indicating that participants who reported having more feelings of empathy for refugees at Time 2 consistently reported more feelings of empathy

throughout the program. Feelings of empathy for refugees at Times 2, 3, and 4 were not significantly correlated with any other variables, not supporting the hypotheses.

6.2.10   Associations between pre and post program measures and all monthly measures for volunteer subsample

To assess the associations between the pre and post program scores and the volunteers' experiences in the program, a set of correlation analyses were conducted between the pre and post measures, and those obtained during the program.

The extent to which participants reported having contact with refugees prior to the start of the program (at Time 1) was found to be significantly associated with the optimal contact scores at Time 2, $r(31) = .39$, $p = .025$, at Time 3, $r(31) = . 37$, $p = .036$, and at Time 4 $r(31) = .37$, $p = .038$. Similarly, the level of intergroup anxiety reported at Time 1 was significantly correlated with the reported intergroup anxiety at Time 2, $r(31) = .61$, $p < .001$, Time 3, $r(31) = .56$, $p = .001$, and Time 4, $r(31) = .54$, $p = .001$. In addition, attitudes towards immigrants at Time 1 showed a significant correlation with reported levels of empathy at Time 2, $r(31) = -.39$, $p = .028$. It was also the case that attitudes towards refugees $r(31) = -.42$, $p = .016$, refugee claimants, $r(31) = -.41$, $p = .019$, as well as Canadian refugee policy, $r(31) = -.42$, $p = .016$, at Time 1 were significantly associated with reported feelings of empathy at Time 4. Lastly, the extent to which volunteers were willing to engage in future contact with refugees at Time 1 was significantly associated with the reported contact frequency at Time 3, $r(31) = .42$, $p = .025$, level of intergroup anxiety at Time 3, $r(31) = -.40$, $p = .039$, and reported feelings of empathy at Time 4, $r(31) = -.49$, $p = .009$ (see full table of correlations in Appendix C). These results suggest that participants who reported having engaged with refugees more frequently prior to the matching program indicated generally having more meaningful and collaborative interactions (optimal contact score) with their refugee match throughout the program. In addition, the extent to which participants reported feeling anxious about interacting with refugees at the start of the program seemed to remain fairly consistent throughput the program.

Associations between the variables collected during the program and those obtained post program were also analyzed. Feelings of intergroup anxiety at Time 2 and Time 3 showed significant relations with post program attitudes towards refugees (Time 2: $r(31) = -.42$, $p = .016$, Time 3: $r(31) = -.45$, $p = .011$) refugee claimants (Time 2: $r(31) = -.42$, $p = .017$, Time 3: $r(31) = -.42$, $p = .019$), immigrants in general (Time 2: $r(31) = -.39$, $p = .029$, Time 3: $r(31) = -.45$, $p = .012$), and post program scores of intergroup anxiety (Time 2: $r(31) = .56$, $p < .001$, Time 3: $r(31) = .60$, $p < .001$). Although feelings of intergroup anxiety at Time 4 did not show any significant associations with attitudes towards refugees, refugee claimants, or immigrants in general, there was a significant strong correlation between reported anxiety at Time 4 and post program levels of anxiety, $r(31) = .56$, $p < .001$. Reported feelings of empathy at Time 2 and Time 3 showed significant associations with the reported feelings of empathy post program (Time 2: $r(31) = .39$, $p = .026$, Time 3: $r(31) = .38$, $p = .034$).

These results suggest that participants who reported higher feelings of anxiety during the program also reported slightly less favorable attitudes towards refugees, refugee claimants, and immigrants. However, it is important to remember the high mean score for generalized attitudes towards refugees, refugee claimants and immigrants at Time 5, suggesting that even though there was a significant association found between feelings of intergroup anxiety and attitudes, the mean score remained above the midpoint of the scale.

Other significant associations found included that reported feelings of intergroup anxiety at Time 3 had a significant association with post-program willingness to engage in future contact, $r(31) = -.49$, $p = .005$. Similarly, reported feelings of anxiety at Time 4 had significant negative association with feelings of empathy post program, $r(31) = -.35$, $p = .047$. The optimal contact score at Time 3 had a significant relation with post program attitudes towards refugees, $r(31) = .38$, $p = .033$, and refugee claimants, $r(31) = .39$, $p = .029$. In addition, optimal contact score at Time 4 had a significant association with the post program feelings of empathy, $r(31) = .53$, $p = .002$.

7   Discussion

The purpose of this study was to gain a better understanding of established Canadians virtual contact experiences with refugees. As such, the experiences of volunteers who were part of the Together Project matching program were analyzed and compared to a sample of participants not involved in a matching program with refugees. Specifically, the change over time and associations between the virtual contact interactions, generalized attitudes towards refugees, Canadian refugee policies, feelings of anxiety about interacting with refugees and feelings of empathy were examined. Each hypothesis and whether it was supported will be discussed, as well as the overall connection to the literature surrounding the intergroup contact hypothesis.

7.1   Between group differences

Our first hypothesis anticipated that at baseline (Time 1), before their interactions with refugees, volunteers in the Together Project would have more favorable attitudes towards refugees, refugee claimants, immigrants in general, and refugee policy in Canada compared to the attitudes of the comparison group participants. In addition, it was hypothesized that the Together Project volunteers would at Time 1 have lower levels of intergroup anxiety, higher levels of feelings of empathy for refugees, be more willing to engage in future contact and have more previous contact experiences than those in the comparison group. Our analyses partially supported this hypothesis as there were significant group differences found for all variables of interest at Time 1 except for previous contact frequency (no group difference found).

As such, when comparing the groups at Time 1, the Together Project participants had overall more favorable attitudes towards refugees, refugee claimants, immigrants and Canada's refugee policies compared to the participants in the comparison group. However, it is important to note that although the group differences were significant, the participants in the comparison group did score well above the midpoint of the scales, suggesting overall quite favorable attitudes. In addition, the Together Project participants had very high

average scores, nearing the top of the scale, with less variability compared to the comparison group participants, suggesting overall favorable generalized attitudes among participants in both groups. Between group differences regarding willingness to engage in future contact with refugees followed a similar trend with Together Project participants reporting being more willing to engage in future contact compared to the comparison group participants. However, despite the group differences, participants in both groups reported fairly high scores indicating *moderate* to *extremely* willing to engage in future contact. The Together Project volunteers also reported more feelings of empathy towards refugees, and lower scores of feelings of anxiety compared to comparison group participants.

Although Together Project participants reported having more friendly previous contact experiences with refugees (higher quality), analyses did not demonstrate significant group difference regarding frequency of prior contact experiences, thus not supporting our prediction. These results suggest that the participants overall, regardless of group, reported having interacted on average equally as frequently prior to the start of the matching program. However, the Together Project participants reported those interactions as being slightly more friendly.

The second hypothesis anticipated that regardless of group, at baseline and six months later, participants who had more favorable attitudes towards refugees would also have more favorable attitudes towards refugee claimants, immigrants in general, and Canada's refugee policy as well as be more willing to engage in future contact with refugees. It was also expected that there would be significant associations between the frequency of prior contact experiences, quality of prior contact, feelings of intergroup anxiety, feelings of empathy for refugees, and overall attitudes towards refugees. Support for this hypothesis was confirmed as participants in both groups with more favorable attitudes towards refugees also reported more favorable attitudes towards refugee claimants, immigrants, and Canada's refugee policy at Time 1 and Time 5. In addition, more favorable attitudes towards refugees, refugee claimants, immigrants, and Canada's refugee policies among participants in both groups were also consistently associated with being more willing to engage in future contact with refugees.

Similarly, in line with our predictions, significant associations were found at both Time 1 and Time 5 between generalized attitudes towards refugees, refugee claimants, immigrants, and Canada's refugee policies and feelings of intergroup anxiety. This suggests that regardless of group, those who reported more favorable generalized attitudes towards refugees, refugee claimants, immigrants, and Canada's refugee policies also indicated feeling less anxious about interacting with refugees. Similarly, for the participants in the comparison group at both time points, lower feelings of anxiety were significantly associated with higher feelings of empathy for refugees and being more willing to engage in future contact. However, this was not the case for the Together Project participants at Time 1 as analyses did not suggest any significant associations between feelings of intergroup anxiety and feelings of empathy for refugees or willingness to engage in future contact with refugees. However, for these participants at Time 5, analyses revealed significant associations between feelings of anxiety related to interacting with refugees, feelings of empathy and willingness to engage in future contact. Thus, although this was not the case for the Together Project participants at Time 1, at Time 5 those participants who reported lower feelings of anxiety also indicated having higher feelings of empathy for refugees as well as being more willing to engage in future contact with refugees.

In addition, we did not find consistent support for our hypothesis that feelings of empathy for refugees would be associated with the attitude and contact variables. Instead, these associations differed between groups and time points. For instance, at Time 1, among the Together Project volunteers, feelings of empathy for refugees were only found to be significantly associated with attitudes towards immigrants. For the comparison group participants at Time 1, feelings of empathy for refugees were found to be significantly associated with all variables of interest except prior contact quality and willingness to engage in future contact. At Time 5, on the other hand, for the Together Project volunteers, feelings of empathy for refugees were no longer significantly associated with attitudes towards immigrants. Rather, feelings of empathy for refugees were negatively associated with feelings of intergroup anxiety. In addition, for the comparison group participants, feelings of empathy were significantly associated with prior frequency of contact, as well as negatively associated with feelings of intergroup anxiety.

There were also group and timepoint differences found regarding the associations with frequency of prior contact. At Time 1, for comparison group participants only, having interacted with refugees more frequently was associated with more favorable attitudes towards refugees, refugee claimants, immigrants, feelings of anxiety, feelings of empathy and willingness to engage in future contact. However, for the Together Project participants reported frequency of contact was only found to be significantly associated with attitudes towards refugees, refugee claimants, and feelings of anxiety at Time 1. At Time 5, analyses suggested significant associations between prior frequency of contact and all other variables of interest for the participants in the comparison group. That is, among these participants, those who reported having engaged in more frequent contact with refugees also indicated that those interactions were more friendly (higher quality), reported more favorable attitudes towards refugees, refugee claimants, immigrants, Canada' refugee policies, lower feelings of anxiety associated with interacting with refugees, more feelings of empathy towards refugees, and being more willing to engage in future contact with refugees. However, for the Together Project participants at Time 5, contact frequency was only significantly association with attitudes towards refugee claimants, contact quality, and their willingness to engage in future contact.

Regarding the extent to which prior contact experiences were perceived as friendly (contact quality), our second hypothesis was partially supported for the participants in the comparison group as significant associations were found with all variables of interest at both Time 1 and Time 5, except contact frequency and feelings of empathy for refugees. However, unexpectedly, this was not the case for the Together Project volunteers. At Time 1 the extent to which prior contact experiences were perceived as friendly was not significantly associated with any other variable of interest. Interestingly, at Time 5, analyses revealed that contact quality was significantly associated with all variables of interest except feelings of empathy for refugees. That is, the extent to which the Together project volunteers perceived their past interactions with refugees as friendly was significantly associated with almost all other variables post program (Time 5). Although the items asking about the quality of 'prior contact experiences' did not explicitly ask about the participants' experiences in the matching program, it is likely that the Together Project

participants were thinking of the recent experiences during their time in the program when answering these items at Time 5. As such, the Together Project participants' perceived quality of recent experiences in the program were of greater significance in relation to their overall attitudes towards refugees at Time 5 compared to quality of experiences prior to the program (Time 1).

It was also hypothesized that the participants in the comparison group would not see any changes from baseline to six months later for any of the variables of interest, and that the associations between the variables at the end of six months would be similar to those at baseline. Analyses revealed that while this was true for most variables, there was a significant change found from Time 1 to Time 5 regarding attitudes towards refugees and attitudes towards refugee claimants. Unexpectedly, the participants in the comparison group reported more favorable attitudes towards refugees and refugee claimants at Time 5 compared to Time 1.

In addition, analyses revealed a few notable differences between variable associations at Time 5 compared to Time 1. For example, reported feelings of empathy for refugees was found to be significantly associated with attitudes towards refugees, refugee claimants, immigrants, and Canada's refugee policies at Time 1; however, this was not the case at Time 5. Thus, participants who reported more favorable attitudes towards refugees, refugee claimants, and Canada's refugee policies also indicated having more feelings of empathy for refugees at Time 1; however, at Time 5 no significant associations between attitudes towards refugees, refugee claimants, immigrants, Canada's refugee policies and feelings of empathy for refugees were found. Although these associations were relatively weak

($r < .30$), the associations were statistically significant, while at Time 5 there was no significant association found, thus not supporting our hypothesis.

7.2 Together Project volunteers' experiences in the program

We hypothesized that during the matching program the volunteers who reported having more meaningful and cooperative interactions (higher mean scores of optimal contact) would also report lower levels of anxiety and higher levels of empathy for refugees. While

this hypothesis was not supported at Time 2, analyses did suggest that participants who indicated having more meaningful and cooperative interactions with their refugee match at Time 3 reported lower feelings of anxiety at Time 3. This was also true at Time 4. However, no significant associations were found between reported feelings of empathy and optimal contact at any of the timepoints, thus not supporting this aspect of the hypothesis.

It was also hypothesized that volunteers who reported having higher scores of optimal contact and lower levels of anxiety throughout the program would have higher scores of willingness to engage in future contact when asked at T5 (post program). This hypothesis was not supported as there were no significant associations found between optimal contact at Times 2, 3, and 4 and willingness to engage in future contact at Time 5. In addition, analyses demonstrated a significant association between feelings of anxiety at Time 3 and willingness to engage in future contact post program. Although feelings of anxiety throughout the program was not consistently associated with post program willingness to engage in future contact, this association provides some support for our hypothesis.

Our analyses allowed us to examine the Together Project volunteers' experiences in depth, which revealed some interesting findings that were not hypothesized. For instance, analyses did reveal that the extent to which participants reported feeling anxious about interacting with refugees remained fairly consistent throughout the program as no significant within-participant changes were found and the reported feelings of anxiety at Times 2,3, and 4 were strongly associated. In addition, analyses suggested that participants who reported higher feelings of anxiety during the program (Times 2, 3, 4) also reported slightly less favorable attitudes towards refugees, refugee claimants, and immigrants when asked at Time 5.

In addition, our analyses revealed a significant decrease in the reported frequency of virtual contact interactions from Time 2 to Time 4. In the first month of the program (Time 2), how frequently the volunteers interacted with their refugee match did not have any significant associations with any other variables. However, at Times 3 and 4, how frequently the volunteers interacted with their refugee match seemed to have strong associations with the reported level of satisfaction of the interactions, how meaningful and

cooperative the interactions were (optimal contact), and feelings of intergroup anxiety. This suggests that that later in the program, the volunteers who reported having interacted with their refugee match more often and consistently generally felt more satisfied with their interactions, felt as though the interactions were more meaningful and cooperative, and reported having less feelings of anxiety related to interacting with refugees.

Our analyses also suggested that the overall level of satisfaction with the interactions, and the extent to which the interactions were perceived as meaningful, and cooperative remained fairly unchanged throughout the program and remained strongly correlated. This suggests that participants who reported having more meaningful and cooperative interactions and being generally more satisfied at Time 2 reported the same for Time 3 and 4.

As discussed previously, no significant changes were found for the Together Project volunteers from pre to post program (T1 to T5); however, upon examining the Together Project participants' feelings of empathy at all 5 time points our analyses did suggest a significant within-participant change. Unexpectedly, there was a significant change in feelings of empathy for refugees from Time 1 to Time 2, suggesting that one month into the program the volunteers reported significantly lower feelings of empathy for refugees compared to at the start of the program. There was also a significant difference found between Time 2 and Time 3, suggesting a slight increase in feelings of empathy at Time 3. Following this trend, the reported feelings of empathy significantly increased from Time 3 to Time 4 and returned to near baseline levels at Time 5. Interestingly, despite the significant drop in feelings of empathy at Time 2, the post program results were nearly identical to those at Time 1, thus not revealing any significant change from Time 1 to Time 5.

Given that the volunteers' generalized attitudes towards refugees, refugee claimants, immigrants and Canada's refugee policies were extremely favorable already at Time 1, it is understandable that the average ratings would not get significantly more positive. Instead, the lack of change from Time 1 to Time 5 suggests that despite varying experiences in the program the generalized attitudes remained extremely favorable. Similarly, volunteers

reported being equally as willing to engage with refugees in the future post program as at Time 1.

7.3 Intergroup Contact Hypothesis

The current research sought to examine how involvement in a matching program that pairs established Canadians with refugees for approximately six months of virtual contact support affects generalized attitudes toward refugees. In particular, the reported frequency and quality of virtual contact were analyzed to determine their association with generalized attitudes towards refugees over time using the intergroup contact hypothesis (Allport, 1954) as the basis for our hypotheses. The intergroup contact hypothesis pioneered by Allport (1954) suggests that repeated, positive, contact between group members reduces group boundaries and enables more positive intergroup relations. Since then, recent evidence building upon the original hypothesis suggest that indirect forms of contact, i.e., virtual forms, have similar effects (Imperato et al., 2021). Allport (1954) proposed four conditions that optimize the positive effects, including *equal status between groups*, *intergroup cooperation*, *common goal*, and *support of authorities*. Research has since suggested that although these conditions may enhance the positive effects of intergroup contact, they are not essential (Pettigrew & Tropp, 2006). In addition, reduced feelings of anxiety towards the outgroup, and increased feelings of empathy have also been identified as key elements for enhancing the positive effects of intergroup contact (Pettigrew & Tropp, 2008). As such, we wanted to examine whether the volunteers' positive or negative experiences in the matching program were significantly associated with their post program attitudes towards refugees, feelings of anxiety related to refugees, their willingness to engage in future contact and feelings of empathy for refugees. In addition, given the evidence suggesting that repeated contact experiences over time have this effect, we wanted to examine the potential change in attitudes from the start of the program to after the program among the volunteers.

In line with the literature, we suggested that volunteers who had higher optimal contact scores throughout the program, that is, they reported having more meaningful and collaborative interactions, would be more willing to engage in future contact with refugees

post-program and have more favorable attitudes towards refugees. In addition, the literature suggests that when people feel anxious about interacting with refugees, they may be less supportive of policies aimed at helping refugees and hold less positive attitudes toward them (e.g., Murray & Marx, 2013). As such we suggested that volunteers who report feeling less anxious throughout the program would indicate being more willing to engage in future contact after the program and hold more favorable attitudes towards refugees. Although our findings did not directly support this prediction in terms of optimal contact and participants being more willing to engage in future contact with refugees, analyses did suggest that participants who reported higher feelings of anxiety during the program (Times 2, 3, 4) reported slightly less favorable attitudes towards refugees, refugee claimants, and immigrants when asked at Time 5.

As discussed, our findings did not show significant associations between the perceived quality of the volunteers' experiences or the extent to which the contact experiences were considered "optimal" and post program generalized attitudes or willingness to engage in future contact. Although this was unexpected and did not directly align with previous literature, one plausible explanation could be the extremely favorable attitudes towards refugees already held by the volunteers which also remained unchanged for the duration of the study. Further, these findings support the idea that the positive preexisting attitudes towards refugees outweighed the varying experiences in the program. Of importance, the sample we choose did consist of volunteers who actively sought to participate in a matching program. Thus, it is naive to assume that their attitudes would be anything less than favorable at the start of the program. However, despite this, we did expect to find some varying results at the end of the program associated to their experiences – which was not the case.

Previous literature also suggests that feelings of empathy for members of other groups is a key element for enhancing the positive effects of intergroup contact (Pettigrew & Tropp, 2008). Similarly, in situations where close friendship is formed, the literature suggests that it may enable increased empathy towards the outgroup, while reducing feelings of intergroup anxiety in the process (Page-Gould et al., 2008b). Our study examined the volunteers' feelings of empathy at all 5 timepoints, finding significant differences over

time. Unexpectedly, the largest difference was between Time 1 (start of program) and Time 2 (after the first month of the program), demonstrating a significant drop in feelings of empathy at Time 2. Feelings of empathy or perspective taking are often described as the extent to which someone is able to, or willing to, imagine the thoughts or feelings of others in their particular situation (Todd & Galinsky, 2014). Although speculative in explaining the drop in empathy at Time 2, it may be a case of pre-existing expectations about the program match not being met or a sudden realization of lack of knowledge about the situation. Perhaps as the volunteers engaged with their refugee match over time in the program the increased knowledge about their situation in combination with a possible friendship supported the increase in feelings of empathy over the duration of the program, returning to the baseline levels at Time 5.

In addition, we tested the possible influence of whether the volunteers themselves were immigrants to Canada. Although it is possible that a volunteer who has an immigrant background would be able to relate to their refugee match more than a Canadian born volunteer, our results did not suggest any significant differences between Canadian born volunteers and non-Canadian born volunteers' experiences in the program.

Lastly, an interesting and unexpected finding in this study showed that the participants in the comparison group reported more favorable attitudes towards both refugees and refugee claimants at Time 5 compared to Time 1. Although it is not possible to definitively explain this finding given the study design, it is important to highlight the timing of the study and the potential influence of the COVID-19 pandemic and increased awareness of racism after the George Floyd murder in May 2020. Recent research points to an increase in a sense of community connectedness and helping behaviors during the beginning of the pandemic and concurrent racial unrest in the summer of 2020 (e.g., Anderson, 2021). For the comparison group, it is plausible that these societal contexts in conjunction with an increase in media coverage of the COVID-19 pandemic emphasizing a "we're all in this together" mentality may have caused more positive attitude towards refugees and a desire to help those in need at Time 5 (Adam-Troian & Bagci, 2021; Bavel et al., 2020; Mawson, 2005) .

7.4   Limitations and directions for future research

Due to the design and timing, the study did have some limitations. As is common for many studies conducted during this time, especially studies outside a lab setting, the COVID-19 pandemic impacted this study. Firstly, due to the pandemic and strict public health restrictions regarding social distancing, the Together Project matching program was forced to shift to a fully virtual format for the first time in program history. Although this did not prevent us from conducting the study, the sudden shift in program operations likely impacted the volunteers' level of involvement in the program causing more uncertainty during unprecedented times. In addition, due to the quasi experimental study design, random assignment of the participants to condition was not possible. Rather, the participants who engaged with refugees actively sought out to participate in the matching program—contributing to nonequivalent groups which decreases internal validity of the study and does not prevent the possible influence of other confounding variables (Cook & Campbell, 1979).

Given that we wanted to examine the volunteers' virtual contact experiences over time, we chose a longitudinal design distributing surveys at 5 timepoints over 6 months. As is typical with longitudinal research, the volunteer sample suffered attrition by Times 2, 3, 4 and 5, significantly reducing our sample size. As such, we decided to analyze the volunteers in two samples: the 54 volunteers who completed both Time 1 and Time 5 were analyzed as one sample to determine the potential change from pre- to post-program and compared to the comparison group, and the 33 Together Project participants who completed all 5 surveys were analyzed as a subsample. The unequal sample sizes and small sample sizes in general, yielded issues of unequal variances between samples and loss of statistical power, limiting our plausible statistical analyses methods. In addition, given the correlational nature of the study, no causal connections between the variables can be made.

Of importance, obtaining a large enough sample size and limiting participant attrition is essential for future research to determine potential effects of contact experiences on generalized attitudes over time. In addition, examining demographic differences, such as gender identity, age, ethnicity, race, immigration status, level of education, employment

status and political orientation as potential covariates would be of interest and could have significant outcomes. For instance, controlling for participant immigration categories could yield significant differences in terms of their overall relatedness to refugee newcomers compared to Canadian-born volunteers. Similarly, previous research has shown that individuals with lower education, have a more conservative political ideology, and reside in rural areas tend to be less welcoming of immigrants and refugees in Canada (Environics, 2020) – As such, future research should consider examining these demographic variables as covariates.

Similarly, literature suggests that demographic characteristics of refugees such as ethnicity, race and religious affiliation are associated with different levels of prejudicial attitudes, thus contributing to a so called "ethnic or racial hierarchy of preference" for refugees and refugee claimants (e.g., Esses, 2021). Of importance, future research should examine whether there are any associations between the volunteers attitudes and the national origin, racial identity, or religious affiliation of the refugees with whom they are matched.

In addition, literature suggests that the type of virtual communication may influence the overall intergroup experience. For instance, media naturalness theory (Kock, 2011) suggests that the more natural the virtual communication is (i.e., resembles human face to face communication such as video calls), the more optimal the communication will be and not require extra cognitive effort (e.g., DeRosa et al., 2004) . In the context of this study, future research should consider examining the exact type of virtual communication that the volunteers engaged in throughout the program more thoroughly, as it potentially could influence the volunteers' perception of their experiences – the more "natural" form of virtual communication such as video chats, the more likely to yield stronger positive or negative effects.

In addition, the reliability of the measure for feelings of empathy in this study was less than desirable. Though Wang et al. (2003) reported acceptable levels of reliability for their shortened scale measuring empathetic perspective taking, the reliability in this study was low. As mentioned by Tavakol and Dennick (2011), low levels of alpha can be a result of too few items and can vary depending on the sample. Feelings of empathy or perspective

taking in general are complex constructs. Thus, future research should perhaps consider adding more items or including the full scale to improve reliability.

Lastly, although this research relied exclusively on quantitative data, it would be valuable for future research to include some qualitative components to obtain a deeper understanding of the contact experiences.

8   Conclusion

In 2021, the UNHCR reported that there were more than 84 million forcibly displaced people around the world. Due to the global pandemic, climate disasters and recent armed conflicts, this number is expected to continue increasing for the foreseeable future (UNHCR, 2021). Now more than ever it is crucial to examine ways to eliminate any potential feelings of threat and discomfort among the members of receiving societies to aid the integration of refugees. As mentioned previously, in Canada, refugee resettlement and integration largely rely on publicly funded programs that are implemented at the local level (IRCC, 2019), thus highlighting the importance of welcoming and accepting communities.

As suggested by previous literature, perceptions of threat, increased feelings of anxiety related to interacting with refugees, and negative contact experiences are associated with less favorable attitudes towards refugees as well as policies aimed at helping refugees (e.g., Barlow et al., 2012; Esses, 2021; Murray & Marx, 2013). However, repeated positive intergroup contact, even virtual forms, has the potential of mitigating these prejudices (Pettigrew & Tropp, 2006, Imperato et al., 2021). For that reason, the current research aimed to fill a gap in the literature by examining established Canadians' virtual contact experiences with refugees in a matching program. Although there were some contradictions between the current findings and past research, this study supports the idea that the positive preexisting attitudes towards refugees held by the volunteers outweighed the varying experiences in the program, thus not altering the volunteers, overall attitudes post program. Overall, the results of this study show that programs such as the matching program by the Together Project are extremely valuable for receiving communities across Canada, as they

connect community members with newly arrived refugees, thus building social networks that have the potential to foster more welcoming and accepting communities.

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10   Appendices

Appendix A. Study measures included in surveys

1.Attitudes, refugees, refuge claimants, and immigrants – included at T1 and T5 surveys for Together Project volunteers and comparison group.

1.1 What is your overall attitude toward the following groups?

a.   Refugees
b.   Refugee claimants
c.   Immigrants
d.   French Canadians
e.   Indigenous Peoples
f.   Americans
g.   Asian Canadians

1	2	3	4	5	6	7
Extremely Unfavorable						Extremely favorable

1.2 How positive or negative do you feel toward the following groups in Canada?

a.   Refugees
b.   Refugee claimants
c.   Immigrants
d.   French Canadians
e.   Indigenous Peoples
f.   Americans
g.   Asian Canadians

1	2	3	4	5	6	7
Extremely Negative						Extremely Positive

2. Attitudes Canadian refugee policy -- included at T1 and T5 surveys for Together Project volunteers and comparison group.

Instructions: Below are a series of statements with which you may either agree or disagree. For each statement, please indicate your personal response to each of the items on a 1 (disagree strongly) to 7 (agree strongly) scale. Please remember that there are no right or wrong answers, and that your first responses are usually the most accurate**.**

> **2.1** Refugees have many qualities I admire
>
> **2.2** Refugees are a drain on Canadian resources*
>
> **2.3** Refugees have made important contributions to Canada
>
> **2.4** Generally, Canada resettles too many refugees*
>
> **2.5** Resettlement of refugees in Canada should be encouraged
>
> **2.6** Refugees should be encouraged to come to Canada

1	2	3	4	5	6	7
disagree strongly						agree strongly

> **2.7** If it were your job to plan Canada's refugee policy, would you:

1	2	3	4	5	6	7
Decrease the number of refugees a lot						Increase the Number of refugees a lot

*Reverse coded

3.Prior contact frequency and quality -- included at T1 and T5 surveys for Together Project volunteers and comparison group.

Instructions: Please indicate your personal response to each of the following items on the scales provided.

3.1 How often do you interact with people you think are refugees around your home or in your neighborhood?

3.3 How often do you interact with people you think are refugees at restaurants, stores, or malls?

1. Never
2. Rarely
3. Sometimes
4. Often

3.4 What about when you interact with people you think are refugees around your home or in your neighborhood? How does it feel?

3.5 What about when you interact with people you think are refugees in restaurants, stores, or malls? How does it feel?

1. Very Unfriendly
2. Somewhat Unfriendly
3. Neither Unfriendly nor Friendly
4. Somewhat Friendly
5. Very Friendly

4.Intergroup anxiety -- included at T1 and T5 surveys for Together Project volunteers and comparison group.

Instructions: Please circle your personal response to each of the following items on the scales provided. 1- strongly disagree, 7- strongly agree

4.1. When I interact with or think about interacting with refugees, I feel anxious.

4.2. When I interact with or think about interacting with refugees, I feel comfortable. *

4.3. When I interact with or think about interacting with refugees, I feel relaxed. *

4.4. When I interact with, or think about interacting with refugees, I feel uncertain.

4.5. When I interact with, or think about interacting with refugees, I feel nervous.

1	2	3	4	5	6	7
disagree strongly						agree strongly

*Reverse coded

5.Feelings of empathy for refugees -- included at T1 and T5 surveys for Together Project volunteers and comparison group.

Instructions: Please circle your personal response to each of the following items on the scales provided. 1 = Strongly disagree that it describes me to 6 = Strongly agree that it describes me

5.1. It is easy for me to understand what it would feel like to be a person who is forced to flee their homeland to escape war, persecution, or natural disaster.

5.2. It is difficult for me to relate to stories in which people talk about the boundaries they have to face because of their refugee status in society. *

5.3. It is difficult for me to put myself in the shoes of someone who is a refugee. *

5.4. I know what it feels like to be the only person of a certain type in a group of people.

5.5. I can relate to the frustration that some people feel about having fewer opportunities due to their status as refugees.

5.6. I feel uncomfortable when I am around a significant number of people who I think are refugees. *

5.7. I don't know a lot of information about important social and political events relating to refugees. *

1	2	3	4	5
disagree strongly				agree strongly

*Reverse coded

6.Willingness to engage in future contact with refugees -- included at T1 and T5 surveys for Together Project volunteers and comparison group.

Instructions: Please indicate your willingness to engage in a range of contact behaviors with a refugee if given the opportunity:

1. Have a refugee as a casual acquaintance.
2. Accept a refugee as a neighbor.
3. Visit a refugee in his or her home.
4. Have a refugee visit one's home.
5. Accept a refugee as one's boss.
6. Accept a refugee as a work colleague.
7. Have a refugee as a close friend.
8. Have an intimate relation with a refugee.
9. Marry a refugee.
10. Accept a refugee as a family member through marriage.
11. Confide in a refugee.
12. Attend a cultural activity sponsored by a refugee organization.

1	2	3	4	5	6	7
Not at all willing						Extremely willing

7.Type of virtual contact – included at T2, 3, 4 for Together Project volunteers

Instructions: Please indicate your personal response to each of the following items on the scales provided.

What online platforms did you typically use to connect with your match?

Please rank (drag and drop) the methods from 1 (most frequent) to 5 (least frequent).

_____ Text messages

_____ Video chat

_____ Phone call

_____ Email

_____ Other (Please specify)

8. Frequency of virtual contact -- included at T2, 3, 4 for Together Project volunteers

Instructions: Thinking back to the past month: How many times did you connect with your refugee match via social media (e.g., WhatsApp), online or phone in the past month?

- o 0
- o 1-2
- o 3-4
- o 5 or more

9.Quality of virtual contact -- included at T2, 3, 4 for Together Project volunteers

9.1 In the past month, I have been satisfied with the overall quality of the interactions between my Welcome Group and refugee match.

1	2	3	4	5	6	7
disagree strongly						agree strongly

10. Optimal contact -- included at T2, 3, 4 for Together Project volunteers

Instructions: Thinking back to the past month:

1. Together with the refugee match we generally identified a common goal for each interaction involving a specific task, challenge, or goal (e.g., language learning, socializing, employment readiness)
2. During the interactions we were able to help the refugee match with specific tasks.
3. The interactions were equally meaningful for the Welcome Group members as the refugee household.
4. In the past month, I think social connections were created for both the Welcome Group members and the refugee household.
5. In the past month, I think progress was made in terms of the goals that were identified at the start of the program.

1	2	3	4	5	6	7
disagree strongly						agree strongly

Appendix B. Optimal Contact EFA at Times 2, 3, 4

Time 2 Optimal Contact Exploratory Factor Analysis

	M (SD)	Factor loadings	Cronbach's α
Optimal contact items			.85
1. Together with the refugee match we generally identified a common goal for each interaction involving a specific task, challenge, or goal (e.g., language learning, socializing, employment readiness)	5.53(1.36)	0.46	
2. During the interactions we were able to help the refugee match with specific tasks.	5.20(1.39	0.87	
3. The interactions were equally meaningful for the Welcome Group members as the refugee household	5.61(1.27)	0.76	
4. In the past month, I think social connections were created for both the Welcome Group members and the refugee household.	5.02(1.48)	0.57	
5. In the past month, I think progress was made in terms of the goals that were identified at the start of the program.	5.08(1.46)	0.94	

Note. 'Maximum likelihood' extraction method was used in combination with an 'oblimin' rotation

Time 3 Optimal Contact Exploratory Factor Analysis

	M (SD)	*Factor loadings*	*Cronbach's α*
Optimal contact items			.92
1.Together with the refugee match we generally identified a common goal for each interaction involving a specific task, challenge, or goal (e.g., language learning, socializing, employment readiness)	5.30(1.43)	0.86	
2.During the interactions we were able to help the refugee match with specific tasks.	5.22(1.49)	0.84	
3.The interactions were equally meaningful for the Welcome Group members as the refugee household	5.57(1.44)	0.88	
4. In the past month, I think social connections were created for both the Welcome Group members and the refugee household.	4.76(1.83)	0.69	
5. In the past month, I think progress was made in terms of the goals that were identified at the start of the program.	4.73(1.73)	0.91	

Note. 'Maximum likelihood' extraction method was used in combination with an 'oblimin' rotation

Time 4 Optimal Contact Exploratory Factor Analysis

	M (SD)	*Factor loadings*	*Cronbach's α*
Optimal contact items			.91
1.Together with the refugee match we generally identified a common goal for each interaction involving a specific task, challenge, or goal (e.g., language learning, socializing, employment readiness)	4.61(1.83)	0.73	
2.During the interactions we were able to help the refugee match with specific tasks.	4.86(1.66)	0.82	
3.The interactions were equally meaningful for the Welcome Group members as the refugee household	5.50(1.68)	0.65	
4. In the past month, I think social connections were created for both the Welcome Group members and the refugee household.	4.72(1.77)	0.90	
5. In the past month, I think progress was made in terms of the goals that were identified at the start of the program.	4.69(1.67)	0.99	

Note. 'Maximum likelihood' extraction method was used in combination with an 'oblimin' rotation

Appendix C. Together Project subsample correlation analyses

Table. *Associations between T1, T2, T3, T4, T5, Refugee match family size, Volunteer group size*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.T2-Contact frequency	—																
2.T2- Contact Quality	.109	—															
3.T2-Anxiety	-.310	-.058	—														
4.T2-Empathy	.127	.185	-.002	—													
5.T2-Optimal Contact	-.017	.595***	-.112	.036	—												
6.T3-Contact frequency	.090	.359*	-.227	-.137	.286	—											
7.T3- Contact Quality	.082	.352*	-.299	.087	.314	.529**	—										
8.T3-Anxiety	-.182	-.160	.727***	.105	-.037	-.367*	-.514**	—									
9.T3-Empathy	-.052	-.182	-.146	.369*	-.055	-.216	.036	.051	—								
10.T3-Optimal Contact	.232	.330	-.364*	.027	.472**	.501**	.776***	-.551**	.172	—							

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
11.T4-Contact frequency	.282	.327	-.519**	-.002	.224	.494**	.491**	-.688***	-.064	.590***	—						
12.T4- Contact Quality	.093	.363*	-.162	.160	.197	.539**	.626***	-0.435*	.015	.503**	.528**	—					
13.T4-Anxiety	-.094	.118	.660***	-.099	-.036	-.130	-.241	.745***	-.104	-.396*	-.575***	-.321	—				
14.T4-Empathy	.088	.049	-.199	.666***	.066	-.119	.028	.094	.556***	.059	.099	-.041	-.171	—			
15.T4-Optimal Contact	.208	.143	-.344	.169	.337	.529**	.566***	-.439*	.275	.716***	.580***	.767***	-.476**	.156	—		
16.Refugee match Family size	.450**	.169	-.337	.062	.231	.225	.386*	-.225	-.122	.382*	.291	.271	-.176	.023	.386*	—	
17.Volunteer group size	-.529**	.066	-.027	-.171	.057	.097	.018	-.225	-.004	-.113	.004	.170	-.177	-.194	.006	-.275	—
18.T1-Attitudes refugees	.106	.093	-.272	-.191	.347	.145	.045	-.221	-.209	.174	-.116	.010	-.106	-.422*	.104	.186	-.059
19. T1-Attitudes refugee claimants	.075	.075	-.181	-.209	.276	.066	-.136	-.103	-.248	.035	-.111	-.097	-.087	-.412*	-.029	.026	-.059
20.T1-Attiudes immigrants	.004	.016	-.112	-.388*	.250	-.163	-.193	-.081	-.100	-.035	-.130	-.123	-.099	-.315	-.109	-.132	-.052
21. T1-Attiudes Canada's refugee policy	-.008	-.017	.009	-.178	.081	.063	-.134	-.015	-.040	.044	.013	-.086	.032	-.421*	.040	-.021	.021

22. T1-Prior contact frequency	-.009	.169	-.192	.011	.394*	.151	.254	-.132	.156	.371*	.332	.205	-.271	-.065	.369*	.161	.005
23. T1-Prior contact quality	.043	-.067	.171	.103	.049	-.266	-.219	.198	.084	-.071	-.252	-.310	.144	.003	-.268	.169	.103
24. T1-Intergroup anxiety	-.149	.043	.610***	.147	-.212	-.104	.015	.560**	.199	-.183	-.333	.184	.542**	.069	-.107	-.225	-.082
25. T1-Feelings of empathy	.006	.069	-.051	.024	.490**	.144	.112	.054	.295	.298	.024	.097	-.122	.201	.331	.079	-.255
26. T1-Willingness for future contact	.077	.250	-.185	-.207	.222	.422*	.230	-.400*	-.355	.061	.226	.299	-.046	-.485**	.167	.087	.215
27. T5-Attitudes refugees	.135	.087	-.421*	-.116	.287	.189	.225	-.448*	.065	.377*	.281	.069	-.288	-.229	.310	.177	.079
28. T5-Attitudes refugee claimants	.206	.046	-.420*	-.248	.259	.325	.200	-.420*	-.036	.385*	.280	.001	-.230	-.303	.242	.217	.008
29. T5-Attitudes immigrants	.148	.153	-.385*	-.126	.285	.276	.196	-.447*	-.060	.319	.199	.097	-.255	-.314	.233	.211	.070
30. T5-Atitudes Canada's refugee policy	.090	-.163	-.032	-.229	.028	.153	-.091	-.109	-.109	.072	.095	-.028	-.051	-.474**	.158	.040	.042

31.T5- Prior contact frequency	.049	.320	-.164	.035	.413*	.024	.303	-.171	.120	.303	.339	.243	-.209	-.034	.317	.063	-.021
32.T5-Prior contact quality	.074	.145	-.401*	.063	.331	.380*	.078	-.286	-.046	.215	.174	-.004	-.255	-.162	.248	.131	.036
33.T5- Intergroup anxiety	-.133	.081	.564***	-.006	.052	-.078	-.106	.596***	-.129	-.200	-.338	-.051	.555***	-.027	-.263	-.248	-.071
34.T5- Feelings of empathy	.127	.057	-.178	.393*	.160	.212	.156	-.163	.382*	.295	.105	.294	-.354*	.321	.532**	.128	-.039
35. T5- Willingness for future contact	-.065	-.034	-.313	-.156	.088	.044	.235	-.489**	.115	.338	.291	.154	-.335	-.278	.329	.155	.244

Note. * $p < .05$. ** $p < .01$. ***, $p \leq .001$.

Appendix D. Study approval forms

![Western Research logo]

Date: 19 May 2020

To: Prof. Vicki Esses

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Study Title: Your Experiences with Refugees

Application Type: NMREB Initial Application

Review Type: Delegated

Full Board Reporting Date: 05/Jun/2020

Date Approval Issued: 19/May/2020 12:27

REB Approval Expiry Date: 19/May/2021

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Dear Prof. Vicki Esses

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the WREM application form for the above mentioned study, as of the date noted above. NMREB approval for this study remains valid until the expiry date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

This research study is to be conducted by the investigator noted above. All other required institutional approvals must also be obtained prior to the conduct of the study.

Documents Approved:

Document Name	Document Type	Document Date	Document Version
Debriefing Document	Debriefing Letter		
Email Recruitment for TP volunteers	Recruitment Materials	07/May/2020	
LOIC – ComparisonGroup	Implied Consent/Assent	07/May/2020	
LOIC– TPVolunteers	Implied Consent/Assent	07/May/2020	
MonthlyQuestionnaires	Online Survey		
PrePost-Program Questionnaires	Online Survey		
Recruitment Letter Comparison Group	Recruitment Materials		
VerbalRecruitmentScript	Oral Script	07/May/2020	1

No deviations from, or changes to the protocol should be initiated without prior written approval from the NMREB, except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the trial.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario. Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Katelyn Harris, Research Ethics Officer on behalf of Dr. Randal Graham, NMREB Chair

Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).

Curriculum Vitae
Maria Besselink

Education

April 2022 (Forthcoming)	MSc in Social Psychology, Specialization in Migration and Ethnic Relations, *Western University*
	• Thesis Topic: "More than just virtual communication: Examining virtual contact experiences between Canadians and refugees" supervised by Victoria Esses, PhD
05/2021	Explore French Language Program, *Université du Québec à Trois-Rivières*
	• Awarded a complete bursary to complete a 5-week French program
2016-2019	BSc Honors in Psychology, *University of Bridgeport*
	o Graduated Summa Cum Laude, Departmental Honors
	o Full Athletic Scholarship Recipient
	o Supervised by David Oberleitner, PhD

Academic and Teaching Experience

01/ 2022-05/2022	Graduate Teaching Assistant, Introduction to Management and Organizational Studies, *Western University*
09/ 2021- 05/2022	Course Marker, Addictive Behaviors & Introduction to Psychology, *King's University College*
09/ 2021- 12/202	Course Marker, Consumer Behavior, *Western University*
01/ 2021- 05/ 2021	Graduate Teaching Assistant, Introduction to Psychology, *Western University*
09/ 2020-05/ 2021	Graduate Mentor, Academic Success Program, *Western University*
09/ 2018- 05/ 2019	Writing Tutor and Mentor for Undergraduate Students, Academic Support Centre, *University of Bridgeport*
09/ 2020- 01/ 2021 & 2015 -2016	Substitute Teacher, Botby Lågstadie & International School of Helsinki*, Helsinki Finland*

Research Experience

05/2021-01/2022	Mitacs Accelerate Internship, *Cowichan Intercultural Society & Western University*
09/2019-05/2022	MSc Student, The Esses Lab for the Study of Intergroup Relations, *Western University*
09/2020-01/2021	Research Lead, Society of Graduate Students HR committee, *Western University*
09/2019-05/2020	Graduate Fellowship, *Pathways to Prosperity*
2018 (Summer)	Research Assistant, Summer Scholars Program, *University of Bridgeport*

Presentations

1. Besselink, M., & Esses, V. M. (2020). Examining Contact Experiences among Canadians and Refugees. Presented at the 2020 Pathways to Prosperity National Conference, Canada

2. Besselink, M., & Nelson, J.A. (June 2019) An Exploratory Analysis of Division II Team Sport Athletes: Constructs of Athletic Identity. Presented at the Tenth International Conference on Sport & Society 2019 convention, Toronto, ON

3. Besselink, M. & Oberleitner, D.E (March 2019) The Impact of Social Isolation on Coping Style Utilization. Presented at Faculty Research Day 2019, University of Bridgeport, Bridgeport, USA

4. Besselink, M. & Oberleitner, D.E. (March 2019) The Relationship Between Locus of Control, Rejection Sensitivity, and Anxiety Sensitivity: Impacts on College Adjustment. Invited Talk, Faculty Research Day 2019, University of Bridgeport, Bridgeport, United States

5. Besselink, M., & Nelson, J.A. (November 2018) Analysis of Division II Team Sport Athletes: Constructs of Athletic Identity. Presented at the New England Psychology Association 2018 Convention, Worchester, United States

6. Ayad, J., Besselink, M., and Oberleitner, D.E. (November 2018) The relationship Between Locus of Control, Rejection Sensitivity, and Anxiety Sensitivity: Impacts on College Adjustment. Presented at the New England Psychology Association 2018 convention, Worchester, MA

7. Besselink, M. (March 2018) The Psychological Effects of ACL Injuries on an Athletes Return to Sport. Faculty Research Day 2018, University of Bridgeport, Bridgeport CT, United States

Volunteer and Community Activities

04/2022	Alumni Research Poster Judge, Faculty Research Day, *University of Bridgeport*
01/ 2021-08/2021	Graduate Reviewer for the Western Undergraduate Psychology Journal
09/ 2020-08/2021	Co-chair of the Psychology Graduate Student Association, *Western University*
09/ 2020- 12/ 2020	Research Lead, Society of Graduate Students HR committee, *Western University*
2018-2019	Head Community Service Representative for Women's Basketball Team, *University of Bridgeport*

Scholarships, Awards, and Recognition

- o Mitacs Accelerate Internship $15,000 CAD
  - Project: Local Racism and Marginalization Study
- o SSHRC Canada Graduate Scholarships Master's (2020-2021) $17,500 CAD
  - Project: Examining Contact Experiences among Canadians and Refugees
- o Western Graduate Research Scholarship (2019-2021) $24,600 CAD
- o Full Athletic Scholarship, Basketball NCAA Div. II, University of Bridgeport $122,500 USD
- o Full Athletic Scholarship, Basketball NCAA Div. I, Wagner College (2016) $30,000 USD
- o Phi Kappa Phi Honors Society
- o Deans Award, Social Sciences Psychology, University of Bridgeport (2019)
- o Scholar Athlete of the Year Award, University of Bridgeport, (2018)
- o Psi Chi International Honors Society in Psychology

Certificates and Trainings

Issued in 2021	Tri-Council Policy Statement - Ethical Conduct for Research Involving Humans
Issued in 2019	Supervisor Health and Safety Awareness
Issued in 2019	Workplace Health and Safety Awareness
Issued in 2018	Information Privacy Security (IPS) Researchers by CITI