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Helping the Transition Through Building New Friendships: A Psychological Perspective on Supporting International Students' Acculturation and Social Integration

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Abstract

In the present research, I developed a program that paired newcomer international students with Canadian student mentors. These pairs met weekly throughout the year. Analysis of pilot quantitative data suggested international student participants did not experience changes in attitudes towards Canadian students or feelings of integration at university as they got to know their mentors, contrary to what I had initially hypothesized. After conducting focus group interviews and reforming the survey measures for the main study, I found that program participants experienced positive changes in sociocultural and psychological adaptation, and a reduction in acculturative stress over time. At the conclusion of the program, program participants also showed higher levels of psychological adaptation and lower levels of acculturative stress than control participants, who had not participated in the program. These findings make an important contribution to the empirical literature on the acculturation of international students and provide foundations for future research.

Keywords

International students, Acculturation, Mentorship, Sociocultural Adaptation, Psychological Adaptation, Acculturative Stress

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Chapter 1: Introduction

At the outset of the new millennium, the demand for the pursuit of higher education in a country other than one's native country was predicted to increase to the year 2025 (Bohm, Davis, & Pearce, 2002). Furthermore, the desire for international education is greatest amongst students in Asian countries, with English-speaking countries, including Canada, being the highest recipients of these students (Vincent-Lancrin, 2008).

According to Immigration, Refugees and Citizenship Canada (2015), 304,000 international students held valid study permits in 2013, a number that is nearly double the 168,000 permit holders who were present in 2004. In 2013, the vast majority of permit-holding international students in Canada were between the ages of 15 and 29, and were studying in Ontario, British Columbia, or Quebec (IRCC, 2015). At the University of Western Ontario, approximately 3,200 international students were enrolled as of 2014 (Western University, 2014).

Given the increased demand for international education, Canadian institutions have identified internationalization as a top priority (Association of Universities and Colleges of Canada, 2014). Internationalization is defined by the AUCC (2014) as "efforts to integrate an international, global, or intercultural dimension into the teaching, research, and service functions of universities," (p. 5). The more specific manifestations of internationalization can be seen in universities' strategic planning. In a 2014 survey, 45% of universities and colleges in Canada identified the recruitment of international undergraduate students as their top priority, while 70% of institutions listed the recruitment of international students as a top-five priority (AUCC, 2014).

While a large international student population can help an institution construct a global profile and develop internationally competent graduates (AUCC, 2014), the economic benefits of international education are not slight. A recent report indicates that international students contributed nearly eight billion dollars to Canada's economy in 2010 from tuition fees and created over 80,000 jobs (Belkhdja & Esses, 2013). In addition to contributing to Canada's economy through paying tuition fees, international students could also potentially contribute to the economy for years to come if they apply for permanent residence following graduation. As part of the Express Entry Program, Immigration, Refugees and Citizenship Canada (IRCC) has established a Post-Graduate

Work Permit Program (PGWPP) for international students to acquire the work experience needed to apply for permanent residence (IRCC, 2016). IRCC is also currently planning to make reforms to Express Entry in order to allow Canadian post-secondary credentials to be worth more points, enabling international students who received their educational credentials in Canada to have a better chance of qualifying for permanent residence if they apply (Zilio & Chiose, 2016). Therefore, with the growing interest in international students becoming future citizens of Canada, it is essential to recognize the processes involved in the cross-cultural transition that international students undergo upon arrival in Canada. Also, one must understand how to maximize the university experience so as to assist international students to achieve the most positive outcomes. First, then, it is necessary to identify what these processes and outcomes are.

As international students experience life in the host culture, they can be seen to undergo the process of acculturation, defined by Sam (2006) as “all changes following contact between individuals of different groups or backgrounds,” (pg. 11). The present research adopts a psychological perspective on understanding the international student experience. Scholars who have studied the psychology of acculturation, including Ward and colleagues, have identified two primary domains in which acculturation can occur, psychological and sociocultural (e.g. Ward, Bochner, & Furnham, 2001; Ward & Kennedy, 1993). Furthermore, scholars use the term *adaptation* to identify the stable changes that happen as a result of the acculturation experience. Thus, in investigations of the acculturation of international students, one can study both psychological and sociocultural adaptation. Newcomers’ psychological adaptation refers to their psychological well-being in the new environment (Berry, 2006). Sociocultural adaptation is a newcomer’s instrumental ability to negotiate day-to-day social tasks in the new culture (Masgoret & Ward, 2006). The following sections distinguish between these forms of adaptation and identify their antecedents.

1.1 Psychological Adaptation of International Students – The Role of Acculturative Stress

As stated by Berry (2006), the long-term psychological adaptation outcomes of newcomers in a host country can be variable. That is, the degree to which a newcomer’s

psychological outcomes are positive or negative is contingent on numerous individual and situational variables. One factor that can influence an individual's well-being or psychological adaptation upon arrival in the new country is the potential occurrence of acculturative stress. Acculturative stress is identified by Berry (2006) as resulting when a person feels unable to handle environmental stressors that are specifically related to the acculturation experience. In the case of international students, acculturative stressors could include language barriers, academic challenges, challenges in social situations with host culture members, and discrimination (Smith & Khawaja, 2011). While the specific stressors that contribute to the experience of acculturative stress may vary from individual to individual, the stressors international students encounter are broadly rooted in the acculturation experience.

In their review of two decades of largely correlational research on international student psychological and sociocultural adaptation outcomes, Zhang and Goodson (2011) found that higher levels of acculturative stress were predictive of more negative psychological outcomes. This finding is substantiated by Wei et al. (2007) who found acculturative stress was linked to depression in a sample of Taiwanese international students studying in the United States. Wilton and Constantine (2003) found that acculturative stress was associated with psychological distress in both Asian and Latin American international students. Given the role of acculturative stress in contributing to the psychological outcomes experienced by international students, it is imperative for researchers to identify factors that could buffer international students from experiencing acculturative stress. These factors can be targeted in initiatives designed to promote more positive post-arrival psychological outcomes for international students.

Zhang and Goodson (2011) also identify studies that consider acculturative stress as an outcome variable. The studies reviewed by Zhang and Goodson (2011) examined English language proficiency as one predictor of acculturative stress. These studies (Duru & Poyrazli, 2007; Yeh & Insoe, 2003) found that higher English proficiency was associated with lower acculturative stress. This would suggest that students with lower levels of English proficiency have difficulty handling acculturative stressors at university such as academic and social challenges. In addition to struggling with academic tasks, students with lower English proficiency levels may be less likely to engage socially with

host-national (i.e. Canadian) students, since social situations involving members from the host culture may exacerbate feelings of acculturative stress for international students who have poorer language proficiency.

A study by Lee, Koeske, and Sales (2004) also supported the link between acculturative stress and negative psychological symptoms. However, they also identified social support as a moderating variable in this relationship. Students with higher perceived levels of social support experienced fewer psychological symptoms, even with higher levels of acculturative stress. This finding might indicate that the availability of interpersonal connections as one negotiates the challenges associated with making a cross-cultural transition can be important in buffering the impact of acculturative stressors. However, one needs to recognize that social support for international students could come from both host-national students - students who are natives of the host country (i.e. Canada), and co-national students – fellow international students from the same native country (i.e. fellow international students from China for Chinese students). Considering the role of interactions with host-national students, Ying and Han (2006) found that for international students in the United States, friendship with Americans reduced acculturative stress 14 months after arrival. Additionally, Sawir, Marginson, Deumert, Nyland, and Ramia (2008) concluded that a social network containing host-national students is integral for international students' ability to overcome the challenges associated with loneliness, an acculturative stressor.

In sum, the literature on international students' psychological adaptation suggests that having difficulty in adapting to the host environment can lead to poorer psychological adaptation through the experience of acculturative stress. However, some important buffers include language proficiency and contact with students who are from the host country. It is perhaps the case, then, that an acquisition of the tools necessary to navigate social life in the host country can serve as a buffer against poor psychological adaptation and the experience of acculturative stress. In the next section, the culture learning aspect of the cross-cultural transition is discussed.

1.2 Sociocultural Adaptation of International Students

The psychological domain of adaptation for international students is based upon a stress and coping framework (Berry, 2006). Another perspective applicable to the case of

international students is the culture learning perspective (Ward & Kennedy, 1999; Ward, Furnham, & Bochner, 2001). The central tenet of this perspective is that newcomers learning the social customs of a new culture can face challenges when interacting with host-nationals (Masgoret & Ward, 2006). The long-term outcomes for newcomers in this domain are termed sociocultural adaptation (Ward & Kennedy, 1999) and involve the acquisition of skills necessary to navigate social interactions. In other words, sociocultural adaptation could be likened to one's communication competence in the new culture, that is, one's ability to utilize effective and appropriate communication behaviours across intercultural social situations (Wiseman, 2002). Therefore, one should expect to see relationships between communication skills and social outcomes in the literature on international students.

A study by Poyrazli and colleagues (Poyrazli, Arbona, Nora, McPherson, & Pisecco, 2002), investigated the effects of English proficiency on adjustment strain for students. They found that English proficiency was associated with a greater perceived ability to handle new situations and make friends with host-national students. Their work included measures of international students' self-perceived ability to speak, read, write, and understand English. Furthermore, a study by Gong and Fan (2006) found that standardized English test scores and social support both contributed positively to social adjustment. These findings suggest that English proficiency can influence international student outcomes in both the psychological and sociocultural domains. This would not be entirely surprising since a basic level of English proficiency is generally necessary in order to navigate the social situations that can lead to acculturative stress.

Studies also indicate the importance of social relationships in facilitating international students' sociocultural adaptation. For example, Li and Gasser (2005) found that the amount of contact that international students had with host-national students was positively related to their cross-cultural social efficacy, that is, their perceived ability to handle social tasks in the host culture. Also, Hechanova-Alampay, Beehr, Christiansen, and Van Horn (2002) found that international students who reported a greater degree of contact with host-nationals reported better adjustment to the new environment. Finally, Rasmi, Safdar, and Lewis (2009) found that connections with host-nationals at the outset

of an international student's studies were associated with better sociocultural adaptation 18 months later.

Thus, both English proficiency and social support seem to be important in promoting the most positive psychological and sociocultural outcomes for international students. Because sociocultural adaptation concerns a newcomer's ability to negotiate social situations in the host culture (Ward et al., 2001), and acculturative stress is rooted in one's ability to handle challenges in the host culture (Berry, 2006), I would suggest that it is social support by means of contact with host-national students that should be targeted when attempting to promote the most positive acculturation outcomes for international students over time. This is because contact with host-national students allows international students to engage in and practice the language and social skills needed for success in host country social situations.

While a large amount of correlational literature exists which can speak to the positive effects of contact with host-national students on international students' social outcomes, there is a scarce amount of literature that takes an interventionist perspective. That is, few researchers have implemented initiatives that aim to directly provide international students an opportunity to become friends with a host-national student, an opportunity that may not naturally arise for some international students. This is where I strive to make a significant contribution not only to the empirical literature on international student adjustment, but to my own university community as well. In the present research, I applied background and theory from social psychology to design, implement, and evaluate a mentorship program for international students at Western, in which they would have the opportunity to form a friendship with a host-national student. In the following sections of this chapter, I continue by describing extant theoretical perspectives on cross-group friendships before moving into a discussion of past social support programs that have paired international students with host-national students.

1.3 Friendships with Host-national Students: Past Theory and Research

In one of the first writings on international student social networks, Bochner, McLeod, and Lin (1977) argued that there are three sources of friendships for international students

– friendships with co-national students, friendships with other international students, and friendships with host-national students. Bochner et al. (1977) suggested that friendships with co-national students would serve an emotional function, aiding students with the emotional difficulties that might be associated with the cross-cultural transition, and friendships with fellow international students from countries other than one's native country, might take place in the context of recreation. Friendships with host-national students, on the other hand, would serve an instrumental function for international students, as host-national students could provide information about the host society as well as the knowledge and skills on how to navigate social interactions.

Considering the recent literature review by Zhang and Goodson (2011), one might wonder whether the influence of friendships with host-national students is restricted to the sociocultural domain. Indeed, many of the acculturative stressors faced by international students, including academic tasks, forming friendships with hosts, and perceived discrimination, are rooted in interactions with the broader host community (Smith & Khawaja, 2011). The ability to manage these stressors would likely predict overall psychological adjustment, and international students could gain the skills necessary to manage these stressors from interactions with host community members. Therefore, it is conceivable that the acculturative stress levels and psychological adaptation of international students may be influenced by contact with host nationals, in addition to contact with co-nationals. Furthermore, Ward and Kennedy (1993) state that the degree of the correlation between psychological and sociocultural adaptation is contingent upon the extent to which a newcomer integrates into the host culture, and uses host members for social support. Contact with host members could lead to a mastery of social tasks in the new country and therefore, to an enhanced sense of well-being. If newcomers only affiliate with co-nationals, their well-being levels may not be predictive of sociocultural adaptation, and vice versa. In the case of international students, then, the influence of having host-national student friends could influence well-being or psychological adaptation, through an increase in sociocultural adaptation and a reduction in acculturative stress.

Other literature from the social psychology of intergroup relations can suggest that there may be additional psychological benefits (and not solely instrumental benefits)

for international students when they have positive contact with a host-national student. Meta-analytic work has found that cross-group contact with an outgroup member can lead to a reduction in prejudice toward the entire outgroup (Pettigew & Tropp, 2006). Numerous explanations have been put forth as to why cross-group contact has been so effective in improving intergroup attitudes and relations (for a detailed review, see Pettigew, 1998), but in recent decades, intergroup relations researchers have identified cross-group *friendship* as playing a substantial role in terms of a generalization of positive attitudes from a single outgroup member to an entire outgroup (Davies, Tropp, Aron, Pettigrew, & Wright, 2011; Wright, 2009; Wright, Aron, McLaughlin-Volpe, & Ropp, 1997). In the present work, I take the perspective that of all the factors, that may be at play during cross-group interactions, friendship formation should be regarded as a unique form of cross-group contact in which the affective and attitudinal changes facilitated by cross-group contact are the greatest. Thus, the focus of the present research is not merely on contact between international and host-national students, but rather, what happens when international and host-national students have the opportunity to develop friendships.

If friendship can be differentiated from “contact,” what then, are the processes so unique about friendship that can lead to stronger attitude changes than positive contact alone? In a meta-analysis of different operationalizations of cross-group friendship, Davies et al. (2011), found that time spent with an outgroup friend and mutual self-disclosure in a friendship were important factors that enabled cross-group friendships to lead to the generalization of positive attitudes toward the entire outgroup. As a friendship develops, some researchers including Aron and colleagues (e.g. Aron, Aron, Tudor, & Nelson, 1991; Aron, Aron, & Smollan, 1992) have theorized that an inclusion of the other in the self (i.e. when another’s successes, interests, and characteristics can come to be experienced as a person’s own) can occur over time as a person becomes interpersonally close to another individual. Wright and colleagues (e.g., Wright, Brody, & Aron, 2005) have extended this view to suggest that when outgroup members become friends, outgroup membership is one aspect of the “close other” that people can include in their sense of self. I explore the relevance of the inclusion of the outgroup in the self to the present context in greater detail in Chapter 2. Overall, however, this literature on

friendship may suggest that in the context of international students and host-national students, it is important for contact opportunities to be more meaningful and enduring than positive but superficial interactions, as the formation of friendships may have the most lasting positive effects for both international and host-national students.

Despite the social and psychological benefits that friendships with host-national students can have for international students, recent data propose that not of all the experiences of international students are characterized by high levels of friendship with host-nationals. A June 2015 report from the Canadian Bureau for International Education presented a mixed methods study showing that over 56% of 3,000 international students surveyed across all provinces reported no friendships with Canadian students. Interviews with some respondents revealed barriers to the formation of friendships with Canadian students, which included a lack of involvement of Canadian students in international on-campus events, a lack of confidence in conversing in English, and a preference for international students to mix with co-national contacts if available. Perhaps most interestingly, however, some respondents suggested that while the interactions they did have with Canadians were not negative, they were superficial, and thus likely did not lead to close and enduring friendships. A separate report from Academica Group (2016) found that while over 60% of Canadian students reported having socialized or introduced themselves to an international student, less than half had studied or shared a meal with an international student, and only 13% of Canadian students had mentored an international student. Therefore, opportunities for the types of exchange that can lead to deeper, more meaningful friendships do not frequently occur. Further, these trends are not only pertinent in Canada, as research in other English-speaking countries suggests that international students are apprehensive about initiating social contact with host-national students (Wright & Schartner, 2013), and that language difficulties may impel international students to limit their social affiliations to co-nationals, though they may initially expect opportunities to engage in English with host-national students (Townsend & Poh, 2008).

The importance of meaningful contact (i.e. friendships) with host-nationals, for international students, and its rather infrequent occurrence on campuses, demonstrates the urgency of establishing empirically evaluated university programs that facilitate contact

between international students and host-nationals. The literature on these initiatives is scant but can provide a springboard for the development of initiatives such as the mentorship program developed for the current research. An overview of past interventions is provided in the next section.

1.4 Past Adjustment Programs for International Students

Although scarce, the literature on support initiatives for international students can be divided into two themes: peer mentoring (one-to-one) and group level initiatives. In the evaluation of these initiatives, the outcomes one should consider could broadly fit into the psychological and social domains. It should also be noted that the type of contact with host-national students that international students experience in these interventions is structured. That is, it is arranged by an external source (i.e. university administration, programmers) and may not be occurring spontaneously. However, these initiatives may also provide international students the chance to have repeated contact, or a series of interactions with a host-national student. Students might not be able to establish lasting connections or interpersonal closeness with a host-national student through less-structured contact (i.e., casual interactions in lecture halls, residence, etc.).

The effectiveness of a peer-mentoring program for international students was tested empirically by Westwood and Barker (1990) at the University of British Columbia. Newly arrived international students were paired with trained peer mentors from the undergraduate body and these pairs were encouraged to meet at least twice per month. The activities in which pairs engaged ranged from formal or academic activities (i.e. studying, using campus services) to friendship-based or informal (i.e. attending sporting events, movies, restaurants). It was found that international students who participated in the program achieved higher grades and were less likely to drop out of the university in comparison to students who did not participate in the program. Westwood and Barker (1990) acknowledge that it is possible that a selection factor (i.e., more motivated international students registered for the program) could have influenced the results. However, the same pattern of results was obtained in three consecutive academic years. One area for additional research that stems from this initial study is the consideration of the potential implications of a peer-mentoring program (structured contact with a host-

national student) on psychological and social variables, as opposed to academic variables alone.

Another intervention conducted by Abe, Talbot, and Geelhoed (1998) examined the influence of a peer-mentoring program on various aspects of international student adjustment to university. Over the course of a semester, pairs of newcomer international students and host-national students were encouraged to attend many social events on campus together and were also encouraged to schedule events on their own. Using the Student Adaptation to College Questionnaire (Baker & Siryk, 1989), Abe et al. (1998) found that, in comparison to students who did not participate, international students in the program reported higher scores in the social domain. No differences were observed in the personal domain, which Abe et al. (1998) describe as a measure of psychological adaptation to university, nor were any changes observed on the institutional attachment subscale.

Gresham and Clayton (2011) developed a small pilot program at an Australian university in which 16 host-national and 13 international undergraduate students participated. As with the Westwood and Barker (1990) study, students in Gresham and Clayton's study were given the freedom to engage in numerous activities. The host-national students reported that the most common activities in which they engaged with their partners were dining, conversation, and attending sporting events and movies. The international students indicated that the most positive outcome of program participation was an improvement in their English proficiency and development of friendships with host-national students.

Woods et al. (2013) recently conducted another mentoring intervention in Australia. It was found that international students participating in a mentorship program, which paired them with host-nationals, experienced a positive change in the amount of time they spent with members of a different ethnic group over a five-week period, relative to control participants, who did not experience a change. Additionally, Woods et al. (2013) found that mentors who showed a greater multicultural personality, a stronger ability to manage challenging intercultural situations, and show cultural sensitivity, (Van Oudenhoven & Van der Zee, 2002), were more effective at fulfilling mentorship

functions that involved providing support and practical advice and helping the mentee feel comfortable.

Other programs developed for international students are group-level interventions and have shown varying degrees of efficacy in affecting intended outcomes. Mak and Barker (2004) developed and tested a classroom-based program for international students' cultural learning, which they named the EXCELL™ program. This program allowed students to practice social interactions and was found to be effective in helping students establish social skills. Todd and Nesdale (1997) developed a residence-level intervention at an Australian University in which they offered structured intercultural activities to international and host-national students living in the same residence. They found that host-national students who participated in the program engaged in more future intercultural interactions outside of the program than those who did not participate, but that this pattern was not the case for international students. However, Todd and Nesdale (1997) did not clearly specify the type of contact that was of interest as an outcome of the study (e.g. friendships). In another group-level intervention, Sakurai, McCall-Wolf, and Kashima (2010) sent a group of newly arrived international students on a bus trip to visit a local tourist attraction at the outset of their studies. Participants who participated in the program were found to have established more ties with host-national students four months after arrival. Sakurai et al. (2010) argue that the eventual formation of ties with host-national students may have been facilitated by an early exposure to the local culture and having been given the opportunity to meet other international students (from countries other than one's native country) on the bus trip.

The literature I have reviewed thus far suggests that friendships with host-national students are important for international students to experience positive social outcomes at university. Given that the Abe et al. (1998), Gresham and Clayton (2011), and Woods et al. (2013) studies demonstrate the positive impact of peer programs on social outcomes, assessments of interventions should include social variables as outcome measures. Nonetheless, the literature empirically examining these interventions is rather scarce, seeing as how only a handful of studies have empirically tested the effectiveness of mentorship programs over the past several decades. If universities are now prioritizing internationalization, with more international students arriving every year, then it is

imperative they are equipped with data which can inform them as to how to optimize the social experiences of these students once they arrive. With a lack of studies investigating the effectiveness of structured interventions involving contact with host-national students, universities currently do not have an abundance of data upon which to rely when determining whether peer mentorship initiatives should be included as part of an effective internationalization strategy. Therefore, studies that assess the influence of supportive and repeated contact with a host on international students' social and psychological outcomes are needed.

Chapter 2: Pilot Study – Data Collected During the 2014-15 Academic Year

The initial study in this program of research utilized a social identity perspective. The basic premise of Social Identity Theory is that the social groups to which a person belongs can form a crucial part of that person's sense of self (Turner & Tajfel, 1979). Social Identity theorists also posit that people are motivated to achieve "positive distinctiveness" on the basis of the groups to which they belong (Turner, 1999). However, not all social groups are evaluated positively in relation to others (Ellemers, 2001), and thus within certain social contexts, some groups can be seen to be of a lower status than others. Returning to the social context of the university, I began this work by conceptualizing international and host-national students as forming distinct groups, with international students occupying a lower social status than host-national students at university. Given the challenges they may experience with English and in engaging in day-to-day social tasks in the host language, international students could be unified in terms of the difficulty of the social experiences they have at university, relative to host-national students.

Ellemers (2001) has identified different strategies that people can adopt when they belong to a lower-status group. One strategy is individual mobility, leaving the lower-status group and joining the higher-status group. However, the adoption of this strategy is predicated upon boundaries between the high and low-status groups being permeable. That is, it must be possible for lower-status group members to leave the lower-status group and join the higher-status group. In the present context of international and host-national students, I did believe that it would be possible for international students to, over time, increasingly feel like they were moving into the same social category as host-national students, provided they were having positive contact (i.e., becoming friends with) with a host-national student.

As discussed in Chapter 1, the cross-group contact literature has suggested that positive contact with an outgroup member can reduce feelings of prejudice towards the entire outgroup to which that particular outgroup member belongs (Davies et al., 2011; Pettigrew & Tropp, 2006), and that the inclusion of the other in the self is theorized to

occur during friendship formation (Aron, Aron, & Smollan, 1992). Some theorists (e.g. Wright, Brody, & Aron, 2005) have proposed that an inclusion of the other or outgroup in the self can play a role in accounting for this change in outgroup attitudes. As a person becomes close to another who is a member of an outgroup, the person may come to feel more connected to an outgroup's experiences or traditions, having become close friends with a member of that outgroup. While most of the intergroup relations literature investigating this phenomenon has pertained to the study of groups between which the boundaries are impermeable (i.e., racial groups), I proposed that in the context of international and host-national students, the boundaries between the two groups could be seen as permeable. Thus, I hypothesized that rather than through an inclusion of the outgroup in the self, perhaps international students would experience a generalization in positive attitudes towards the outgroup of host-national students, as a result of becoming friends with one host-national student, because international students would feel like they were becoming a member of the outgroup over time as the friendship grew and developed.

If international students can become more like the host-national student outgroup over time, then the boundaries between the two groups need to be defined in a way such that they are permeable. One way in which I conceptualized group boundaries was in terms of language fluency. Host-national students can be described as more fluent, proficient, or competent English speakers in comparison to international students, who may still be learning the language. However, over time, as a result of engaging in contact with a host-national student, international students may feel like they are become more proficient in English themselves. Therefore, if international students and host-national students are defined as two distinct groups in terms of language fluency, then it would be possible for international students to move themselves out of the lower-status group (i.e. "Language Learners.") and into the higher-status group ("Competent Speakers").

In the initial pilot study, I hypothesized that for the international students, a series of interactions with a host-national student would serve to enhance international students' positive attitudes towards the outgroup of host-national students. I hypothesized that this generalization in positive attitudes would occur through the international students developing increased feelings of individual mobility over time. That is, international

students, when defined in terms of being “Language Learners” would develop more positive attitudes toward hosts, “Competent Speakers,” over time because the language learners would increasingly feel like they were becoming competent speakers themselves as a result of engaging in a series of positive interactions with a competent speaker.

2.1 Variables and Measures for Pilot Phase

In the pilot study, the primary outcome measures were attitudes towards three labels for the target outgroup of host-national students (Western Students, Canadians, Competent English Speakers), and feelings of integration at university. Students’ self-perceived language proficiency (the extent to which they were an “English Learner” or “Competent Speaker”) was included as a mediator of the relationship between having contact with a Western student mentor and outgroup attitudes. Feelings of interpersonal closeness to one’s partner were also included in this initial study. I predicted that students who became closest to their partners would experience the most positive outgroup attitudes and feelings of social integration at university following the completion of the program.

Attitudes toward the three target outgroups (to describe host-national students) were measured on the Feeling Thermometer (e.g. Haddock, Zanna, & Esses, 1993), a single-item continuous measure in which participants are asked to indicate how warm or how cold they feel towards an outgroup on a scale of 0 to 100, with 0 being very cold, and 100 being very warm. Attitudes were also assessed using a measure similar to Eagly’s stereotypic dimensions measure (e.g. Diekmann & Eagly, 2000). Participants were to rate on 7-point on a scales, the extent to which a member of one of the target groups was *awful (1) to nice (7)*, *bad (1) to good (7)*, to *unpleasant (1) to pleasant (7)*. Self-perceived language proficiency was assessed by having participants rate on a single-item 10-point measure, the extent to which they felt they were an “English Learner” or a “Competent Speaker,” with these two group names anchoring each end of the scale. Feelings of integration at university were measured on a five-item, 7-point scale (*1 = not at all, 7 = very much*), with sample items including “I feel I am a part of Western University,” and “I feel comfortable at Western University.” Feelings of interpersonal closeness were measured at each time on a four-item, 7-point scale (*1 = not at all, 7 = very much*) with sample items including “How comfortable were you with your partner

the last time you saw him/her?” and “How close do you feel with your partner?” These measures are displayed in Appendix G.

2.2 Participants and Results: Fall 2014

For each stage of the present research, international student participants were recruited from the Western English Language Centre (WELC) at Western. The WELC is housed in Western’s Faculty of Education, and students in the WELC have been guaranteed acceptance into a faculty at Western, with their acceptance to Western being contingent upon the successful completion of the program at the WELC. For the Fall 2014 semester, the original plan was to concurrently recruit students from the WELC and Western student mentors through the Student Success Centre (via online advertisements), so that student-mentor pairs could be quickly created. As they signed up, both WELC students and mentors were to complete a questionnaire in which they could highlight their personal interests and be matched with a mentor or mentee with a similar background. After the creation of pairs, mentors were to contact their WELC student partners through email and meet weekly with them for at least one hour over the course of the Fall 2014 semester.

I intended to assign half of the WELC students I recruited to a program group and the other half to a waitlist (control) group. The participants in the program condition were to meet weekly with a Western student mentor for the duration of the Fall 2014 semester, while those on the waitlist (control) were to begin meeting weekly with a Western student mentor during the Winter 2015 semester. Due to some external factors, the program did not commence until the end of October 2014. These factors included the length of time to receive approval from the institutional Research Ethics Board, and staff from Western’s Student Success Centre, who were tasked with the recruitment of mentors from the Western undergraduate body, being unable to dedicate themselves to this task until late-October. While I was able to recruit WELC students in early-October, shortly after the late-September ethics approval, I was not able to recruit mentors until late-October. Thus, there was a several week delay between the recruitment of WELC students and mentors. Due to this later than anticipated start of the program, some of the Western mentors were unable to reach their WELC student partners via email as the WELC students did not regularly check their Western email accounts. Thus, a number of the WELC students who

had been assigned to the program condition did not engage in contact with a host-national student during the Fall 2014 semester.

While the program did not run for a sufficient amount of time for its effects to be measured over the course of the Fall 2014 semester, sixty-five students from the WELC were recruited to participate in the program during the Fall of 2014. There were 31 males and 33 females, with one participant not providing a gender. Thirty-two of these participants (12 males, 20 females) were randomly assigned to a program condition, while 33 (19 males, 13 females, one unspecified) of these participants were randomly assigned to a waitlist (control) condition. The average age of the participants in the program condition was 20.32 years ($SD = 4.73$ years). Among program participants, 10 had been in Canada for less than one month, 15 for one to four months, and seven for more than four months. Sixteen program participants were from China, eight from Angola, four from Brazil, two from Libya, one from Portugal, and one from Germany. The average age of the waitlist participants was 20.31 years ($SD = 4.74$ years). Among waitlist participants, 11 had been in Canada for less than one month, 11 one to four months, and eight more than four months, while three did not specify how long they had been in Canada. Sixteen waitlist participants were from Angola, seven were from China, five were from Brazil, two were from Libya, one from Serbia, and one from Vietnam. One waitlist participant did not list a home country.

2.3 Participants and Results – Winter 2015

The second phase of recruitment for this initial study occurred in January 2015. Forty-five students (20 males, 21 females, four unspecified) were recruited from the Western English Language Centre. Fourteen of these students (seven from the program, and seven from the waitlist) had been recruited the previous semester, while all other participants in Winter 2015 were new recruits. The average age of these students was 19.10 years ($SD = 2.81$ years). Among these participants, 13 had been in Canada for less than one month, 18 for one to four months, and 11 for more than four months. Three participants did not specify how long they had been in Canada. Thirty-three participants were from China, five from Angola, two from Libya, and five did not specify their native country. All of the students recruited were told that they would be paired with a mentor from the Western student body for that semester. This was because the proposal submitted to the

ethics board at the beginning of the year indicated that all students recruited for the program would be paired with a mentor by the time of the Winter 2015 semester. Thus, there was no control group in the Winter 2015 pilot study, and only changes over time on the outcome measures could be investigated for the program participants.

The recruited WELC students were introduced to their mentors at a group session in late January. All of the mentors and WELC students attended this session, which occurred two weeks after the WELC students were initially recruited. The purpose of group session was to link the mentors and WELC students as soon as possible and avoid the difficulties that were encountered as the mentors attempted to contact their WELC partners through email the previous semester. WELC student-mentor pairs were encouraged to meet weekly throughout the Winter semester, as well as attend bi-weekly group meetings that I arranged. Mentors were also encouraged to exchange phone numbers with their WELC partners in order to set up weekly meetings. Data were collected from the WELC students at the group meetings that were attended by the mentors and WELC students. Table 1 indicates the number of respondents per measurement time on each measure as well as the means on the primary outcome variables at each time. Some variables were collected at each time, some at four times, while others were only collected at two times.

The means of the measures collected (see Table 1) indicated that participants began the Winter 2015 semester past the mid-point of the scales and experienced little change over time. For example, on the 100-point scale, participants rated their attitudes towards the outgroup of Canadian students as 72.7 (SD = 18.31) at Time 1¹, 80.67 (SD = 13.02) at Time 2, 75.83 (SD = 15.34) at Time 4, and 80.08 (13.46) at Time 5. Participants reported being very close to their partners immediately upon meeting them and this also did not fluctuate over the course of the semester, with a mean of 6.1 (SD = .85) at Time 1 and a mean of 6.03 (SD = .5) at Time 5. One exception was the means for self-perceived language competence, which were 4.81 (SD = 1.55) on the 10-point scale at Time 1, and 5.7 at Time 5 (SD = 1.24). However, to better understand the response patterns on these questionnaire measures, I decided to conduct focus groups interviews with participants,

¹ Time 1 was in mid-January, 2015, while Time 5 was early-April, 2015. For the 100-point feeling thermometer, measures of outgroup attitudes were not taken at Time 3.

as it seemed that most of the questionnaire measures I had used were not picking up on the changes over time I had expected them to uncover.

Chapter 3: Follow-up to Winter 2015 Data Collection and Laying the Groundwork for 2015-16 Data Collection

3.1 Focus Group Interviews

To follow up the initial questionnaire findings, I conducted focus groups with participants in which explanations for the observed data patterns could be explored and more insight gained into the possible effects of the mentorship program. Four focus groups were conducted toward the end of the Winter 2015 semester, with each group ranging from two to five WELC students who had participated in the mentorship program that semester (see Appendix I for an example focus group interview guide).

In the focus groups, participants indicated that they felt as though they belonged to the university community because they had access to the same facilities as undergraduate students at Western, even though they were students enrolled in a separate program housed in the Faculty of Education. Participants also suggested that they found Western students friendly, and tended to have positive interactions with them in residence most of the time. These findings may partially explain the responses obtained on the initial measures of outgroup attitudes and integration to university, which asked about attitudes towards Western and Canadian students and belonging to the university. One challenge about which students were forthcoming involved the difficulties they had in establishing friendships with host-national students. Students felt that becoming friends with other students outside the Western English Language Centre was a difficult process because of a lack of commonalities with these students from outside the WELC. Students in residence were especially likely to report these difficulties.

The focus group discussions with participants also explored the potential benefits of the mentorship program. Some participants reported that after the program, they indeed felt more comfortable approaching host-national students, and that they felt more at ease engaging in everyday social tasks such as ordering food from restaurants. However, the questionnaire measures utilized in this first phase of the study did not directly tap into such experiences. It was in these focus group discussions where it was learned that perhaps more direct measures of comfort in social situations and the

appraisal of various acculturative stressors should be included as outcome questionnaire measures.

A consideration of the way in which the questionnaire measures had been collected in the initial phase also prompted the planning of a different procedure for the collection of survey data during the 2015-16 year. For example, data were collected from participants in a lecture theatre in the Education building at the initial session and in classrooms during group sessions every three weeks thereafter. Therefore, participants' responses may have been influenced by the presence of their peers and mentors nearby while completing the questionnaires. Also, presenting many measures on a single questionnaire could have been overwhelming for some participants who may have experienced language challenges with the questionnaires. Additionally, Table 1 demonstrates that the number of respondents on some measures dipped well below the initial numbers across time. This would suggest that it might be difficult to retain a sample of respondents over four to five repeated measures. Thus, for the administration of questionnaire measures to WELC students for the main study, it was determined that, participants should be administered fewer measures at fewer points in time, and complete the questionnaires separately and independently. This could maximize the response rate and authenticity of the responses obtained. The next section describes a second pilot study, in which the purpose was to assess the suitability of new questionnaire measures designed to tap into additional possible outcomes and processes occurring from the mentorship program.

3.2 Pilot Testing of New Questionnaire Measures

Following the initial pilot phase, new questionnaire measures were identified as measures that could potentially be used in the main study. It was determined that measures gauging the acculturation outcomes of psychological and sociocultural adaptation would most directly capture the changes for the students that could occur as a result of participating in the mentorship program. When reviewing existing literature for potential measures, two important issues were kept in mind: what the WELC students would understand, and what they would perceive as being relevant to their experiences in the Western community. Insight into the latter of these two questions was provided in the focus group

interviews. After selecting the measures, I decided to pilot test these measures in order to determine their suitability for the sample in the larger study.

To measure sociocultural adaptation, it was necessary to find a scale that could directly assess the challenges that the WELC students reported they experienced and were able to overcome through the mentorship program. Thus, a strong measure of sociocultural adaptation for this particular sample of students could include items pertaining to comfort in interacting with Canadians or instrumental tasks such as ordering food or traveling around the city. One measure that includes many of these items is the Social Situations Questionnaire, originally developed by Furnham and Bochner (1982). Originally a 41-item scale, 16 items were selected for the present study that most directly tapped into the experiences mentioned in the focus group interviews. Also, items from the full scale that contained language ambiguities were not included (e.g., “Talking about serious matters”). A full list of the 16 items included for this study can be found in Appendix H. On a 7-point scale, students were asked to rate the extent to which they found the tasks described in the items *very difficult (1)* to *very easy (7)*.

For acculturative stress, items were selected from two acculturative stress inventories for international students, the Acculturative Stress Scale for International Students (ASSIS) (Sandhu & Asarabi, 1994) and the Index of Life Stress (Yang & Clum, 1995). The Perceived Language Discrimination Scale, developed by Wei, Ku, and Wang, (2012) was also included. Though it is only a 7-item scale, it gauges many of the stressors that international students might face throughout the acculturation experience. Sample items include, “Others ignore me because of my English,” and “My opinions or ideas are not taken seriously because of my English.” These items seemed to match some of the social challenges the students discussed in the focus group interviews, such as interacting with Canadians at residence, and establishing friendships with them. Therefore, the Perceived Language Discrimination scale was included in the piloting of the measures. For the acculturative stress measure, students were asked to rate, on 7-point scales, *strongly disagree (1)* or *strongly agree (7)*, the extent to which different statements applied to them. A list of the items pertaining to acculturative stress that were selected for the main study can be found in Appendix H.

Other variables included in this pilot questionnaire were self-rated language proficiency, intentions to stay in Canada, and an 11-item Social Desirability Scale adapted from the short form of the Marlowe-Crowne social desirability measure (Rudmin, 1999) and the Marlowe-Crowne original measure of social desirability (1960). It was believed that if higher than expected ratings were to once again be obtained, they may correlate with a social desirability bias. Each item was presented alongside an “agree” or “disagree” option, with sample items including “I have never strongly disliked a person,” and “I am sometimes bothered when people ask favours of me.” For each participant, the number of total socially desirable responses to each item was computed. The total social desirability scale had a mean of 5.95 (SD = 1.96).

The pilot testing of these questionnaire measures was conducted during the summer of 2015. Overall, 49 WELC students participated in the Pilot Testing (24 males, 25 females). Forty of the participants came from China, while seven came from Angola, one from Syria, and one from Libya. The average time that these students had been in Canada was 13 months (SD = 12.8 months), and the average age of the sample was 19.8 years. The most commonly reported age was 19.

In assessing the sociocultural adaptation measure, it was important to identify higher than expected scores on the items. These scores were defined as items having a mean of five or greater on a 7-point scale and forming a negatively skewed distribution. Of the 16 items originally tested, eight items fit both of these criteria, while eight did not. The eight items that did not show both high means and a negative skew all had to do with social situations involving Canadians. These items included “Making Canadian friends your own age,” and “Going to a party with Canadian people,” and formed a scale with a reliability of $\alpha = .90$. The remaining items with higher than expected means did not form a reliable scale, and consisted of items such as “Ordering food in a Canadian restaurant,” or “Taking public transit (e.g. buses).” For the main study, it was determined that the eight-item reliable scale would be retained as well as the other eight items. Students who are newly arrived may not show very high scores on items gauging comfort with instrumental social tasks.

For acculturative stress, many of the items demonstrated means below the midpoint. Three of the five subscales tested had high reliabilities. The homesickness

subscale had a reliability of $\alpha = .80$, the perceived discrimination subscale had a reliability of $\alpha = .83$, and the language discrimination subscale had a reliability of $\alpha = .89$. Thus, it was determined that these scales would be utilized. The academic pressures subscale ($\alpha = .60$) and language difficulty² subscale ($\alpha = .65$) showed poorer reliabilities. However, language difficulty was retained, while the academic pressures scale was not. Given that the items comprising the acculturative stress subscales showed means below the scale midpoint it was examined whether social desirability correlated with the items. It was found that social desirability negatively correlated with six of the seven perceived language discrimination items and three of the seven perceived discrimination items. Therefore, it was concluded that social desirability should be included as a potential control variable in the main study.

The pilot testing resulted in establishing an eight-item scale for Sociocultural Adaptation as well as numerous dimensions of acculturative stress that the present sample of students might perceive as relevant. These included Language Discrimination, Perceived Discrimination, Language Difficulty, and Homesickness. However, following the pilot test, it was concluded that perhaps other measures that are more immediately connectable to the construct of psychological adaptation could be employed. These are described in the measures section of the main study.

² The language difficulty subscale contained four items, which could be broken down into two similarly worded pairs. The similarly worded items were highly correlated with each other.

Chapter 4: 2015-16 Main Study

The main study of this thesis built upon the research conducted during the 2014-15 academic year as well as the programs that had already been developed and evaluated in the literature on the acculturation of international students. This study can add to the past literature on the acculturation of international students, since, as reviewed, only a limited number of studies have examined structured contact programs that involve host and international students. In the main study, I also sought to investigate the interpersonal processes and outcomes of a relationship between a host-national student and an international student. Considering the rather elevated response to the self-report measures of closeness used in the pilot study, I intended to use an observational measure to examine the aspects of the interpersonal relationship between the students and their mentors.

4.1 Method

4.1.1 Participants

At the outset of the 2015-16 academic year, I had planned to recruit approximately 50-60 international student participants from the Western English Language Centre (WELC). I intended to then assign half of the students to a program condition, while assigning the other half to a control group. Those in the control group would be placed on a “waitlist” for the fall semester, and would then receive a mentor during the winter semester. I also intended to recruit approximately 30 mentors from the Western student body.

In September, I successfully recruited over 30 mentors from the Western student body. This group was composed of both returning mentors, and new mentors, recruited from the Western Scholar’s Elective Program and through social media advertisements. When I recruited participants from the WELC, I initially obtained an unexpectedly low number, with only approximately 20 participants signing up, even though I had employed the exact same recruitment methods as the previous efforts. It was determined that all of the participants from the WELC who signed up should be given a mentor, as more than enough mentors were available for all participants. Also, it was determined that program and control group sizes of 10 each would be insufficient for statistical testing.

While I began with a program group only, I believed that I would be able to obtain more control participants. However, numerous attempts to recruit more students from the WELC to serve as control subjects were unsuccessful. Several more WELC students did join the program, having learned of the opportunity through their friends who had initially signed up. This allowed for a final program sample of 25. Twenty-three of these participants completed the measures at both Time 1 and Time 2, while two participants (both male), only completed the measures at Time 2. At Time 2, the final program sample consisted of 11 males and 14 females, with a mean age of 20.52 (SD = 3.1 years). The program sample had been in Canada on average 7.72 months (SD = 10.06 months) at Time 2. Three participants had been in Canada for over one year, one for two years, and one for four years. Sixteen of the participants recruited were from China, five from Brazil, one from Korea, one from Venezuela, one from Angola, and one from Qatar. At Time 2, Seventeen participants in the program group reported that more than half of their friends at Western were from the same ethnic group, and two reported that all of their friends at Western were from the same ethnic group. Two program participants reported half of the friends were from the same ethnic group, two reported less than half, and two reported none of their friends were from the same ethnic group. At Time 2, program participants' mean rating of their likelihood of staying in Canada upon graduation was 4.83 (SD = 1.90) on a 7-point scale, with 19 participants rating their likelihood of staying in Canada as at or above the midpoint of the scale. Five provided ratings below the midpoint.³

As a means of obtaining a control sample, in December, I approached and was able to recruit a non-equivalent control group from CultureWorks, another international student school based on Western's campus. I recruited 22 participants from their student body (16 male, 6 female). The mean age of the comparison sample was 20.91 years (SD = 2.24 years), and had been in Canada for an average of 9.68 months (SD = 7.67 months). Twenty of these control participants were from China, while one was from the Democratic Republic of Congo, and one was from Libya. At Time 2, fourteen participants in the control group reported that more than half of their friends at Western

³ One participant in the program group did not provide a rating of their likelihood of staying in Canada at Time 2.

were from the same ethnic group, and three reported that all of their friends at Western were from the same ethnic group. Two control participants reported that half of their friends were from the same ethnic group, two reported less than half, and one reported that none of their friends were from the same ethnic group. At Time 2, control participants mean rating of their likelihood of staying in Canada upon graduation was 5.68 (SD = 1.39) on a 7-point scale, with 21 participants rating their likelihood of staying in Canada as being at or above the midpoint of the scale. Ten control participants reported a “7” on the 7-point scale, indicating they felt they were very likely to remain in Canada following their studies. One control participant provided a rating below the midpoint on the scale.

Based upon these demographics, both the WELC students and the CultureWorks sample were roughly the same age and were predominantly from China, and the CultureWorks sample had been in Canada about two months longer. Participants from both groups had social networks that predominantly consisted of co-nationals. A notable difference between the two groups is the gender imbalance present in the CultureWorks group with more males than females being recruited. Also, the control group, on average, rated their likelihood of staying in Canada as being higher than that of participants in the program group.

The resulting numbers of participants at Time 1 and Time 2 had implications for the testability of hypotheses that were established at the proposal phase of the study. With the resulting data, I was only able to examine between-group comparisons (program vs. control) at Time 2. I was not able to utilize a 2 x 2 Between-Within design, in which the program and control groups would be compared at both Time 1 and Time 2, as had been initially planned because I was not able to have a control group complete the measures at Time 1.

4.1.2 Procedure

As they registered for the program, WELC students and mentors were given a questionnaire on which they could rate their interests. This questionnaire allowed for pairs to be created on the basis of similar interests (e.g. hobbies and area of study).

At the initial recruitment session in September 2015, the main questionnaires measuring baseline sociocultural adaptation, psychological adaptation, and acculturative

stress (Time 1) were given to WELC students to complete. Students were asked to separate and not speak with one another while they were completing these baseline questionnaires. WELC students and their mentors were soon introduced to one another at a large group session. At this large group session, pairs were invited to come into the lab to complete a video measure (see footnote)⁴.

All student-mentor pairs were instructed to meet weekly for the duration of the Fall 2015 semester. Following from the instructions given to participants in the Westwood and Barker (1990) and Gresham and Clayton (2011) studies, pairs were encouraged to engage in a range of activities, both on and off campus. On campus, students and their mentors could visit food outlets, lecture halls, the bookstore, and the recreation centre, for example. Off campus, pairs could explore places in the broader community including parks and malls, and take public transit. In addition to their weekly meetings, pairs attended group activities approximately every three weeks that were designed for all pairs to attend together. These events consisted of icebreaker and language game activities that were intended to encourage the international students to utilize their English communication skills and communicate with mentors other than their own mentors. Examples of the activities include Pictionary, two truths and a lie, etc. At the end of the Fall 2015 semester, 17 of 25 program participants reported that they had met with their mentors 3-6 times during the semester, four participants reported they had met with their mentors 7-10 times, and one participant reported meeting more than 10 times. Three participants reported meeting 0-3 times with their mentors. The full list of activities in which participants could indicate having engaged with mentors, and their frequencies, can be found in Table 2. The most frequently reported activity was going to a restaurant. Twenty-one participants reported having engaged in at least one of the six specified activities.

⁴ At the first group meeting, each pair was asked to sign up for a half-hour lab session, in which they were to come to the lab and complete a video-recorded interaction. The purpose of the video recording measures was to see whether the changes in interpersonal closeness within pairs, as measured by the changes in the smoothness of interactions between Time 1 and Time 2, could be related to the magnitude of the changes in psychological and sociocultural adaptation, as reported in the self-report questionnaires. Only eight participants signed up, but the data obtained are contained in Appendix I.

Final questionnaire measures were administered to participants before group meetings in December. Participants were asked to once again be silent and raise their hands if they had questions when completing these measures. In December, I went in person to classrooms at CultureWorks to administer the survey measures to the comparison group participants.

4.1.3 Measures

After the piloting of questionnaire measures during the summer of 2015, the following questionnaire measures were decided upon for the main study:

Background and demographic measures. These measures asked students to provide their age, gender, time in Canada, and country of origin. In addition, I included a measure of students' intentions to stay in Canada following the completion of their studies. It was measured with a single item ("How likely is it that you will stay in Canada following the completion of your university studies,") on a 7-point scale *very unlikely* (1) to *very likely* (7). I also included the 11-item measure of Social Desirability I used for the pilot testing (measured at Time 1 only for program group and Time 2 for the control group). I included this measure because of how it correlated with some of the acculturative stress items during the Summer 2015 pilot testing. I also included a 3-item measure of participants' self-rated ability to speak, read, and write English (measured at both times for program group, Time 2 for comparison), as well as an adapted brief big-five (measured at Time 1 only for program group, Time 2 for comparison group), based upon a measure developed by Gosling, Rentfrow, and Swann (2003).

For the "brief" big five, I modified the items to better reflect the potential level of participants' English proficiency. For example, "critical; quarrelsome" became "I like to argue." The trait of greatest interest to the present study was extraversion, which was measured by two items: "I am outgoing," and "I am quiet," the latter being reverse coded. The correlation between these two items was $r(45) = .387, p = .004$, and thus they were averaged.

Sociocultural adaptation. The 16-items from the Social Situations Questionnaire (Furnham & Bocher, 1982) were used. It contained the 8-item scale with a reliability of .90 (see section on pilot testing) that gauged participants' feelings about interacting with Canadians. Sample items include: "Making Canadian friends your own age," and

“Getting to know Canadian people very well.” These items were all measured on 7-point scales with participants being asked to rate the extent to which they found each of these statements *very difficult (1) to very easy (7)*.

As with the pilot testing, the 8-item measure with items pertaining to interactions with Canadians showed a strong reliability at both Time 1 with program participants only ($\alpha = .87$) and Time 2 with all participants ($\alpha = .82$). I then grouped the remaining eight items into two groups of four items based upon their wordings. The first of these two groups of items was “Public Activities” (e.g. “Shopping in a large Canadian store,” and “Taking public transit,”) and the second group of items was “General Social” (e.g. “Going into a room full of people” and “Being introduced to a new person”). The public activities showed a poor reliability at Time 1 ($\alpha = .48$), and Time 2 ($\alpha = .55$). However, the four “General Social” items did show good reliability both at Time 1 with program participants only ($\alpha = .81$) and Time 2 with all participants ($\alpha = .75$). It should also be noted that the general social items correlated with extraversion at Time 1 ($r = .459, n = 22, p = .016$), and Time 2 ($r = .244, n = 47, p = .049$).

Acculturative stress. Four subscales of Acculturative Stress were used. These were a 4-item Homesickness Subscale (Yang & Clum, 1995) (Time 1, $\alpha = .659$; Time 2 $\alpha = .682$), a 3-item Language Difficulty Subscale (Yang & Clum, 1995) (Time 1, $\alpha = .730$; Time 2 $\alpha = .426$), a 7-item Language Discrimination Subscale (Wei et al., 2012) (Time 1, $\alpha = .886$; Time 2 $\alpha = .915$), and a 3-item Perceived Discrimination Subscale (Sandhu & Asarabi, 1994) (Time 1, $\alpha = .706$; Time 2 $\alpha = .785$). As with sociocultural adaptation, all Time 1 reliabilities refer to program participants only, while all Time 2 reliabilities refer to all participants. Items on each of these subscales were measured on a 7-point scale ($1 = strongly disagree, 7 = strongly agree$). The rationale for including these subscales was to capture the difficulties students faced that were voiced in the focus group interviews. All of the alpha coefficients were close to or above .7, the only exception being the 3-item language difficulty subscale at Time 2 ($\alpha = .426$). This low alpha coefficient is likely due to a low correlation between two items at Time 2, these two items being “My English makes it hard for me to understand lectures” and “My English makes it hard for me to read books,” $r(45) = .059, p = .346$. This correlation is unexpected because these same two items have a very strong positive correlation at Time

1, $r(21) = .618, p = .001$. Also, these two items were obtained directly from one factor of Yang and Clum's Index of Life Stress (1995). I did not use all of the subscales from Index of Life Stress (Yang & Clum, 1995) and the Acculturative Stress Scale for International Students (Sandhu & Asarabi, 1994), but rather, selected subscales that I believed would be most relevant to the experiences of the students, based on what they had voiced in the focus groups.

Psychological adaptation. A brief 6-item measure of Positive and Negative Emotions was added. This measure is similar to the PANAS, the Positive and Negative Affect Scale (Watson, Clark, & Tellegen, 1988) and was based upon a measure used by Koenig-Lewis, Palmer, Dermody, and Urbye (2013). Participants were asked to rate the extent to which they felt, for example, "Happy," "Hopeful," and "Nervous" (reverse coded) with regard to their current and future experiences in Canada. These items were measured on a 7-point scale, $1 = \textit{not at all}$, and $7 = \textit{very much}$. Also four questions probing about participants' life satisfaction in Canada were added, which were selected from the Alberta Settlement Outcomes Survey (Esses, Burstein, Ravanera, Hallman, & Medianu, 2012). These four items were each measured on a 7-point scale, $1 = \textit{strongly disagree}$, to $7 = \textit{strongly agree}$. It was believed that together, these two scales could best assess the *positive* psychological outcomes that students might experience upon arrival in Canada, (sample items: "I am satisfied with my life in Canada," "Since I came to Canada, my mental health has been good."). It was believed that together, these two scales could best assess the positive psychological outcomes that students might experience upon arrival in Canada.

As can be seen in Table 3, these two subscales individually did not show strong reliabilities at either Time 1 (program participants) or Time 2 (all participants). However, when I computed an alpha coefficient for the 10-items together at Time 2, they produced an alpha coefficient of .728, although only an alpha of .512 at Time 1. The difference between these two alpha coefficients for the 10-item scale at Time 1 and Time 2 could potentially be due to lower inter-item correlations at Time 1. It could be the case that psychological adaptation is more crystallized at Time 2, a few months into the students' arrival in Canada, as opposed to a few weeks after arrival in Canada. In all subsequent analyses, the 10-item measure of psychological adaptation is used.

Friendship quality. As a means of assessing friendship quality, subscales from the McGill Friendship Questionnaires (Mendelson & Aboud, 2012) were included before administering the Time 2 questionnaires to the program group. These subscales measure two broader dimensions of friendship, affection and friendship functions. The affection subscales are: satisfaction (sample item: “I am satisfied with my friendship with _____.”) and positive feelings (sample item: “I would miss _____ if he/she went to another university.”). The friendship functions subscales measure the extent to which one feels a friend fills different friendship functions. The subscales used for the present study were: stimulating companionship (“_____ has good ideas about fun things to do.”), helpfulness (“_____ helps me when I’m trying to learn something.”), emotional security (“_____ would make me feel calmer if I were nervous”), and self-validation (“_____ compliments me when I do something well.”). The reliabilities for these subscales were strong and can be seen in Table 3.

Composite measures were created for both the affection and functions dimensions of friendship. These two composite measures were highly correlated, $r(23) = .783, p < .001$, and thus an overall measure of friendship was computed, which was the average of the sum of the affection and friendship dimensions.

4.2 Hypotheses

Hypothesis 1a. I predicted that students who engaged in contact with a mentor would show an increase in sociocultural adaptation, a reduction in acculturative stress, and an increase in psychological adaptation over time. To test hypothesis 1a, I utilized paired t-tests. All of these paired t-tests were one-tailed, directional tests.

Hypothesis 1b. I predicted that students who engaged in contact with a mentor would show higher sociocultural adaptation, lower acculturative stress, and higher psychological adaptation, at Time 2, in comparison to control participants at Time 2, who did not engage in contact with a mentor. To test hypothesis 1b, I utilized independent samples t-tests. All of these independent samples t-tests were one-tailed, directional tests.

Hypothesis 2. I predicted that at Time 2, the between-group effect of contact with a mentor on psychological adaptation would be mediated by sociocultural adaptation. That is, students who were in the program would show more positive psychological adaptation at Time 2 because they were learning sociocultural adaptation.

I also predicted that the effect of contact with a mentor on psychological adaptation would be mediated by a reduction in acculturative stress. That is, students who were in the mentorship program were expected to show more positive psychological adaptation because they would have less acculturative stress than those who were not in the program. To test hypothesis 2, I employed bootstrapping mediation analysis (Preacher & Hayes, 2008).

Hypothesis 3. I predicted that students who become the most interpersonally close to their mentors would show the most positive outcomes at Time 2. That is, I predicted that students reporting the highest quality of friendship with their mentors would report the most positive outcomes at Time 2. I tested hypothesis 3 with multiple regression analyses.

4.3 Results

4.3.1 Hypotheses 1a and 1b

Descriptive statistics comparing the program and the control group at Time 2 can be found in Table 4, while the results for the T-tests for hypotheses 1a and 1b can be found in Tables 5 and 6.

Sociocultural adaptation. I expected that program participants would show an increase in sociocultural adaptation from Time 1 to Time 2, and that at Time 2 program participants would show higher sociocultural adaptation than control participants. As expected, program participants experienced higher sociocultural adaptation at Time 2 than at Time 1, $t(21) = -2.81, p < .01, d^5 = .63, 95\% \text{ CI} = [-1.25, -.19]$. At Time 2, I unexpectedly found that while program participants did experience higher sociocultural adaptation than control participants at Time 2, this difference was not significant, $t(45) = 1.22, p = .12, d = .36, 95\% \text{ CI} = [-.24, .96]$. The difference in sociocultural adaptation between the program group at Time 1 and the control group at Time 2 was not significant, $t(42) = -1.08, p = .143, d = .33, [95\% \text{ CI} = -1.03, .31]$, although the control group showed higher sociocultural adaptation at Time 2 than did the program group at Time 1.

⁵ All of the effect size estimates for all t-tests were computed using an online effect size calculator found at: http://www.psychometrica.de/effect_size.html#dep

The four “general social” items that correlated with extraversion (see section 4.1.3) showed results that mirrored those of the 8-item scale. Program participants showed a significant increase on these items from Time 1 to Time 2, $t(21) = 2.34, p < .05, d = .52, 95\% \text{ CI} [-1.15, -.07]$, but did not differ from control participants at Time 2, $t(45) = 1.13, p = .13, d = .33, 95\% \text{ CI} [-.27, .96]$, though the difference was in the expected direction. The program group at Time 1 did not differ from the control group at Time 2 on sociocultural adaptation, $t(42) = -.535, p = .30, d = .16, 95\% \text{ CI} [-.92, .54]$.

As a follow-up to the unexpected finding that the program and control group did not differ significantly on sociocultural adaptation at Time 2, I decided to examine whether intentions to stay in Canada moderated this effect. I conducted an Analysis of Variance to determine whether the program, a categorical independent variable interacted with intentions to stay in Canada, a continuous independent variable. While it had not been one of the study hypotheses, I was interested to see whether the program may only influence those students who wish to stay in Canada. If this were to be the case, the regression slope of sociocultural adaptation on intentions to stay in Canada would have varied by condition, with a significant positive slope in the program condition and no slope in the comparison condition. However, the Analysis of Variance revealed no significant interaction of the program and intentions to stay in Canada on sociocultural adaptation, $F(1, 42) = .344, p = .561, \eta^2 = .008$.

Acculturative stress. I expected that program students would show lower acculturative stress at Time 2 than at Time 1, and that at Time 2, program students would show lower acculturative stress than control students. As expected, program students showed a decrease in acculturative stress from Time 1 to Time 2, $t(22) = 2.9, p < .001, d = .64, [95\% \text{ CI} = .10, .58]$. Also, as expected, program students showed lower acculturative stress at Time 2, in comparison to control students, $t(45) = -2.1, p < .05, d = .61, 95\% \text{ CI} [-.94, -.02]$. The program group at Time 1 and control group at Time 2 did not significantly differ in acculturative stress, $t(43) = -.61, p = .274, d = .18, [95\% \text{ CI} = -2.88, 1.54]$, although the control group showed more acculturative stress at Time 2 than did the program group at Time 1.

Psychological adaptation. I expected that program participants would show higher psychological adaptation at Time 2 than at Time 1 and that program participants

would show higher psychological adaptation than control students at Time 2. As expected, program participants showed higher psychological adaptation at Time 2 than at Time 1, $t(22) = -1.89, p < .05, d = .57, 95\% \text{ CI} = [-.61, .03]$. Also, as expected, program participants showed higher psychological adaptation than control participants at Time 2, ⁶ $t(45) = 2.08, p = .023, d = .60, 95\% \text{ CI} = [.01, .92]$. The program group at Time 1 and the control group at Time 2 did not differ on psychological adaptation, $t(43) = .68, p = .249, d = .20, 95\% \text{ CI} = [-.63, 1.27]$, although the program group showed higher psychological adaptation at Time 1 than did the control group at Time 2.

4.3.2 Hypothesis 2

Bootstrapping mediation analyses (e.g., Preacher & Hayes, 2008) were used to determine whether the effect of the program on psychological adaptation was mediated by a reduction in acculturative stress. I did not include sociocultural adaptation in this analysis because the independent samples t-test revealed a non-significant effect of the program on psychological adaptation at Time 2. Thus, of interest to me was the indirect effect of the program on psychological adaptation through acculturative stress.

The unstandardized indirect effect was computed by multiplying two regression coefficients. The first was the regression coefficient for group (the program group coded as “1” and the control group coded as “0”), when entered as the sole predictor of acculturative stress, $b = -.48, t(45) = -2.10, p < .05$. The second was the regression coefficient for acculturative stress as a predictor of psychological adaptation, when group was also entered as a predictor, $b = -.36, t(44) = -2.72, p < .01$. These two regression coefficients yielded an indirect effect of $(-.48)(-.36) = .17$. Unstandardized indirect effects were computed for each of 5,000 bootstrapped samples and the 95% confidence interval was computed. The 95% confidence interval ranged from .04 to .39. Thus, the indirect effect was statistically significant because the 95% confidence interval did not contain zero. The direct effect of the program on psychological adaptation (the “c” path, see Baron & Kenny, 1986) was $b = .46, t(45) = 2.15, p < .05$. When acculturative stress was added as a predictor of psychological adaptation, the program no longer contributed significantly to the prediction of psychological adaptation, $b = .29, t(44) = 1.38, p = .09$,

⁶ Levene’s test for homogeneity of variances was violated for this t-test, so the statistics are reported with equal variances not being assumed.

and thus, the c' path was not significant. Therefore, the indirect effect as computed by the bootstrapping program, was equal to the subtraction of the c' path from the c path.

I also tested the reverse mediation model. This model considered the relationship between the program and acculturative stress at Time 2, as mediated by an increase in psychological adaptation at Time 2. This mediation model yielded an indirect effect of $-.19$ with a 95% confidence interval ranging from $-.44$ to $-.04$. This indirect effect was also statistically significant because its confidence interval did not contain zero. The direct effect of the program on acculturative stress (the “ c ” path, see Baron & Kenny, 1986) was $b = -.48$ $t(45) = -2.10$, $p < .05$. When psychological adaptation was also added as a predictor of acculturative stress, the program no longer contributed significantly to the prediction of psychological adaptation, $b = -.29$, $t(44) = -1.31$, $p = .10$, and thus, the c' path was not significant. Therefore, the indirect effect as computed by the bootstrapping program, was equal to the subtraction of the c' path from the c path.

These results would suggest that either of the hypothesized or reverse mediation models could be plausible. The implications of these results for future research are explored further in Chapter 5.

4.3.3 Hypothesis 3

Multiple regression analyses were used to determine whether friendship quality would contribute to the prediction of Time 2 outcomes. It was hypothesized that participants who became closest to their mentors, as measured by the McGill Friendship Questionnaires, would show the highest sociocultural adaptation, lowest acculturative stress, and highest psychological adaptation at Time 2. Two regression models were run. The first included each of the Time 2 outcomes as a dependent variable, with two independent variables: Time 1 outcome and Time 2 friendship quality. The second model involved the same outcome variables, with the interaction of Time 1 outcome and Time 2 friendship quality included as well. The results of these regressions are reported in Table 7.

It was found that Time 2 friendship quality did not add to the prediction of the Time 2 outcome, when the Time 1 outcomes were included. Furthermore, the interaction of friendship quality and the Time 1 outcome did not add to prediction of the Time 2 outcome. Descriptive statistics of the McGill Friendship Subscales suggested a high or

medium level of friendship quality, with no participants reporting a low quality friendship with their mentors. As can be seen from Table 4, the mean of friendship quality was 6.91 on a 9-point scale, and while the theoretical range of scores was 1-9, the actual range was 4.69 – 8.86. Thus, a significant portion of the bottom half of the scales was not used by participants. These results could suggest a potential response bias in that participants were reluctant to assign low ratings to their relationship with their mentor. However, friendship quality did not correlate with social desirability, $r(23) = .017, p = .468$.

I also examined the correlations between friendship quality and outcomes at Time 2 and the change scores on the outcomes between Time 1 and Time 2. While none of the correlations were significant, they suggested a trend. At Time 2, program students with higher friendship quality reported lower sociocultural adaptation, $r(23) = -.173, p = .205$. Also, program students with higher friendship quality reported higher acculturative stress at Time 2, $r(23) = .220, p = .146$. These correlations, though not statistically significant, would suggest that participants who had reported a better quality friendship with the mentors at Time 2 actually reported poorer outcomes at Time 2. In terms of change scores, participants who reported higher friendship quality at Time 2 reported a greater increase in friendship quality from Time 1 to Time 2, $r(20) = .279, p = .104$, and reported a greater decrease in acculturative stress from Time 1 to Time 2, $r(21) = -.17, p = .220$. These correlations would suggest that students who reported higher friendship quality at Time 2, reported greater positive changes in the outcomes from Time 1 to Time 2, even though their scores on the Time 2 outcomes were not as high as those of students who reported less high friendship quality at Time 2. The correlations of all the outcome measures and all of the McGill scales are displayed in Table 8.

Having obtained these correlations with Time 2 outcomes and change scores, I decided to examine the correlation between friendship quality at Time 2 and outcomes at Time 1. Those correlations suggested that students who had better friendship quality at Time 2 had lower sociocultural adaptation at Time 1, $r(20) = -.456, p < .05$, and higher acculturative stress at Time 1, $r(21) = .294, p = .087$.

4.3.4 Summary of Results Relating to Hypotheses 1, 2, and 3.

Program participants demonstrated the expected changes on all three of the outcome measures over time, sociocultural adaptation, acculturative stress, and psychological adaptation. The program participants also showed higher psychological adaptation, and lower acculturative stress, at Time 2, relative to the control group. At Time 2, the control group had been in Canada for, on average, an additional two months than the program group. This may suggest that the mentorship program can provide an important boost to participants' positive acculturation into Canada.

It appeared that the difference between the program and control group in psychological adaptation at Time 2 could be explained by a reduction in acculturative stressors. That is, students who had been able to get to know a Canadian student over the course of a semester showed enhanced psychological adaptation at the end of the semester because certain acculturative stressors were less pertinent in their social lives. However, the reverse model was also supported, as a reduction in acculturative stress could have been accounted for by an increase in psychological adaptation. As for the influence of friendship quality, it appeared, based on the present data, that the degree of closeness to one's partner, as measured by the McGill Friendship Questionnaires, was not able to explain variation in the outcome measures amongst program participants. However, some of the correlations I obtained post-hoc can provide some interesting grounds for further research.

4.3.5 Follow-Up Analyses with Social Desirability

As a follow-up to the main analyses, I wanted to determine whether the pattern of the main effects of the program at Time 2 was altered when I included social desirability as a covariate of sociocultural adaptation, acculturative stress, and psychological adaptation. I used the GLM program in SPSS and entered the categorical variable of the mentorship program as an independent variable and the continuous variable of social desirability as a covariate. One assumption for Analysis of Covariance is that the regression slopes of the covariate must be consistent across conditions of the categorical independent variable (Field, 2010; Miller & Chapman, 2001). Therefore, I needed to test

whether the regression slopes of social desirability on each of the three outcome variables were the same across each of the two groups. Thus, before examining the main effects of the program, with social desirability included as a covariate, I examined the interaction effect of the program and social desirability on each of the three outcomes. If a significant interaction were to be found for one of the three outcomes, it would suggest that the effect of social desirability on that outcome differed depending on whether or not participants had been enrolled in the program.

The analysis showed that the interaction between the program and social desirability on sociocultural adaptation was significant at Time 2, $F(1, 43) = 4.68, p = .036$, est. $\eta^2 = .067$. This significant interaction violated the assumption of homogeneity of regression slopes and suggested a difference between the regression of sociocultural adaptation on social desirability between the mentorship program and control conditions. There was no significant regression slope of sociocultural adaptation on social desirability in the program condition, $b = .18, t(23) = .884, p = .386$, while there was a significant regression slope of sociocultural adaptation on social desirability in the control condition, $b = -2.20, t(20) = -2.20, p = .04$. This would suggest that in the control group, students who scored higher on social desirability reported lower sociocultural adaptation.

For acculturative stress, the interaction effect of the mentorship program and social desirability at Time 2 was not significant, $F(1, 43) = .753, p = .39$, est. $\eta^2 = .017$. The main effect of the mentorship program remained significant, when social desirability was included to the model, $F(1, 44) = 4.72, p = .035$, est. $\eta^2 = .097$, and the main effect of social desirability was not significant, $F(1, 44) = .665, p = .419, \eta^2 = .015$.

For psychological adaptation, the interaction effect was not significant, $F(1, 43) = 1.63, p = .208$, est. $\eta^2 = .37$. The main effect for the mentorship program on psychological adaptation remained significant when the social desirability was included in the model, $F(1, 44) = 2.32, p = .046$, est. $\eta^2 = .088$, and the main effect of social desirability was not significant, $F(1, 44) = .376, \eta^2 = .008$.

Next, I repeated these analyses for the within-subjects effect of the mentorship program over time. For sociocultural adaptation, time did not interact with social desirability, $F(1, 20) = .095, p = .761, \eta^2 = .005$. The regression slope of sociocultural

adaptation on social desirability for program participants did not differ between Time 1 and Time 2. The main effect of time on sociocultural adaptation remained significant with social desirability included in the model, $F(1, 21) = 7.89, p = .011, \eta^2 = .270$, and the main effect of social desirability was not significant, $F(1, 20) = .679, p = .42, \eta^2 = .032$. For acculturative stress, the interaction of time and social desirability was not significant, $F(1, 21) = .490, p = .492, \eta^2 = .022$. The main effect of time on social desirability remained significant, $F(1, 22) = 8.41, p = .008, \eta^2 = .277$, while the main effect of social desirability was not significant, $F(1, 21) = .056, p = .815, \eta^2 = .003$. For psychological adaptation, the interaction effect of time and social desirability was not significant, $F(1, 21) = .034, p = .855, \eta^2 = .002$. The main effect of time on psychological adaptation was significant at $\alpha = .1, F(1, 22) = 3.59, p = .071, \eta^2 = .14$, and the main effect of social desirability on psychological adaptation was not significant, $F(1, 21) = .237, p = .631, \eta^2 = .011$.

The purpose of the post-hoc analyses was to examine the influence of social desirability on the effects of the program. The inclusion of social desirability in the models did not alter the between-subjects effects of the program at Time 2 or the within-subjects effects of the program over time. The examination of the interaction effect between the program and social desirability on sociocultural adaptation revealed a result that would not be supportive of higher scores on sociocultural adaptation being attributable to social desirability for program participants only. It was found that the control participants (but not the program group) who scored higher on social desirability actually scored lower on sociocultural adaptation. If social desirability was accounting for higher scores on sociocultural adaptation for program participants, the opposite pattern would have been expected. Also, Pearson correlations suggested that social desirability was not related to any of the outcome variables. Social desirability did not significantly correlate with sociocultural adaptation, $r(45) = -.072, p = .315$, did not correlate significantly with acculturative stress, $r(45) = .082, p = .293$, and did not correlate with psychological adaptation, $r(45) = .122, p = .207$. Social desirability also did not correlate with Time 1 outcomes for program participants, and did not correlate with change scores between Time 1 and Time 2. All of these correlations are displayed in Table 9.

Chapter 5: General Discussion

The goal of the present research was to examine the influence of structured contact with a host-national student on international students' sociocultural adaptation, acculturative stress, and psychological adaptation. The mentorship program was designed to provide international students the opportunity to form a friendship with a host-national student mentor over the course of a semester. The pattern of results obtained suggests that the program was effective at facilitating positive changes in these outcomes over time for international students who participated in the program. The within-subjects comparisons for program participants suggested that participants experienced increases on sociocultural and psychological adaptation, and a reduction in acculturative stress over time. The between subjects tests suggested that in comparison to a non-equivalent control group, the program students, who had the opportunity to make a Canadian student friend over the course of the semester, showed higher psychological adaptation and lower acculturative stress at the end of the semester. Together, these two results suggest that the changes experienced over time by the program students were large enough for the program students to score better than the control students on two key outcomes at Time 2, acculturative stress and psychological adaptation, even though the control group had been in Canada for slightly longer at Time 2. The results I obtained also suggest that the changes in psychological adaptation could occur through a reduction in acculturative stressors, although it could be equally plausible that changes in acculturative stress could occur through an increase in psychological adaptation.

One result that was not consistent with hypotheses 1 or 2 was the non-significant difference between program and control students at Time 2 on sociocultural adaptation. In terms of generating a potential explanation for the absence of a difference between program and control participants at Time 2 on sociocultural adaptation, I feel some aspect of the social experience of the control participants in Canada should be considered further. This is because the degree of change program participants showed in sociocultural adaptation from Time 1 to Time 2, mirrored the changes they showed on both acculturative stress and psychological adaptation from Time 1 to Time 2. Furthermore, the differences at Time 2 were significant between program participants and control participants on psychological adaptation and acculturative stress, but not

sociocultural adaptation. Therefore, I feel that some aspect of the control participants' experience in Canada may have contributed to this non-significant difference in sociocultural adaptation. First, the control participants reported a greater likelihood of remaining in Canada following the completion of their studies, in comparison to program students, and this may have contributed to their reporting similar levels of sociocultural adaptation to program participants. However, I spoke with the principal of CultureWorks, the academic program from which the control students were recruited, and from our conversation, I learned that most of the students from CultureWorks live in homestay, while most of the WELC students that I recruited resided in residence. I speculate about some potential implications of this difference in the section on future research directions.

While the results for hypothesis 3 were not consistent with the hypothesis that Time 2 friendship quality should add to the prediction of Time 2 outcomes, I do believe the correlation patterns I examined produced some interesting results. It appeared that program participants who reported greater friendship quality with their mentor at Time 2 reported poorer Time 2 outcomes on sociocultural adaptation and acculturative stress. However, they also reported greater changes over time on these two variables. Based upon these results, it may be the case that students who began the program with the most room for improvement on the outcome variables at Time 1, became closest to their mentors, and it was the relationship they had with their mentor that enabled them to experience improvement over time. Although the correlations I observed were small, and not statistically significant with a small sample, they could still provide a direction for future research.

5.1 Implications and Links to Existing Literature

The results I obtained suggest that the mentorship program, run over the course of a three-month period, was effective at improving the students' acculturation outcomes. The presence of statistically significant changes over time on the outcomes for program participants suggests that there was room for growth on these outcomes at Time 1 and that the program was able to help the international students improve their sociocultural and psychological adaptation and reduce their acculturative stress over time. As discussed in the CBIE report (2015), universities have a gap to fill in that international students can be better connected with their Canadian peers. The current research suggests that

universities could begin to fill this gap by offering mentorship programs such as that developed for the present research.

As the program was successful at helping students, it may be worthwhile for similar programs in the future to consider the manner in which this program was structured and delivered. Pairs met each week for the duration of the semester and while pairs were given a semi-structured guide on how to spend their time together, they were not given a rigorous checklist of activities to complete. Therefore, the program seemed to function well when participants were given the freedom to find activities that they enjoyed together. The program also involved more interactive activities that engaged all participants during the group meetings. The group meetings were especially beneficial in that they served the function of keeping pairs on track in reminding them to meet regularly. Therefore, future renditions of similar programs should consider allowing pairs the freedom to find and engage in activities they enjoy while offering structured group meetings with interactive activities every few weeks.

While the literature pertaining to programs designed to support international students' acculturation at university is limited, the present study can add to that body of literature. Westwood and Barker's study (1990), found that students involved in the peer program experienced better academic outcomes and lower drop out rates, relative to students who were not paired. Academic outcomes were not a focus of the present study, but the pattern of results of the present study would suggest that students who were paired with host-national students may also be less likely to withdraw from university as they experienced better psychological outcomes. In the study conducted by Abe et al. (1998), it was found that international students who were paired with host-national students experienced more positive outcomes in the social domain, but not other domains involving institutional belonging and personal-emotional (psychological) outcomes, relative to a control group, after the completion of a mentorship program. In the present study, program participants improved their sociocultural adaptation from Time 1 to Time 2, but did not experience better sociocultural adaptation outcomes than control participants at Time 2. Unlike the results of the Abe et al. (1998) study, program participants in the present study experienced better psychological outcomes and lower acculturative stress than a control group at Time 2. The Abe et al. study (1998) did not

compare changes over time for program participants and thus, only took measures for program and control participants at the conclusion of the program. The results of their study would be more easily comparable to the results of the present study had they examined changes over time for program and control participants.

It is promising that there are two empirically tested mentorship programs for international students that have been conducted in Australia since 2010 (Gresham & Clayton 2011; Woods et al., 2013). The results of these two studies, and the present study, substantiate the importance of mentorship programs for helping international students socially in the host culture. Furthermore, these results could point to the effectiveness of peer mentorship programs across different educational and national settings. Finally, although they did not examine a mentorship program specifically, Hendrickson, Rosen, and Aune (2011) found that international students with a higher proportion of host-national students in their friendship networks reported greater satisfaction and social connectedness in the host country, while international students with a lower proportion of host-national students in their networks did not. Synthesizing all of these findings, the present study can make an important addition to the small body of literature on mentorship programs for international students by suggesting that friendships between international and host-national students are not only beneficial for the social experiences of international students, but also for their well-being.

In terms of acculturation theory, the results I obtained would suggest that contact with a host-national student mentor should affect positive outcomes for international students on both social and psychological outcomes. This would substantiate the work of Ward & Kennedy (1993) who argued that the relationship between sociocultural and psychological adaptation in the host culture is contingent on the extent to which a newcomer relies upon members of the host culture for social support. The results of the present study would be less supportive of the work of Bochner et al. (1977) who argued that friendships with hosts should only influence outcomes in the social domain. Based upon the data I obtained, I would suggest that participation in a mentorship program could provide international students a substantial amount of social support from host-national students, in addition to the support they may receive from their co-nationals. Perhaps contact with hosts could serve to have an additive influence on psychological

adaptation, beyond the influence contact with co-nationals can have on psychological adaptation.

The present study has focused on acculturation primarily in terms of the long-term social integration outcomes for international students. However, some scholars have called for acculturation to be considered as a dynamic, interactive, and intergroup process (Bourhis, Moise, Perrault, & Senecal, 1997; Brown & Zagefka, 2011; Zagefka & Brown, 2002), as opposed to one that only strives to understand the experiences of the newcomer group (e.g., Berry, 1997, 2006). In past theory on acculturation, Berry (1997) has identified four acculturation strategies along two dimensions, heritage culture maintenance and host culture adoption. Of these strategies, integration has been viewed as most beneficial for newcomers to adopt in pluralistic societies (i.e., Canada) because it involves a high level of engagement with the host culture and a high level of maintenance of the heritage culture. However, Bourhis and colleagues have proposed the Interactive Acculturation Model (IAM), which suggests that hosts can also adopt acculturation strategies, for how they believe the newcomer group should acculturate, and that the level of alignment between the strategies adopted by hosts and those adopted by newcomers can lead to intergroup outcomes at the societal level (Bourhis et al., 1997). Subsequent work by Piontkowski and colleagues with the Concordance Model of Acculturation (CMA) (Piontkowski, Rohmann, & Florack, 2002; Rohmann, Florack, & Piontkowski, 2006) has also suggested that a lack of concordance between the strategies that hosts and newcomers adopt and believe to have been adopted by the outgroup can lead to negative intergroup outcomes, such as feeling threatened by the outgroup (i.e., hosts or newcomers).

While I began my research with an intergroup relations framework and moved to an acculturation perspective, these two theoretical orientations could certainly complement one another in the present context. Perhaps an agreement between how international students want to acculturate and how they believe host-national students feel international students should acculturate (and vice versa) could be one additional outcome when international and host-national students are able to develop deeper, more meaningful friendships. Indeed, it has been shown that minority groups can endorse engagement with the host culture when they perceive host group members as wanting for

them to engage (Zagefka, Gonzales, & Brown, 2011). However, opportunities to form deeper friendships, and thus gain an understanding of host-national student acculturation perspectives may be infrequent for international students, as suggested by the CBIE (2015) and Academica Group (2016) reports. If this is currently the case, international students' perceptions of how host-national students feel they should acculturate (and vice versa) may not align, which could in itself form a barrier precluding the formation of friendships. However, one promising finding relating to this came from a survey conducted by Snell and Zhou (2015) in the United States. They found that host-national students endorsed international students engaging with both the host culture and their respective heritage cultures. Perhaps in future studies, similar surveys could be conducted in Canada with Canadian students. Thus, the dynamic perspectives (e.g., Bourhis et al., 1997; Piontkowski et al., 2002) could be useful theoretical orientations in future studies examining host-national student and international student relations.

5.2 Areas for Further Research

The results of the present research can present numerous foundations for future research. First, while the results suggested that the peer mentorship program was largely effective at promoting positive acculturation outcomes for students, these outcomes were measured only over a three-month period. Thus, and perhaps most importantly, future research is needed to determine whether such outcomes can be maintained over time. If the outcomes such as those observed in the present study cannot be retained over the long term, this could suggest the need for a longer-term intervention. One potential outcome to consider when examining longitudinal outcomes would be the number of host friendships international students go on to form, following the conclusion of the program. This may be especially important for groups of international students who have large numbers of co-national students on campus. In a study of Belgian students studying abroad in numerous countries, it was found that while the composition of the international (Belgian) students' social networks did not predict adjustment to the host society at the beginning of the yearlong sojourn, greater contact with co-nationals predicted poorer adjustment at the end (Geeraert, Demoulin, & Demes, 2013). Thus, perhaps the maintenance of outcomes, like those observed in the present study, could be contingent upon the international students establishing more friendships with hosts other than their

mentorship partner over the course of their sojourn. If international students return to spending almost all of their social time with co-nationals following the program, the initial benefits of the program may not be experienced long-term. While the finding of Woods et al. (2013) is promising in that it suggested that a mentorship program can indeed help students build connections with people from outside the co-national group *over the course* of the program, further research is needed to determine whether such connections can be maintained after the conclusion of the program.

In the present study, the test of the meditational model proposed for hypothesis 2 suggested a fit for both the hypothesized model and the reverse model. The literature on the acculturation of international students does suggest that acculturative stress is typically an antecedent of psychological symptoms (for a review, see Zhang & Goodson, 2011), yet the present data suggests that either could be the case. Therefore, future research could examine these two variables temporally. For example, if a study were to adopt three time points, as opposed to two, it may be that lower acculturative stress at Time 2 can predict better psychological adaptation at Time 3, rather than the opposite. Models that consider these variables longitudinally, across more than two time points, may produce results that can allow researchers to make better determinations about the temporal sequencing of the relationship between acculturative stress and psychological adaptation, and whether a mentorship program for international students can influence psychological adaptation through a reduction in acculturative stressors.

The last set of results from the present study concerns the quality of friendship between international students and their host-national student mentors. The correlations that I obtained, while not significant, did suggest that perhaps, international students who feel they could improve the most on sociocultural adaptation and acculturative stress (they showed the lowest outcomes at Time 1 and went on to experience the greatest change between Time 1 and Time 2) were the students who became closest to their mentors. A larger data set would certainly be required in future research to further explore this hypothesis.

In addition, future research could investigate the role that homestay families might play as social supports for international students. This is because the CultureWorks students in the control group lived predominantly in homestay situations, and reported

lower psychological adaptation and higher acculturative stress at Time 2, but not higher sociocultural adaptation. Literature on homestay families suggests that families can provide a strong instrumental source that can assist students in learning the host language (Schmidt-Reinhardt & McKnight, 2004) and become more familiar with the host country's customs and social and political climate (Shiri, 2015). However further research would be required to compare the type of support received from homestay families and the type of support received from a similar-aged host peer (i.e., a mentor). While homestay families could provide a welcoming and nurturing environment, similar-aged peers may better acquaint students to aspects of the host culture that are most relevant to the age group. Therefore, it may be possible that host-national student connections with similar-aged peers may be especially important for those students who intend to remain in the host country following their studies so that these students can go on to fully participate in social life with members of the host country outside of work or academic life.

One final recommendation for future research regarding mentorship programs could be to investigate the outcomes that co-occur for the mentors. Another study that examined a mentorship program conducted in New Zealand by Campbell (2012) focused mainly on the outcomes experienced by mentors. The peer-pairing intervention, which linked host-national students and international students in that study was part of a requirement for host-national students enrolled in an intercultural communication course. Pairs were encouraged to meet regularly over a 12-week period and following this period, the host-national students turned in a report about how the experience had affected them. The qualitative data obtained suggested that mentors were able to practice intercultural communication while becoming more sensitive to the experiences of their partners. Perhaps in future studies, quantitative instruments could assess these intercultural changes for hosts, and whether variations in these changes could predict the extent to which mentees can experience positive changes in acculturation outcomes.

5.3 Limitations

One limitation inherent in the present study is the small sample size. To fully generalize these results, larger samples are needed. Given the recruitment challenges that occurred in the present study, it may be difficult to recruit a large sample with high statistical

power at a single location. This begs the question of whether it may be possible to establish similar interventions across different locations. For example, a similarly structured program could be implemented at universities across the country. Testing the effects in various locations would enhance generalizability across settings, but also allow differences between different settings to be compared.

A second limitation involves the control group used in this study. First, measures were only taken from the control group at Time 2. My original intention was to compare the pattern of change from Time 1 to Time 2 for both the program and the control groups. However, it was not possible to recruit control participants for Time 1 and thus there is no data for a control group at Time 1. The non-equivalence of the control group is also, of course, a limitation. As stated in the discussion, this group may be different from the program group on an important characteristic such as place of residence (i.e., homestay vs. residence hall).

Lastly, the program developed in this study was non-institutionalized. That is, the students who signed up did so voluntarily. Therefore, the question arises as to whether students who did not sign up would have fared differently if they had participated. In other words, there was a self-selection to the program condition that may have influenced the results.

5.4 Concluding Statement

The present study provides support for the importance and value of friendship with host-national students for international students as they acculturate into university life in Canada. The changes I measured for the international students as a result of participating in the program were all positive. However, during the pilot phase of the study, I uncovered high scores on many of the questionnaire measures I initially used. It appeared that the program was not having an influence on the variables I had initially expected it to effect, and therefore, I felt that communicating directly with my participants might refine my research questions and framework. The focus group interviews I subsequently conducted provided me with a substantial amount of insight into how the students perceived their experiences at Western University. The students spoke of how they felt integrated in the sense that they were able to use campus facilities, yet still struggled to make friends with hosts, although the program had helped them gain the cultural

knowledge they felt they needed to communicate with similar-aged host peers. Learning about these experiences from the students allowed me to then select and design questionnaire measures that could assess the outcomes that were most relevant to their experiences. Involving the students directly in my research process offered me a unique perspective to from which to examine the impact of the research and I look forward to making use of similar methods in future research I may undertake.

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Table 1

Winter 2015 Pilot Study - Descriptive Statistics for Each Outcome Measure at Each Time

Measure	Time				
	Time 1	Time 2	Time 3	Time 4	Time 5
Agg. Feeling Thermometer (range 1 – 100)	72.7 (18.31) (n = 40)	80.67 (13.02) (n = 30)	-	75.83 (15.34) (n = 26)	80.08 (13.46) (n = 22)
Trait Ratings – English Speakers (range 1 – 7)	5.58 (1.0) (n = 41)	-	-	-	5.59 (.78) (n = 22)
Trait Ratings – Canadians (range 1 – 7)	5.8 (1.1) (n = 42)	-	-	-	5.72 (.76) (n = 22)
Trait Ratings – Western Students (range 1 – 7)	5.77 (1.1) (n = 42)	-	-	-	5.83 (.81) (n = 22)
Integration to University (range 1 – 7)	5.34 (1.30) (n = 42)	5.20 (.92) (n = 29)	-	5.40 (1.34) (n = 27)	5.60 (1.26) (n = 22)
Interpersonal Closeness to Partner (range 1 – 7)	-	6.1 (.85) (n = 29)	5.57 (.92) (n = 17)	5.61 (.96) (n = 25)	6.03 (.50) (n = 22)
Self-Perceived Language Competence (range 1 – 10)	4.81 (1.55) (n = 33)	5.17 (1.18) (n = 30)	5.35 (1.11) (n = 17)	5.5 (1.32) (n = 26)	5.7 (1.24) (n = 22)

Table 2

Frequency of Activities Engaged in by Participants

	Campus Tour	Movies	Mall	Grocery Store	Restaurant	Sports
Frequency (Total n = 25)	10	5	4	9	11	5

Table 3

Reliabilities of Scales and Subscales – Fall 2015

Measure	# of Items	Time 1 α	Time 2 α
Sociocultural Adaptation	8	.865	.822
AS: Homesickness	4	.659	.682
AS: Language Difficulty	3	.730	.426
AS: Language Discrimination	7	.886	.915
AS: General Discrimination	3	.706	.785
Psychological Adaptation - Adjectives	6	.518	.607
Psychological Adaptation – Alberta Qs	4	.490	.545
McGill Positive Feelings	4		.761
McGill Satisfaction	4		.820
McGill Stimulating Companionship	5		.866
McGill Help	4		.833
McGill Emotional Security	3		.838
McGill Self Validation	5		.906

Table 4

Descriptive Statistics for Program and Comparison Groups at Time 2

Variable	Program					Control				
	n	M	SD	Potential	Actual	n	M	SD	Potential	Actual
Sociocultural Adaptation	25	3.93	1.03	1 - 7	1.75 – 5.88	22	3.57	1.00	1 - 7	1.75 – 5.25
Acculturative Stress	25	2.75	.71	1 - 7	1.28 – 4.78	22	3.23	.86	1 - 7	1.46 – 4.51
Psychological Adaptation	25	5.09	.51	1 - 7	4.17 – 6.08	22	4.63	.93	1 - 7	1.88 – 5.83
Friendship Quality	25	6.91	1.21	1 - 9	4.69 – 8.86					
Social Desirability	25	6.52	1.76	1 - 11	1 - 9	22	6.13	1.64	1 - 11	4 - 11

Table 5

Paired-Samples T-Tests for Program Participants from Time 1 to Time 2

Variable	Time 1		Time 2		t	p	95% CI		d
	M	SD	M	SD			LL	UL	
Sociocultural Adaptation (n = 22)	3.22	1.19	3.93	1.08	-2.81	<.01	1.25	.19	.6
Acculturative Stress (n = 23)	3.06	.98	2.73	.74	2.9	<.01	.10	.58	.6
Psychological Adaptation (n = 23)	4.78	.63	5.07	.53	-1.89	<.05	-.61	.03	.39

Table 6

Independent-Samples T-Tests for Program and Control Participants at Time 2

Variable	Program		Control		t	p	95% CI		d
	M (n = 25)	SD	M (n = 22)	SD			LL	UL	
Sociocultural Adaptation	3.94	1.03	3.57	1.00	1.22	.12	-.24	.96	.36
Acculturative Stress	2.75	.70	3.23	.86	-2.1	<.05	-.94	.02	.61
Psychological Adaptation	5.09	.51	4.63	.93	2.08	<.05	.01	.92	.6

Table 7

Regression Models Involving Friendship Quality

Variable	Time 2 sociocultural adaptation			
	Model 1		Model 2	
	<i>B</i>	95% CI	<i>B</i>	95% CI
Constant	2.495	[-1.429, 6.419]	2.62	[-5.09, 10.33]
Time 1 sociocultural adaptation	.416	[-.419, .447]	.377	[-1.68, 2.44]
Time 2 friendship quality	.014	[-.025, .856]	-.004	[-1.08, 1.06]
Time 1 sociocultural adaptation*Time 2 friendship quality			.006	[-.30, .31]
<i>R</i> ²	.201		.201	
<i>F</i>	2.39		1.51	
Variable	Time 2 acculturative stress			
	Model 1		Model 2	
	<i>B</i>	95% CI	<i>B</i>	95% CI
Constant	.752	[-.451, 1.956]	-.89	[-5.03, 3.25]
Time 1 acculturative stressors	.615 (p < .001)	[.405, .824]	1.22	[-.26, 2.71]
Time 2 friendship quality	.013	[-.159, .185]	.26	[-.36, .88]
Time 1 acculturative stressors*Time 2 friendship quality			-.09	[-.31, .13]
<i>R</i> ²	.676		.69	
<i>F</i>	20.82 (p < .001)		13.96 (p < .001)	
Variable	Time 2 psychological adaptation			
	Model 1		Model 2	
	<i>B</i>	95% CI	<i>B</i>	95% CI
Constant	4.26 (p = .001)	[1.97, 6.56]	11.02	[2.07, 20.14]
Time 1 psychological adaptation	.176	[-2.03, .56]	-1.24	[-3.09, .61]
Time 2 friendship quality	-.004	[-.207, .198]	-1.11	[-2.53, .32]
Time 1 psychological adaptation*Time 2 friendship quality				[-.064, .52]

psychological
adaptation*Time 2
friendship quality

R ²	.045	.16
F	.47	1.23

Table 8

Correlations of Friendship Quality Scales and Subscales with Outcome Measures

	SA2	AS2	PA2	C-SA	C-AS	C-PA
OFQ	-.173	.220	-.060	.279	-.170	-.023
OFF	-.154	.271	-.063	.249	-.141	.050
SV	-.147	.252	-.129	.138	-.239	-.01
ES	-.121	.239	-.145	.230	-.157	.002
H	-.095	.255	.101	.256	-.035	.254
SC	-.195	.230	-.021	.27	-.063	-.053
OA	-.176	.122	-.049	.286	-.190	-.125
SAT	-.132	.08	-.022	.250	-.153	-.118
OP	-.208	.156	-.073	.297	-.21	-.121

SA2: Time 2 Sociocultural Adaptation, AS: Time 2 Acculturative Stress, PA: Time 2 Psychological Adaptation, C-SA: Change in Sociocultural Adaptation from Time 1 to Time 2, C-AS: Change in Sociocultural Adaptation from Time 1 to Time 2, C-PA: Change in Psychological Adaptation from Time 1 to Time 2.

OFQ: Overall Friendship Quality, OFF: Overall Friendship Functions, SV: Self-Validation, ES: Emotional Security, H: Helpfulness, SC: Stimulating Companionship, OA: Overall Affection, SAT: Overall Satisfaction, OP: Overall Positive Feelings.

Table 9

Correlations of Social Desirability and Extraversion with Outcome Measures

	SA1	AS1	PA1	SA2	AS2	PA2	C-SA	C-AS	C-PA
SD	.113	.087	-.052	-.072	.082	.122	.089	-.151	-.040

SA: Time 1 Sociocultural Adaptation, AS: Time 1 Acculturative Stress, PA: Time 1 Psychological Adaptation, SA2: Time 2 Sociocultural Adaptation, AS2: Time 2 Acculturative Stress, PA2: Time 2 Psychological Adaptation, C-SA: Change in Sociocultural Adaptation from Time 1 to Time 2, C-AS: Change in Sociocultural Adaptation from Time 1 to Time 2, C-PA: Change in Psychological Adaptation from Time 1 to Time 2, SD: Social Desirability, EXT: Extraversion.

*Correlation is significant at the .05 level

Appendix A

Initial Ethics Approval Form



**Western
Research**

Western University Health Science Research Ethics Board
NMREB Delegated Initial Approval Notice

Research Ethics

Principal Investigator: Prof. Vicki Esses
Department & Institution: Social Science/psychology, Western University

NMREB File Number: 105758
Study Title: Language Program Participation Study
Sponsor:

NMREB Initial Approval Date: September 26, 2014
NMREB Expiry Date: August 31, 2015

Documents Approved and/or Received for Information:

Document Name	Comments	Version Date
Instruments	A clean version of the surveys to be completed by mentors of the ELC students.	2014/09/16
Instruments	A clean version of the revised ELC survey.	2014/09/16
Letter of Information & Consent	A clean version of the revised LOI for ELC students.	2014/09/16
Letter of Information & Consent	Mentor-clean copy	2014/09/24
Western University Protocol	Revised protocol in track changes.	2014/09/16
Recruitment Items	Flyer to recruit mentors for ELC students.	2014/09/02

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the above named study, as of the HSREB Initial Approval Date noted above.

NMREB approval for this study remains valid until the NMREB Expiry Date noted above, conditional to timely submission and acceptance of HSREB Continuing Ethics Review.

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 in

E

Ethics Officer to Contact for Further Information

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Appendix B

Revision of Initial Protocol to Conduct Focus Groups



**Western
Research**

Research Ethics

**Western University Non-Medical Research Ethics Board
NMREB Amendment Approval Notice**

Principal Investigator: Prof. Vicki Esses
Department & Institution: Social Science/Psychology, Western University

NMREB File Number: 105758
Study Title: Language Program Participation Study
Sponsor:

NMREB Revision Approval Date: March 09, 2015
NMREB Expiry Date: September 26, 2015

Documents Approved and/or Received for Information:

Document Name	Comments	Version Date
Revised Letter of Information & Consent	Revised Letter of Information and Consent Form for ELC students.	2015/01/30
Revised Western University Protocol	Revised Protocol	2015/01/30

The Western University Non-Medical Science Research Ethics Board (NMREB) has reviewed and approved the amendment to the above named study, as of the NMREB Amendment Approval Date noted above.

NMREB approval for this study remains valid until the NMREB Expiry Date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

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

Ethics Officer to Contact for Further Information			
Erika Basile ebasile@uwo.ca	✓ Grace Kelly grace.kelly@uwo.ca	Mina Mekhail mmekhail@uwo.ca	Vikki Tran vikki.tran@uwo.ca

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Appendix C

Ethics Approval for Piloting of Questionnaire Measures



Research Ethics

Western University Health Science Research Ethics Board NMREB Delegated Initial Approval Notice

Principal Investigator: Prof. Vicki Esses
Department & Institution: Social Science/psychology, Western University

NMREB File Number: 106842
Study Title: ELC Mentorship Pilot Study
Sponsor: Social Sciences and Humanities Research Council

NMREB Initial Approval Date: July 10, 2015
NMREB Expiry Date: July 10, 2016

Documents Approved and/or Received for Information:

Document Name	Comments	Version Date
Revised Letter of Information & Consent		2015/06/22
Other	Debriefing form.	2015/06/22
Instruments	Copy of questionnaire that students will complete.	2015/06/22
Revised Western University Protocol		2015/07/08

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the above named study, as of the NMREB Initial Approval Date noted above.

NMREB approval for this study remains valid until the NMREB Expiry Date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

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

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Ethics Officer to Contact for Further Information

<input type="checkbox"/> Erika Basile ebasile@uwo.ca	<input checked="" type="checkbox"/> Grace Kelly grace.kelly@uwo.ca	<input type="checkbox"/> Mina Mekhail mmekhail@uwo.ca	<input type="checkbox"/> Vikki Tran vikki.tran@uwo.ca
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Appendix D

Continuing Ethics Approval



**Western
Research**

Research Ethics

**Western University Health Science Research Ethics Board
NMREB Annual Continuing Ethics Approval Notice**

Date: August 24, 2015

Principal Investigator: Prof. Vicki Esses

Department & Institution: Social Science\Psychology, Western University

NMREB File Number: 105758

Study Title: Language Program Participation Study

Sponsor:

NMREB Renewal Due Date & NMREB Expiry Date:

Renewal Due -2016/08/31

Expiry Date -2016/09/26

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed the Continuing Ethics Review (CER) form and is re-issuing approval for the above noted study.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), Part 4 of the Natural Health Product Regulations, the Ontario Freedom of Information and Protection of Privacy Act (FIPPA, 1990), 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.

ian Services under the IRB registration

Ethics Officer to Contact for Further Information

<input type="checkbox"/> Erika Basile ebasile@uwo.ca	<input checked="" type="checkbox"/> Grace Kelly grace.kelly@uwo.ca	<input type="checkbox"/> Mira Mekhail mmekhail@uwo.ca	<input type="checkbox"/> Vikki Tran vikki.tran@uwo.ca
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Appendix E

Revision to Continuing Ethics Protocol to Conduct Video Measure



**Western
Research**

Research Ethics

Western University Non-Medical Research Ethics Board
NMREB Amendment Approval Notice

Principal Investigator: Prof. Vicki Esses
Department & Institution: Social Science\Psychology, Western University

NMREB File Number: 105758
Study Title: Language Program Participation Study
Sponsor:

NMREB Revision Approval Date: September 16, 2015
NMREB Expiry Date: September 26, 2016

Documents Approved and/or Received for Information:

Document Name	Comments	Version Date
Instruments	Brief survey to be completed by participants following the video-recorded interaction.	2015/08/14
Other	Debriefing form for the video measures.	2015/08/14
Revised Letter of Information & Consent		2015/09/01
Instruments	Small talk questions that participants will take turns answering during the interaction.	2015/08/14
Revised Western University Protocol		2015/09/01
Revised Letter of Information & Consent	Video Letter	2015/09/01

The Western University Non-Medical Science Research Ethics Board (NMREB) has reviewed and approved the amendment to the above named study, as of the NMREB Amendment Approval Date noted above.

NMREB approval for this study remains valid until the NMREB Expiry Date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

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.

registration

Ethics Officer to Contact for Further Information

<input type="checkbox"/> Erika Basile ebasile@uwo.ca	<input checked="" type="checkbox"/> Grace Kelly grace.kelly@uwo.ca	<input type="checkbox"/> Mina Mekhail mmekhail@uwo.ca	<input type="checkbox"/> Vikki Tran vikki.tran@uwo.ca
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Appendix F

Revision to Continuing Ethics Protocol to Collect Data from CultureWorks



Research Ethics

Western University Non-Medical Research Ethics Board
NMREB Amendment Approval Notice

Principal Investigator: Prof. Vicki Esses
Department & Institution: Social Science/Psychology, Western University

NMREB File Number: 105758
Study Title: International Student Participation Study
Sponsor:

NMREB Revision Approval Date: November 28, 2015
NMREB Expiry Date: September 26, 2016

Documents Approved and/or Received for Information:

Document Name	Comments	Version Date
Other	Debriefing form for the new (non-WELC) participants.	2015/11/09
Instruments	Survey to be completed by WELC students at time 2 (December).	2015/11/09
Instruments	Survey that new (non-WELC) participants will complete.	2015/11/09
Revised Letter of Information & Consent	Non-WELC	2015/11/28
Revised Western University Protocol		2015/11/28
Advertisement	Poster	2015/11/28

The Western University Non-Medical Science Research Ethics Board (NMREB) has reviewed and approved the amendment to the above named study, as of the NMREB Amendment Approval Date noted above.

NMREB approval for this study remains valid until the NMREB Expiry Date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

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.

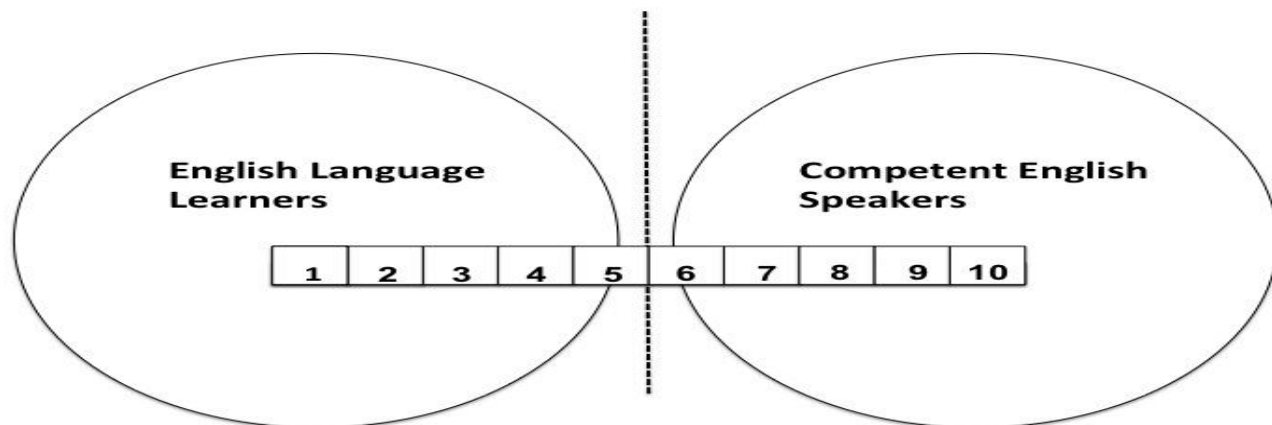
Ethics Officer to Contact for Further Information: Erika Basile ___ Nicole Kaniki ___ Grace Kelly Mina Mekhail ___ Vikki Tran ___

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Appendix G

Questionnaire Measures Given During 2014-15 Academic Year

Competent English Speakers and English Language Learners are different groups. Please use this picture to tell us how much you feel you belong to one group or the other. Maybe you are somewhere in between. PLEASE ONLY CIRCLE ONE PLACE ON THE NUMBER LINE BETWEEN 1 AND 10.



Right now, I identify with the group, English Language Learners

Not at all 1 2 3 4 5 6 7 Very Much

Right now, I see myself as belonging to the group, English Language Learners

Not at all 1 2 3 4 5 6 7 Very Much

Right now, I identify with the group, Competent English Speakers

Not at all 1 2 3 4 5 6 7 Very Much

Right now, I see myself as belonging to the group, Competent English Speakers

Not at all 1 2 3 4 5 6 7 Very Much

This set of questions is about you and your partner.

How comfortable were you with your partner the last time you saw him/her?

Not at all 1 2 3 4 5 6 7 Very Much

How close did you feel with your partner?

Not close at all 1 2 3 4 5 6 7 Very Close

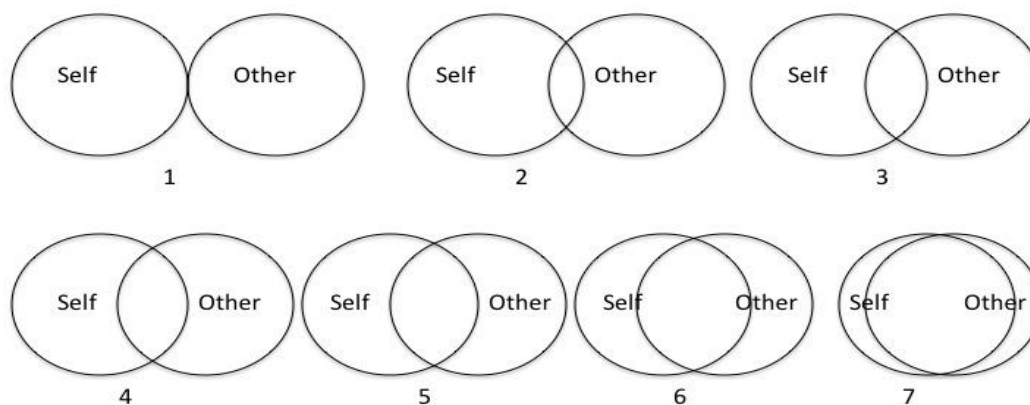
How much do you understand your partner's feelings?

Not at all 1 2 3 4 5 6 7 Very Much

How well do you feel your partner understands your feelings?

Not at all 1 2 3 4 5 6 7 Very Much

Please mark the pair of circles that best describes your relationship with your partner after your last meeting. The circle marked "Self" represents you and the circle marked "Other" represents your partner.



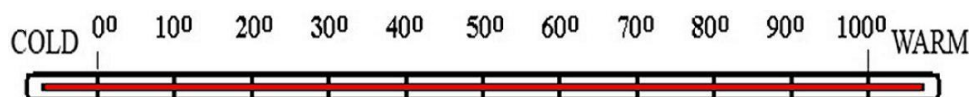
These questions are about your own attitudes and feelings. Keep in mind that these can change day to day, week to week, etc. Using the thermometer, circle how warm or how cold you feel towards Competent English Speakers.



Using the thermometer, circle how warm or how cold you feel towards Canadians.



Using the thermometer, circle how warm or how cold you feel towards Students at Western University.



Now, please rate the group **Competent English Speakers** on the traits below:

1	2	3	4	5	6	7
Bad						Good

1	2	3	4	5	6	7
Unpleasant						Pleasant

1	2	3	4	5	6	7
Awful						Nice

Please rate the group **Canadians** on the traits below:

1	2	3	4	5	6	7
Bad						Good

1	2	3	4	5	6	7
Unpleasant						Pleasant

1	2	3	4	5	6	7
Awful						Nice

Please rate the group **Western University Students** on the traits below:

1	2	3	4	5	6	7
Bad						Good

1	2	3	4	5	6	7
Unpleasant						Pleasant
1	2	3	4	5	6	7
Awful						Nice

How would you feel if you were interacting with a *Competent English Speaker* whom you did not know?

1	2	3	4	5	6	7	8	9
Not at all comfortable								Extremely comfortable

1	2	3	4	5	6	7	8	9
Not at all anxious								Extremely anxious

How would you feel if you were interacting with a *Canadian* whom you did not know?

1	2	3	4	5	6	7	8	9
Not at all comfortable								Extremely comfortable

1	2	3	4	5	6	7	8	9
Not at all anxious								Extremely anxious

How would you feel if you were interacting with a *Western University Student* whom you did not know?

1	2	3	4	5	6	7	8	9
Not at all comfortable								Extremely comfortable

1	2	3	4	5	6	7	8	9
Not at all anxious								Extremely anxious

These questions will ask how you feel about your experience at university.

I feel like I am a part of Western University.

Not at all	1	2	3	4	5	6	7	Very Much
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I feel comfortable at Western University.

Not at all	1	2	3	4	5	6	7	Very Much
------------	---	---	---	---	---	---	---	-----------

I like to talk in both English and my native language at university.

Not at all	1	2	3	4	5	6	7	Very Much
------------	---	---	---	---	---	---	---	-----------

I like activities with both Canadians students and my own ethnic group at university.

Not at all 1 2 3 4 5 6 7 Very Much

I would like to have both Canadian friends and friends from my ethnic group at university.

Not at all 1 2 3 4 5 6 7 Very Much

These questions will ask about your social experiences.

How many friends do you have who are also students in the English Language Center?

- 1 None
- 2 1-3
- 3 4-6
- 4 7-9
- 5 10-12
- 6 More than 12

How many of these friends are from your own ethnic group?

- 1 None of them
- 2 Less than half
- 3 About half
- 4 More than half
- 5 All of them

How many friends do you have here in London outside the English Language Center?

- 1 None
- 2 1-3
- 3 4-6
- 4 7-9
- 5 10-12
- 6 More than 12

How many of these friends are from your own ethnic group?

- 1 None of them
- 2 Less than half
- 3 About half
- 4 More than half
- 5 All of them

How many friends do you have here in London who are Competent English Speakers?

- 1 None
- 2 1-3
- 3 4-6
- 4 7-9
- 5 10-12
- 6 More than 12

How many of these friends are from your own ethnic group?

- 1 None of them
- 2 Less than half
- 3 About half
- 4 More than half
- 5 All of them

Please read each question carefully and circle ONE of the available choices (1 to 5).
Choose the number that reflects your feelings and opinions MOST ACCURATELY:

1 = Not at all

2 = Not very well

3 = Some what

4 = Fairly well

5 = Very well

1. Regarding your use of language:

- | | | | | | |
|---|---|---|---|---|---|
| How well do you understand English? | 1 | 2 | 3 | 4 | 5 |
| How well do you speak English? | 1 | 2 | 3 | 4 | 5 |
| 2. I feel that I have the necessary skills to adjust to the Canadian culture. | 1 | 2 | 3 | 4 | 5 |
| 3. I believe that while in Canada, I can have close relationships with Canadians. | 1 | 2 | 3 | 4 | 5 |
| 4. I am able to understand English jokes. | 1 | 2 | 3 | 4 | 5 |
| 5. I believe that I can achieve my economic goals in Canada. | 1 | 2 | 3 | 4 | 5 |
| 6. I would feel comfortable in the group of people where I am the only person of my ethnic group. | 1 | 2 | 3 | 4 | 5 |
| 7. Others have difficulty understanding my English speech. | 1 | 2 | 3 | 4 | 5 |

Please tell us a bit about yourself

Gender: _____ Age: _____

Which faculty will you be enrolled in at Western? _____

What country were you born in? _____

How long have you been in Canada? _____

What language do you consider to be your native language? _____

Appendix H

Questionnaire Measures Given to Participants in 2015-16

On the scale below, please tell us how easy or how difficult you find each of these tasks in Canada:

1	2	3	4	5	6	7
Very difficult						Very easy

- ___ Making Canadian friends your own age.
- ___ Shopping in a large Canadian store.
- ___ Taking public transit (e.g. buses).
- ___ Going to a small party with Canadian people only.
- ___ Being with older Canadian people.
- ___ Ordering food at a Canadian restaurant.
- ___ Getting to know Canadian people very well.
- ___ Going into a room full of people.
- ___ Being introduced to a new person.
- ___ Approaching others and starting a conversation with them.
- ___ Keeping a conversation going with a Canadian person.
- ___ Talking about yourself or your feelings.
- ___ Giving a speech in front of an audience.
- ___ Being with Canadian people you don't know very well.
- ___ Waiting in line somewhere.
- ___ Understanding Canadian jokes and humor.

Using the scale below, please tell us how much you agree or disagree with each of the statements:

1	2	3	4	5	6	7
Strongly disagree						Strongly agree

- ___ Being far away from home bothers me
- ___ My English embarrasses me when I talk to people.
- ___ Others ignore me because of my English.
- ___ I am treated differently than other people are treated in social situations.
- ___ I feel sad leaving relatives in my home country behind.
- ___ My opinions and ideas are not taken seriously because of my English.
- ___ I feel that I am not treated the way others are.
- ___ My English makes it hard to understand lectures.
- ___ I miss the people in my home country.
- ___ I feel that others don't want to talk to me because of my English.
- ___ I feel sad living in a place that is not familiar to me.
- ___ Others treat me as if I don't know anything because of my English.
- ___ Others are annoyed by my English.
- ___ I am treated differently because of my cultural background.
- ___ Others look down on me because of my English.
- ___ My English makes it hard for me to read books.
- ___ Others avoid talking to me because of my English.

When you think about your life in Canada so far and in the future, please tell us how much you feel:

1	2	3	4	5	6	7
Not at all						Very Much

___ Happy

___ Hopeful

___ Nervous

___ Proud

___ Excited

___ Worried

On the scale below, please tell us how much you agree or disagree with the statements below about your life in Canada:

1	2	3	4	5	6	7
Strongly disagree						Strongly agree

___ I am satisfied with my life in Canada.

___ I experience stress in my daily life in Canada.

___ Since I came to Canada, my physical health has been good.

___ Since I came to Canada, my mental health has been good.

How likely is it that you will *stay in Canada* when you finish your university studies?

Very Unlikely 1 2 3 4 5 6 7 Very Likely

My ability to speak English is:

Very Poor 1 2 3 4 5 6 7 Very Good

My ability to read English is:

Very Poor 1 2 3 4 5 6 7 Very Good

My ability to write in English is:

Very Poor 1 2 3 4 5 6 7 Very Good

Think of the friends that you have here in London. How many of them are from your own ethnic group? (Please circle one response)

- 1 None of them
- 2 Less than half
- 3 Half of them
- 4 More than half
- 5 All of them

How many of the friends that you have here in London are from Canada? (Please circle one response)

- 1 None of them
- 2 Less than half
- 3 Half of them
- 4 More than half
- 5 All of them

Using the scale below, please tell us how much each of these statements describes how you feel about your partner. Pretend that each of the blank spaces is your partner's name.

-4	-3	-2	-1	0	1	2	3	4
	Very Much Disagree		Somewhat Disagree		Somewhat Agree		Very Much Agree	

I like _____ a lot. (P)

I hope _____ and I will still see each other when the program is over. (P)

I would miss _____ if he/she went to another university. (P)

I am glad that that I know _____. (P)

I think about _____ even when he/she is not around (Other scale)

I feel my friendship with _____ is great. (S)

I am satisfied with my friendship with _____. (S)

I think my friendship with _____ is strong. (S)

I am pleased with my friendship with _____. (S)

Using the scale below, please tell us how often each of these statements describes your partner. Pretend that each of the blank spaces is your partner's name.

0	1	2	3	4	5	6	7	8
Never		Rarely		Once in a while		Fairly often		Always

Stimulating Companionship – Do you do things together that bring up feelings of enjoyment, excitement? Does your time together bring up excitement?

_____ has good ideas about fun things to do (SC)

_____ makes me laugh (SC)

_____ is exciting to talk to (SC)

_____ is exciting to be with (SC)

_____ is fun to sit and talk with (SC)

Help – Providing assistance, advice, and support to achieve goals. Does not need to be reciprocal. These students would hope to receive help from their mentors with things that will aid them with integrating.

_____ helps me when I need it (H)

_____ helps me when I'm trying hard to learn something (H)

_____ shows me how to do things better (H)

_____ gives me useful information (H)

Self-Validation – Does my friend help maintain my image as a competent and worthwhile person? This could be important for reassuring the person that they will be successful in navigating difficulties associated with transition.

_____ compliments me when I do something well (SV)

_____ points out the things I'm good at (SV)

_____ makes me feel special (SV)

_____ makes me feel smart (SV)

_____ makes me feel that I can do things well (SV)

Emotional Security – Does the friend provide comfort or confidence in novel/threatening situations?

_____ would make me feel comfortable in a new situation (ES)

_____ would make me feel better if I were worried. (ES)

_____ would make me feel calmer if I were nervous (ES)

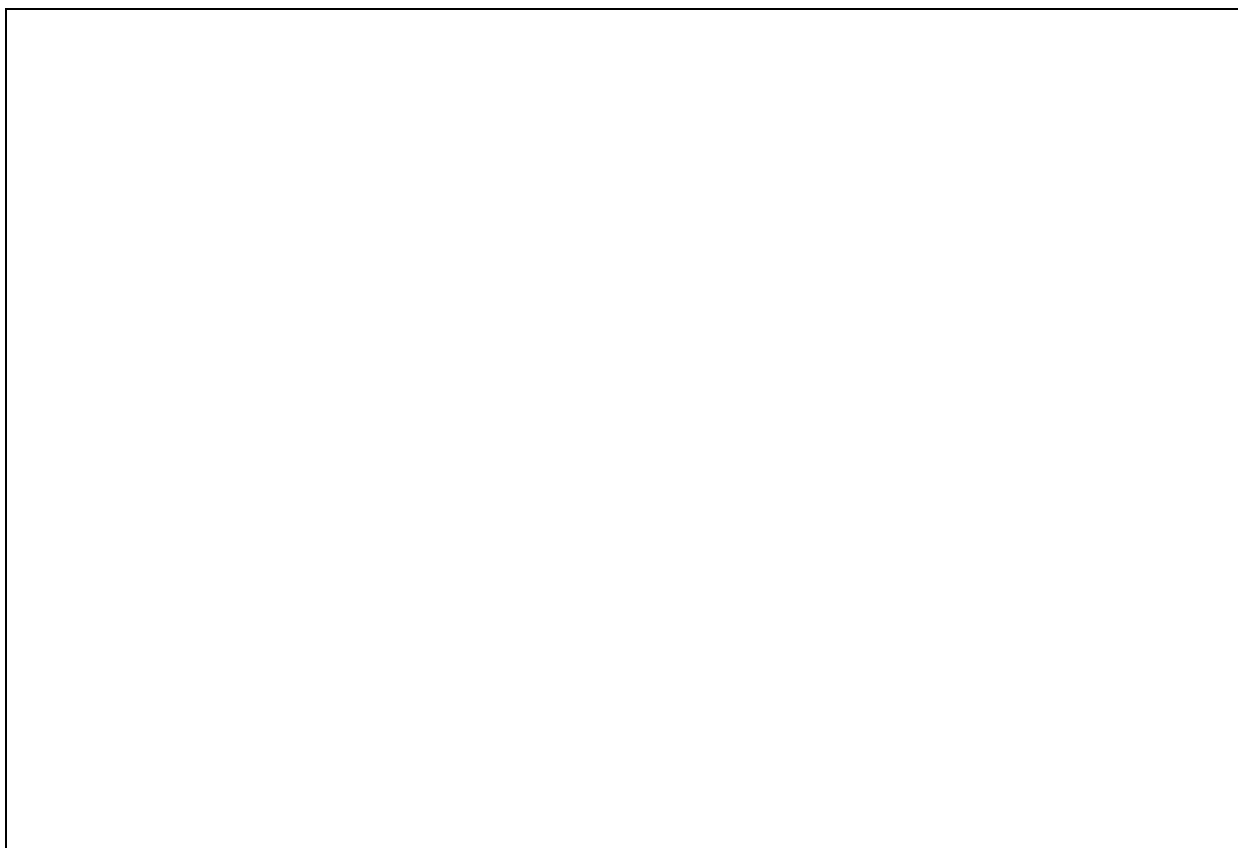
Can please you tell us how many times you met with your partner this semester? If you don't remember exactly how many times, please take your best guess.

- 3 or fewer times
 - 4-6 times
 - 7-9 times
 - 10 or more times
-

Which of the following activities did you do with your partner this semester? Please check off all that you did.

- Campus tour
- Go to the movies
- Going to stores at a mall
- Going to a food store
- Going to a restaurant
- Play a sport/game (e.g. soccer, badminton, bowling, ping pong)

In the box, please write down anything you and your partner did that is not on the list:

A large, empty rectangular box with a thin black border, intended for the user to write down activities not listed elsewhere on the page.

Appendix I

Sample Focus Group Interview Guide

Good afternoon, everyone! It's nice to see you all again. Thank for you coming today. I have a few questions for you about your experiences as an international student at Western. You have been completing the surveys, but we hope today, you will tell us a little more about your time here so far.

Before we get started, I just want to quickly tell you how this is going to work. There are no right answers to the questions I will be asking. In fact, there are many possible answers to the questions, so it's okay if your answer is not the same as someone else's. Also, it will be easiest for all of us if only one person talks at a time. Then we will be able to hear each other and respond better.

Now, I just want to make sure that it is okay for me to record this session. Please let me know. This will be much easier for us as we will not need to take lots of detailed notes.

Introduction – Before we start, I just want to ask you a few things.

- A. How long have you been here?
- B. Will you be moving on to Western once you finish your studies at the English Language Centre?
- C. If you are, which faculty will you be enrolled in at Western?
- D. Why did you choose Canada and Western?
- E. What do you see yourself doing after you finish your degree at Western?

Question 1 – Experiences as a student from another country

The first thing I want to ask you about is your experience here as a student from another country. How do you like your time here at Western?

- A. If you like Western, could you tell me why?
- B. What do you do in your free time? With whom?
- C. What did you like to do back home? Can you do those things here?
- D. Where are you living? (residence, home stay?) How do you like it?

- E. What has been hard or difficult for you during your time here?
- F. Imagine if you were coming here from the same country, but you already knew the language very well. Do you think that would make things easier?
 - a. How so?

Question 2 – Belonging at Western

I want to talk about the word “belonging.” I wonder if you can tell me how much you feel like you belong here at Western?

- A. What is it that makes you feel like you belong?
- B. What makes you feel like you don’t belong?
- C. Do you want to belong?

Why or why not?

Question 3 – Native English Speakers

- A. Some of your peers talked about not knowing many “Native English Speakers” or feeling afraid to talk to “Native English Speakers”
 - a. Do you feel the same way – how so?
- B. Could you describe a Native English Speaker to me? What is a Native English Speaker? What does he/she look like?
- C. Is there a difference between these people and people from your own ethnic background who speak English well?
 - Why or why not?
- D. How did you feel about talking to Native English speakers before you met your partner? How do you feel about this now?
 - Are you comfortable going up to a Native English speaker and talking to them?

Question 4 – Survey Questions – show examples of questions on survey – integration, thermometer –

I now want to ask you about the survey questions –

- A. What does it mean to you to be “a part of Western?”
- B. What do you think of the question (show graphic) does it describe how you feel?
 - Why or why not?

- C. How warmly would you say you feel towards these 3 groups right now (CAN, W Students, Eng Speakers) – why?
- D. What do you think about these questions? Are they good questions to ask?
- E. If you were asking questions to international students, like what I am doing, what would you ask them?
- F. Think back to before you came to Canada, if you had the chance to ask an international student here questions about Canada or the university, what would you ask? What did you want to know before you came here?

Question 5 – Canadian Culture –

- A. Your fellow students talked about knowing more about Canadian culture like movies, entertainment, sports as being very important. Do you agree?
- B. Do you feel you have learned more about Canadian culture through your partner?
- C. Imagine if you came here, spoke the language very well, but knew nothing about movies, sports, activities – how would you feel then?
- D. Do you feel like you could possibly participate in Canadian culture without knowing a ton of the language?

(I don't know if you can separate language proficiency from cultural knowledge – need both)

Question 6 – How have you liked your time in the program so far?

- A. What have you learned from being in the program/your partner?
- B. Is there anything (at Western, in London) you feel comfortable doing now that you wouldn't have done before?

Appendix J

Method and Analysis of Video Coding Data

As mentioned throughout the methods and results sections, an observational measure was used to assess interpersonal closeness between participants and their mentors. Eight pairs signed up to complete this procedure in the lab. Consent forms were provided and signed as per ethics requirements.

Pairs came into the lab and were asked to follow the researcher into a room equipped with video cameras. Participants were seated across from one another, with a table set up to one side. On the table was an envelope containing “small-talk” questions (Aron, Melinat, Aron, Vallone, & Bator, 1992), for example, “What is your favourite movie, can you tell me a bit about it?” Pairs were instructed to take turns reading out and answering the questions before the researcher left the room and turned on the recording function of the cameras. After pairs had either completed the questions or 20 minutes had passed, the researcher turned off the recording equipment, returned to the room, and thanked the pairs for their time.

After all video interactions between pairs had been recorded, I took five one-minute video clips from each of the eight interactions at Time 1 (early-October) and from each of the eight interactions at Time 2 (Mid-December). Once the clips had been obtained, they were given to three independent coders to rate.

For each individual clip, the three coders were asked to rate the students, their mentors, and the overall interaction, on numerous items (see index below). Before they rated, I convened the three coders and with them, calibrated the scales using three sample clips so that the coders would have a framework to which to refer when rating. The sample clips were from Time 1 and were not included in the analyses. Thus, coders rated 37 clips at Time 1 and 40 clips at Time 2.

Coders then rated the students and the overall interaction on the items in the index (see page 95; Part 1 - comfort, Part 2 – interaction quality, and Part 3 – non-verbals). After coders had rated the students, I asked them to rate the mentors on comfort and non-verbals. Coders completed these ratings at both Time 1 and Time 2.

After collecting the data, I first examined the reliability among the coders at Time 1 and Time 2. For each item coded at Time 1 and Time 2, I treated the three independent coders as three items. The reliabilities amongst the three coders at Time 1 for the “comfort” items can be seen in second column of the table below.

Reliabilities of Comfort Items

Variable	Time 1, α of all 3 coders	Time 2, r of Coders 1 and 2
Uncomfortable (Rec)	.856	.303
Pleasant	.776	.839
Engaged	.787	.922
Responsive	.886	.492

The “distracted (reverse)” and “responsive” items that are included in the appendix showed poorer reliabilities ($< .7$) at Time 1 than the other items, so were not included in the computation of the final score on the scale for comfort. At Time 1, aggregate scores for each of the four items were computed by averaging the ratings of the three coders on each of the four items, before an average for the overall scale was computed. The reliability of the aggregated four “comfort” items in the table above, was $\alpha = .92$ at Time 1.

At Time 2, Coder 3 showed poor agreement with Coders 1 and 2. Thus, Coder 3’s ratings were not included in the computation of aggregates for each item at Time 2, and only the correlation between Coder 1 and Coder 2 is displayed in the table above, as opposed to a reliability coefficient for all three coders. The reliability for the overall four-item scale for comfort at Time 2 was $\alpha = .905$.

The interaction quality items showed a similar pattern with regard to agreement among the coders. The three coders showed reliabilities above .7 on all four items of the scale at Time 1. However, at Time 2, Coder 3 showed poor agreement with Coders 1 and 2. Thus, the average of the 3 coders was used for the aggregate score on each of the four items at Time 1, while at Time 2, only the average of Coders 1 and 2 was used. The four interaction quality items (aggregated amongst the coders) showed reliabilities of $\alpha = .973$ at Time 1 and $\alpha = .930$ at Time 2.

Reliabilities of Interaction Quality Items

Variable	Time 1, α of all 3 coders	Time 2, r of Coders 1 and 2
Enjoyable	.896	.748
Forced (Rec)	.805	.792
Natural	.774	.795
Awkward (Rec)	.786	.793

Next, I computed overall measures for comfort (for the students) and interaction quality at Time 1 and Time 2, by averaging together the four aggregated items. I then conducted paired t-tests to examine the mean differences from Time 1 to Time 2. Given the nature of the program, it would be intuitive to predict that participants would feel more comfortable interacting with their partners at Time 2, in comparison to Time 1, and that interactions at Time 2 may have a better quality than at Time 1.

The mean score for the students' scores on comfort at Time 1 was 4.47 (SD = .53), while the mean comfort score at Time 2 was 4.62 (SD = .48). While the mean difference was in the expected direction, it was not significant, $t(7) = -1.15$, $p = .15$.

The mean score for interaction quality at Time 1 was 4.33 (SD = .62), and the mean interaction quality score was 4.37 (SD = .69) at Time 2. These mean scores did not differ significantly, $t(7) = -.364$, $p = .363$.

Reliabilities for the non-verbals "Part 3" are presented in the table below. The reliabilities were above .7 for three of the four items at Time 1. At Time 2, the correlations between coders 1 and 2 are reported because the ratings of Coder 3 showed little agreement (low r values) with those of Coder 1 and 2. Facial rigidity is not included because it showed poor reliability amongst the three coders at Time 1.

Reliabilities for Non-Verbals

Variable	Time 1, α of all 3 coders	Time 2, r of Coders 1 and 2
Nodding	.704	.502
Eye Contact	.809	.305
Smile	.893	.397

Reliabilities for the total non-verbal scores were $\alpha = .859$ at Time 1 and $\alpha = .719$ at Time 2 for each 3-item scale.

The mean score for the non-verbal measure at Time 1 was 3.68 (SD = .55), while the mean non-verbal score at Time 2 was 3.72 (SD = .41). A paired samples t-test revealed that these means did not significantly differ, $t(7) = -.40, p = .35$.

My next intention was to examine the correlations between student and mentor scores on Comfort and Non-verbals at Time 1 and Time 2. However, reliability among the three coders was consistently poor at Time 1 and Time 2 for mentor scores. Furthermore, there was no delineable pattern of disagreement, unlike with the student and interaction ratings, in which Coder 3 consistently showed disagreement with Coders 1 and 2. Thus, I did compute aggregated scores across the three coders.

Two items that did show acceptable reliability amongst coders were Time 1 “Uncomfortable (reverse)” ($\alpha = .786$) and Time 2 “Engaged” ($\alpha = .703$). The correlation between student and partner scores at Time 1 for “Uncomfortable (reverse),” was not significant, $r(6) = .078, p = .427$. The correlation between student and partner scores on “Engaged” at Time 2, was not significant, $r(6) = .218, p = .302$.

Conclusion: There seemed to be relatively good agreement amongst the coders in rating student participants at Time 1. These ratings took place immediately after I had calibrated the scales with the coders. Two of the coders showed good agreement at rating students at Time 2, while the third coder did not agree with the first two. There was less agreement amongst all coders when rating the mentors. This may have been because when calibrating the scales, the coders and I did not practice rating the mentors and the coders may have been most attuned to the subtle nuances of rating the students, who were interacting in their non-native language.

The mean differences for students showed little change from Time 1 to Time 2. While there was no increase, there was also no decrease. One potential explanation may have been that Time 2 took place during exams in December, when students would have likely had to fit the scheduled interaction in with other commitments. Even though they were more comfortable with their mentors, the students may have arrived for the sessions in a heightened state of arousal due to the stress of the exam period. If such a measure were to be used in future study, it may benefit the researcher to be cognizant of the timing external events, which may influence a video-recorded interaction.

The scales used here, however, could be potentially employed in future research, given the solid reliability shown when coders were rating students at Time 1. One recommendation for future study may be to have at least three coders and ensure that the coders are trained at rating all of the categories of participants they may need to rate.

Curriculum Vitae

Clint Thomson

EDUCATION

Master's of Science, Social Psychology (Specialization in Migration and Ethnic Relations) The University of Western Ontario	2014 – 2016
Bachelor of Arts, Psychology, (Honours with Distinction) Simon Fraser University	2010 - 2013
Associate of Arts, Psychology Douglas College	2008 - 2010

HONOURS AND AWARDS

Name of Award	Date
Joseph Armand Bombardier Master's Scholarship (\$17,500) SSHRC (CGS-M Program)	2014-15
Certificate of Academic Excellence Canadian Psychological Association	Spring 2013
Runner-up: Honours Thesis Prize SFU Psychology Department	Spring 2013
Dean's Honour Roll Simon Fraser University	Spring 2012
Open Undergraduate Scholarship (\$3,430) Simon Fraser University	Summer 2011 – Summer 2013

RESEARCH CONTRIBUTIONS

Esses, V.M., Wright, J.D., Thomson, C., Hamilton, L.K. (Forthcoming 2017).
Immigration. In *The SAGE Encyclopedia of Political Behavior* .

Maxwell-Smith, M. A., Barnes, K. L., Wright, J. D., Thomson, C., Mattos, M., & Dumas, T. M. (2016). Competition and intergroup bias: Toward a new construal process framework distinguishing competitive perceptions from competitive motivations. *Group Processes and Intergroup Relations*, 19(4), 1-25. doi: 10.1177/1368430216642027

Thomson, C., & Esses, V. (2015, August). *Participation of international students in a peer mentorship program: Understanding the social integration experience*. Poster presented at the 5th Annual Pacific Conference for Prejudice and Culture, Bellingham, Washington, USA.

Thomson, C., & Wright, S.C. (2014, June). *Social-psychological effects of prolonged cross-group contact for language learners*. Poster presented at the 75th annual convention of the Canadian Psychological Association, Vancouver, B.C., Canada.

TEACHING EXPERIENCE

Teaching Assistant and Tutorial Instructor Fall 2015 - Present
Introduction to Statistics for Psychology (Psychology 2810)
 The University of Western Ontario

Teaching Assistant Winter 2015
Introduction to Social Psychology (Psychology 2720)
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Teaching Assistant Fall 2014
Introductory Psychology (Psychology 1000)
 The University of Western Ontario

Private Tutor for Psychology Statistics Course Winter 2010, Fall 2011
 Douglas College Psychology Department