English Canadian stereotyping of ethnic groups:
The implications of warmth and competence stereotypes for intergroup affect,
behaviour and attitudes

by

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Abstract

This study examined the stereotypes, affect, behaviours and attitudes held by 167 English Canadian university students toward 16 ethnic groups. Participants completed a questionnaire which assessed their perceptions of each group's competence and warmth (derived from the Stereotype Content Model; Fiske et al., 2002), affective and behavioural reactions toward each group (derived from the Behaviors and Intergroup Affect from Stereotypes Map; Cuddy et al., 2007), acculturation attitudes with regards to each ethnic group, as well as a measure of their general attitude toward immigration. Cluster analyses indicated that English Canadians, Ukrainians, Italians, British, and Germans were regarded as highly competent and warm, Korean and Chinese immigrants as competent but less warm, and Jamaican, Filipino and East Indian immigrants as warm, but less competent. Moderately low competence, low warmth stereotypes were given to a mix of ethnic groups, including Mexicans, Somalis, Pakistanis, Iranians, and French Canadians. Aboriginals were stereotyped as least competent and least warm. Generally, stronger stereotypes of competence and warmth were associated with greater support of immigration and more positive emotional and behavioural reactions toward the ethnic group, but these associations varied by cluster. Consistent with previous research, path analyses suggested that emotional reactions predicted behavioural reactions. For the acculturation attitudes, only a negative relationship between the multiculturalism orientation and passive harm could be found. These results suggest avenues for studying the different patterns of discrimination that ethnic minorities experience in intercultural settings.

Preface

This thesis is an original work by Hali Kil. The research project, of which this thesis is a part, received research ethics approval from the University of Alberta Research Ethics Board, Project Name "AT THE INTERSECTION OF LANGUAGE ATTITUDES AND STEREOTYPE CONTENT", No. 35515, February 8, 2014.

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Introduction

In multiethnic societies such as Canada, where intercultural interactions

are common, individuals from the receiving society may hold distinct stereotypes

and attitudes toward particular immigrant and ethnic groups. Notably, majority

group members' stereotypes may be related to the emotions and behaviours they

display toward minority members (Cuddy, Fiske, & Glick, 2007; Stephan &

Renfro, 2002). Further, research findings suggest that emotions and behaviours

may be related to immigration and acculturation attitudes (Brader, Valentino, &

Suhay, 2008; Reyna, Dobria, & Wetherell, 2013; Sam & Berry, 2010). However,

especially within the Canadian context, a multigroup, multivariable approach has

not been taken to investigate the interrelations among stereotypes, affects and

behaviours, and attitudes toward immigration and acculturation of non-native

groups. Previous literature has often focused on single facets of each of these

constructs, for example, threat or anxiety, rather than the various perceptions and

reactions that may be in place (e.g. Lopez-Rodriguez, Zagefka, Navas, &

Cuadrado, 2014; Jasinskaja-Lahti, Liebkind, Horenczyk, & Schmitz, 2003).

Considering that intergroup situations can bring about multifaceted attitudes

toward outgroups (e.g. Cottrell & Neuberg, 2005; Fiske, Xu, Cuddy, & Glick,

1999), a consideration of the co-occurrence of multiple judgments and reactions

would prove beneficial for better understanding the consequences of multicultural interactions.

The present study expands understanding of intergroup relations by describing the stereotypes held and emotional and behavioural reactions displayed by English Canadians, and the relationship between them as they apply to various ethnic minorities and immigrant groups in Canada's multicultural society. Particularly, we incorporated immigration and acculturation attitudes within this approach. We addressed whether the receiving society's stereotype content could predict the behaviours and emotions held toward other ethnic cultures, and whether these three may relate to immigration and acculturation attitudes. We considered a bidimensional model of stereotypes developed by Fiske and colleagues (2002) to allow for an encompassing approach to stereotype identification, thus accounting for different stereotype qualities across different ethnic groups.

Stereotypes, Affect and Behaviour

Research on stereotyping has been growing since the first reference to the psychological concept in 1922 by Walter Lippman, a journalist who wrote about prejudice and racism in the United States (Kleg, 1993). Over the next few decades, research has become focused on the use of the term in intergroup relations. For example, Katz and Braly (1933) investigated racial stereotypes toward multiple nationalities living in the United States, and found that there existed consistent stereotyping of outgroups across the majority of their White

American participants. More recently, stereotype research has incorporated technologies such as neuroimaging (e.g. fMRIs; Harris & Fiske, 2006), and attention has turned to social and cognitive effects of receiving stereotypes (Shih, Pittinsky, & Ambady, 1999), inhibition of stereotypes (Reid & Wyer Jr., 2013), and beyond. One particular area that has been researched is the content of stereotypes. Many studies have used negative or positive stereotypes as a linear concept (e.g. Burns & Gimpel, 2000), or used multiple adjectives such as friendly, industrious, competitive, and intelligent to describe different target groups (Eagly & Kite, 1987).

Unlike existing stereotype content research, the Stereotype Content Model (SCM; Fiske et al., 2002) argues that stereotype content follows from basic psychological principles of person perception, along a bidimensional scale (Operario & Fiske, 2003). In proposing only two dimensions, this model provides more information than a simple negative-positive linear model while reducing the enormous variability in stereotype descriptors to two dimensions of measurement, thereby standardizing the content of stereotypes. The SCM proposes that people prescribe stereotypes based on the extent to which a group appears to display two particular trait dimensions: competence and warmth. The SCM gives a model-specific definition of these two stereotype traits: "When people meet others… they want to know what the other's goals will be vis-a-vis the self or in-group and how effectively the other will pursue those goals. That is, perceivers want to know the other's intent (positive or negative) and capability; these characteristics correspond to perceptions of warmth and competence, respectively" (Fiske et al.,

2002, p.879). Specifically, competence comprises previously studied perceptions of the target group as competent, confident, capable, efficient, intelligent and skillful; warmth comprises previously studied perceptions of the target group as warm, friendly, well-intentioned, trustworthy, good-natured, and sincere. Perceptions of competence and warmth are hypothesized to be predicted by a group's perceived status and competition, respectively. In the SCM, status is measured by the perceived prestige of the target group's occupations as well as their economic success, while competition is measured by the perceived special treatment and resource attainment that the target group receives at the expense of the ingroup's or other groups' benefit. These factors together create a predictor-trait model, such that status positively predicts competence and competition negatively predicts warmth.

Complementing the SCM, the Behaviors from Intergroup Affect and Stereotypes Map (BIAS Map; Cuddy, Fiske, & Glick, 2007) proposes that trait ratings of competence and warmth are related to the affective and behavioural reactions which one social group holds towards another group (Figure 1).
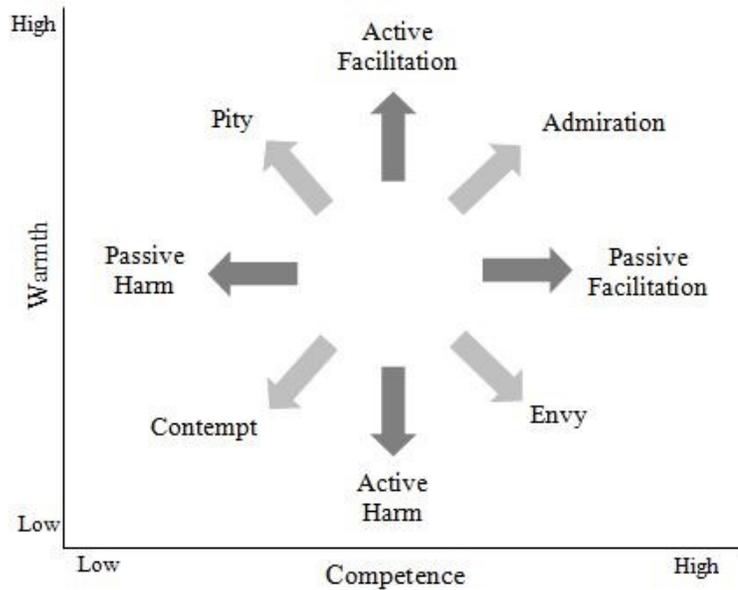
Figure 1. Behaviours and Intergroup Affect from Stereotypes (BIAS; Cuddy et al., 2007)

More specifically, affective reactions mediate the relationship between traits and behavioural reactions (Figure 2). For example, groups perceived to be both highly competent and warm would elicit the emotional reaction of admiration, which in turn leads to both active and passive facilitation behaviours toward the group. Highly competent but less warm groups would elicit the emotional reaction of envy, which in turn leads to passive facilitation and active harm, simultaneously. Conversely, groups perceived to be low in competence and high in warmth elicit the emotional reaction of pity, which in turn predicts the behavioural reactions of active facilitation and passive harm. Groups perceived as low in both competence and warmth would elicit contempt, which predicts the both active and passive harm behaviours. Thus, the BIAS Map model proposes that an affective reaction to a group acts as a mediator in the relationship between stereotype traits and corresponding behavioural reactions.
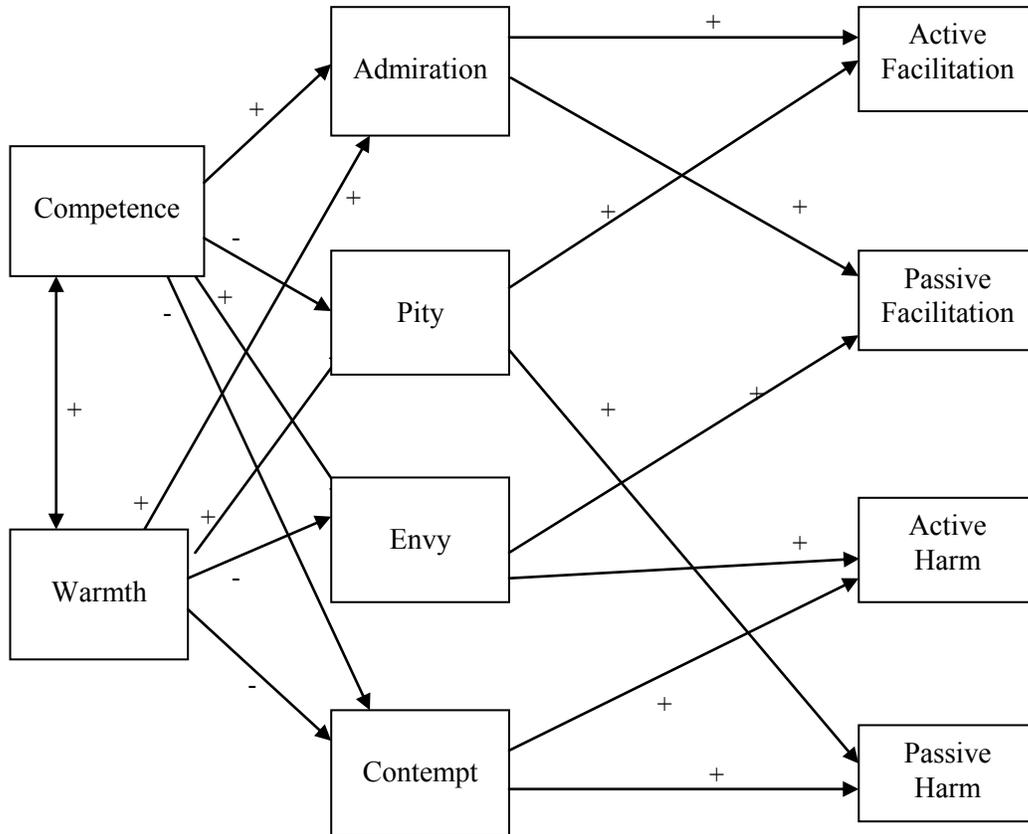
Figure 2. Hypothesized paths between BIAS Map variables

Note: Labels on paths reflect hypothesized relationships between variables, based on the BIAS Map (Cuddy et al., 2007), with the exception of the trait correlation, which is hypothesized based on our previous research. + = positive relationship; - = negative relationship.

The SCM has been applied to intercultural settings, with studies on how the host culture assesses immigrant groups. In the United States, Lee and Fiske (2006) examined the immigrant stereotypes ascribed by Caucasian Americans, along the dimensions of competence and warmth proposed by the SCM. Stereotype ratings were given for a variety of ethnic groups, including Asian, Middle Eastern, European, Eastern European, African, South American, and Latino. Also included were 12 specific nationalities: Japanese, Chinese, Korean, German, French, East Indian, Russian, Vietnamese, Canadian, Irish, Italian, and

Mexican. Further, the study included some of the socioeconomic groups that were included in a previous SCM study (i.e. Fiske et al., 2002) in order to provide an "anchored" comparison point for the clusters of target groups. These groups were: professionals, rich people, college students, poor people, homeless people, housewives, elderly people, and Americans. Lastly, this study also included first generation and third generation immigrant groups, but did not identify the generational groups by ethnicity or nationality (i.e. target group was called "First generation", "Third generation").

Lee and Fiske proposed that these immigrant groups would be clustered in a manner similar to the cluster results of the Fiske et al. (2002) study. Indeed, the results showed a similar pattern: along the two trait dimensions, the cluster groups included an ingroup cluster (high competence, high warmth), low-status cluster (low-competence, low-warmth), nondescript cluster (middle placement on both competence and warmth), warm cluster (lower competence than warmth), and competent but not nice cluster (higher competence than warmth). The clustering confirmed that although stereotypes differ across ethnic and national groups, most immigrant groups were ascribed ambivalent (high competence-low warmth, or vice versa) stereotypes, confirming that competence and warmth are independent attributes. The present study further examined the relationship between these ambivalent and non-ambivalent stereotypes of ethnic groups in Canada and the attitudes that the Canadian majority holds toward immigrant groups.

Immigration and Acculturation Attitudes

With a continually increasing global population, immigration has become a common occurrence in the last several decades, and North America has established itself as one of the primary recipients of immigrants from various countries world-wide (Castles, 2010; Massey, 2003). An increase in immigration rates implies that there is a higher potential for more frequent intergroup contact in countries such as Canada, where everyday encounters may involve individuals from several different ethnic groups. Immigration attitudes in these intergroup environments have been shown to be affected by various factors, including college education of immigrants and perceived cultural threat (Chandler & Tsai, 2001), nation-wide unemployment rates (Palmer, 1996), as well as individual determinants such as age and skill-level of the receiving nation member (O'Rourke & Sinnott, 2006). In particular, there has been continual expansion of literature on the influence of stereotypes on intercultural and interethnic relationships. For example, a study of stereotypes and immigration attitudes by Reyna and colleagues (2013) suggested that ambivalent stereotypes predict varied immigration attitudes, such that positive appraisals of a particular group lead to positive immigration attitudes, while negative appraisals of the same group lead to negative immigration attitudes. Thus, opinions about immigration are influenced by the receiving society's positive or negative perception of immigrant groups. Given that immigrants are often stereotyped (i.e. outgroup homogeneity), and immigrants groups are often viewed with prejudice (Stephan & Stephan, 2000), an examination of stereotyping behaviours and immigration attitudes may extend the

current understanding of receiving society's attitudes toward immigration and the relationship between these attitudes and stereotyping behaviours.

A further examination of the receiving society's acculturation attitudes about the immigrant culture may also broaden the existing conceptions of intergroup relations. Cultural psychologists use the term acculturation attitudes to describe the receiving society's orientation towards the integration of non-native ethnic groups. There exist two types of models for understanding acculturation attitudes: unidirectional models and bidirectional models. Unidirectional models, also referred to as linear models or straight-line theory, suggest a multidimensional shedding of the heritage culture and adoption of the new culture that leads to a singular outcome of full absorption into the new culture (Gans, 1979). On the other hand, bidirectional models, such as the Intercultural Strategies Model (ISM; Berry, 2011), suggest that the maintenance of the heritage culture and adoption of the new culture are independent of one another, leading to one of multiple potential outcomes (Berry, Kim, Power, Young, & Bujaki, 1989). Thus, bidirectional models suggest that groups can hold positive or negative orientations toward adoption of maintenance of the new or heritage cultures, and the combination of these independent factors determines how groups incorporate themselves into the new culture.

The ISM, developed by Berry (2011; see Figure 3; see also the Interactive Acculturation Model developed by Bourhis, Moise, Perreault, & Senecal, 1997), suggests that immigrants can endorse integration, assimilation, separation or marginalization strategies when acculturating to a new culture. The host

community, in turn, holds mirrored orientations regarding the acculturation of

non-host groups: multiculturalism, melting pot, segregation, or exclusion

orientations. Each of these acculturation orientations describes the different

opinions that the majority group can hold about the appropriate acculturation

strategies of the immigrant groups. When integration or multiculturalism

orientations are adopted, there exists more openness to accept cultural diversity

brought by immigrants. On the contrary, when segregation or exclusion

orientations are in place, the host community may not accept the immigrants and

will not be open to the integration of the immigrant members into the national

culture.
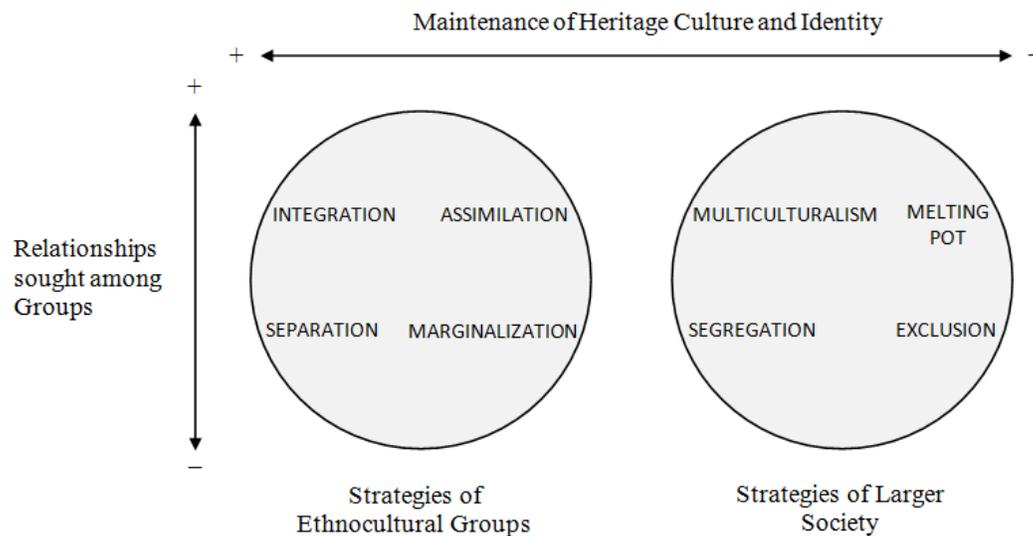
Figure 3. Intercultural Strategies Model (ISM; Berry, 2011)

Previous research suggests that acculturation attitudes serve an important

role in understanding how intergroup relationships are forged and maintained.

Some studies propose that healthy adjustment of immigrants requires both

immigrants and nationals to hold corresponding, positive attitudes toward

adoption of the host culture and maintenance of the heritage culture; that is, integration or multiculturalism (Berry et al., 1989; Bourhis et al., 1997). Such research suggests that both hosts and immigrants may need to hold concordant attitudes that lean toward the inclusion of immigrants into national society. Thus, both nationals and immigrants may play a significant role in the successful acculturation of new immigrants, and this success may only come about as a result of a shared view that immigrants should be welcomed into the host culture. Indeed, when national majority group members perceive discordant acculturation attitudes between their ingroup and newcomer groups, there is a higher perception of intergroup threat, especially when the newcomer group seems dissimilar to the national ingroup (Rohmann, Piontkowski, & van Randenborgh, 2008). These conclusions may assist immigrants and the host country in creating a satisfying immigration experience or in predicting how interethnic conflict or aversion may occur.

The important factor in the application of the ISM for the present study is the relationship between acculturation attitudes and stereotypes. The majority group's position regarding the acculturation of a non-native group to the mainstream society should positively correspond with the stereotypes held about that particular group, a premise based on previous findings regarding the link between intergroup variables and acculturation attitudes (e.g. Berry, 1992; Jasinskaja-Lahti, Liebkind, Horenczyk, & Schmitz, 2003; Piontkowski, Florack, Hoelker, & Obdrzalek, 2000). For example, ethnocentrism has also been shown to influence nationals' attitudes toward immigrant inclusion in the national society.

When Canadians and immigrant groups were asked about the comfortableness they felt with various ethnic groups, results indicated that a general trend of ethnocentrism was prevalent across all rater groups, including the immigrant groups themselves (Kalin & Berry, 1996). The results thus indicated ingroup favoritism in interethnic interactions, along with a hierarchy in attitudes toward ethnic groups, such that some ethnic groups, particularly British, Italian and French, were rated as more comfortable than other ethnic groups.

A recent study by Lopez-Rodriguez and colleagues (2014) examined the direct and indirect relationships between acculturation orientations and stereotypes by surveying Spanish majority members' perceptions of both Moroccan and Ecuadorian immigrants in Spain. Spanish participants were asked about their perceptions of Moroccans' and Ecuadorians' competence, sociability, and morality, their perceived realistic and symbolic threat from both groups, their perceptions of Moroccans' and Ecuadorians' preference for host culture adoption and heritage culture maintenance, as well as Spanish majority members' own preference of the two groups' majority culture adoption and heritage culture maintenance. The researchers found that relationships among stereotypes, perception of threat, acculturation preferences held by the majority members, and perceived acculturation preferences of the immigrant groups.

However, given only two target immigrant groups, the claim that "these relations might be independent from the national origin of immigrants, and might indeed generalize across different immigrant groups" (Lopez-Rodriguez et al., 2014, p. 8-9) may not hold when considering previous work that suggests that an

ambivalent stereotype exists for most ethnic groups (Cuddy, Fiske, Kwan, Glick, Demoulin et al., 2009; Fiske et al., 2002; Lee & Fiske, 2006). Given this information, it would be interesting to examine the relationship between different stereotyping patterns for different target groups and the acculturation orientations that apply to these differently stereotyped groups. With such research, it may be possible to expand the existing understanding of the stereotypes-acculturation attitudes relationship. For example, low competence-low warmth groups may be looked upon less favourably compared to mixed stereotype groups, and therefore may be subject to more negative host culture acculturation attitudes, such as exclusion or segregation. Further, instead of a one-item measure of acculturation perceptions, there may be an advantage to using a multiple-item measure in order to calculate the reliability of these scores and better lay claim to the generalizability of the results. Regardless of the limitations, the results of this study suggest that there is indeed a relationship between stereotypes that the native group holds and the acculturation attitudes that the native group holds regarding a newcomer group.

In a preliminary study, we examined the stereotypes, affective and behavioural reactions, and acculturation attitudes and immigration attitudes of English Canadians toward 8 different ethnic groups (Kil, Noels, & Schweickart, *in preparation*), including French Canadian, Aboriginal, Pakistani, East Indian, Filipino, Chinese, Jamaican, and Somali. Consistent with expectations, the results yielded a 4-cluster solution (see Appendix A, Figure 1), with the higher competence-lower warmth cluster consisting of Chinese and French Canadians,

the lower competence-higher warmth cluster consisting of Filipinos and Jamaicans, and a "nondescript" cluster composed of Pakistanis, East Indians and Somalis. Aboriginals were independently placed in the low competence-low warmth corner of the cluster map. Overall, the SCM and affective and behavioural items were somewhat related, with the overall pattern showing that higher perceived competence and warmth perceptions of a group correlated with more positive affective evaluations of the group and more benevolent behaviour toward the group. However, the relationships between stereotype trait dimensions and behavioural reactions were not mediated by affective reactions, and did not confirm the findings of the BIAS Map study by Cuddy and colleagues (2007). Additionally, although the two trait dimensions and some of the affective and behavioural reactions were positively correlated with general immigration attitudes, no definitive relationship patterns existed between acculturation attitudes and any other construct.

This preliminary study was limited in including only the target groups that would be expected to fit into particular quadrant clusters of the SCM. Further, the results did not show an identifiable pattern between acculturation attitudes and any other variables, although a relationship has been exhibited in prior literature, such as the aforementioned Lopez-Rodriguez and colleagues (2014) study. Thus, the objective of the present study was to expand the existing models of stereotype and acculturation by exploring the relationship among stereotype content, emotional and behavioural reactions, and acculturation and immigration attitudes toward ethnic groups within a local frame, centring on a Canadian perspective in

judgments of the traits and predictors of stereotype content. Rather than focusing on piecemeal correlations among variables, the present study used path analyses to understand the overall relationships extending from both the SCM and the BIAS Map. Additionally, though the SCM has been utilized in different national contexts, including the European Union and collectivistic countries such as Hong Kong, South Korea and Japan (Cuddy et al., 2009), there has yet to be an application of the model on a Canadian population. Similarly, the behaviours and affects resulting from stereotype content (i.e. BIAS Map) have not been widely researched in non-US populations. Thus, this study also sought to inspect the application of the SCM and BIAS Map as used by English Canadians in assessing both ethnic minority groups as well as the English Canadian ingroup. This approach reflects a more regionally-focused approach to understanding interethnic interactions within a Canadian multicultural setting. Lastly, the study sought to delineate relationships between stereotypes and acculturation and immigration attitudes, which, although previously researched (e.g. Lopez-Rodriguez et al., 2014; Reyna, Dobria, & Wetherell, 2013; Sam & Berry, 2010), warrants further development and attention in order to fully understand where the connections and directional relationships may be found.

Target Groups

The ethnic groups chosen for the present study include English and French Canadian, Aboriginal, Ukrainian, German, Italian, British, Iranian, Pakistani, East

Indian[1], Filipino, Chinese, Korean, Jamaican, Mexican and Somali.

Approximately half of these groups were examined in the previously discussed

preliminary study (Kil, Noels, & Schweickart, *in preparation*). There were three

factors which directed the choice of these groups: demographic representation,

based on census and survey data (see Appendix A, Table 1 for national, regional,

and local demographics); historical and political prominence in Canadian society;

and a hypothesized clustering of groups along dimensions of competence and

warmth, serving as practical assumptions based on the theory of the SCM.

Overall, the groups included are prominent, stigmatized, stereotyped or influential

groups in Canadian society. In this section, we provide background information

on the perceptions and stereotypes concerning each of the target groups, providing

support for the above three influences in group selection. In our review, we

considered literature from areas other than psychology (e.g. anthropology,

history) as well as dated information from the early and mid-1900s in order to

provide a more thorough systematic review of the existing perceptions of these

groups.

In order to provide an ingroup reference point for comparison with all

other target groups, English Canadians were included as a target group in the

present study. Studies of the SCM have found that majority groups are

consistently rated higher on both competence and warmth (Fiske et al., 2002; Lee

& Fiske, 2006), and this trend seems to hold across multiple cultures and

nationalities (Cuddy et al., 2009). The inclusion of English Canadians is also

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[1] Although we considered the Indian nationality and its culture as a whole, we refer to Indians as East Indians in this study in order to clearly distinguish Indians from South Asia from Indigenous "Indians" (i.e. Aboriginal peoples) from Canada.

important in order to reflect national diversity. Indeed, despite the continuous influx of immigrants into Canadian society, the majority population is composed of English-speaking, British Isles-descent Canadians (45.7%; Statistics Canada, 2010a). Given previous literature regarding ingroup favouritism in rating one's own group (Brewer, 1999; Kalin & Berry, 1996), English Canadians were expected to be rated as high in both competence and warmth.

Also included in the study were French Canadians, an official language group at the national level but a numerical minority group at the provincial level. Though French Canadians may not be a visible immigrant minority group, they have political, linguistic, and cultural dissimilarities from Anglophone Canadian populations. Early research on stereotyping of French Canadian accented speech suggested that both Anglophones and Francophones devalued French accented speech (Lambert, Hodgson, Gardner, & Fillenbaum, 1960). A study of high school history textbooks suggested that negative stereotyping of French Canadians has been ongoing in curricular texts since the 1940s, with authors often using negative stereotypes to describe French Canadians, thereby supplying a sustained depiction of in-country conflict between French and Anglophone Canadians (Igartua, 2008). A recent study of non-French Canadians and their ambivalent attitudes toward French Canadians concluded that French Canadians are seen less favourably than Canadians in general, showing no significant differences compared to Aboriginals and East Asian immigrants (Bell, Esses, & Maio, 1996). Specifically, the study found that French Canadians were looked upon neither favourably nor unfavourably. The conclusions of this study allude to

a possibility that French Canadians are perceived as similarly perceived as East Asian immigrants. We predicted that French Canadians would be perceived as equally educated and capable as English Canadians, but less warm due to their potentially competing goals in political history.

Similar to French Canadians, Aboriginal groups are a non-migrant group that is often perceived with ambivalence. A study of Canadian stereotypes of Native people demonstrated that Canadians feel both positive and negative affect towards Aboriginals, and that stereotype valence could not independently account for attitudes when evaluating this group (Bell & Esses, 1997; Haddock, Zanna, & Esses, 1994).Media portrayals show this group as incompetent but kind, and sometimes as characters that induce sympathy. For example, in TV and online portals, Aboriginals are characterized as ignorant tribal people who pose a threat to Canadian society (Kopacz & Lawton, 2011; Lacroix, 2011). Films from the early 1960s have depicted Natives as "vicious killers or, at their very best, as lovable but dim-witted sidekicks to European-American men" (Harris, 2009, p.88; Smith, 1981). More recently, they have received more sympathetic attention as wise elders or noble and calm supporting characters to the White hero (Harris, 2009).

A critical assessment of Ontarian education of Canadian history suggested that many historical and current Aboriginal issues are ignored in educating children and youth, despite some efforts to include Native Studies as a part of the curriculum (Godlewska, Moore & Bednasek, 2010). Perhaps it is due to these depictions that there exist myths about Aboriginals as people who receive tax

breaks at the cost of Canadian citizens, and place a damper on the Canadian

economy (Burleton & Gulati, 2013). On the other hand, there is also research

noting that experiences and interactions with Native individuals affect overall

attitudes toward Aboriginals, suggesting that frequency of exposure may help to

alleviate some negative stereotyping (Haddock, Zanna, & Esses, 1994). Overall,

in considering the types of stereotypes existing in Canadian society, Aboriginals

are expected to be categorized in the low competence and low warmth cluster.

  Unlike English, French, and Aboriginal Canadians, the rest of the ethnic

target groups in this study are immigrant populations.[2] Generally, Canadians hold

ambivalent attitudes towards immigrants, with some predicting that they bring an

economic boost and cultural diversity to Canada, and others assuming that they

will undermine the integrity of Canadian society with their lack of education or

different lifestyles and values (Soroka & Roberton, 2010). Despite these beliefs,

immigration is still prevalent: in 2011, approximately 20% of the Canadian

population was foreign born, and a similar proportion self-identified as a visible

minority (Statistics Canada, 2011). Notably, attitudes towards these minority

groups vary, especially when considering the Canadian historical and political

sphere, as well as the varied stereotypes prescribed to different ethnicities.

  One particular immigrant group we included was the British. The British

have a long history in Canada, beginning with their colonization of North

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[2] Though we can also conclude that English and French Canadians were immigrant populations in historical perspective, as settlers of colonies in Canada, in this study they are considered non-immigrants due to their long settlement in the country. Further, French or English Canadians are often referred to as the "host" community in Canadian intergroup attitudes literature (e.g. Bourhis, Montaruli, El-Geledi, Harvey & Barrette, 2010; Esses, Jackson & Armstrong, 1998), and thus we address these groups as non-immigrant populations in this section.

American territory. Historically, the British have been construed as intelligent, gentleman-like people with high sportsmanship (Katz & Braly, 1933), and their speaking style, British English, has been considered superior to Canadian English, a sentiment that continues to present day (Clarke, 1993). A survey of international visa applicants for the United Kingdom indicated that most saw the British as tea drinking, well-mannered, and organized people (Withnall, 2013). Overall, a generally positive attitude seems to apply to this group. The British group was included in the present study with the assumption that they would be considered similarly high in both stereotype traits in comparison with the ingroup (English Canadians), owing to the historical depictions of this group as well as the ancestry of English Canadians.

There were 3 other European-origin immigrant groups included in the present study: Ukrainians, Germans, and Italians. Ukrainians compose the third most frequently received European nationality for Canadian immigration in the last few years (Citizenship and Immigration Canada, 2013b). The Ukrainian community is particularly prominent in the city in which data collection took place, exceeding East Asian and South Asian local populations (Statistics Canada, 2009), and the provincial Ukrainian population proportion exceeds that of the national proportion by approximately 4% (see Appendix A, Table 1). Historically, Alberta's Ukrainian population has been so large that one academic noted in 1968, "an Albertan Ukrainian may travel for miles in this province and meet only those of his own nationality" (Royick, 1968, p.297). The prominence of the Ukrainian-Albertan population continues to this day; the Alberta government

announced that it will provide humanitarian aid for Ukraine's fight for democracy

in an effort to represent the voices of Ukrainians in the province (Edmonton

Journal, 2014). Due to the historical presence of Ukrainians in Edmonton and

Alberta, we expect that they will be considered similar to English Canadians and

thus categorized as high in both competence and warmth.

As the second European group included in this study, Germans have been

a prominent ethnic group in the Canadian prairies. Until 1970s, German

Canadians were the largest non-official language group in Canada (see Prokop,

1990). They have been depicted as highly intelligent and scientifically-oriented

(e.g. Katz & Braly, 1933), but to this day, these positive characteristics coexist

with negative impressions of sternness and unfriendly dispositions, as well as a

continued reference to Nazi culture (Schulz & Haerle, 1995). The German role in

the Second World War had a significant effect on the perception of the group in

America, with a major decrease in favourability for Germans from 1941 to 1945

(Seago, 1947). Considering the industrious stereotypes regarding Germans, this

nationality was expected to be perceived as highly competent. However, the

perception of Germans' warmth may depend on a variety of factors. Despite the

negative impressions of this group, there remained the possibility that Germans

would still be identified by English Canadians as European descendants (see Sue

& Kitano, 1973), and therefore at least moderately high in warmth.

Although Italian Canadians do not place in the top 50 immigrant

nationalities in Canada, at least for 2012 (Citizenship and Immigration Canada,

2013b), we included this group due to their very distinct stereotypes in the media

and general North American culture. Italians have often been stereotyped as very family oriented, artistic, and passionate (Katz & Braly, 1933; Schimel, Simon, Greenberg, et al., 1999), creating a very warm impression of the ethnic group. However, this positive aspect is countered by the pervasive *Godfather*-based stereotypes in film. Cortes (1987) discusses these opposing cinematic portrayals of Italians, noting that they are often gender-specific, with males shown as "screaming, cursing, battering, gun-toting, [and] sexually indulgent" and older women as passive "traditional earth mothers", while younger women were pictured as nagging spoiled brats. Given these mixed stereotypes, Italians were expected to be perceived as moderately high on warmth due to their presumed traditional, family-oriented outlook, but lower on competence due to their presumed association with organized crime.

The two South Asian groups we considered in the present study were Pakistanis and East Indians. Both South Asian cultures compose some of the largest groups of visible minorities in Canada (see Statistics Canada data in Appendix A, Table 1; see also, Esses & Gardner, 1996). Recent immigration statistics also list East India and Pakistan as the source of the third and fourth largest nationalities of permanent residents in Canada (Citizenship and Immigration Canada, 2013b). Both Pakistanis and East Indians were expected to be perceived similarly, owing to the premise that to most European Canadians, these groups would appear "observationally equivalent", making it "hard to sustain the argument of a different degree of racial stereotyping between the

[two]" (Blackaby, Leslie, Murphy, & O'Leary, 1999, p. 3). As such, East Indians

and Pakistanis may be susceptible to similar stereotypes from Canadians.

Research indicates that English Canadians look upon Pakistanis generally

unfavourably, particularly when the judgment is made in a negative mood (Esses

& Zanna 1995). Similarly, East Indians are perceived negatively. In the early

1900s, when immigrants first settled in Canada, East Indians were often depicted

in the news as dirty, unsanitary, violent and a threat to White women (Indra,

1979). This pattern continues in present day, with the most prominent stereotypes

about East Indians being very religious, traditional, aggressive, dirty, and loyal to

the family. Members of this group have also reported that their group receives

much discrimination in Canada (Moghaddam, Ditto, & Taylor, 1990; Taylor,

Wright, Moghaddam, & Lalonde, 1990). In considering the East Indian and

Pakistani community, it is also important to consider the role of religion in

differentiating the two cultures. The majority of Pakistanis are Muslims, with over

96% of the population claiming Islamic ties, and this ethnic group represents the

second largest ethnic group in the world's Muslim population (Pew Research

Center's Forum on Religion & Public Life, 2009). Muslims have received much

negative attention, especially since the September 11, 2001 attacks in New York;

one subjective commentary by a journalist indicated that over the month

following the attacks, most press and internet sources across countries depicted

Islam as "barbarian, fanatic and uncivilized" (Quraishy, 2003, p.351). On the

other hand, most East Indians are Hindus, with slightly over 80% of the

population claiming ties to Hinduism in 2001 (Census India, 2011). Due to these

differences, there remained a possibility that East Indians, or at least Hindus, would not be perceived as negatively as Pakistani Muslims.

Overall, there is a generally negative sentiment evidenced in the literature on East Indian and Pakistani groups. However, it is also evident that South Asians are perceived as relatively competent. A Canadian survey of the immigrant labour market indicated that employers were generally very satisfied with their South Asian employees, and found it problematic that their South Asian credentials were often devaluated by the Canadian market, coercing the immigrants to switch careers and wasting their credentials from their respective country (Bauder, 2003). However, historically, East Indians and Pakistanis have worked in low-status, low-wage manual labour occupations, requiring little skill (Modood, 2005). With such an ambivalent perception toward these two groups, and the perceived similarity between the two groups in European Canadians' perspective, we hypothesized that both groups will be similarly categorized as low to moderate in competence but low in warmth.

Iranians were included for a variety of reasons similar to those for the two South Asian groups above. Like East Indians and Pakistanis, Iranians are one of the top nationalities for immigration to Canada, with approximately 6,000 newly arrived individuals per year (Citizenship and Immigration Canada, 2013b). Also, like the two South Asian nationalities, Iranians are predominantly stereotyped as belonging to the Muslim faith (McAuliffe, 2007), and as such, Iranians may be equally susceptible to the negative stereotyping that Muslims experience. Perhaps more harmful to self-esteem of group members were the politically vilified

position of Iran as well as the rise in stereotyping of all Iranians as terrorists following the September 2001 attacks (Daha, 2011; Sariolghalam, 2003). Given these stereotypes, Iranians were likely to be perceived as low in warmth and moderately high in competence.

Another ethnic target group included in this study is Somalis. Somali refugees report that they experience much racial discrimination and social exclusion, possibly owing to their low levels of education, and consequently, their low employment potential (Danso, 2001; Reitsma, 2001). In fact, compared to the national high school dropout rate, there are four times as many Somali youths no longer enrolled in high school (Poisson, 2012). These social conditions often force Somalis into low income neighbourhoods where drugs and crime are highly prevalent, only serving to promulgate the negative stereotypes of Somali people (Jibril, 2011). Further, much negative media attention has been focused on Somali males in recent years, following the trend of the Somali diaspora to western parts of Canada, especially Alberta. A *Toronto Star* report on Somali-Canadian murders highlighted the frequency of murders involving Somali victims, counting six diasporic Somali-Albertan victims in the span of five months in 2012 (Poisson, 2012). It has become evident that despite Somalis' hopes to succeed by joining in the western Canadian economic boom, they are unable to due to social discrimination and feelings of segregation by Canadian society (Jibril, 2011). This continued negative attention may be partly due to the large proportion (98%) of Somalis who identify themselves with the Muslim faith (Pew Research Center, 2009). As previously noted about Pakistani and Iranian Muslims, stereotypes

about Muslims paint a generally negative picture. Due to the variety of evidence noted here, especially those indicating that Somalis are perceived as crime-prone, Somalis were predicted to be classified as low in competence and low in warmth.

While they are also Black minorities, Jamaicans seem to be perceived as much more likable compared to Somalis. Although fluent speakers of English, Jamaicans are less educated, earn a lower income than the general Canadian population, and often feel they are being discriminated as Black immigrants (Statistics Canada, 2007). In a study comparing Polish, Jamaican and Somali immigrants' perceptions of discrimination in housing in Canada, results indicated that Jamaican and Somali groups felt significantly more discrimination when compared to the Polish group (Murdie, 2003). Further, there is some evidence that these two immigrant groups more prominently perceive discrimination in Canada, even when compared to other visible minorities such as South Asians (Dion, 2001). Though research on Canadian discrimination or stereotyping of Jamaicans is limited, the typical Jamaican portrayed in media is one of a laid-back Black person with dreadlocks, listening to reggae, and smoking marijuana (Hernandez-Ramdwar, 2005), often evoking the image of Bob Marley. Such a stereotype is also pervasive in the media, which may perpetuate such misunderstandings of Jamaicans as friendly but heedless. Thus, Jamaicans were predicted to be perceived as low in competence but high in warmth.

Although similarly perceived in a positive light, Filipinos are considered warm for different reasons than Jamaicans. Filipino immigration has risen significantly in recent years, surpassing the rates of immigration from China and

India (Del Rio-Laquian & Laquian, 2013). More than a tenth of Filipino immigrants enter the country as nannies through Canada's Live-in Caregiver Program (Lee-Young, 2010), which is perhaps the reason the group is associated with being friendly and nurturing. The stereotypes given to typical Filipino nannies are ambivalent, being simultaneously complimentary and derogatory. Often, they are depicted as warm and loving, but hardly educated enough to pursue any personal goals beyond what is instructed of them; they may be hard workers, but are more like servants rather than their own, independent people (Pratt, 1997). Thus, they are represented as being kind-hearted but incompetent, perhaps compared to the Jamaicans, who are perceived as laid-back and unmotivated. Considering this parallel, Filipinos were expected to be described as low in competence but high in warmth.

Contrasting the image of Jamaicans and Filipinos, East Asians are often depicted as a "model minority" group, excelling both financially and academically beyond the successes of many other immigrant groups (Pew Research Center, 2012; Paek & Shah, 2003). However, the North American reception of Asian immigrants has not been positive. A recent article released by *Maclean's* magazine, titled "Too Asian?", served as an obvious indication that the success of Asians is not necessarily welcomed, especially during university admissions (Findlay & Kohler, 2010). A critical discourse analysis of this article suggested that one of its main functions was to solidify the impression of Asian immigrants as "forever foreigners", who should be blamed for their own segregation from the host society (Cui & Kelly, 2013). The impression of the Chinese, specifically, is

similar. When, in 1999, a surge of Chinese illegal immigration occurred on the west coast of Canada, newspapers across the country portrayed the situation using themes of conflict and disorder, with some calling to question the governmental practices in immigration laws (Greenberg, 2000). This attitude is not novel: Chinese immigrants to Canada in the early twentieth century faced much more discrimination compared to Jewish and Italian populations, and were forced to form ethnic enclaves in order to avoid such treatment in their everyday lives (Murdie & Teixeira, 2003). The overarching belief appears to be that East Asians, including Chinese, are skilled people, but not willingly welcomed by Canadian society at large. Thus, Chinese were hypothesized to be viewed as high in competence but low in warmth.

Another East Asian immigrant group considered in this study was Koreans. Canada has consistently received approximately 5,000 immigrants from Korea over the last decade, though the numbers seem to be decreasing every year (Citizenship and Immigration Canada, 2013b). Like the Chinese, Koreans have been and continue to be susceptible to the model minority stereotype that seems to apply to all East Asians, regardless of nationality (Green & Kim, 2005). This is especially so because Asian ethnicities are often blurred together as model minorities who can also be callous, unfair competitors for success (Cho, 1993). Koreans have reported a sense of invisibility as minorities, and may use academic and professional success as a means to climb the social ladder in a White-dominated society (Green & Kim, 2005). Given their drive for goal-attainment,

Koreans were expected to occupy a higher competence but lower warmth space along the stereotype dimensions.

Lastly, Mexican immigrants were included in the present study because Mexicans are the second largest group of foreign workers in Canada, with almost 20,000 individuals entering the country every year for the last few years (Citizenship and Immigration Canada, 2013a). Despite the relatively recent influx of Mexican immigrants into Canada, the much larger and sustained Mexican immigration to the United States has resulted in media portrayals that are known throughout North America. Hollywood has historically stereotyped Mexicans into submissive, low-status roles, often depicting them as "shoeless men in scruffy white clothing with large-brimmed hats held in clasped hands while their heads [are] bowed" (Gordon, 1988, p. 279). Other depictions have presented Mexicans as slightly comical, "sleeping under a big sombrero, his back against a cactus," but almost always from a low socio-economic class (Casavantes, 1969). Such stereotypes continue to this day, but currently also includes perceptions of criminality and lack of intelligence (Harris, 2009). Though these depictions are largely from the Western United States, it is expected that the continuing influx of American media into Canada over the decades will likely reduce Mexicans to the kinds of stereotypes that American media already depicts on screens. Provided that the overall picture of the Mexican is one of low social class, this group is expected to receive lower competence ratings. For warmth ratings, comical stereotypes and a generally family-oriented portrayal of Mexicans (Casavantes, 1969) leads us to the expectation that they will be considered higher in warmth.

Confirmatory Preliminary Study of Target Groups

Having selected 16 target ethnic groups for the present study, we wished to confirm whether these groups were salient ethnic groups to the target population of our main study, that is, young adult university students. This information was necessary not only to confirm our choice of groups, but also to ensure that at least some of these groups were noticeable ethnic groups in the local society (i.e. Edmonton, Alberta).

Within the context of a larger, mass-testing study of students in a first-year psychology course, participants were asked to respond to the question "*If you had to describe the ethnic diversity of Alberta to someone who had never traveled to Alberta, what would be the first five (5) ethnic groups that come to your mind? Please list them here*". Participants were given 5 blanks for free-response to the question. Answering the question was optional, and only 1390 participants filled in at least one blank. If a participant responded with any non-ethnicity terms (e.g. religions), the response was excluded from the analysis. As seen in Table 1, we analyzed the responses based on frequency with which participants mentioned each group.

Table 1

Frequency and percentage of responses to mass-testing question (Top 10 and 16 target groups)

Rank	Ethnicity	Frequency	% of total responses
1	Indian	724	10.4
2	Chinese	717	10.3
3	Caucasian	579	8.3
4	Asian	553	2.0
5	Aboriginal	515	7.4
6	Black	336	4.8
7	Filipino	304	4.4
8	European	301	4.3
9	Canadian	267	3.8
10	African	263	3.8
11	Korean	225	3.2
13	French Canadian	190	2.7
14	Ukrainian	164	2.4
19	English Canadian	109	1.6
22	German	70	1.0
25	British	46	.7
27	Italian	45	.6
31	Pakistani	35	.5
35	Mexican	26	.4
36	Somali	24	.3
43	Iranian	10	.1
56	Jamaican	5	.1
Total	88 Groups	6949	100.0

Note: Groups included in the present study are indicated by the shading of Ethnicity cells. A total of 1343 participant filled all 5 blank lines. 47 participants filled 4 or fewer blank lines.

Within the top 10 groups, we found that only 4 were included as our target ethnic groups. However, it was notable that the remainder of the top 10 groups were general ethnic terms, and likely too broad to be reduced to particular stereotypes. For example, we could not partial out the differences among

Caucasian, European and Canadian groups, as the three groups may have

represented one of a number of specific national origins (e.g. Swedish-Canadian).

Most of the target groups selected for this study were listed numerous times, with

the exception of Jamaican and Iranian groups. However, these two target groups

were included in the present investigation in order to represent the quadrants they

were hypothesized to fill and because we expected participants to have some

beliefs about the characteristics of these groups based on their portrayal in the

mass media (e.g., news portrayals about Pakistani Muslims; film portrayals of

Jamaicans). We moved forward with the 16 selected groups for the present study

with confirmation of the representation of the target groups based on the

frequency results of the preliminary study.

Objectives of the Present Study

Following Lee and Fiske's (2006) assumptions, it was expected that each

of the selected target ethnic groups would be clustered into one of the following

categories: as a low competence and low warmth group, as a group low in one of

the dimensions of competence and warmth but high in the other, or grouped

together with another similar immigrant group (e.g. because of similarities in

religious background or geographic origin; see Hypothesis 1).

It has been previously established that immigrants and non-Anglo

Canadian ethnic groups in Canada are usually ascribed certain stereotyped traits

by the rest of Canadian society (Haddock, Zanna, & Esses, 1994; Bell, Esses, &

Maio, 1996). The above review of the target ethnic groups for the present study

suggests that there exist much anecdotal and qualitative data on these ethnic

groups, but a large-scale multi-ethnicity survey linking ethnic group stereotypes to

associated reactions toward those groups is lacking. There is limited empirical

support for the overarching stereotype content perceptions of these groups which

can simplify multiple component and multiple adjective descriptions of

stereotypes. The few empirical studies that do exist in this realm provide a well-

explained picture of Canadian intergroup attitudes and stereotypes (e.g. Berry &

Kalin, 1995), but unlike these investigations, the present study provides a

bidimensional approach to understanding these stereotypes which can indicate the

existence of mixed or ambivalent stereotypes. Using the clusters of groups that are

similarly stereotyped, we can examine between-cluster differences by mapping

them on dimensions of competence and warmth. Given that another quarter

million immigration cases were targeted for 2013 (Citizenship and Immigration

Canada, 2012), greater understanding of stereotype content may provide Canadian

society with insight on intercultural interactions.

Hypotheses

The present study used the theoretical framework provided by the SCM

and BIAS Map in order to better understand the attitudes that young adult English

Canadians hold toward ethnic minority groups in Canada. Further, the study

considered whether and how stereotype patterns might differentially predict

emotions and behaviours directed towards these groups, and attitudes regarding

their acculturation in Canadian society and, in the case of immigrant groups, immigration. Five hypotheses are proposed:

1. The 16 ethnic groups will map onto the competence and warmth quadrants, with distinct clusters of groups placed in each of the quadrants. In total, four clusters are expected: high competence-high warmth, low competence-low warmth, high competence-low warmth, and low-competence-high warmth (see Appendix A, Figure 2).

2. Ratings of perceived status will predict competence, while ratings of perceived competition will predict warmth. This hypothesized pattern follows from the SCM, proposed by Fiske and colleagues (2002).

3. Stereotyped trait ratings of competence and warmth will predict emotional and behavioural reactions, such that the relationship between trait and behaviour will be at least partially mediated by the emotions. This hypothesized pattern is based on the BIAS Map by Cuddy and colleagues (2007).

4. English Canadians stereotypes are expected to predict immigration attitudes in the case of migrant groups, such that favourable immigration attitudes will correspond with higher competence and warmth ratings. Support for this premise can be found in the previous study of eight ethnic minority groups, in which pro-immigration attitudes generally corresponded to more positive stereotype dimension ratings (Kil, Noels, & Schweickart, *in preparation*), and we expect to replicate and extend that finding with the 16 groups examined in the present study.

5. Higher competence and warmth ratings will be associated with higher

    ratings on acculturation orientations of multiculturalism/integration or

    assimilation. This hypothesis is based on a prediction that the members of

    the majority group will wish for more competent and warm groups to

    become incorporated into the broader society. Segregation and exclusion

    ratings are expected to have a negative relationship with the stereotype

    content dimensions. Overall, it is expected that multicultural orientations

    will be higher compared to the other orientations, based on previous

    literature suggesting that Canadians hold positive attitudes toward

    multicultural ideologies and the consequences of multiculturalism (Kalin

    & Berry, 1995).

Methods

Participants

We asked 167 university students enrolled in introductory psychology

courses to complete a questionnaire for course credit.[3] They ranged in age from

17-36 years ($M = 19.35$, $SD = 2.76$). Approximately two-thirds of the participants

were female ($N = 106$). All participants claimed a European Canadian background

and were born in Canada with both parents also born in Canada. All participants

were monolingual, native English speakers.

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[3] Though N=167, the number of participants for each cluster- and group-based analysis varied due to page randomization. That is, in order to avoid participant fatigue, each participant only rated 6-7 randomized ethnic group questions. Thus, the N used in analysis varies throughout the results section.

Materials

The questionnaire was comprised of four sections, three of which concerned the sixteen ethnic groups: English Canadian, French Canadian, and Aboriginal, and immigrant groups of Filipino, Jamaican, East Indian, Mexican, Iranian, Somali, Pakistani, Chinese, Korean, Italian, German, British, and Ukrainian descent. The immigration attitudes scale was included in order to gauge general immigration attitudes, and therefore, this scale's items were not made specific to the target ethnic groups being studied. The questionnaire was presented in the order that the scales are described below, and ended with a demographics section, which requested participants' age, gender, ethnic identity, and language background. Mean reliability scores are provided for each variable (see Appendix B, Table 1 for a target group level breakdown of the reliabilities; see Appendix A, Table 2 for psychometric properties of the SCM and BIAS Map in previous literature).

Attitudes towards Immigration. The first section included a scale measuring participants' general attitudes towards immigration, developed through MIRIPS (Mutual Intercultural Relations in Plural Societies, http://www.victoria.ac.nz/cacr/research/mirips). Participants indicated their agreement with 11 items using 9-point scales (1 = strongly disagree; 9 = strongly agree) for each question (α = .77; e.g., "Immigration tends to threaten Canadian culture.").

Warmth and Competence & Status and Competition. The second section included perceived competence and warmth and perceived status and

competition items originating from the Stereotype Content Model used by Fiske

and colleagues (2002). Questions were presented after an introductory statement

that indicated the ethnic group to be rated on that page (e.g., "Please read the

following items carefully, and indicate your judgment of the characteristics of

CHINESE IMMIGRANTS by selecting the value that best reflects your

perspective."). Of sixteen items, six items represented perceived competence (M_α

= .88; "As viewed by Canadians, how

competent/confident/capable/efficient/intelligent/skillful are members of this

group?"), and another six represented perceived warmth (M_α = .91; "As viewed by

Canadians, how friendly/well-intentioned/trustworthy/warm/good-natured/sincere

are members of this group?"). Status and competition was also measured in this

set: two items represented perceived status (M_α = .77; e.g., "How prestigious are

the jobs typically achieved by members of this group?"), and two items

represented perceived competition (M_α = .74; e.g., "How much does special

treatment given to this group, such as preference in hiring decisions, make things

more difficult for other groups in Canada?"). The sixteen item measure was

presented for each of the 16 ethnic groups, and students rated their agreement

with each statement using 5-point scales (1 = not at all; 5 = very much). Ethnic

groups were presented to participants in randomized order.

Affective and Behavioural Reactions. The third section included items

measuring the affective and behavioural reactions towards each of the ethnic

groups. Questions were presented after an introductory statement that indicated

the ethnic group to be rated on that page (e.g. "Please read the following items

carefully, and indicate your judgment of the characteristics of IRANIAN

IMMIGRANTS by selecting the value that best reflects your perspective."). All

items were derived from the Behaviors from Intergroup Affect and Stereotypes

map (BIAS; Cuddy, Fiske, & Glick, 2007). Of twenty items, eight measured

affective reactions towards each target group, with each reaction represented by

two items. These affective reactions included contempt (M_α = .55; "To what

extent do Canadians tend to feel contempt/disgust toward this group?"), envy (M_α

= .80; "To what extent do Canadians tend to feel envious/jealous toward this

group?"), admiration (M_α = .72; "To what extent do Canadians tend to feel

admiration/pride toward this group?"), and pity (M_α = .65; "To what extent do

Canadians tend to feel pity/sympathy toward this group?"). The rest of the twelve

items measured behavioural reactions towards each target group, with each

reaction represented by three items. These behavioural reactions included active

facilitation (M_α = .82; "To what extent do Canadians tend to help/protect this

group?"), passive facilitation (M_α = .68; "To what extent do Canadians tend to

associate/cooperate with this group?"), active harm (M_α = .61; "To what extent do

Canadians tend to fight/attack with this group?"), and passive harm (M_α = .65;

"To what extent do Canadians tend to exclude/demean this group?").

Attitudes towards Acculturation. Participants' attitudes towards

acculturation were measured using a 16-item Acculturation Expectations scale

developed through MIRIPS (Mutual Intercultural Relations in Plural Societies,

http://www.victoria.ac.nz/cacr/research/mirips). The measure was given for each

target group.[4] Questions were presented after an introductory statement that

indicated the ethnic group to be rated on that page (e.g. "Please read the following

statements regarding SOMALI IMMIGRANTS, and indicate your agreement with

each statement by selecting the number that best reflects how you feel."). Items

were rated using a 5-point scale (1 = strongly disagree; 5 = strongly agree), with

each item reflecting one of the four possible attitudes regarding immigrant

acculturation: segregation (M_α = .63; e.g., "I feel that this group should maintain

their own cultural traditions and not adapt to those of Canada."), exclusion (M_α =

.58; e.g., "This group should not engage in either Canadian or their own group's

social activities."), melting pot (M_α = .54; e.g., "This group should engage in

social activities that involve Canadians only."), and multiculturalism (M_α = .79;

e.g., "This group should be fluent in both English and their own language.").

Procedures

Participants were recruited from first-year psychology classes and offered

partial course credit for their involvement in the study. The testing sessions were

made available for sign-up only to those who had participated in a mass-testing

session offered through the research pool system and fit the criteria for inclusion

(i.e. English Canadians who were monolingual English speakers, with both

parents born in Canada and both monolingual English speakers). Upon arrival at

the session, participants completed the informed consent procedure, consistent

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[4] The English Canadian target group was not included as a target ethnic group for this scale, since English Canadians would not be required to acculturate to the predominantly English-Canadian society. Of over 3-million people in Alberta, the most frequently indicated national origin was the British Isles (45.7%; Statistics Canada, 2010a). Thus, we consider English Canadians to be the majority group for the present study.

with the university policy, and then completed the questionnaire on the computer.

Participants were then debriefed on the nature of the study and assigned credit for

completing the study.

Results

Data Analysis

Multiple analytic methods were used to assess the hypotheses. First, in

order to map and group together the target ethnic groups along the stereotype trait

dimensions, we conducted two forms of cluster analysis: a hierarchical cluster

analysis was completed to estimate fit and cluster count, followed by a *k*-means

cluster analysis to evaluate how groups would be clustered together into

independent sets.

To test the second hypothesis, we conducted both bivariate correlational

analysis on the stereotype content predictors and traits, followed by a path

analysis using MPlus version 7.11. The latter method provided a more valuable

understanding of directional relationships between variables, based on shared

covariance. The third hypothesis was examined using the same methods. When

conducting path analyses, we considered the theoretical and practical reasons for

adding paths between variables beyond those that we had hypothesized. These

rationales are provided in the following pages for any modifications made to the

original path analysis commands.

In order to assess the acculturation and immigration attitudes in relation to

the SCM and BIAS Map, we conducted correlational analyses first, and had

planned to move to path analyses, should the correlations indicate a theoretical

basis for mapping out inter-variable relationships based on covariances. However,

as described in the following pages, we saw no need to conduct path analyses due

to the lack of noteworthy conclusions from the correlation analysis.

Cluster Analysis

Two types of cluster analyses were conducted to determine whether target

ethnic groups would cluster along the warmth and competence dimensions

described by Fiske et al. (2002) as hypothesized. First, a hierarchical cluster

analysis was conducted to estimate the best fitting number of clusters.

Agglomeration statistics from this analysis showed various evident jumps in

agglomeration coefficients between solutions. Thus, moving backward from the

lowest cluster solution to highest, it was determined that the first jump occurred

between the 4- and 5-cluster solutions. We followed the steps provided by Fiske

et al. to interpret both 4- and 5-cluster solutions. In order to distinguish which

solution better served the purposes of this study, we calculated the average

distance to the cluster centre for each solution. Results indicated that the 5-cluster

solution provided closer positioning of each group to the cluster center, $M_{distance} =$

.19 (whereas the 4-cluster solution indicated $M_{distance} = .23$), suggesting more

distinct clustering than the 4-cluster solution. Cluster solutions and target group

distance from the cluster center are depicted in Table 2. Clustering for the 5-

cluster solution can be seen in Figure 4 (see Appendix B, Figure 1 for the 4-

cluster solution).

Table 2

Distance from Cluster Center

5 Cluster Solution			4 Cluster Solution		
Cluster ID	Ethnic Group	Distance from Cluster Center	Cluster ID	Ethnic Group	Distance from Cluster Center
1	Jamaican	0.15	1	Jamaican	0.22
1	East Indian	0.28	1	Mexican	0.32
1	Filipino	0.14	1	East Indian	0.27
2	Aboriginal	0.00	1	Filipino	0.18
3	German	0.24	2	French Canadian	0.26
3	Ukrainian	0.25	2	Chinese	0.15
3	Italian	0.14	2	Korean	0.21
3	British	0.12	3	Somali	0.17
3	English Canadian	0.26	3	Iranian	0.28
4	Korean	0.13	3	Pakistani	0.12
4	Chinese	0.13	3	Aboriginal	0.44
5	Somali	0.20	4	German	0.24
5	Mexican	0.31	4	Ukrainian	0.25
5	French Canadian	0.35	4	Italian	0.14
5	Iranian	0.19	4	British	0.12
5	Pakistani	0.14	4	English Canadian	0.26
Average Distance = .19			Average Distance = .23		
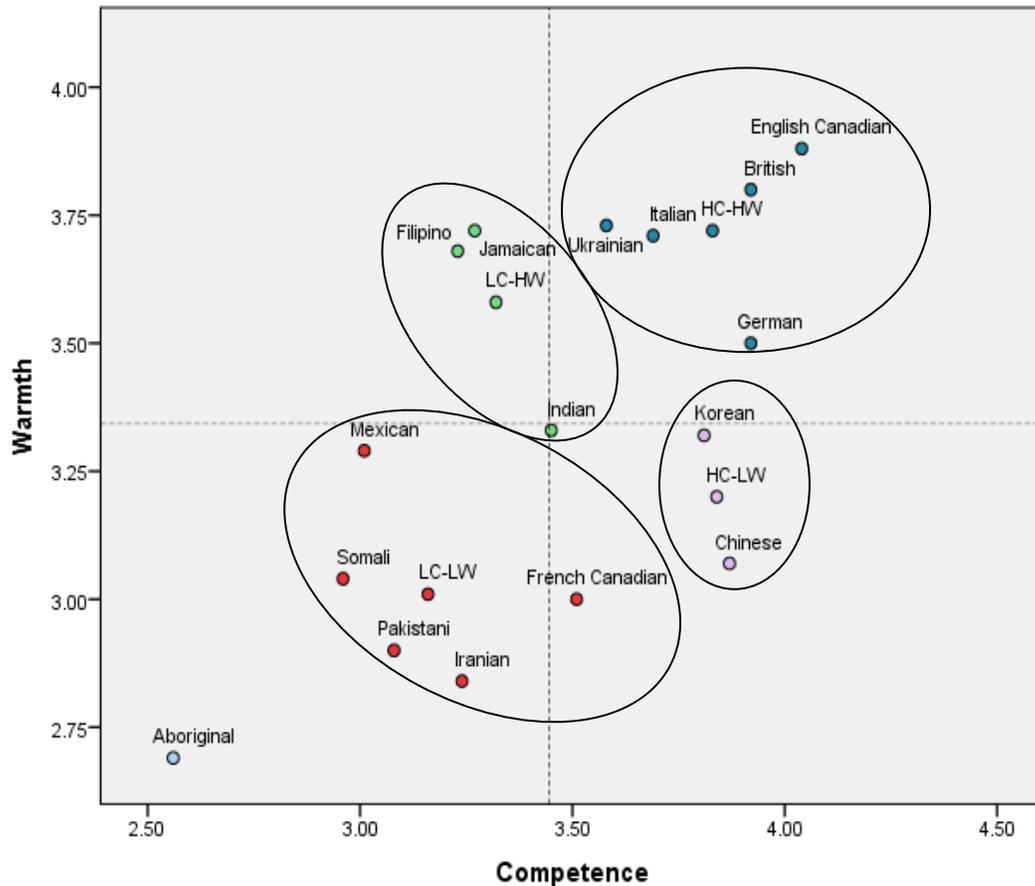
Figure 4. Clusters for the 5-Cluster Solution

Note: Dotted lines indicate mean Competence and Warmth ratings across all ratings across all groups. Competence: M = 3.45, SD = .46; Warmth: M = 3.35, SD = .50.

Using the 5-cluster solution, a *k*-means cluster analysis was conducted to examine which groups fit into the different clusters. The clusters and their corresponding groups were organized on higher or lower ratings of competence and warmth along a 5-point scale. English Canadian, Ukrainian, Italian, British and German groups were clustered as the most competent (Cluster Center (CC) = 3.83) and warm (CC = 3.72) groups. Koreans and Chinese received higher competence (CC= 3.84) than warmth (CC = 3.20) ratings. Filipinos, Jamaicans, and East Indians were rated as lower in competence (CC = 3.32) relative to

warmth (CC = 3.58). Mexicans, Somalis, Pakistanis, Iranians, and French

Canadians received low competence (CC = 3.16) and low warmth (CC = 3.01)

ratings. Finally, Aboriginals were placed in their own cluster, and rated lowest on

both competence (CC = 2.56) and warmth (CC = 2.69) than any other group.

Cluster centers for the 5-cluster solution are provided in Table 3.

Table 3

Cluster centers for 5-cluster solution

Cluster	Competence		Warmth	
	Cluster Center	*M* (*SD*)	Cluster Center	*M* (*SD*)
HC-HW	3.83	3.79 (.05)	3.72	3.72 (.05)
HC-LW	3.84	3.84 (.06)	3.20	3.18 (.06)
LC-HW	3.32	3.34 (.05)	3.58	3.61(.05)
LC-LW	3.16	3.17 (.05)	3.01	3.01 (.05)
Aboriginal	2.56	2.56 (.07)	2.69	2.69 (.07)

Note: Cluster centers Means (*M*) are different statistics. As opposed to *M*, an arithmetic mean of trait scores across all participants across groups in the cluster, cluster centers denote a center point for each cluster based on reiterative calculation of the mean distance of each group to the assigned seed points during a *k*-means cluster analysis.

Two One-Way 1 x 4 (trait x clusters) ANOVAs were conducted to

examine the between-cluster differences in stereotype traits (see Table 4). There

existed significant differences for both competence, $F(4, 665) = 76.50$, $p < .001$,

and for warmth, $F(4, 665) = 49.74$, $p < .001$. Post hoc comparisons were

conducted for both ANOVAs using Tukey HSD. Results indicated that

competence ratings were significantly different across most clusters, with the

exception of the HC-HW and HC-LW clusters, and LC-HW and LC-LW clusters.

Similarly, warmth ratings were significantly different across most clusters, with the exception of the HC-HW and LC-HW clusters, and HC-LW and LC-LW clusters. The Aboriginal cluster was significantly different from all other clusters on both competence and warmth dimensions.

Table 4

ANOVAs of SCM variables

Model	*SS*	*df*	*MS*	*F*	*p*
Competence	111.61	4	27.90	76.50	.00
Residual	242.56	665	.37		
Total	354.17	669			
Warmth	87.39	4	21.85	49.74	.00
Residual	292.10	665	.44		
Total	379.49	669			

Note: N = 670

Paired t-tests were conducted to examine within-cluster comparisons of competence and warmth. Results indicated that the two dimensions of stereotype content differed across most clusters (see Table 5). While the HC-HW cluster showed no difference between its competence and warmth means, $t(155) = 1.84$, $p = .07$, the HC-LW and LC-HW clusters showed significant differences in means, $t(116) = 9.89$, $p < .001$, and $t(153) = -6.62$, $p < .001$, respectively, reflecting the mixed stereotypes ascribed to these groups. Contrary to the results of the previous study (i.e. Kil, Noels, & Schweickart, *in preparation*), a significant difference in competence and warmth was also found for the LC-LW cluster, $t(162) = 4.12$, $p < .001$, and similarly, for the Aboriginal group cluster $t(79) = -2.19$, $p = .03$.

Table 5

Means, SD, and Between-Cluster and Within-cluster differences

Cluster	Competence		Warmth	t	df	p
HC-HW	3.79	=	3.72	1.84	155	.07
HC-LW	3.84	>	3.18	9.89	116	.00
LC-HW	3.34	<	3.61	-6.62	153	.00
LC-LW	3.17	>	3.01	4.12	162	.00
Aboriginal	2.56	<	2.69	-2.19	79	.03

Relationships among SCM, BIAS Map, and Acculturation and Immigration Attitudes

  Stereotype content model. Path analyses were conducted with Mplus 7.11 to test the predicted relations between sociostructural perceptions and traits (for a summary of the correlations, see Appendix B, Table 2). The results of analysis of the hypothesized model in which competition predicted warmth and status predicted competence showed unsatisfactory levels of all fit indices, $\chi^2(2)$ = 78.57, $p < .001$; RMSEA = .48; CFI=.78; SRMR = .38. Upon examination of the residuals, it was decided that the addition of covariances between status and warmth and between competition and competence would significantly improve the model fit (see Table 6 for model fit statistics for each addition of modification indices). The crossed over predictor-trait relationships were significantly correlated in our correlation analysis (see Appendix B, Table 2), and have exhibited significant correlations in our previous study (i.e. Kil, Noels, & Schweickart, *in preparation*), and thus we added these two particular relationships to our final model.

Table 6

Model fit statistics results for path analyses of SCM predictors and traits

	M.I. Addition	χ^2	*df*	CFI	RMSEA (90% C.I.)	SRMR	$\Delta\chi^2$
1	Baseline *Hypothesized Model*	78.57***	2	.78	.48 (.39-.57)	.38	
2	Warmth on Status	15.16***	1	.96	.29 (.17-.43)	.09	Compared to Baseline: 63.41(1), *p* < .001
3	Competence with Competition	0.06	1	1.00	.00 (.00-.13)	.01	χ^2_2-χ^2_3 = 15.10

*Note: Final model was just identified. No $\Delta\chi^2$ value is available between Model 2 and Model 3 due to the lack of change in degrees of freedom. M.I. = Modification Index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual; ***p < .001.*

With these two additions, a more desirable model-to-data fit was found, χ^2 (1) = .055, *p* = .81; RMSEA = .00, C.I. 0.00 to 0.126; CFI = 1.00[5]; SRMR = .01. In the final model, seen in Figure 5, competition was found to be a negative predictor of warmth, *β* = -.31, *p* < .001, and status was a positive predictor of competence, *β* = .71, *p* < .001. Additionally, status was found to be a positive predictor of warmth, *β* = .54, *p* < .001, and competition and competence were negatively related, *β* = -.30, *p* < .001. The two trait dimensions were significantly positively related, confirming the results of our previous study (Kil, Noels, & Schweickart, *in preparation*), *β* = .70, *p* < .001.

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[5] CFI = 1.00 is indicative of a just identified model.
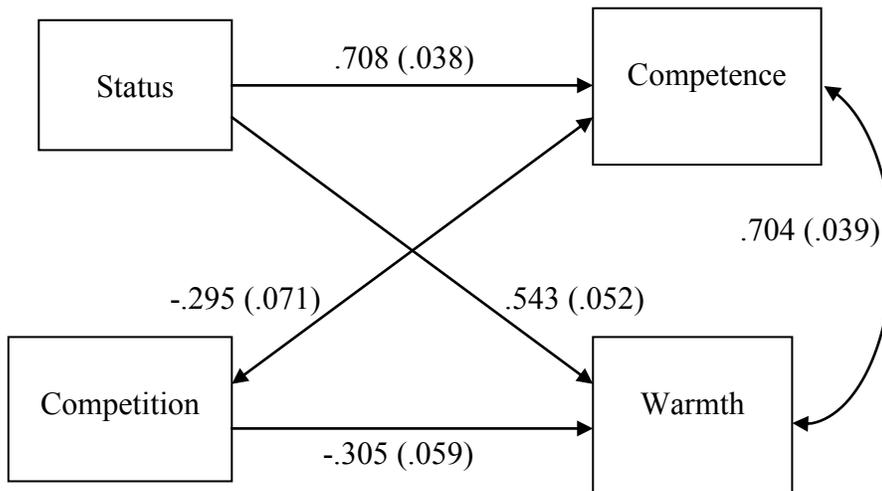
Figure 5. Path Model for Predictor-Trait Relationship

Note: *Values on path indicate beta estimates, significant at p <.05. Only significant relationships are depicted; status and competition are not related. Values in parentheses represent standard error of the estimate.*

SCM and BIAS Map. As previously introduced, studies using the BIAS Map have shown that SCM traits of competence and warmth are related to behavioural reactions from the BIAS Map via affective reactions, thus identifying admiration, pity, envy, and contempt as mediators in the trait-behaviour relationship (Cuddy et al., 2007). In the present study, we used path analysis in order to test the hypothesized relations between variables, whereby the relation between stereotype traits and behavioural reactions is mediated by emotional responses (see Figure 6).

Results of the path analysis showed a significant chi-square fit, $\chi^2 (14) =$ 211.26, $p < .001$, and below desirable levels of RMSEA (.29), CFI (.72) and SRMR (.18). Further examination of the residuals indicated that the addition of covariances between a number of variables would significantly improve the

model fit (see Table 7 for model fit statistics for each addition of modification

indices).

Table 7

Model fit statistics results for path analyses of SCM traits and BIAS items

M.I. Addition	χ^2	*df*	CFI	RMSEA (90% C.I.)	SRMR	$\Delta\chi^2$
Baseline (1) *Hypothesized Model*	211.26***	14	.716	.290 (.257-.326)	.183	
Admiration with Pity Envy Contempt	146.35***	11	.805	.271 (.233-.311)	.142	Compared to Baseline: 64.91(3), *p* < .001
Pity with Envy Contempt	105.30***	9	.861	.253 (.211-.298)	.098	Compared to Previous: 41.05(2), *p* < .001
Envy with Contempt	86.65***	8	.887	.243 (.198-.290)	.068	Compared to Previous: 18.65(1), *p* < .001
AH on Competence Warmth	72.97***	6	.904	.259 (.207-.313)	.067	Compared to Previous: 14.48(2), *p* = .001
PF on Competence Warmth	6.31	4	.997	.059 (.000-.141)	.020	Compared to Previous: 66.66(2), *p* < .001

*Note: M.I. = Modification Index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual; ***p < .001, **p < .01*

First, we transformed the directional path from admiration to passive

facilitation into a correlation. We also added correlations between each of the

affective reactions; since each of the affective reactions is hypothesized to map out along the same competence and warmth dimensions, it was plausible that these reactions would be related to one another. Further, each of the affective reactions showed significant relationships with at least two of the behavioural reactions, thus a relationship among the affects was reasonable. At this stage, we selected amongst the software-suggested modification indices, and decided to add paths from both traits to active harm. Although this was not a predicted direct relationship, our mediation analyses suggested that the warmth-active harm relationship was partially mediated, and the negative correlational significance between the two variables was maintained even with the addition of hypothesized mediators. Further, previous literature (e.g. Fiske et al., 2002) suggests that there is a strong positive relationship between competence and warmth traits, and thus the trait-active harm negative directional path was warranted as a modification of the baseline model. A trait-passive facilitation relationship was also added as a selection from the suggested modification indices. As with the trait-active harm relationship rationale, this addition reflected on Cuddy and colleagues' (2007) BIAS Map, in which the authors make note of their hypothesis that a relationship may exist between traits and behavioural outcomes, with emotional reactions acting as mediators for most, but not all, relationships.

With these additions, a better model-to-data fit was found, $\chi^2 (4) = 6.31, p = .18$; RMSEA = .059, 90% C.I. = .000-.141; CFI = .997; SRMR = .020. In this revised model, seen in Figure 6 (p. 52), competence positively predicted admiration, $\beta = .33, p = .009$, but negatively predicted pity, $\beta = -.29, p = .034$.

Warmth negatively predicted both envy, $\beta = -.36$, $p = .007$, and contempt, $\beta = -.47$, $p < .001$. Admiration predicted active facilitation, $\beta = .38$ $p < .001$, and passive harm, $\beta = -.27$, $p < .001$, and also showed a nondirectional relationship with passive facilitation, $\beta = .17$, $p = .024$. Pity positively predicted active facilitation, $\beta = .28$, $p < .001$, and passive harm, $\beta = .23$, $p < .001$. Envy positively predicted active facilitation, $\beta = .17$, $p = .021$, and active harm, $\beta = .33$, $p < .001$. Contempt predicted both active, $\beta = .44$, $p < .001$, and passive, $\beta = .59$, $p < .001$, harm. Active harm was also predicted by the SCM traits, such that competence positively predicted active harm, $\beta = .27$, $p = .002$, while warmth negatively predicted active harm, $\beta = -.35$, $p < .001$. Further, passive facilitation was only predicted by the SCM traits, with competence positively predictive, $\beta = .31$, $p = .003$, and warmth also positively predictive, $\beta = .36$, $p = .001$. All affective reactions were significantly nondirectionally related and active and passive forms of facilitation and harm were also respectively nondirectionally related.
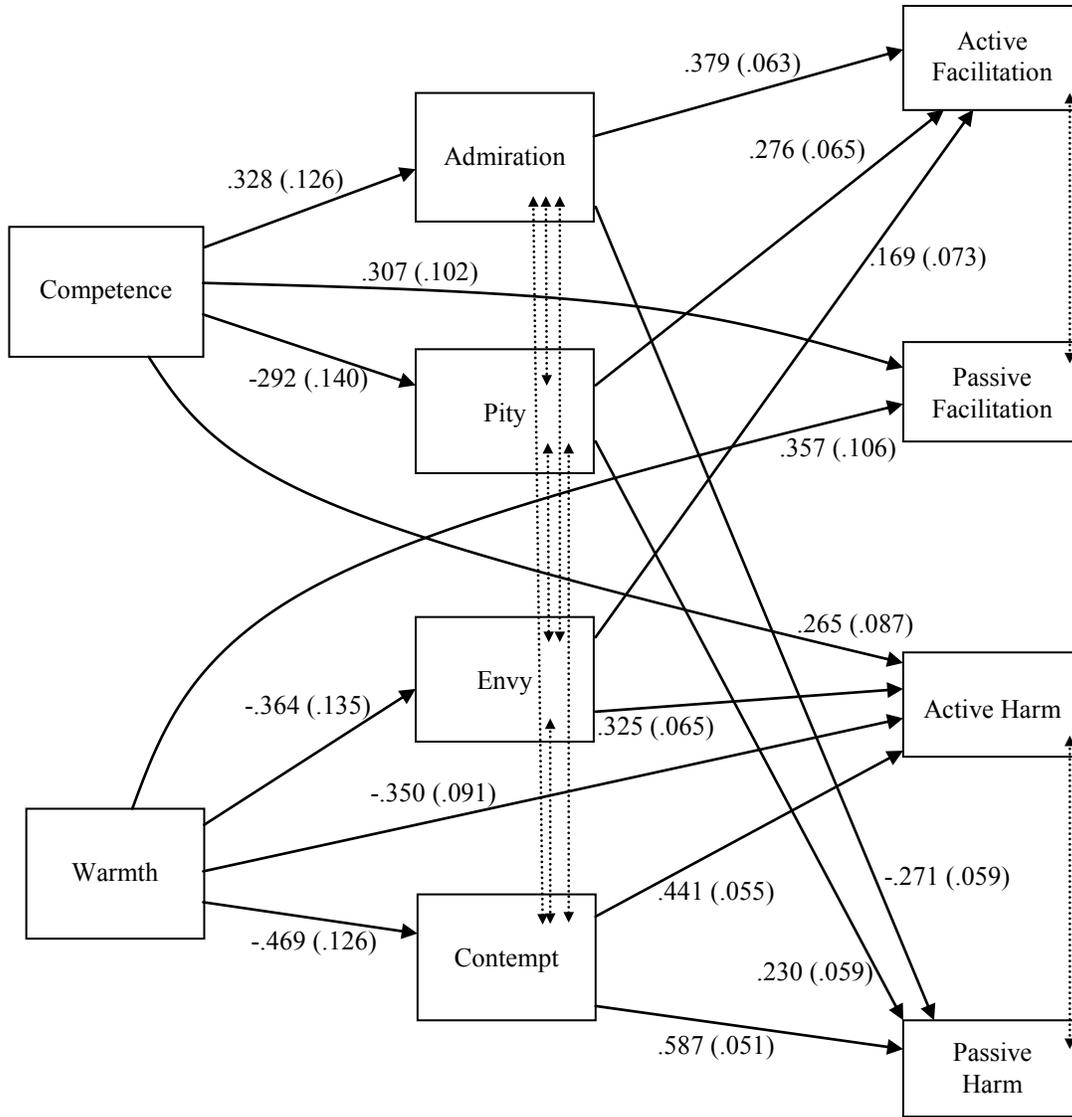
Figure 6. Overall Path Model of SCM Traits and BIAS Map

Note: *Values on path indicate beta estimates, significant at p <.05. Values in parentheses represent standard error of the estimate. Dotted lines indicate significant nondirectional pathways between variables, at p < .05, values not listed. Only statistically significant relationships are shown.*

The present path analysis partly confirms the BIAS Map, examined by

Cuddy and colleagues (2007), but also builds on the original model significantly.

As predicted, warmth predicts both contempt and envy negatively, and the two

affective reactions predict active harm positively. However, the rest of the

relationships have not previously been examined in the BIAS Map. The

competence-passive facilitation relationship was originally modeled as being

mediated by admiration and envy. In Figure 6, it is evident that competence in

fact predicts passive facilitation directly and positively. Although not previously

suggested by the BIAS Map, warmth also predicts more passive facilitation

behaviours. An additional difference from the BIAS Map is observed in the

relationship between competence and active facilitation: the two affective

reactions predicting passive facilitation also predict active facilitation, such that

admiration and pity both positively predict active facilitation. The same two

affective reactions also predict passive harm, such that pity positively predicts and

admiration negatively predicts passive harm. Overall, the path analysis suggests

that there indeed exist relationships among stereotype traits, affective reactions

and behavioural reactions, but may differ from the BIAS Map in the specific

predictive relationships that may be observed. Not all of the trait-behaviour

relationships are mediated, and some originally presented affect-behaviour

relationships do not exist in our dataset.

Immigration and Acculturation Attitudes. An analysis of the

relationship between immigration attitudes and SCM variables was conducted

concerning only the immigrant groups (i.e., perceptions of Aboriginal, French and

English Canadians were excluded from the analyses). The results indicated that,

overall, more positive immigration attitudes were related to more positive

competence ratings, $r = .35$, $p < .001$, and more positive warmth ratings, $r = .32$, p

$< .001$. Further, immigration attitudes were significantly related to both status, $r =$

.22, *p* = .005, and competition, *r* = -.32, *p* < .001. Figure 7 visualizes the

relationship between immigration attitudes and SCM traits and predictors.
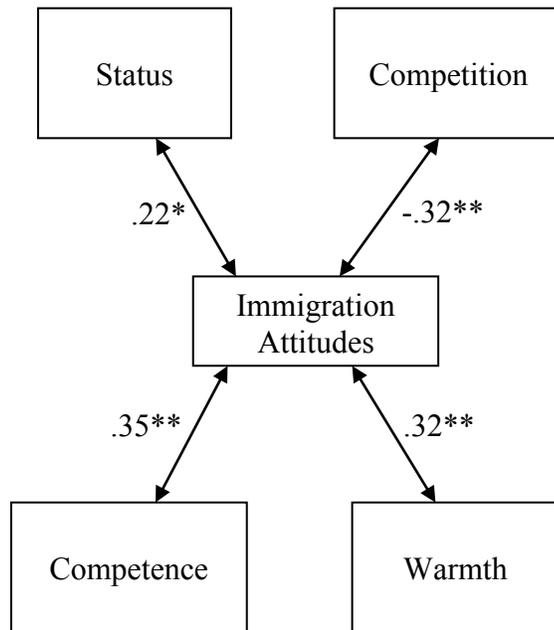
Figure 7. Correlations between Immigration Attitudes and SCM Traits and Predictors

*Note: * p ≤ .01, ** p ≤ .001*

Path analyses on the same variables with the sequential direction of

predictor to trait to immigration attitudes indicated that there was a perfect fit of

each step of the modification, with the final model showing a perfect fit, $\chi^2 (1) =$

.03, *p* = .87; RMSEA = .000, 90% C.I. = .000-.109; CFI = 1.00; SRMR = .002

(see Table 8). Although the fit indices of RMSEA and CFI resulted in less

desirable values, we relied on the non-significant chi-square value as well as the

highly desirable SRMR value and chose to include in the final model the

relationship between immigration attitudes and perceived competition.

Table 8

Model fit statistics results for path analyses of SCM and Immigration Attitudes

M.I. Addition	χ^2	*df*	CFI	RMSEA (90% C.I.)	SRMR	$\Delta\chi^2$
Baseline *Hypothesized Model*	223.41***	5	.411	.511 (.455-.570)	.243	
Competition with Warmth	90.43***	4	..767	.360 (.297-.426)	.324	Compared to Baseline: 132.98(1), *p* < .001
Warmth on Status	27.02***	3	.935	.219 (.148-.298)	.098	Compared to Previous: 63.41(1), *p* < .001
Competence on Competition	11.86**	2	.973	.172 (.087-.272)	.052	Compared to Previous: 15.16(1), *p* < .001
Immigration on Competition	0.03	1	1.00	.000 (.000-.109)	.002	Compared to Previous: 11.83(1), *p* = .001

*Note: M.I. = Modification Index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual; ***p < .001, **p < .01*

The final model in Figure 8 mirrors the predictor-trait relationships found in Figure 5, such that competition negatively predicted warmth, β = -.30, *p* < .001, and competence, β = -.21, *p* < .001, and status positively predicted warmth, β = .54, *p* < .001, and competence, β = .71, *p* < .001. The two trait dimensions were significantly positively related, β = .74, *p* < .001. Immigration attitudes were predicted positively by greater competence, β = .29, *p* < .05, but negatively by

greater perceived competition = -.26, *p* < .001. No significant relationships existed

between warmth and immigration attitudes, *β* = -.01, *p* = .96, contrary to our

expectation that both traits would influence the extent of pro-immigration ratings.
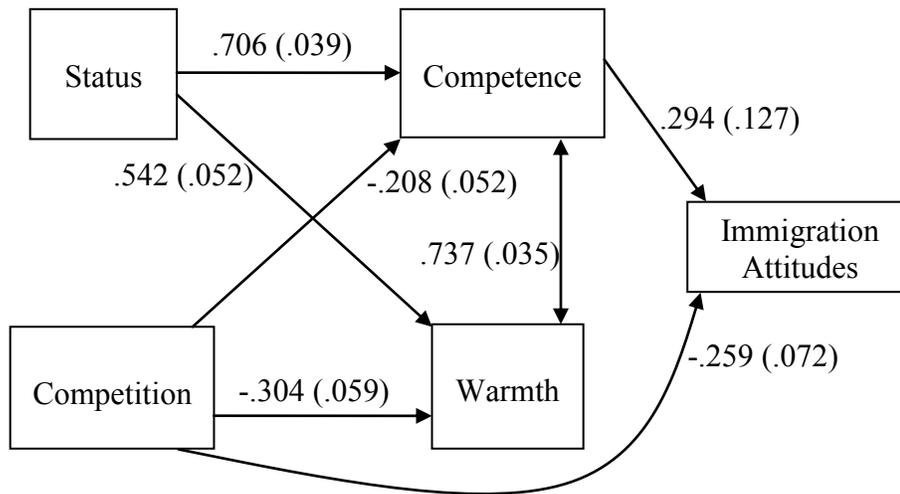
Figure 8. Path Model for SCM and Immigration Attitudes Relationship

Note: *Values on path indicate beta estimates, significant at p <.05. Only significant relationships are depicted. Values in parentheses represent standard error of the estimate.*

Immigration attitudes also exhibited significant correlations with some

BIAS Map variables (see correlations in Appendix B, Table 2). More positive

immigration attitudes were correlated with more admiration, *r* = .19, *p* < .02, and

less contempt, *r* = -.33, *p* < 001, as well as less active harm, *r* = -.16, *p* = .04, and

passive harm, *r* = -.18, *p* < .02, and more passive facilitation, *r* = .28, *p* < .001.

No other statistically significant relationships between immigration attitudes and

other variables were found. Taken together, our analyses indicate that overall pro-

immigration attitudes may be related to more positive stereotyping and positive

reactions toward immigrants.

The four acculturation attitudes were related to one another (see

correlations in Appendix B, Table 2). While multiculturalism attitudes were

negatively correlated with exclusion, $r = -.39$, $p < .001$, it was related with neither

the melting pot nor segregation orientations. Segregation and exclusion, $r = .50$, p

< 001, and segregation and melting pot, $r = .32$, $p < 001$, orientations were

positively intercorrelated. Exclusion and melting pot orientations were also

positively correlated, $r = .41$, $p < 001$. These correlations indicate that

segregation, exclusion, and melting pot orientations are all related to one another,

while the multiculturalism orientation may stand apart especially from the

exclusion orientation. Correlation analysis of the four acculturation attitudes and

immigration attitudes showed no significant results, indicating that positive

sentiment toward immigration and immigrant groups is not related to any

particular preference of immigrants' acculturation to Canadian culture.

In considering acculturation orientations with SCM and BIAS items, only

a significant negative correlation could be found between multiculturalism and

passive harm, $r = -.16$, $p < .05$. No other significant correlations existed between

acculturation orientations and any other variables (see Appendix B, Table 2).

Cluster-level correlations indicated varying patterns across clusters. Within the

HC-LW cluster, segregation orientations were positively related to admiration, $r =$

$.25$, $p = .01$, while stronger multicultural orientations were related to lower envy

reactions, $r = -.21$, $p = .04$. Significant correlations also existed within the LC-

HW cluster, with competence being positively related to the exclusion orientation,

$r = .19$, $p = .02$, and warmth being positively related to both segregation, $r = .17$, p

= .05, and exclusion, *r* = .18, *p* = .04, orientations. Within the same cluster, a stronger melting pot orientation was related to a weaker reaction of envy, *r* = -.17, *p* = .05, and a stronger segregation orientation was related to greater passive facilitation, *r* = .20, *p* = .02.

These results indicate that target groups subject to ambivalent stereotyping may be perceived with mixed reactions towards their integration into the receiving culture. For HC-LW cluster target groups, if the receiving society wished for them to stay independent of both receiving and heritage cultures, the groups may be viewed admirably, but if the receiving society wished for them to integrate both receiving and heritage cultures, their high competence may not be a threat to the receiving society, resulting in lower envy reactions. On the other hand, for LC-HW cluster target groups, the more competence and warmth the group seems to hold, the more the receiving society wants to exclude them and not allow them to adopt the host culture, possibly due to the positive perceptions of these target groups as being very kind-hearted and warm. Unlike the HC-LW cluster, the LC-HW cluster was observed with less envy reactions when stronger melting pot orientations were held by the receiving society, suggesting that absorption of a low competence group into the ingroup (usually seen as high in both competence and warmth) would make the low competence members less enviable.

A 5 (clusters) x 4 (acculturation attitudes) repeated measures ANOVA indicated that there were no between-cluster differences in mean acculturation attitude scores, F(4, 700) = .135, p = .97, nor an interaction of effects, F(8.522,

1491.425) = .790, p = .62.[6] However, there were overall differences in

acculturation attitudes, such that all 4 acculturation orientations significantly

differed from one another, $F(2.131, 1491.425) = 3418.494$, $p < .001$ (see

Appendix B, Table 2 for mean ratings of acculturation orientations).[7] To parcel

out the within-subject effects, a within-subjects ANOVA was conducted on the

four orientations to investigate the degree of difference between each

acculturation orientation. Results confirmed those of the repeated measures

ANOVA, $F(2.133, 1501.682) = 3666.684$, $p < .001$ (see Figure 9).[8] Specifically,

participants tended to strongly favour multiculturalist orientations ($M = 4.16$; $SE =$

.03), with lower levels of melting pot orientations ($M = 1.81$; $SE = .02$), still lower

levels of segregation orientations ($M = 1.67$; $SE = .02$), and the lowest

endorsement of exclusion orientations ($M = 1.47$; $SE = .02$), $ps < .001$. Thus,

English Canadians may strongly prefer that ethnic minority groups, including

immigrants, both maintain their heritage culture while adopting Canadian culture.

Alternatively, English Canadians may somewhat prefer that target groups adopt

Canadian culture while reducing their heritage culture, fully maintain their

heritage culture and not adopt Canadian culture, or fully abandon both cultural

influences altogether. However, the results indicate that the latter three

orientations are not as preferred as multiculturalism.

[6 & 7] Mauchly's Test of Sphericity was significant $p<.001$; the Greenhouse-Geiser corrected solution is reported, $\varepsilon = .710$

[8] Mauchly's Test of Sphericity was significant $p<.001$; the Greenhouse-Geiser corrected solution is reported, $\varepsilon = .711$. Effect size was calculated to further investigate the extremely high F statistic; we found a high effect size, $\eta^2 = .839$.
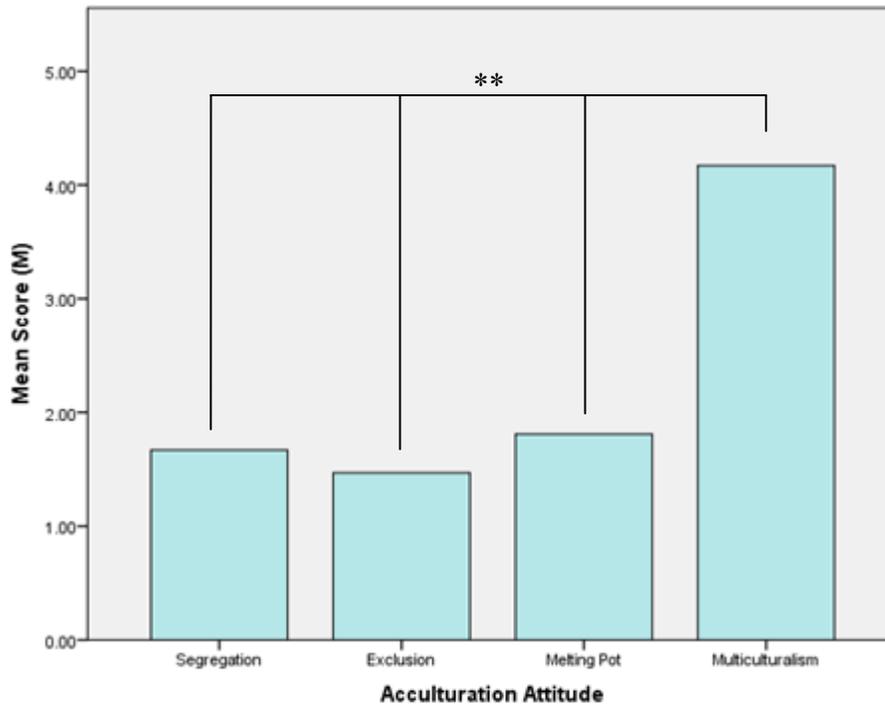
Figure 9. Mean scores of acculturation attitudes

Note: All acculturation attitudes significantly differed from one another at p < .001

Discussion

The present study built upon existing literature by addressing the 5 hypotheses. First, we wished to extend research on the Stereotype Content Model to the Canadian context by focusing on English Canadians' stereotypes of 16 ethnic target groups. The results indicated that ethnic groups fall within quadrants along the two trait dimensions of the stereotype content model by grouping into clusters that are perceived as high both in competence and warmth, low in both, or those that are perceived to have ambivalent (mixed) levels of one trait dimension over the other. As hypothesized, the HC-HW cluster was composed of English Canadians, Ukrainians, Germans, and British, as well as Italians, who were

expected to fall in the LC-HW quadrant. The HC-LW cluster consisted of the

Chinese and Koreans, as hypothesized. The LC-HW cluster consisted of Filipino,

Jamaican and East Indian groups, though the last group was not expected to fall

into this cluster. Finally, the LC-LW cluster consisted of Somali, Pakistani, and

Iranian groups, as hypothesized, with the addition of Mexican and French

Canadian groups. As expected, Aboriginals were considered to be low on both

trait dimensions, and they were notably lower than the LC-LW cluster groups.

Stereotypes of the Sixteen Ethnic Groups

Overall, the mapping of clusters mostly corresponds with the hypothesized

mapping, with the exception of a few target groups, and appears to be largely

consistent with previous research that examined ethnic groups in Canada (Kil,

Noels, & Schweickart, *in preparation*). However, unlike the previous study we

conducted, which included a nondescript cluster and clusters that did not fully

occupy the four quadrants along the trait dimensions, the present results evidence

a clustering pattern that represents each of the four quadrants we expected to find.

Further similarities can be seen with the Lee and Fiske (2006) study of ethnic

groups in the United States. For example, we found that Chinese and Koreans

were grouped into the high competence-low warmth cluster, mirroring Asian

target groups in Lee and Fiske's findings.

However, the clustering results did not fully correspond with our

hypothesis (see Appendix A, Figure 2). Namely, we hypothesized Mexicans

would be stereotyped as lower in competence and higher on warmth, based on

their common social role as friendly, low-status labourers. However, we found

that they clustered with groups located in the low competence-low warmth

quadrant. This result is contrary both to our predictions as well as previous

literature on stereotypes and the SCM (Kil, Noels, & Schweickart, *in preparation;*

Lee & Fiske, 2006; Reyna, Dobria, & Wetherell, 2013). One possible explanation

for this result is that due to infrequent contact with Mexicans, the participants of

the present study may have been strongly influenced by media portrayals of

Latinos, which usually focus on the prominence of crime and gang membership in

Mexico and the U.S.A. (Barrett, Kuperminc, & Lewis, 2013; Eisen, Gomes,

Wandry, Drachman, Clemente, & Groskopf, 2013; Martinez, 2002). A closer

examination of the ratings for this group also shows that Mexicans may be a

borderline group on warmth ratings, but not in competence ratings. This effect

may be explained by the conflicting stereotypes about Latinos as warm and family

oriented (Casavantes, 1969), but also as crime-prone gang members (Eisen et al.,

2013). Thus, although the overall consideration of Mexicans is that they are low

in competence, the perception of warmth may be ambiguous due to conflicting

warmth perceptions.

Some other groups also clustered in a manner that did not correspond with

our hypotheses. Italians were expected to cluster in the LC-HW cluster with

Mexicans, Jamaicans, and Filipinos due to media portrayals of their involvement

in organized crime and stereotypes of their passionate and family-oriented nature.

However, our cluster solution indicated that Italians were categorized with

English Canadians and other European nationalities. Regardless of media

stereotypes, ingroup ethnicities, such as target groups that are White or Caucasian (for the respondents in this study), may be looked upon more favourably than outgroup ethnicities, such as target ethnicities that are Black or East Asian. Such ingroup preference has been found in previous examinations of intergroup perceptions (Berry & Kalin, 1995). As such, Italians may have been considered high in both competence and warmth due to their ethno-racial characteristics.

Our cluster results indicated that French Canadians were given low competence-low warmth stereotypes. This result was contrary both to our expectations and to the results of our previous 8-group study, in which French Canadians clustered in the high competence-low warmth quadrant of the SCM. This cluster result might be attributed to the cluster solution we chose during our hierarchical cluster analysis. In line with our hypothesis, French Canadians received competence ratings that were higher than the mean competence (see Figure 3 in Results section), and the French-Canadian competence rating was higher than the group's warmth rating, indicating mixed stereotyping. The results indicate that French Canadians may be viewed positively or negatively, occupying the borderline between the two valences. The English Canadian perception that French Canadians receive generally mixed stereotypes likely follow from historical tensions between French and English Canadians that continue to the present day (Esses & Gardner, 1996), as well as English Canadians' ambivalence toward French Canadians (Bell, Esses, & Maio, 1996). Future studies that frame French Canadians as Canadian ingroup members versus as a group that holds conflicting interests from the rest of Canada might contribute valuable

information in better understanding English Canadian perceptions of French Canadians.

East Indians clustered in the low competence-high warmth cluster, also contrary to our review of the literature on stereotypes of this group. Past research gave reason to the hypothesis that they would be clustered with Pakistanis, since non-South Asians may have a difficult time parceling out the differences between the two groups. However, the present results indicate an otherwise positive impression of East Indians, especially compared to Pakistanis. Notably, East Indians are the sole group located almost precisely on the mean line for both competence and warmth. This result was partly foreseen in our literature review of East Indian and Pakistani target groups; we expected that the different religious backgrounds of these two groups may lead to more positive stereotyping of majority-Hindu East Indians compared to majority-Muslim Pakistanis. However, such comparable ratings of both trait dimensions were not expected, and further research should be conducted to better understand the underlying assumptions and perceptions for relatively positive stereotypes of East Indians in Canadian society.

As established in our previous 8-group study, Aboriginals were situated in a distinct cluster, receiving the lowest ratings of both competence and warmth. Although there has been previous research indicating the existence of ambivalent stereotyping toward Aboriginals (Bell & Esses, 1997), the results of the present study imply that Aboriginals, at least in this part of Canada, are subject to predominantly negative stereotyping. Notably, the present findings largely replicate our previous results (i.e. Kil, Noels, & Schweickart, *in preparation*). In

our previous study, we suggested that the timing of data collection might have partially influenced the ratings of the Aboriginal group, with data collection occurring as Aboriginal issues were being highlighted in the media (shortly after Idle-No-More protests across the country). This possibility was drawn based on existing understanding of contextual stereotype variability, which is an inevitable component of stereotype research (Operario & Fiske, 2003). Despite the assumption that contextual and situational influences may have skewed stereotypes of the Aboriginal target group, we found similar results in the present data which was collected one year later, suggesting that the negative ethnic stereotyping of Aboriginals is likely not a history effect. A further investigation of Aboriginal stereotypes elsewhere in Canada or using a sample from a different population (e.g., non-students) may be beneficial in better understanding the validity and generalizability of these results.

Although the present study clusters the target groups into clusters based on similar ratings of the two trait dimensions, it is imperative to note that the clusters do not imply that the same stereotypes exist for groups that are clustered together. For example, although Filipinos and Jamaicans are clustered together in the LC-HW cluster, the former may be considered warm due to their role as caretakers of children (i.e. as nannies), and the latter due to their laid-back attitude. The stereotype that arises as a cultural meme is thus a more specific descriptor compared to the two trait dimensions. Ascribed trait dimensions act as generalizable attributes to more clearly identify whether these specific stereotypes are positive or negative, or mixed.

Socio-Structural Predictors, Stereotyped Traits and Affective and Behavioral Responses

As hypothesized, we found a relationship between the stereotype trait dimensions and their hypothesized predictors. In addition to significant paths from status to competence on the one hand, and from competition to warmth on the other, our path analyses found additional relationships that crossed over the traits and predictors. This crossing-over effect can be explained by the two stereotype content trait dimensions of competence and warmth, which has previously been found to be strongly positively correlated (at $r = .82$, $N = 136$; Kil, Noels, & Schweickart, *in preparation*). Use of path analyses, which partials out covariation between variables, may have played a significant role in identifying this effect, since previous studies relying only on correlations have found no such cross-over (e.g. Cuddy et al., 2007). The high between-trait correlations suggest that further investigation may be necessary to partial out the independent effects that competence and warmth may have in relation to the other SCM and BIAS Map variables we have considered. If there are no independent effects, and the two traits show multicollinearity, the SCM must be altogether re-examined in light of whether these dimensions are truly dissimilar and separately descriptive constructs for measuring stereotype content.

Further, there remains the possibility that the existing SCM may not necessarily hold in all situations. That is, groups perceived as higher in status may be seen as very competent but not very warm, and groups perceived as higher in

competition may be seen as both less competent and less warm. The directional relationship between traits and predictors are not exclusive to those proposed in the SCM, and the present results point at a potential overarching predictive or correlative relationship among all 4 factors.

Based on the BIAS Map, we hypothesized that SCM traits would be related to behavioural reactions, with the relationship mediated by affective reactions. Similar to the original BIAS Map study (Cuddy et al., 2007), we found directional, predictive paths from traits to emotions, and from emotions to behaviours, but with a number of mediated pathways that were not previously found in BIAS Map studies. For example, in Cuddy and colleagues' work (2007), warmth was indirectly related to only active facilitation and active harm while competence was indirectly related to only passive facilitation and passive harm. Each of the trait dimensions were expected to relate to each of the affective reactions, although two of these relationships (competence-contempt; warmth-envy) were found to be nonsignificant in Cuddy and colleagues analyses (see Figure 2, p. 6, for a review of hypothesized relationships; see Appendix B, Figure 2a to 2d for a review of the regressions conducted with the present study data set).

Results of the path analysis indicated that, consistent with the BIAS Map, warmth negatively predicted contempt and envy, both of which positively predicted active harm. Thus, the warmth-active harm mediation was supported. Meanwhile, competence negatively predicted pity, which positively predicted passive harm, partly confirming the competence-passive harm mediation. Although competence positively predicted admiration, it did not predict passive

harm, and thus the competence-passive facilitation mediation was not observed.

Further, most proposed emotion-behaviour relationships were found to hold

significant predictive relationships in our path analysis. All other relationships

proposed by the mediation models (found in Appendix B, Figure 2a to 2d) were

not supported.[9] However, our path model revealed other relationships among

variables. While Cuddy and colleagues (2007) found only indirect (mediated)

relationships between traits and behaviours, the present study found a direct

relationship between the two traits and both active harm and passive facilitation.

Based on our results, a group that is perceived as highly competent and not as

warm will be encountered with greater aggression and attacking behaviours

(active harm), while a group perceived as highly competent and warm will be

shown cooperative and associative behaviours. Further, we found that greater

admiration of a group leads to less active harm, and greater envy towards a group

leads to greater active facilitation.

      The additional relationships found in the present study add a number of

mediated and direct paths to the original model. Multiple pathways link traits to

emotional reactions, and emotional reactions to behaviours, but not all traits and

emotional reactions are related, contrary to the original BIAS Map model.

Regardless, by using path analyses to consider covariances and all possible

indirect effects, we determined a richer, more complex pattern of relationships

among traits, emotions, and behaviours. Overall, findings of the present study

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[9] We tested for multicollinearity (Mahalonobis distance) with the Variance Inflation Factor (VIF). All VIFs were less than 3.80, and thus indicated no multicollinearity between factors, based on the standard that VIF must exceed 10.00 in order to indicate the presence of multicollinearity (Kutner, Nachtsheim, & Neter, 2004). VIF ranges can be found in Appendix B, Figure 2.

indicate that both stereotype trait dimensions directly or indirectly predict all four behavioural reactions, with the predictive paths often mediated by at least one, if not more, emotional reactions.

Stereotyped Traits and Immigration and Acculturation Attitudes.

Our fourth hypothesis that there would be a significant relation between immigration attitudes and stereotype traits was confirmed. Considering that traits and predictors had shown significant correlations for hypothesis 2, immigration attitudes were also correlated with the predictors. These results mirrored our previous study on eight target ethnic groups, in which pro-immigration attitudes generally corresponded with overall higher competence and warmth ratings of groups (Kil, Noels, & Schweickart, *in preparation*).

Our final hypothesis was not confirmed: acculturation attitudes were not significantly correlated with either of the SCM trait dimensions. The final hypothesis was made on the assumption that when the majority group (English Canadians) perceives higher competence and warmth from minority groups, they would adopt a multiculturalist or integrationist (melting pot) orientation out of a desire to incorporate the groups into Canadian culture. Conversely, with lower competence and warmth perceptions, it was expected that English Canadians would wish to exclude the target groups and obstruct the groups' adoption of Canadian culture. We found no such patterns in the present data.

When further exploring the relationship between acculturation attitudes and the BIAS Map, we found only one significant negative relationship between

the multiculturalist orientation and passive harm (Appendix B, Table 2). That is, English Canadians who hold multicultural orientations are less likely to exhibit passive harm behaviours (ignore, demean) toward the target ethnic groups we considered. Presumably, this relationship follows from the concept of the multicultural orientation: a multiculturalist desire for the outgroup to simultaneously adopt the host culture while maintaining its original culture will not coincide with a desire to treat the outgroup with harm for wishing to hold on to its heritage roots. However, it should be noted that this particular result may have been arisen by chance, since the correlation value is not very large and it is only one of several correlations. In our previous 8 group study (Kil, Noels, & Schweickart, *in preparation*), we found a series of correlations between exclusion and melting pot orientations and passive facilitation (negative) and active harm (positive) behaviours. The lack of similarities across these two studies for acculturation attitudes and the BIAS Map posits that, indeed, the multiculturalism-passive harm relationship in the present study may have been found by chance. Thus, future studies may or may not corroborate this finding.

We also found that English Canadians more strongly endorse multiculturalism compared to all other acculturation orientations. This result coincides with previous research that suggests Canadians hold a generally positive attitude toward multiculturalism (e.g. Berry & Kalin, 1995). Overall, considering the relationships among acculturation attitudes and BIAS Map variables, we suggest that if there is a relationship between stereotypes and acculturation

attitudes, it is not a direct relation and may be mediated or moderated by other variables.

Limitations and Future Directions

There are some identifiable limitations to this study. First, the sample population was limited to first-year psychology students. In other studies of stereotype content (Fiske et al., 2002), a mix of both student and non-student populations was surveyed. Although Fiske and colleagues found no major differences found between samples, it is possible that the results of the present study are limited to a specific portion (i.e., young, English Canadian, and well educated) of the Canadian population. Additionally, the sample size of this study was limited and may not depict a thorough interpretation of real-world attitudes. Further research must be conducted with a larger sample size to confirm the existence of these stereotype perceptions for different age groups and for different environments, such as a workplace.

Further, the target ethnic groups included in the present study are not exhaustive, nor fully representative of the national diversity of Canada. Future research might replicate this study using a greater variety or more representative sample of target ethnic groups in order to investigate whether similar clusters of target groups will result. However, the sample of ethnic groups in the study location is largely dependent on regional context. It is notable that this study does not account for the provincial differences in ethnic diversity in Canada. The present study was conducted only in Edmonton, which is not diverse enough to

provide an equal potential for real-life encounters with some of the target ethnic groups when compared to metropolitan cities such as Toronto or Montreal. For example, it is notable that 85% of Jamaicans reside in Ontario (Statistics Canada, 2007). The comparison can be made both ways, since other areas of Canada may not provide opportunities to encounter First Nations people. A potential exists that such limited availability of encounters with certain ethnicities might skew participant ratings for each of the selected groups. Stereotype variability research suggests that familiarity with an outgroup may influence the kinds of stereotypes we hold toward the outgroup members (Oakes, Haslam, Morrison, & Grace, 1995; Smith, Miller, Maitner, Crump, Garcia-Marques, & Mackie, 2006; Zebrowitz, Bronstad, & Lee, 2007). That is, some of the target ethnic minority groups considered in the present study may receive more positive ratings if participants have personal experience working with members of those ethnic groups. On the other hand, it is possible that the target groups may be perceived negatively, especially if the previous interactions with these outgroup members have been negative, making prejudicial attention more salient (negative contact hypothesis; Barlow et al., 2012). Given the regional differences in ethnic composition of the population, future studies may benefit from considering a cross-regional assessment in order to compare or contrast perceptions of ethnic groups in different parts of the country. Such data may provide useful information about how familiarity relates to the prevalence of stereotyping and acceptance of ethnic minorities and immigrants across Canada.

Future considerations in acculturation attitudes and ethnic stereotyping research may benefit by including second and third generation immigrant target groups, such as those used in Lee and Fiske's study. Lee and Fiske included first and third generation immigrants as two different target groups in their study in order to understand whether acculturation would influence rater perception. Their results indicated that third generation immigrants were clustered with the ingroup targets, while the first generation immigrants were clustered with the nondescript cluster groups. By including first, second and third generation immigrants as target groups in future examinations of ethnic group stereotypes, we may better understand the pattern by which stereotypes can change simply by generational status. For example, if the present study were to be replicated using target group labels such as "First-generation Somalis", "Second-generation Somalis", and "Third-generation Somalis", and found that both stereotype trait ratings increased (positively) as a factor of generational status, the results would indicate that immigrant groups will eventually be perceived as increasingly similar to English Canadians. Conversely, if the labels do not seem to alter the trait ratings, such results would indicate that some ethnic stereotypes persist regardless of generational status. Thus, we propose that a future study should include second and third generations of each target ethnic group. While resource-exhaustive, such an expansive study may provide a better understanding of whether and how generational status affects stereotypes.

Additionally, there are many factors influencing stereotypes of any social group. For example, ethnic group stereotypes may be gender-specific, and gender-

based stereotypes may have contributed to some of the borderline effects that we have found in the present study (e.g. East Indians, French Canadians). At least in the Western world, women have been looked upon as warm, friendly, and communal, while men have been considered as agentic and strong (Eagly & Steffen, 1984; Prentice & Carranza, 2002). If stereotypes about an ethnic group intersect with gender, such as the stereotypes of math ability for East Asian women (i.e. the conflicting stereotype would be that women are worse at math, but East Asians are better than other ethnic groups at math; see experiment by Shih, Pittinsky, & Ambady, 1999), then these two influences may require differentiation. For this particular case, sudies that explore gender-based ethnic group stereotypes, such as Timberlake and Estes' (2007) work, would provide further information on whether ambivalent attitudes exist due to the different stereotypes applied to differently gendered members within the same ethnic group. Similarly, additional attention may be given to situational cues and cognitive load during data collection, as well as how participants may interpret a label such as "Chinese immigrants". Are participants rating these labels based on a mental depiction of a frail old Chinese woman who does not speak English or one of a confident, mathematically-skilled Chinese software engineer? These factors will indeed influence responses, and must be considered in future research.

Finally, given the results of the present study, future studies attempting to link acculturation attitudes and stereotypes should consider affective and behavioural reactions that stem from stereotypes. The preferred acculturation orientation that the majority culture holds may be contingent on how it wishes to

treat a minority group, with this treatment being predicted by stereotypes that the majority society holds regarding members of those minorities. The present study was initiated with the hypothesis that some form of connection may exist between acculturation orientations and stereotypes. However, we found only a single relationship between multiculturalism and passive harm behaviours, and more complex relationships between the two constructs only for target ethnic groups that receive ambivalent stereotypes (HC-LW and LC-HW). Future research that further investigates this potential relationship may be able to confirm and build upon our hypothesis, possibly providing a basis for understanding how stereotypes, ambivalent and unequivocally positive and negative alike, influence acculturation attitudes.

Conclusion

Stereotype research is a valuable endeavour. Today's world is one of heterogeneous ethnic interactions; global travel and new technologies have made intercultural contact easier than ever before. With such a trend, it is important for both majority and minority populations to understand the kinds of social judgments facing people of all ethnic backgrounds. Research in stereotyping can bring increased awareness of the automatic judgments and biases that people may hold when interacting with less familiar or different individuals. This awareness, as part of interventions or experimental conditions, have been shown to foster active reduction of prejudice and stereotyping behaviours (Hill & Augoustinos, 2001; Rudman, Ashmore, & Gary, 2001), at least for a short term.

Further, a better-established link between stereotyping and acculturation and immigration attitudes can affect multicultural societies such as Canada. For example, in the present study, we found that more positive stereotyping is associated with more positive attitudes toward immigration. This information can be used to frame the discussion and advocacy of cultural pluralism, diversity and multiculturalism in educational and mass media environments, potentially promoting more open and tolerant attitudes toward immigrants and other foreigners. Although this kind of stereotype teaching has occasionally been found to negatively influence the stereotyped group (e.g. stereotype threat; see Steele & Aronson, 1995), there exist proponents of stereotype awareness through education, who argue that awareness may lead to less intrinsic attributions of outgroup characteristics, rejection of prejudiced perceptions, and self-esteem increases of stereotyped group members (see review by Bigler & Wright, 2014). Such social and cognitive changes may bring further value to interethnic exchange, and create a more open perspective with which we can learn from one another.

Of course, in order to achieve these effects, stereotype research cannot work alone. Social psychology research will need to work with other social sciences, including community psychology and sociology, as well as anthropology, to create an effective method of delivering such messages to the public. It is difficult to make practical use of stereotype research as a stand-alone tool, especially considering our present knowledge of stereotyping and other biased thought processes or behaviours as automatic (Ashburn-Nardo, Voils, &

Monteith, 2001). However, they are malleable, to an extent, based on individuals' motivation to alter patterns of thought, situational cues, and strategies used to change the automaticity of these processes (Blair, 2002). Thus, the first step in the application of the present research may involve changing the public's personal and social motives and shifting the focus of attention away from automatic ingroup-outgroup distinctions. With this step completed, individuals can be made aware of the existing stereotypes facing social groups, and actively pursue changes to their cognitive processes and social behaviours to reduce stereotyping and biases.

Such changes are especially necessary in promoting the harmonious co-existence of multiple cultures and social and ethnic groups in a unified community. Canada is one of the few countries in the world that advocates cultural diversity within a multicultural, multiethnic society. Interactions among individuals of different backgrounds are frequent in Canada, bringing about an introduction to diverse histories and practices while also serving as a backdrop for the formation of stereotypes. Previous literature has found connections between stereotypes of social or ethnic groups and emotional and behavioural reactions, immigration attitudes, and acculturation orientation preferences (Brader, Valentino, & Suhay, 2008; Cuddy, Fiske, & Glick, 2007; Reyna, Dobria, & Wetherell, 2013). Specifically, immigrants experiencing rejection and discrimination from the host society will have poor adaptation and reject the host culture (Jasinskaja-Lahti, Mahonen, & Liebkind, 2012; Sam & Berry, 2010). Further, it has been suggested that stereotype perceptions mediate the relationship

between host members' perceptions of immigrants' acculturation orientations and the immigrants' reported orientations (Lopez-Rodriguez et al., 2014). However, such literature has yet to focus on the overall interrelations among these constructs, especially from a Canadian perspective. The present study lends strong support to the predictive power of ethnic group stereotypes on the affects and behaviours exhibited by receiving society members. Further, the results suggest that positive attitudes about immigration and integration of ethnic group members into Canadian society tend to coincide with positive stereotyping of ethnic and immigrant groups.

Despite centuries of intercultural contact, stereotyping and prejudiced reactions still persist. Interactions between members of different ethnocultural backgrounds may be laden with stereotypical framing of "the other". However, researching such social phenomena can provide us with a better awareness of these automatic but controllable processes, and foster in members of receiving societies an open mindset for welcoming diverse cultures into an increasingly interrelated world community.

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Appendix A
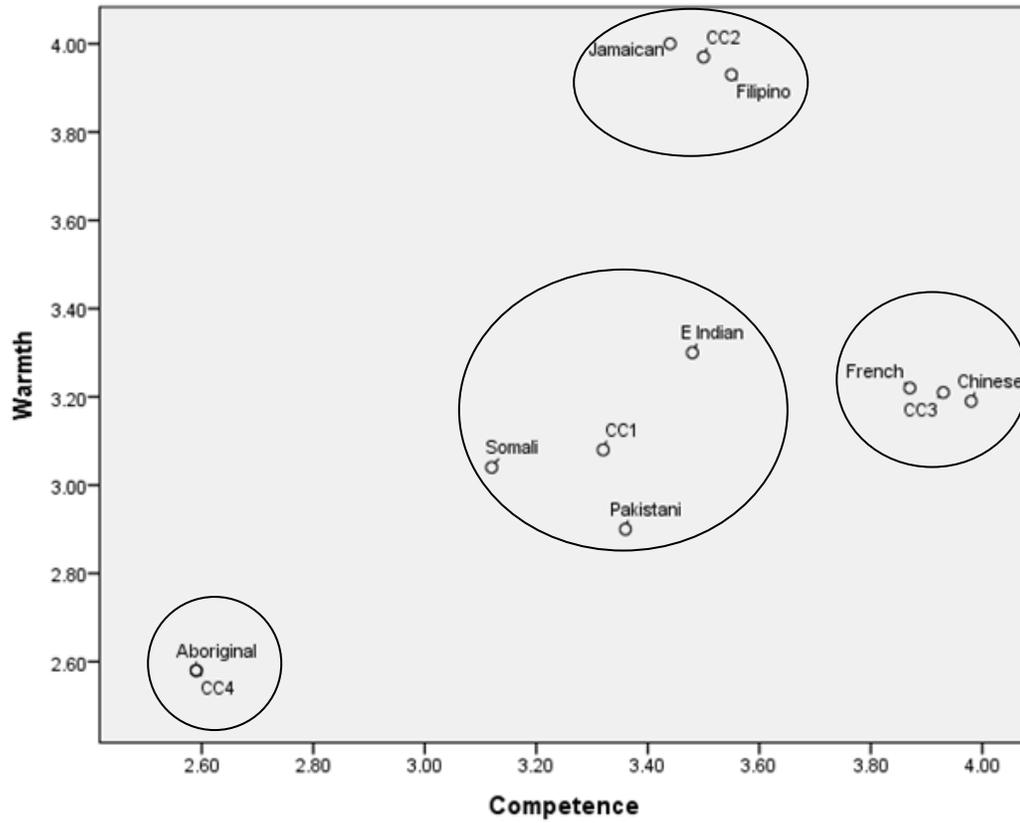
Figure 1. 4-Cluster solution for preliminary 8 ethnic group study (Kil, Noels, & Schweickart, *in preparation*).

Note: CC41= High competence-Low warmth, CC42 = Low Competence-High Warmth, CC43 = Low competence-low warmth, CC44 = Nondescript.

Warmth

Mexican Jamaican Filipino Italian	English Canadian British German Ukrainian
Somali Aboriginal Iranian Pakistani East Indian	Chinese Korean French Canadian

Competence
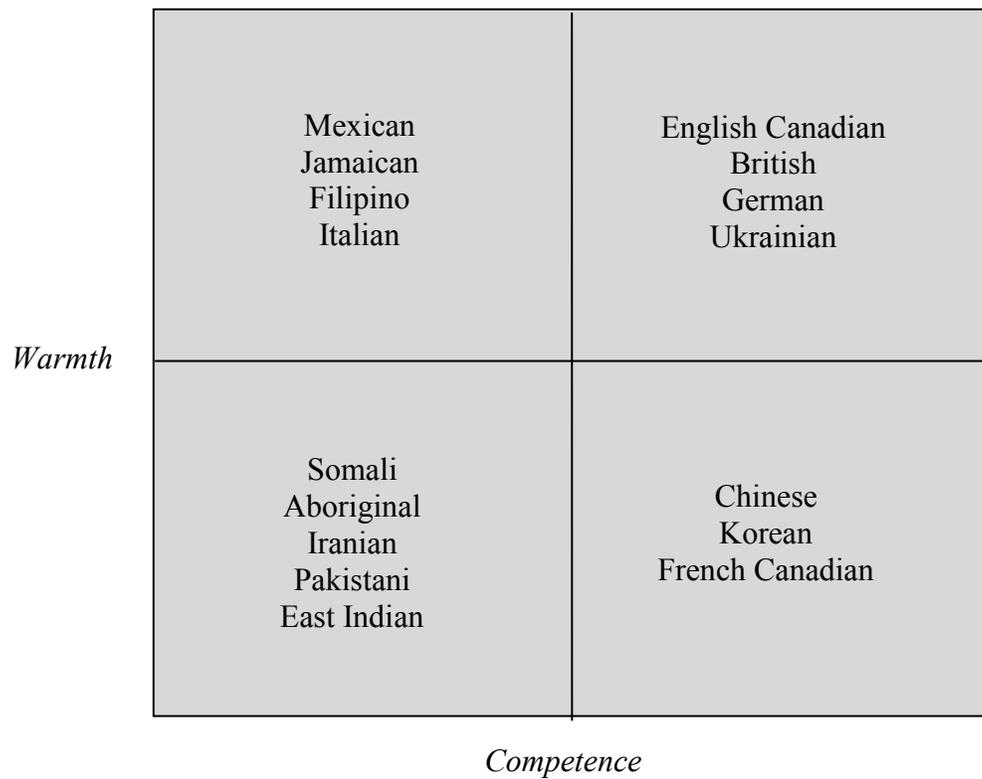
Figure 2. Hypothesized ratings of groups on SCM dimensions

Table 1

Demographic frequency and percentage of total population (National, Provincial, and local) of target groups

Ethnicity	National (Canada)		Provincial (Alberta)		Local (Edmonton)	
	Frequency	%	Frequency	%	Frequency	%
Canadian	5,748,725	31.38	287,235	18.82	79,225	16.22
British	1 367 125	7.46	147,620	9.67	38,940	7.97
Chinese	1,135,365	6.20	110,900	7.27	44,035	9.02
Indian	780,175	4.26	72,595	4.76	28,410	5.82
Italian	741,045	4.05	22,995	1.51	9,535	1.95
German	670,640	3.66	150,330	9.85	39,345	8.06
Aboriginal	512,150	2.80	72,075	4.72	13,895	2.85
Filipino	321,390	1.75	39,665	2.60	15,410	3.16
Ukrainian	300,590	1.64	82,185	5.38	41,665	8.53
Korean	137,790	.75	11,585	.76	3,665	.75
Jamaican	134,320	.73	3,765	.25	1,535	.31
Iranian	99,225	.54	4,525	.30	1,630	.33
Pakistani	89,605	.49	7,955	.52	2,225	.46
Somali	34,025	.19	3,760	.25	2,590	.53
Mexican	26,080	.14	1,965	.13	490	.10
Total Single Responses	18,319,580		1,526,430		488,375	

Note: All statistics are derived from 2010 (Statistics Canada, 2010a; 2010b), using a 20% representative sample of the 2006 census. Only single response answers were counted in the frequency and percentage. For the purposes of the present study, British people were assumed to respond as English. Aboriginals in the census are noted as North American Indian; East Indians in the census are noted as Indian.

Table 2

Reliability (α) of the SCM and BIAS Map in previous literature

	α				
	Fiske et al. (2002)	Lee & Fiske (2006)	Cuddy et al. (2007)	Cuddy et al. (2009)	Present Study
SCM					
Competence	Study 1: .90 Study 2: .94	not reported	Study 1: .79	Study 1: .67-.85 Study 2: .78-.88	0.88
Warmth	Study 1: .82 Study 2: .90	not reported	Study 1: .83	Study 1: .67-.83 Study 2: .74-.86	0.91
Status	Study 2: .89	.81	Study 1: .87	Study 1: .69-.84 Study 2: .70-.86	0.77
Competition	Study 2: .67	.90	Study 1: .79	Study 1: .40-.75 Study 2: .60-.71	0.74
BIAS					
Contempt	Study 4: .93		Study 1: .60 Study 4: .77		0.55
Envy	Study 4: .89		Study 1: .82 Study 4: .86		0.80
Admiration	Study 4: .86		Study 1: .80 Study 4: .79		0.72
Pity	Study 4: .82		Study 1: .71 Study 4: .87		0.65
AF			Study 1: .60 Study 2: .84 Study 3: .91 Study 4: .86		0.82
PF			Study 1: .61 Study 2: .74 Study 3: .83 Study 4: .86		0.68
AH			Study 1: .59 Study 2: .82 Study 3: .86 Study 4: .83		0.61
PH			Study 1: .68 Study 2: .71 Study 3: .72 Study 4: .87		0.65

Appendix B
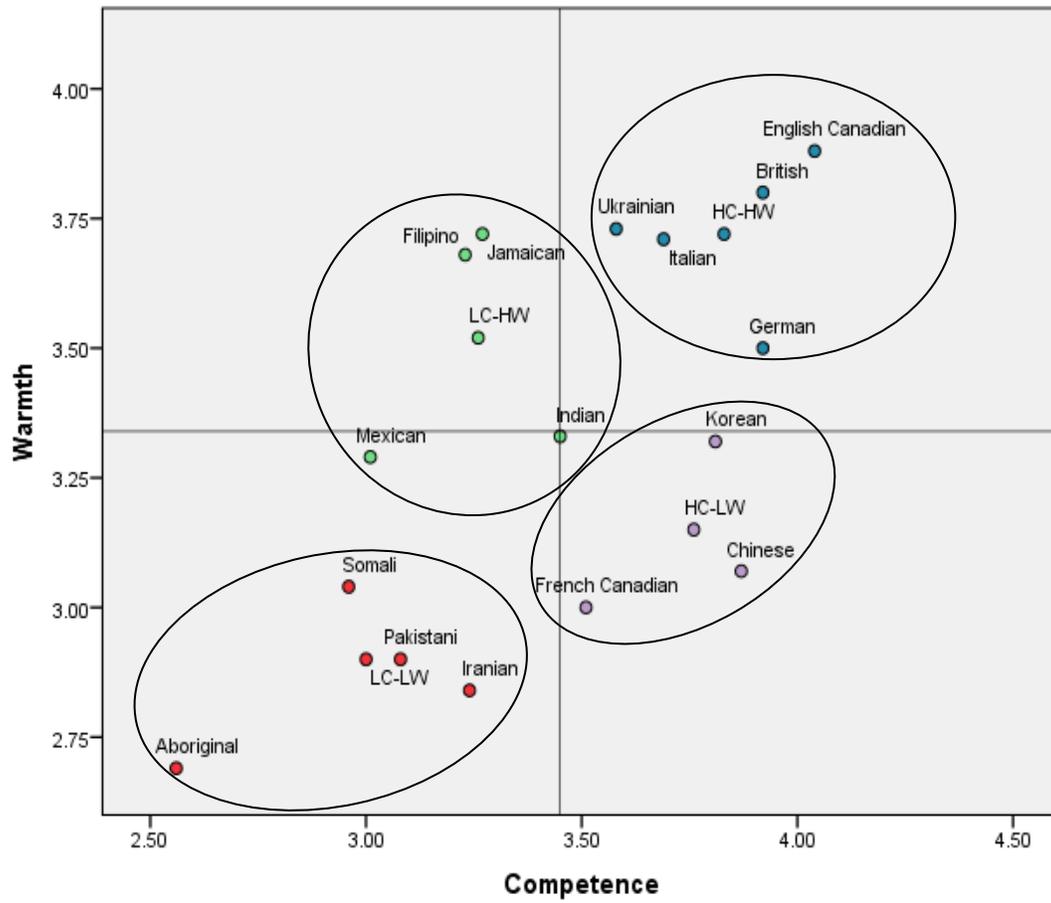
Figure 1. Alternative 4-cluster solution

Note: Dotted lines indicate mean Competence and Warmth ratings across all ratings across all groups (see Appendix B, Table 2).

Figure 2a. Warmth-Active Harm mediation
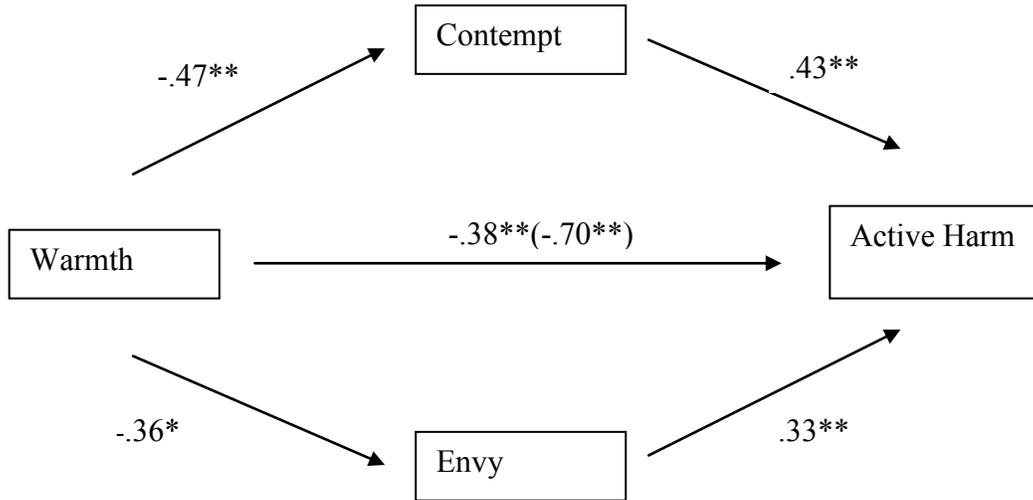
**p ≤ .005 *p ≤05
Note: Partial mediation depicted. Analysis controlled for competence. Model fit R²=.55;
Multicollinearity statistic VIFs between 1.19-3.67.

Figure 2b. Competence-Passive Harm mediation
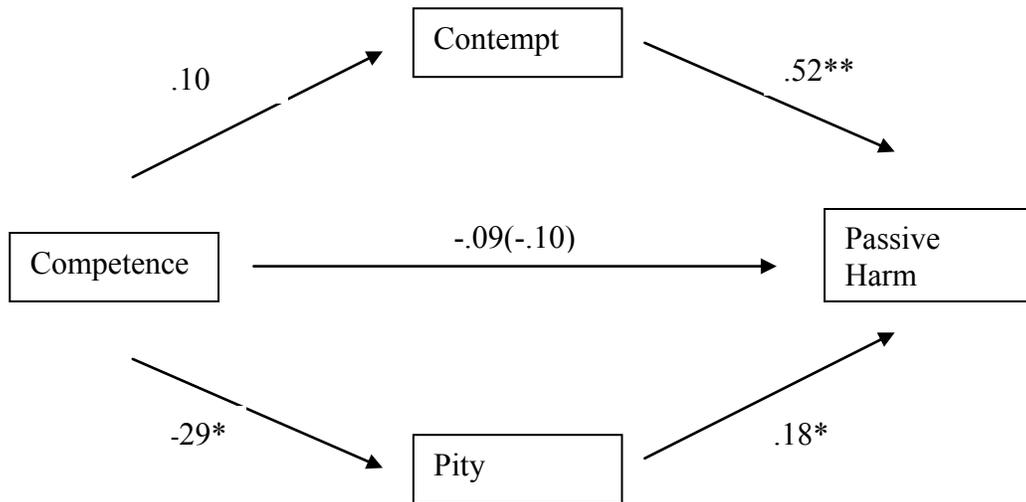
**p ≤ .005 *p ≤05
Note: No mediation depicted. Analysis controlled for warmth. Model fit R²=.53;
Multicollinearity statistic VIFs between 1.11-3.74.

Figure 2c. Warmth-Active Facilitation mediation
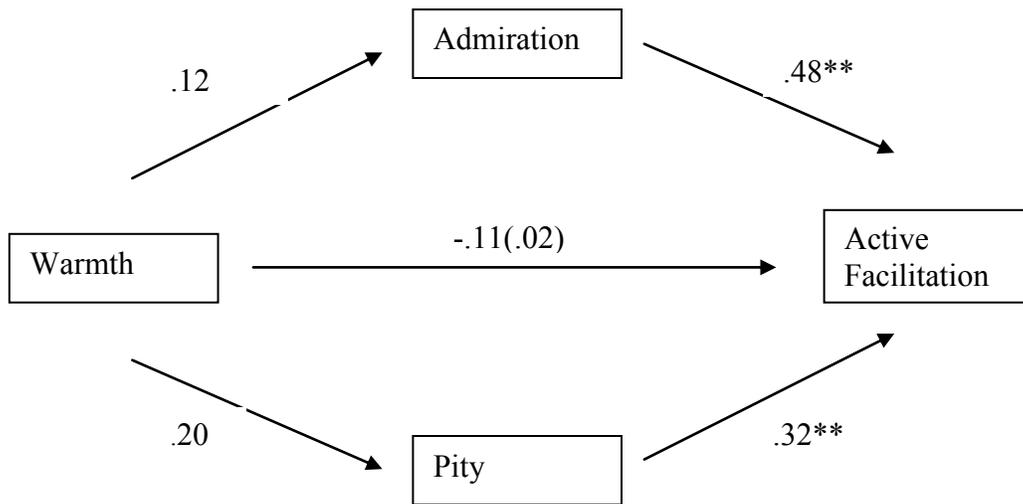
**p ≤ .005 *p ≤05*
Note: No relation. Analysis controlled for competence. Model fit R^2=.40;
Multicollinearity statistic VIFs between 1.20-3.72.

Figure 2d. Competence-Passive Facilitation mediation
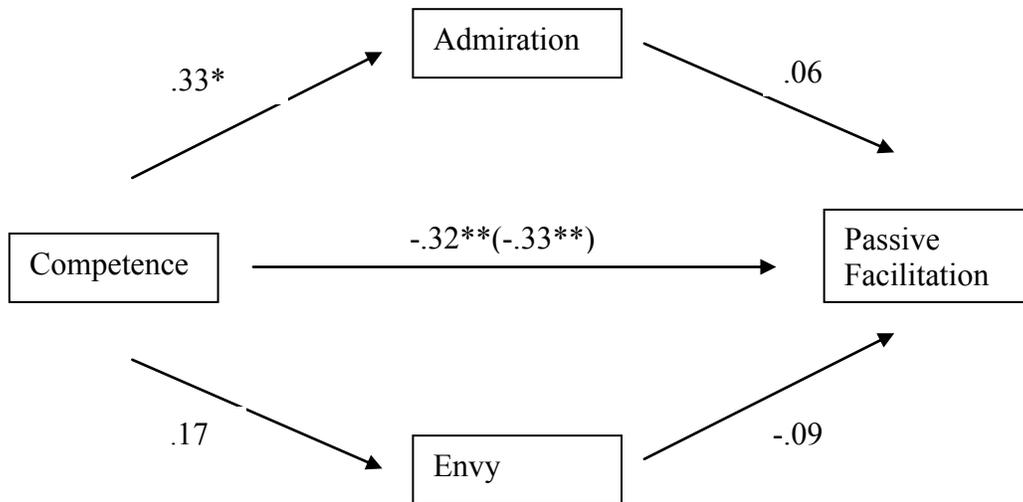
**p ≤ .005 *p ≤05*
Note: Direct competence-passive facilitation relation; no mediation. Analysis controlled
for warmth. Model fit R^2=.51; Multicollinearity statistic VIFs between 1.51-3.67.

Table 1

By-group breakdown of Cronbach's alpha (α) for all variables
(Continued on p. 96)

	Target Groups								
	J	S	M	In	FC	G	Ir	P	A
Immigration									
SCM									
Competence	0.92	0.92	0.84	0.89	0.86	0.90	0.91	0.92	0.91
Warmth	0.92	0.96	0.90	0.93	0.90	0.91	0.94	0.94	0.92
Status	0.82	0.81	0.72	0.80	0.62	0.78	0.75	0.82	0.82
Competition	0.80	0.74	0.78	0.70	0.78	0.81	0.67	0.69	0.75
BIAS									
Contempt	0.56	0.48	0.61	0.59	0.65	0.51	0.42	0.66	0.76
Envy	0.80	0.90	0.84	0.74	0.76	0.81	0.82	0.71	0.85
Admiration	0.66	0.72	0.81	0.69	0.69	0.58	0.62	0.72	0.77
Pity	0.58	0.79	0.66	0.71	0.54	0.74	0.80	0.71	0.69
AF	0.79	0.85	0.82	0.80	0.82	0.88	0.79	0.81	0.75
PF	0.53	0.70	0.75	0.73	0.71	0.67	0.66	0.68	0.60
AH	0.71	0.72	0.66	0.65	0.60	0.56	0.63	0.66	0.40
PH	0.52	0.73	0.73	0.71	0.72	0.33	0.67	0.81	0.78
Acculturation									
Segregation	0.34	0.53	0.56	0.57	0.48	0.49	0.61	0.64	0.46
Exclusion	0.57	0.69	0.54	0.68	0.35	0.67	0.63	0.57	0.58
MP	0.52	0.55	0.46	0.49	0.55	0.46	0.57	0.68	0.69
MC	0.75	0.81	0.84	0.85	0.66	0.77	0.83	0.80	0.78

By-group breakdown of Cronbach's alpha (α) for all variables

	Target Groups							M_α	SD_α
	F	U	It	B	K	EC	C		
Immigration									
SCM									
Competence	0.89	0.88	0.80	0.90	0.83	0.88	0.86	0.88	0.04
Warmth	0.91	0.91	0.89	0.88	0.90	0.91	0.92	0.91	0.02
Status	0.77	0.81	0.60	0.82	0.80	0.71	0.85	0.77	0.07
Competition	0.71	0.63	0.75	0.66	0.78	0.77	0.79	0.74	0.06
BIAS									
Contempt	0.42	0.47	0.45	0.55	0.61	0.52	0.52	0.55	0.09
Envy	0.68	0.82	0.85	0.73	0.81	0.86	0.86	0.80	0.06
Admiration	0.79	0.66	0.77	0.81	0.66	0.76	0.75	0.72	0.07
Pity	0.70	0.64	0.29	0.64	0.77	0.51	0.61	0.65	0.13
AF	0.82	0.84	0.91	0.82	0.76	0.81	0.85	0.82	0.04
PF	0.65	0.73	0.65	0.68	0.67	0.70	0.73	0.68	0.06
AH	0.67	0.57	0.59	0.45	0.66	0.54	0.67	0.61	0.09
PH	0.75	0.63	0.49	0.41	0.72	0.62	0.74	0.65	0.14
Acculturation									
Segregation	0.54	0.55	0.60	0.41	0.67		0.56	0.53	0.09
Exclusion	0.65	0.45	0.58	0.57	0.50		0.63	0.58	0.09
MP	0.51	0.45	0.56	0.39	0.58		0.65	0.54	0.09
MC	0.79	0.82	0.79	0.79	0.81		0.78	0.79	0.04

Table 2

Overall correlations, means and standard deviations (Continued on p.98)

	M	SD	1	2	3	4	5	6
1.Immigration	6.16	1.10	-					
SCM								
2.Competence	3.45	0.46	.34**	-				
3.Warmth	3.35	0.50	.32**	.84**	-			
4.Status	3.07	0.43	.22**	.71**	.55**	-		
5.Competition	2.55	0.64	-.32**	-.22**	-.31**	-.02	-	
BIAS								
6.Contempt	2.23	0.54	-.33**	-.29**	-.39**	-.15	.43**	-
7.Envy	2.00	0.49	-.02	-.13	-.22**	.10	.25**	.38**
8.Admiration	2.58	0.52	.19*	.43**	.40**	.45**	.00	.06
9.Pity	2.30	0.46	.07	-.13	-.05	-.16*	.14	.25**
10.AF	2.76	0.50	-.09	.07	.06	.13	.29**	.19*
11.PF	3.37	0.44	.25**	.67**	.69**	.53**	-.27**	-.31**
12.AH	2.31	0.48	-.16*	-.28**	-.45**	-.09	.45**	.64**
13.PH	2.46	0.48	-.18*	-.42**	-.46**	-.34**	.36**	.66**
Acculturation								
14.Segregation	1.67	0.44	.01	.00	.01	-.02	.06	.07
15.Exclusion	1.47	0.43	-.02	.07	.00	.02	.02	.05
16.MP	1.81	0.51	.02	.05	.04	-.05	-.06	-.07
17.MC	4.16	0.65	.09	.10	.09	.02	-.08	-.09

N=167; **p ≤ .01, *p ≤ 001

Overall correlations, means and standard deviations (Continued on p. 99)

	7	8	9	10	11	12	13	14
1.Immigration								
SCM								
2.Competence								
3.Warmth								
4.Status								
5.Competition								
BIAS								
6.Contempt								
7.Envy	-							
8.Admiration	.41**	-						
9.Pity	.43**	.29**	-					
10.AF	.45**	.53**	.47**	-				
11.PF	-.19*	.31**	-.12	.12	-			
12.AH	.55**	.10	.31**	.27**	-.35**	-		
13.PH	.31**	-.13	.34**	.06	-.43**	.70**	-	
Acculturation								
14.Segregation	-.06	.02	.00	.04	.09	-.03	.05	-
15.Exclusion	-.06	-.05	.05	.02	.05	.08	.04	.50**
16.MP	-.07	.01	-.03	-.02	-.02	-.03	-.08	.32**
17.MC	.02	-.03	-.05	-.08	.06	-.11	-.16*	-.02

*N=167; **p ≤ .01, *p ≤ 001*

Overall correlations, means and standard deviations

	15	16
1.Immigration		
SCM		
2.Competence		
3.Warmth		
4.Status		
5.Competition		
BIAS		
6.Contempt		
7.Envy		
8.Admiration		
9.Pity		
10.AF		
11.PF		
12.AH		
13.PH		
Acculturation		
14.Segregation		
15.Exclusion	-	
16.MP	.41**	-
17.MC	-.39**	.06

N=167; **p ≤ .01, *p ≤ 001