RACIAL STEREOTYPES, IDENTITY, AND IDENTITY DENIAL AMONG EAST ASIAN CANADIANS

EVELINA LOU

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Abstract

The model minority stereotype ascribes East Asian minorities with positive characteristics such as intelligent and hardworking, and at the same time, with negative traits like socially-awkward and emotionally-reserved. Three studies investigated the psychological effects of the two sides of this stereotype on East Asian Canadian young adults as well as factors that may moderate or mediate these effects. Study 1 (N = 208) was a correlational study that explored the association between different stereotype aspects and well-being. Negative stereotypes were consistently linked to poorer well-being and lower self-esteem, but the relation between positive stereotypes and outcomes was moderated by generational status. Positive stereotypes were related to better well-being and higher self-esteem among first-generation participants, but to poorer well-being and lower self-esteem among second-generation participants. Study 2 had an experimental, between-subjects design, in which Chinese Canadian participants (N = 95) were asked to recall and write about an experience in which they were attributed with either a positive or a negative stereotypical trait (positive stereotype and negative stereotype conditions, respectively) or with a non-stereotypical trait (control). Contrary to predictions, there were no statistically significant condition effects on the primary outcome measures (well-being, state self-esteem, mainstream and heritage acculturation). Study 3 was an experimental laboratory study in which East Asian Canadian participants (N = 108) were either positively stereotyped (stereotyping condition) or not stereotyped (control) by an experimenter (who was either White or East Asian) in a social interaction before completing a paper-and-pencil questionnaire. As hypothesized, participants who had been stereotyped responded differently on some of the outcome measures than those

who had not been stereotyped, and this difference was moderated by generational status. Relative to their non-stereotyped counterparts, stereotyped first-generation participants reported less mainstream identity denial whereas stereotyped second-generation participants reported more mainstream identity denial and lower mainstream acculturation. Experimenter race was not a moderator nor was identity denial a mediator of the relation between stereotyping condition and well-being outcomes. Taken together, these findings demonstrate that the model minority stereotype is like a double-edged sword, both in content and its associated outcomes for East Asian Canadians, with second-generation individuals perhaps at greater risk for negative outcomes. Limitations, directions for future research, and implications are discussed.

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For my graduate supervisor, Dr. Richard Lalonde, who saw beyond.

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Introduction

As the immigrant population continues to grow in countries like Canada, the United States, and Australia, it has become increasingly important to understand the experiences of first- and second-generation individuals. Many of these individuals are neither White nor from a Western culture; they are visible minorities within the Western context. Compared to ethnic minority groups who are not visible minorities (e.g., French, Russian), visible minority groups (e.g., Chinese, Black) are more likely to be stereotyped by others (Crocker & Major, 1989). These societal stereotypes may become part of minority individuals' perceptions (i.e., beliefs about other people's attitudes about their groups), internalization (i.e., the extent to which perceived stereotypes define self-concept and influence behaviour), and personal experiences. They may also have psychological, social, and health outcomes (Kim, Wang, Deng, Alvarez, & Li, 2011; Lin, Kwan, Cheung, & Fiske, 2005; Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003; Shen, Wang, & Swanson, 2011; Yoo, Burrola, & Steger, 2010) and contribute to the high levels of discrimination reported by visible minority populations (Operario & Fiske, 2001; Wang, Siy, & Cheryan, 2011). Because discrimination based on stereotypes can negatively affect mental health, it is important to study the complex relationships between stereotypes, identity, and well-being for ethnic minority individuals.

One of the largest visible minority groups in Canada and the U.S. is those of East Asian heritage. In recent national censuses, 17.3 million Americans (5.6%; U.S. Census Bureau, 2012) and 2.2 million Canadians (7.1%; Statistics Canada, 2008) self-identified as Asian. Asian minorities in these countries have historically been targets of stereotyping, prejudice, and discrimination (Leong & Okazaki, 2009). Over 33% of

Chinese Canadian respondents from the 2002 Ethnic Diversity Survey reported personal experiences of discrimination and perceived vulnerability to discrimination (Reitz & Banerjee, 2007). Most of the existing work on racial identity and stereotypes, however, has focused on stereotypes surrounding African Americans. Although this research has resulted in a large body of research on the impact of negative racial stereotypes, these results cannot simply be generalized to other stereotyped groups that are associated with their own unique stereotypes. African Americans have been stereotyped with predominantly negative traits, but East Asian minorities are often stereotyped with both positive and negative attributes (Fiske, Cuddy, Glick, & Xu, 2002). The mixed portrayal of East Asian minorities highlighted by common stereotypes raises some interesting questions surrounding the implications of these stereotypes—specifically whether they are associated with beneficial or harmful outcomes. Thus, the primary goal of my dissertation was to empirically investigate how stereotypes influence first- and second-generation East Asian Canadians' psychological well-being and cultural identity, as well as some of the factors involved in shaping these relations.

Unfortunately, research on the stereotypes of East Asian minorities have largely come from studies of White Americans and their beliefs, attitudes, and emotions (e.g., Butz & Yogeeswaran, 2011; Ho & Jackson, 2001; Lin et al., 2005). We argue that it is important to take a minority perspective—by employing only East Asian participants—in order to understand the psychological impact of stereotypes on the target's subjective experience (Major & Crocker, 1989). The "looking-glass" approach to the self suggests that people who recognize what other people think of their group are likely to internalize and shape themselves based on these perceived evaluations (Cooley, 1956). We therefore

adopted a within-group approach to understanding how stereotypes influence East Asian Canadians. This allowed us to investigate potential moderating variables within the group.

I first describe some of the common stereotypes of East Asian minorities and then review some of the past research demonstrating the psychological effects of stereotypes. Next, I discuss the role of identity denial as a potential mechanism that explains why the association between stereotypes and psychological outcomes may exist, and two factors that may moderate for whom and in what situations the effects of stereotypes are most likely to occur. Finally, I report the findings of three studies that investigated the effects of racial stereotypes on the psychological health, self-understanding, and race-related experiences of East Asian Canadians.

East Asian Minority Stereotypes

One of the most prominent perceptions that people (mostly White Americans) have of Asian minorities stems from the *model minority stereotype.* In this view, East Asian minorities are stereotyped to be intelligent, ambitious, and hardworking, resulting in high educational and career attainment, especially in fields related to math and science (Kawai, 2005). Although these perceptions may cast East Asians in a flattering light, they often go hand-in-hand with less favourable impressions. East Asian minorities are thought to be so focused on school and achievement that they segregate themselves socially, leading to beliefs that they are nerdy, unfriendly, shy, and lacking in warmth (Ho & Jackson, 2001; Lin et al., 2005; Wong, Own, Tran, Collins, & Higgins, 2011). The simultaneous existence of positive and negative perceptions represents the two sides of a double-edged sword. When Asian Americans were asked to come up with stereotypes about their group, the most commonly-mentioned attributes were in the achievement

domain; negative attributes in the social domain, however, were still widely mentioned (Oyserman & Sakamoto, 1997). This finding suggests that Asian minorities are aware of the racial stereotypes attached to their group.

The two sides of the model minority stereotype for East Asian minorities map nicely onto the Stereotype Content Model, which posits qualitative differences in stereotypes of different groups along the dimensions of competence and warmth (Fiske et al., 2002). This model asserts that many outgroup stereotypes have a reciprocal nature, such that they may be high on either competence or warmth, but not high on both. The model minority stereotype depicts East Asian minorities as being very high in competence, and at the same time, very low in warmth or sociability (Lin et al., 2005). This dimension-specific directionality alludes to the complex picture of how these stereotypes may play out in the lived experiences of East Asian minorities.

The Effects of Negative and Positive Stereotypes

Given that the model minority stereotype appears to be multifaceted, responses of East Asian individuals to different aspects of this stereotype may also be quite varied. Past research has examined feelings or views about the stereotype (e.g., Oyserman & Sakamoto, 1997; Trytten, Lowe, & Walden, 2012), psychological health and well-being (Shen et al., 2011; Thompson & Kiang, 2010; Wong et al., 2011; Yoo, Burrola, et al., 2010), help-seeking attitudes (e.g., Gupta, Szymanski, & Leong, 2011; Kim & Lee, 2014), and interpersonal emotions (e.g., Siy & Cheryan, 2013).

Despite the positive façade of the model minority myth, it is not always perceived favourably by East Asians. In a qualitative study by Oyserman and Sakamoto (1997), Asians Americans answered open-ended questions about the stereotypes they thought

other people had about their group and how they felt about them. Participants varied greatly in their feelings about the model minority stereotype, with approximately one half feeling positively and the other half feeling either negatively or indifferent about the stereotype. This qualitative finding indicates that the model minority stereotype is not only mixed in the valence of its characteristics (i.e., simultaneously positive and negative) but also non-uniform in the feelings and views that it elicits.

The mixed attitudes and views produced by the stereotype are only a prelude to the psychological outcomes and long-term impact of being stereotyped. Researchers who used a more quantitative approach to investigate the link between stereotypes and psychological health have differentiated between the positive and negative sides of the model minority stereotype. A consistent finding was that negative aspects of the stereotype, usually involving impoverished interpersonal or social attributes, were associated with negative outcomes. Asian American participants who internalized a negative stereotype (e.g., being too emotionally-reserved) had lower levels of self-esteem and reported lower quality of life (Shen et al., 2011).

The outcomes associated with positive aspects of the stereotype, however, are not so clear-cut. Few studies that have looked at these positive stereotypes and those that exist have produced contradictory findings. On the one hand, perceiving achievement-related stereotypes was associated with higher levels of academic and psychological adjustment among Asian American adolescents in Grades 9 and 10 (Thompson & Kiang, 2010) and stronger work ethic among Asian American college students (Oyserman & Sakamoto, 2007). On the other hand, other work has found that stronger endorsement and internalization of the achievement aspects of the model minority myth predict greater

psychological distress (Gupta et al., 2011) and more negative attitudes towards help-seeking (Gupta et al., 2011; Kim & Lee, 2014). Another study with Asian American men found that those who perceived primarily positive stereotypes (e.g., being intensely diligent) reported similar depression levels as those who perceived primarily negative stereotypes about their group (e.g., being a perpetual foreigner; Wong et al., 2011). This latter result suggests that perceiving positive stereotypes about one's group can lead to the same consequences as those associated with perceiving negative stereotypes.

Related research in the stereotype threat literature has looked at how positive stereotypes can affect Asian American women's performance on math and verbal tests (e.g., Cheryan & Bodenhausen, 2000; Shih, Pittinsky, & Ambady, 1999; Shih, Pittinsky, & Trahan, 2006). Shih and her colleagues (1999, 2006) demonstrated that activation of ethnic identity can boost the math performance of Asian American women. Findings have been inconsistent, however, as other studies have noted performance deficits in similar situations (e.g., Cheryan & Bodenhausen, 2000). A major difference between the stereotype threat literature and the present dissertation research is the way in which stereotypes are applied. In the studies on stereotype threat, the researchers implicitly activated stereotypes associated with Asian identity by increasing the salience of the identity. Rather than making the stereotypes themselves salient, this type of experimental manipulation relies on the assumption that once a social identity is activated the corresponding stereotypes will be automatically activated as a result. In the research to be reported in this dissertation, stereotypes associated with East Asian Canadians were activated explicitly, by directly asking participants to think about stereotypes about their group and subjecting them to actual experiences of being stereotyped. Moreover, our

focus was on the emotional, psychological, and health outcomes associated with stereotype experiences rather than their impact on test performance.

Making the story even more complicated, the relation between positive stereotypes and different psychological outcomes can vary depending on the facet within the positive side of the model minority stereotype that is being assessed. The two most commonly mentioned stereotype characteristics in interviews with Asian American engineering students were hardworking and extremely intelligent (Trytten et al., 2012). Although hardworking as a trait was viewed favourably by everyone, the extremely intelligent trait drew mixed responses. Some participants viewed this as beneficial, but other participants perceived it as not race-related or as harmful. For Shen et al.'s (2011) Asian American sample, different aspects of positive stereotypes had different associations with the dependent measures; the pursuit of prestigious careers stereotype was related to lower self-esteem, but this relation was not found for the expected academic success stereotype.

In another study involving different facets of the model minority myth and different outcomes, higher internalization of the unrestricted mobility myth (the belief that Asians minorities' success is due to meritocracy) was positively associated with somatic distress and was not related to general distress or performance difficulty among Asian Americans (Yoo, Burrola, et al., 2010). Higher internalization of the achievement orientation myth (the belief that Asians minorities' success is due to stronger work ethic and perseverance), however, was not associated with any of these outcomes. In order to better understand the model minority stereotype, we focused on a range of possible positive and negative outcomes in the present research including influences on cultural

self-understanding (e.g., mainstream and ethnic identity). Being stereotyped on a regular basis may influence minority members' core sense of self—that is, their membership in the stereotyped racial group as well as their membership in the mainstream group.

In sum, the existing literature on the model minority has been largely qualitative or correlational. Although these studies have produced intriguing results, the results have been inconsistent (especially for the outcomes of positive stereotypes). More importantly, they do not speak to the causal relationships between stereotypes and outcomes. The present research aims to fill this research gap by employing experimental designs to examine whether East Asian Canadians' perceptions of and experiences with specific stereotyped characteristics (negative and positive) lead to various emotional, psychological, and identity-related outcomes. This dissertation also contributes to the existing literature by examining stereotypes from the perspective of a relatively understudied minority group, and more importantly, by investigating the varied impact of both positive and negative stereotypes.

The Relation between Stereotypes and Identity Denial

In addition to the psychological outcomes mentioned above, stereotyping can be perceived as a form of discrimination. There is evidence among African American samples indicating that when individuals thought that other groups held more negative views towards African Americans, they perceived more racial hassles and more perceived discrimination (Neblett, Shelton, & Sellers, 2004; Sellers & Shelton, 2003). Given that East Asians are often associated with positive characteristics, stereotyping may not always result in blatant or direct forms of discrimination (Wang, Leu, & Shoda, 2011; Yoo, Steger, & Lee, 2010). Qualitative work by Sue, Bucceri, Lin, Nadal, and Torino

(2007) revealed that subtle and indirect types of everyday life transgressions, sometimes termed *microaggressions*, are common occurrences for Asian Americans. These daily incidents have been proposed to have social and psychological effects that can be as damaging as overt racist acts (Sue, 2003), reiterating the importance of investigating the impact of seemingly-innocuous positive stereotyping.

One of the most common forms of racial discrimination reported by Asian Americans is that they are perceived by other people as perpetual foreigners, even though they view themselves as fully "American" (Cheryan & Monin, 2005; Park-Taylor et al., 2008). For example, a second-generation American who is asked regularly about "where they are really from" or receives compliments that "they speak English so well" may feel that they are not perceived as a member of the mainstream culture, resulting in feelings of social exclusion and rejection from the mainstream culture. That is, when an individual who does not match the description of a prototypical ingroup member is perceived to be a non-member of that group (Branscombe, Schmitt, & Harvey, 1999), a sense of *identity denial* may arise. Identity denial is not about the fear that one is being judged negatively because of one's group membership, but the fear that one is not accepted as being part of the national ingroup at all or not accepted to the same degree as other ingroup members. Research suggests that White Americans do in fact perceive Asian Americans as being less "American" than White Americans (Cheryan & Monin, 2005). In contrast, Asian Americans perceived themselves to be just as "American" as White Americans, but they also recognized that other Americans do not view them this way. Similar feelings and recognition were expressed by second-generation Americans in a qualitative study conducted by Park-Taylor and her colleagues (2008). Identity denial is a psychological

outcome that occurs when one's social identity (e.g., American) does not match up with how one is perceived (e.g., as less than fully American) (Barreto & Ellemers, 2003; Wang, Minervino, & Cheryan, 2013). In this dissertation, the term identity denial is used to refer to identity of one's mainstream identity.

We argue that feelings of identity denial may arise not only from a direct rejection of national identity (e.g., Cheryan & Monin, 2005; Guendelman, Cheryan, & Monin, 2011), but also in a more indirect manner—from being stereotyped with the prototypical characteristics associated with one's racial group. Even when the stereotyped aspect is a positive one, being stereotyped by a majority group member can make minority members feel like they are being lumped into a category based solely on their minority group, at least to the same degree as negative stereotypes. Racial stereotyping can act as a strong reminder of one's membership in that ethnic group, and at the same time, perceived non-membership in the mainstream group. That is, when others hold the belief that one has all the stereotypical traits of a minority member, it invalidates the identification that one has with the mainstream culture (Sue et al., 2007). Recent research by Siy and Cheryan (2013) did indeed find that U.S.-born Asian Americans who imagined having positive traits of the model minority stereotype applied to them reported a greater sense of identity denial. Based on this preliminary result, my dissertation examined whether being stereotyped in a real-life interaction can lead to mainstream identity denial among East Asian Canadians.

The Downstream Effects of Identity Denial

This dissertation also examines the downstream psychological effects of identity denial. Psychological outcomes that have been linked to identity denial include greater negative affect (Siy & Cheryan, 2013; Wang et al., 2013), more negative interpersonal

emotions (e.g., negative evaluations of the experimenter; Cheryan & Monin, 2005), and poorer well-being (e.g., Armenta et al., 2013). This is consistent with the negative consequences associated with other experiences of discrimination for Asian Americans, with respect to self-esteem, well-being, psychological distress, depression, anxiety, physical health, motivation, adjustment, and substance use (Kim et al., 2011; Liang, Li, & Kim, 2004; Sue et al., 2007; see Wang et al., 2011, for a review). We argue that it is partly the sense of identity denial that results from being stereotyped that may lead to these negative outcomes.

Additionally, when a person's mainstream identity is denied, they may feel like they are disconnected from other prototypical Canadians and excluded or rejected by fellow ingroup members. To satisfy the fundamental human need to belong, the individual may report stronger mainstream identification in order to reaffirm their membership in the mainstream group (Branscombe, Ellemers, Spears, & Doosje, 1999). In support of this idea, when Asian American participants' American identity was directly threatened (e.g., being asked, "do you speak English?"), participants reported greater participation in American traditions and awareness of popular American culture (Cheryan & Monin, 2005), and stronger preference for prototypically American foods (Guendelman et al., 2011). Thus, one reaction to identity denial seems to be mainstream identity assertion, by explicitly reporting one's self-identification with the group or by trying to appear more prototypical of the mainstream culture through behaviours and preferences.

Likewise, stereotyping can influence identification with one's ethnic or heritage culture. Individuals may distance themselves psychologically and behaviourally from the

stereotyped ethnic identity, in an effort to be considered more American. This tendency to distance oneself from a particular social identity may be similar to the strategies individuals employ in response to stereotype threat (e.g., African Americans distancing themselves from the sport of basketball; Pronin, Steele, & Ross, 2004; Steele & Aronson, 1995). Cheryan and Monin (2005) experimentally investigated whether having one's mainstream identity denied by a White American experimenter has effects on mainstream and ethnic identity. Their results revealed that although identity denial affected level of mainstream identification, it did not influence level of ethnic identification.

Building on the above literature on identity denial, the current research examined first, whether being stereotyped causes feelings of mainstream identity denial; second, whether identity denial influences psychological outcomes such as well-being, self-esteem, emotion, and one's identification with mainstream and ethnic culture; and third, whether identity denial has a mediating role in the relation between stereotyping and these outcomes. Although some of these links have been proposed or tested in the existing literature, no research to date has looked at them in a single model.

The Moderating Role of Generational Status

We also investigated generational status[1] as a key variable that may moderate the effects of racial stereotyping on identity denial. Many of the existing journal articles on the effects of the model minority stereotype or identity denial on Asian minorities did not even mention the generational status of their participants (e.g., Cheryan & Monin, 2005;

[1] The first-generation was defined as including foreign-born persons, and in this case, whose birthplace was in an East Asian region. The second-generation was defined as including Canadian-born persons with either one or both parents being foreign-born immigrants from an East Asian region.

Guendelman et al., 2011; Gupta et al., 2011; Thompson & Kiang, 2010; Yoo, Burrola, et al., 2010). The ones that did include generational status focused primary on U.S.-born individuals (e.g., Shen et al., 2011; Siy & Cheryan, 2013), yet over three-quarters of the East Asians in Canada (Statistics Canada, 2008) and the majority of those in the U.S. (60%; U.S. Census Bureau, 2012) are of the first-generation.

First- and second-generation Asian Americans do not seem to differ in the degree to which they internalized the model minority stereotype (Yoo, Burrola, et al., 2010), but U.S.-born Asian Americans tend to be more negatively affected by discrimination compared to their first-generational counterparts (Ying, Lee, & Tsai, 2000). Similarly, Canadian national survey data indicated that perceptions of discrimination were more common among second-generation Canadians compared to first-generation Canadians (42.2% versus 33.6%; Reitz & Banerjee, 2007). These findings bring up the possibility that although perceptions or internalization of stereotypes may be comparable for first- and second-generation East Asian minorities, the *outcomes* of these stereotypes (e.g., perceived discrimination) may be influenced by generational status.

Recent immigrants may embrace the positive recognition of the model minority stereotype, as they encounter many obstacles that second-generation immigrants do not have to face (e.g., language barriers, newcomer status; Reitz & Banerjee, 2007). Second-generation immigrants, who have strong expectations for social acceptance and inclusion into the mainstream society, may find the stereotypical label increasingly restrictive (Oyserman & Sakamoto, 1997). They might experience a greater discrepancy between how they perceive themselves and how others in the mainstream culture perceive them. Related research on the moderating role of gender identification in the context of sexism

showed that high group identification may heighten the psychological and physiological burden of discrimination (Elizer, Major, & Mendes, 2010). Thus, being stereotyped may be more painful for second-generation minorities because the effect of being denied one's mainstream identity is more detrimental than it would be for first-generation immigrants.

In a recent study, Wang et al. (2013) were the first to empirically examine how generational status influences emotional reactions to identity denial. U.S-born Asian Americans had greater negative emotional responses (i.e., feeling offended and angry) to hypothetical national identity denial scenarios compared to first-generation Asian Americans. Moreover, among the first-generation participants, the more years one has lived in the U.S., the more negative the emotional response. When people have lived in the mainstream culture for a long time, they may perceive that they have "earned" the mainstream identity, and as a result, may respond negatively when this identity is denied. The same may be true when it comes to psychological responses to stereotypes. The current dissertation research extends Wang et al.'s (2013) findings to the context of stereotyping by investigating whether generational status may dictate the way in which East Asian Canadians respond to positive and negative stereotypes in terms of their well-being, emotions, cultural identity, and mainstream identity denial, and whether generational status also influences the downstream effects of identity denial. That is, the implications of positive and negative stereotypes may be more negative for second-generation than for first-generation individuals.

The Moderating Role of Stereotyper Race

We also explored whether the racial background of the stereotyper influences the effects of stereotyping for East Asian minorities. Despite the rapidly growing number of

studies on stereotypes and discrimination in the past few decades, very few have looked at the role of the person who is instigating the stereotyping or discrimination. Most studies have examined the outcomes associated with discrimination from an outgroup member (e.g., a Black participant being discriminated by a White experimenter), but not when it comes from an ingroup member. It may seem intuitive to argue that personal experiences with stereotyping or discrimination may be less frequent or less harmful if the other person was from your own ethnic group than if the other person was from the majority cultural group, given the well-known social psychological phenomena of ingroup favouritism and outgroup derogation.

Researchers who have investigated the role of experimenter race empirically have looked at it in the context of stereotype threat among African Americans (Deaux et al., 2007; Marx & Goff, 2005; Thames et al., 2013). By assessing African American undergraduates' performance on a verbal test that was administered by either a Black or a White experimenter, Marx and Goff (2005) revealed that Black participants performed equally as well as White participants when the experimenter was Black. Black participants, however, underperformed when the experimenter was White; White participants' test performance was the same across experimenter race conditions. The researchers proposed that taking the verbal test in the presence of a White experimenter may have increased stereotype threat whereas taking the test in the presence of a Black experimenter might have delegitimized the threat of being stereotyped as being unintelligent.

Deaux et al. (2007) found similar results among West Indian American participants, but only among those who were born in the U.S. Second-generation

participants performed better when the test was administered by a Black experimenter than a White experimenter, whereas first-generation participants performed better when the test was administered by a White experimenter than a Black experimenter. The authors argued that first-generation students may be more likely to believe that the (predominantly White) society at large has a favourable view of their minority group, or they may have a stronger ability to turn to a positive image of their group in the face of discriminatory treatment. Thames et al.'s (2013) study showed that African American participants who also reported high levels of perceived discrimination scored worse on memory tests when tested by a Black experimenter than a White experimenter. Together, these studies demonstrated that having an experimenter of the same or different race is a contextual factor that altered participants' performance in response to stereotype threat—specifically that the negative impact was observed only when the experimenter was of a different race. Thus, we hypothesized that the model minority stereotype may carry more negative implications when one is stereotyped by someone from the mainstream culture than when one is stereotyped by a member of one's own cultural group.

Overview of the Current Research

In three studies, we investigated the association between East Asian minority stereotypes and East Asian Canadians' psychological outcomes such as well-being and self-esteem (Study 1), the impact of minority stereotypes on identification with one's ethnic and mainstream cultures (Study 2), and the role of perceived discrimination in the form of identity denial as a mediator in this relationship (Study 3). We also examined whether these relationships and effects were moderated by generational status (Studies 1, 2, 3) and stereotyper race (Study 3).

The purpose of Study 1 was to establish the relation between aspects of the model minority stereotype and psychological health outcomes in a sample of East Asian Canadian young adults. A correlational design was used to examine the possible linkages of perception and internalization of positive and negative stereotypes with self-reported well-being and self-esteem. Furthermore, we investigated whether these associations were different for first-generation and second-generation participants.

The aim of Study 2 was to investigate the effects of positive and negative racial stereotypes on the self-understanding (i.e., cultural identities) of Chinese Canadians. We also sought to replicate the results of Study 1 using a between-subjects experimental design so that the *causal* relationships between perceived racial stereotypes and psychological outcomes could be tested. Participants were assigned to one of three conditions, where they completed a writing task about a personal experience involving (1) positive or (2) negative aspects of the model minority stereotype, or (3) a non-stereotypical characteristic prior to filling out measures of mainstream and ethnic identification, well-being, and state self-esteem.

Study 3 examined whether a social interaction in which one is stereotyped with a positive stereotype characteristic contributes to feelings that one's mainstream identity is denied or unrecognized, and whether these feelings of identity denial accounts for the effects of stereotypes on self-understanding and well-being. A between-subjects experimental design was used to create a situation in which first- and second-generation East Asian participants were personally stereotyped by a White or Asian experimenter (research confederates) and to see how they respond to this situation in terms of their

emotions, well-being, and cultural identities. Identity denial was tested as a mediator of any significant effects.

The overarching goal of these studies was to add to existing knowledge of the implications of racial stereotypes for race-related experiences (e.g., perceived discrimination and identity denial), self-understanding (e.g., mainstream identity) and psychological health (e.g., well-being) among members of a specific visible minority population in Canada. We also hoped to further our understanding of when and why these effects may occur through the investigation of generational status and stereotyper race as potential moderators and identity denial as a potential mediator of these effects.

Study 1

Study 1 was an exploratory correlational study examining the possible relationships between different racial stereotypes and well-being among East Asian Canadian undergraduate students. Two primary research questions were addressed: (1) whether East Asians' perceptions and internalization of negative stereotypes (e.g., low sociability) and positive stereotypes (e.g., high competence) about East Asians are related to well-being and self-esteem; and (2) whether the relationships between stereotypes and the outcomes (i.e., well-being, self-esteem) are moderated by generational status. It was hypothesized that negative stereotypes would be negatively related to well-being and self-esteem for both first- and second-generation participants (possibly to a greater extent for the second-generation). Positive stereotypes were also expected to be related to well-being and self-esteem, but in opposite directions across generational status groups—the relation between positive stereotypes and outcomes should be positive for first-generation participants and negative for second-generation participants.

Method

Participants. Participants (n = 208; 128 women) with a mean age of 19.39 (SD = 1.94; range 17–27) were recruited through the undergraduate research participant pool at York University. All participants self-identified as being of East Asian descent. The sample was diverse in terms of ethnic background, with a relatively high representation of four particular groups: 50.0% of the participants were Chinese (n = 104), 16.3% were Vietnamese (n = 34), 11.1 % were Filipino (n = 23), and 10.6% were Korean (n = 22). The remaining 12.0% of the sample (n = 25) were from other East Asian ethnic groups, including Japanese, Singaporean, and Malaysian, or a combination of East Asian

ethnicities (e.g., Chinese/Vietnamese). Of the participants, 70 were of the first-generation and 138 were of the second-generation. Among the first-generation, the mean age of arrival in Canada was 10.71 (*SD* = 5.21), and ranged from 1 to 20 years of age. In terms of status in Canada, 181 of the participants were Canadian citizens, 17 were permanent residents, and 10 were international students.

Procedure and measures. Participants first provided basic demographic information (e.g., gender, age, generational status). Next, they completed a questionnaire that included the following measures, in the order that they are described (see Appendix B).[2] Upon completion of the survey, all participants were given an online debriefing.

Perceptions of East Asian stereotypes. A modified version of Lin et al.'s (2005) 25-item scale of anti-Asian American stereotypes (SAAAS) assessed general perceptions of existing stereotypes of East Asian Canadians along two dimensions: high competence and low sociability. Agreement to items on both the competence subscale (SAAAS–Comp; 12 items; e.g., "East Asian Canadians seem to be striving to become number one") and the unsociability subscale (SAAAS–Unsoc; 13 items; e.g., "East Asian Canadians commit less time to socializing than others do") were measured on a 6-point Likert-type scale ranging from 0 (*strongly disagree*) to 5 (*strongly agree*). Higher mean scores for each subscale indicated higher competence and higher unsociability respectively.

[2] The questionnaire also contained measures that were not relevant to the purpose of this study and that will not be discussed or included in the analysis. One of these measures was the indiscriminant response scale (IRS; Marjanovic, 2009; see Appendix A), which is a tool for identifying random responders. Three IRS items were imbedded in the questionnaire; respondents who answered more than one item incorrectly (*n* = 31) were omitted from the final sample.

Internalization of East Asian minority stereotypes. Shen et al.'s (2011) 23-item internalization of Asian American stereotypes scale (IAASS) was modified and used to assess internalization of four common stereotypes of East Asian Canadians. On a 6-point Likert-type scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*), participants rated the degree to which they personally identified with two relatively positive stereotypes, expectations of academic success (IAASS–AC; 5 items; e.g., "As an East Asian Canadian, I am expected by others to be academically successful") and pursuit of prestigious careers (IAASS–PC; 5 items; e.g., "Prestige is one of the most important determining factors when choosing a career"), and two relatively negative stereotypes, emotional reservation (IAASS–ER; 5 items; e.g., "I am not comfortable showing my emotions in public") and difficulties with English language communication (IAASS–EngL; 8 items; e.g., "As an East Asian Canadian, I would choose a major that requires minimal reading, writing, and verbal communication in English"). Higher mean scores for each subscale indicated more internalization of that stereotypical characteristic.

Cultural identities. Cameron's (2004) 12-item measure of social identity was used to assess participants' degree of identification with their East Asian ethnic culture and the mainstream Canadian culture. All participants indicated their agreement with each statement with reference to Canadian identity (e.g., "Generally, I feel good when I think about myself as Canadian"). Participants who indicated that they identified with a particular ethnic group at that point in the questionnaire (n = 124) also indicated their agreement with the same 12 statements, with reference to their ethnic identity (e.g., "I often think about the fact that I am *******", where the asterisks were replaced with the ethnocultural group with which they identified). Responses were given on a 7-point

Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), where higher average scores for the mainstream and ethnic identity subscales indicated stronger identification with mainstream Canadian and ethnic cultures respectively.

Psychological well-being. The items from Ryff and Keyes's (1995) 18-item scale were used to measure psychological well-being. The original scale was developed to assess psychological well-being along six dimensions (autonomy, self-acceptance, positive relations, environmental mastery, personal growth, and purpose in life). Recent studies have called into question whether the six dimensions are distinct enough for research purposes (Springer & Hauser, 2006; Springer, Hauser, & Freese, 2006). Thus, for the present study, all items were averaged into a single index of well-being. Each item was rated on a 6-point scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*), with a higher mean indicating higher psychological well-being.

Self-esteem. Rosenberg's (1965) 10-item self-esteem scale was used to measure trait self-esteem. Responses were assessed on a 4-point scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*), with a higher mean score indicating higher self-esteem.

Results

Preliminary analysis. [3] As reported in Table 1.1, the reliability coefficients for all measures were acceptable in this sample, $\alpha s \geq .73$. Independent *t*-tests found only one generational status difference, $t(206) = -3.98$, $p < .001$, $d = -.55$, such that first-generation

[3] Results of independent *t*-tests showed that male participants ($M = 3.29$, $SD = .87$) were marginally higher than female participants ($M = 3.04$, $SD = 1.04$) on the English language difficulties stereotype, $t(187) = 1.83$, $p = .070$, $d = .26$. No other significant or marginally significant gender differences emerged for any of the primary measures, $|t|s < 1.58$, $ps > .12$, $ds < .22$.

Table 1.1
Descriptive Statistics of the Primary Measures Overall and by Generational Status

(Study 1)

		All participants	First-generation	Second-generation
Measure	α	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)
n		208	70	138
Competence	.84	3.11 (.71)	3.13 (.73)	3.09 (.71)
Unsociability	.84	2.28 (.65)	2.35 (.59)	2.24 (.69)
Academic success	.73	4.04 (.99)	3.93 (.96)	4.10 (1.00)
Prestigious career	.80	3.53 (.99)	3.49 (1.00)	3.56 (.99)
Emotional reservation	.77	3.38 (1.06)	3.34 (1.06)	3.40 (1.07)
English difficulties	.77	3.14 (.98)	3.29 (1.07)	3.06 (.93)
Canadian identity	.85	4.89 (.77)	4.60 (.88)	5.03 (.67)
Ethnic identity	.80	4.87 (.86)	4.98 (.93)[a]	4.80 (.81)[b]
Well-being	.84	4.67 (.67)	4.63 (.62)	4.69 (.69)
Self-esteem	.83	2.78 (.42)	2.72 (.45)	2.81 (.40)

Note. The competence and unsociability subscales are from the scale of anti-Asian American stereotypes (Lin et al., 2005); the expected academic success, pursuit of prestige careers, emotional reservation, and English language difficulties subscales are from internalization of Asian American stereotypes scale (Shen et al., 2011).
[a]*n* = 47. [b]*n* = 77.

participants were higher on Canadian mainstream identity than second-generation participants. First- and second-generation participants did not statistically differ on degree of ethnic identity, any of the stereotype subscales, or the outcome measures (well-being, self-esteem), *t*s < 1.62, *p*s > .11, *d*s < .23.

Correlations between stereotypes and outcome measures. Our first research question was to see whether negative and positive aspects of East Asian minority stereotypes would be related to well-being and self-esteem outcomes. Results of correlational analyses (see Table 1.2) indicated that negative aspects of stereotypes were statistically significantly associated with lower well-being outcomes; higher scores on the three negative aspects of stereotype (unsociability, emotional reservation, English language difficulties) were each related to poorer well-being and lower self-esteem. None of the subscales assessing positive stereotype aspects (high competence, expected academic success, and pursuit of prestigious careers), however, were associated with well-being and self-esteem.

The moderating role of generational status. To test the second hypothesis that the relation between stereotypes and psychological outcomes would be different across first- and second-generation East Asian Canadians, hierarchical regression was employed. The stereotype dimension (mean-centered) and generational status (dummy-coded: 0 = first-generation, 1 = second-generation) were entered as predictors in Step 1, and the interaction between stereotype and generational status was entered in Step 2. The outcome variable was either well-being or self-esteem. The PROCESS SPSS macro (Hayes, 2013; Model 1) was used to conduct simple slope analyses, as a follow-up for any significant (and marginally significant) two-way interactions.

Table 1.2

Zero-Order Correlations between the Primary Measures (Study 1)

	1	2	3	4	5	6	7	8	9	10
1.Competence	–	.50***	.36***	.15*	.05	.08	.09	.03	-.04	-.004
2.Unsociability		–	.21**	.08	.28***	.10	-.004	-.18†	-.25***	-.17*
3.Academic success			–	.10	.21**	.12†	.10	.08	.01	.03
4.Prestigious career				–	.05	.27***	-.06	-.09	-.04	.01
5.Emotional reservation					–	.38***	-.27***	-.05	-.44***	-.38***
6.English difficulties						–	-.25***	-.02	-.29***	-.19**
7.Cdn ID							–	-.01	.33***	.23**
8.Eth ID								–	.35***	.27**
9.Well-being									–	.68***

Note. The competence and unsociability subscales are from the scale of anti-Asian American stereotypes (Lin et al., 2005); the expected academic success, pursuit of prestige careers, emotional reservation, and English language difficulties subscales are from internalization of Asian American stereotypes scale (Shen et al., 2011); Cdn ID = Canadian identity; Eth ID = ethnic identity.
$^{\dagger}p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

Consistent with the different patterns of bivariate correlations observed between the two generations (see Table 1.3), the regression results indicated that generational status moderated the relation between some of the negative stereotypes and both well-being (see Table 1.4) and self-esteem (see Table 1.5). The interaction between the English language difficulties stereotype and generational status was statistically significant when predicting well-being, b = -.33, t = -3.69, p < .001, and self-esteem, b = -.13, t = -2.24, p < .001. Analysis of the simple slopes revealed that among second-generation participants, stronger internalization of the English language difficulties stereotype was linked to poorer well-being, b = -.33, t = -5.80, p < .001 (see Figure 1.1), and lower-self-esteem, b = -.13, t = -3.42, p < .001 (see Figure 1.2). These same relations, however, were non-significant among the first-generation, bs < .005, ts < .10, ps > .92.

Generational status was also a marginally significant moderator in two other relations between negative stereotype aspects and well-being. As shown in Figure 1.3, stronger perception of the unsociability stereotype predicted poorer well-being for second-generation participants (b = -.31, t = -3.95, p < .001), but not for first-generation participants, b = -.07, t = -.50, p = .62 (interaction, b = -.25, t = -1.61, p = .108). Finally, more internalization of the emotional reservation stereotype was related to poorer well-being for all participants, but this negative association was stronger for the second-generation (b = -.32, t = -6.76, p < .001), than for the first-generation, b = -.17, t = -2.55, p = .012 (see Figure 1.4; interaction, b = -.15, t = -1.81, p = .072). Overall, the negative association between psychological outcomes and negative East Asian minority stereotypes seemed to be more pronounced for second-generation relative to first-generation participants.

Table 1.3

Zero-Order Correlations between the Primary Measures by Generational Status (Study 1)

	1	2	3	4	5	6	7	8	9	10
1.Competence	–	.39**	.31**	.21†	-.05	.03	.19	.07	.23†	.12
2.Unsociability	.55***	–	.34**	.05	.39**	-.06	.10	-.06	-.06	-.12
3.Academic success	.39***	.17*	–	.11	.14	-.06	.14	.14	.04	.09
4.Prestigious career	.12	.10	.11	–	-.04	.32**	-.18	-.26†	-.12	.21†
5.Emotional reservation	.10	.23**	.24**	.09	–	.27*	-.34**	.20	-.30*	-.27*
6.English difficulties	.10	.16†	.25**	.25**	.45***	–	-.31**	.06	.002	.01
7.Cdn ID	.04	-.03	.05	-.007	-.26**	-.17*	–	-.15	.33**	.13
8.Eth ID	-.01	-.25*	.06	.04	-.22†	-.12	.20†	–	.23	.25†
9.Well-being	-.16†	-.32***	-.003	-.004	-.50***	-.45***	.33***	.46***	–	.58***
10.Self-esteem	-.07	-.18*	-.02	-.10	-.45***	-.30***	.27**	.34**	.74***	–

Note. Intercorrelations for first-generation participants (n = 70) are presented above the diagonal, and intercorrelations for second-generation participants (n = 138) are presented below the diagonal. The competence and unsociability subscales are from the scale of anti-Asian American stereotypes (Lin et al., 2005); the expected academic success, pursuit of prestige careers, emotional reservation, and English language difficulties subscales are from internalization of Asian American stereotypes scale (Shen et al., 2011); Cdn ID = Canadian identity; Eth ID = ethnic identity. $^{\dagger}p < .10$. *p <.05. **p < .01. ***p < .001.

Table 1.4

Hierarchical Multiple Regression Analyses Predicting Well-Being from Stereotypes and Generational Status (Study 1)

	SAAAS–Comp		SAAAS–UnSoc		IAASS–AC		IAASS–PC		IAASS–ER		IAASS–EngL	
Predictor	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*
Step 1 / R^2	.003		.062		.002		.004		.19**		.086**	
Stereotype	-.03	.07	-.25**	.07	.007	.05	-.03	.05	-.28**	.04	-.20**	.05
Generational status	.06	.10	.04	.10	.06	.10	.07	.10	.08	.09	.02	.10
Step 2 / ΔR^2	.030		.012†		.000		.002		.013†		.057**	
Stereotype	.19†	.11	-.07	.13	.03	.08	-.07	.08	-.17*	.07	.001	.07
Genstat	.07	.10	.05	.10	.06	.10	.07	.10	.08	.09	.04	.09
Stereotype*Genstat	-.34*	.14	-.25†	.16	-.03	.10	.07	.10	-.15†	.08	-.33**	.09
Total R^2	.034†		.074**		.003		.006		.21**		.14**	

Note. Genstat = Generational status; the competence (Comp) and unsociability (Unsoc) subscales are from the scale of anti-Asian American stereotypes (SAAAS; Lin et al., 2005); the expected academic success (AC), pursuit of prestige careers (PC), emotional reservation (ER), and English language difficulties (EngL) subscales are from internalization of Asian American stereotypes scale (IAASS; Shen et al., 2011). Non-standardized coefficients are presented. $^{\dagger}p < .11$. $*p < .05$. $**p < .001$.

Table 1.5

Hierarchical Multiple Regression Analyses Predicting Self-Esteem from Stereotypes and Generational Status (Study 1)

	SAAAS–Comp		SAAAS–UnSoc		IAASS–AC		IAASS–PC		IAASS–ER		IAASS–EngL	
Predictor	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*
Step 1 / R^2	.010		.035*		.010		.010		.15**		.041*	
Stereotype	-.01	.04	-.10*	.04	.007	.03	.04	.03	-.15**	.03	-.08*	.03
Generational status	.09	.06	.08	.06	.09	.06	.09	.06	.10	.06	.07	.06
Step 2 / ΔR^2	.009		.000		.003		.023*		.004		.023*	
Stereotype	.07	.07	-.09	.09	.04	.05	.09	.05	-.11*	.04	.004	.10
Genstat	.09	.06	.08	.06	.08	.06	.09	.06	.10†	.06	.08	.06
Stereotype*Genstat	-.11	.09	-.01	.10	-.05	.06	-.13*	.06	-.05	.05	-.13*	.06
Total R^2	.019		.035†		.013		.033†		.16**		.064**	

Note. Genstat = Generational status; the competence (Comp) and unsociability (Unsoc) subscales are from the scale of anti-Asian American stereotypes (SAAAS; Lin et al., 2005); the expected academic success (AC), pursuit of prestige careers (PC), emotional reservation (ER), and English language difficulties (EngL) subscales are from internalization of Asian American stereotypes scale (IAASS; Shen et al., 2011). Non-standardized coefficients are presented. $^{\dagger}p < .11$. *$p < .05$. **$p < .001$.

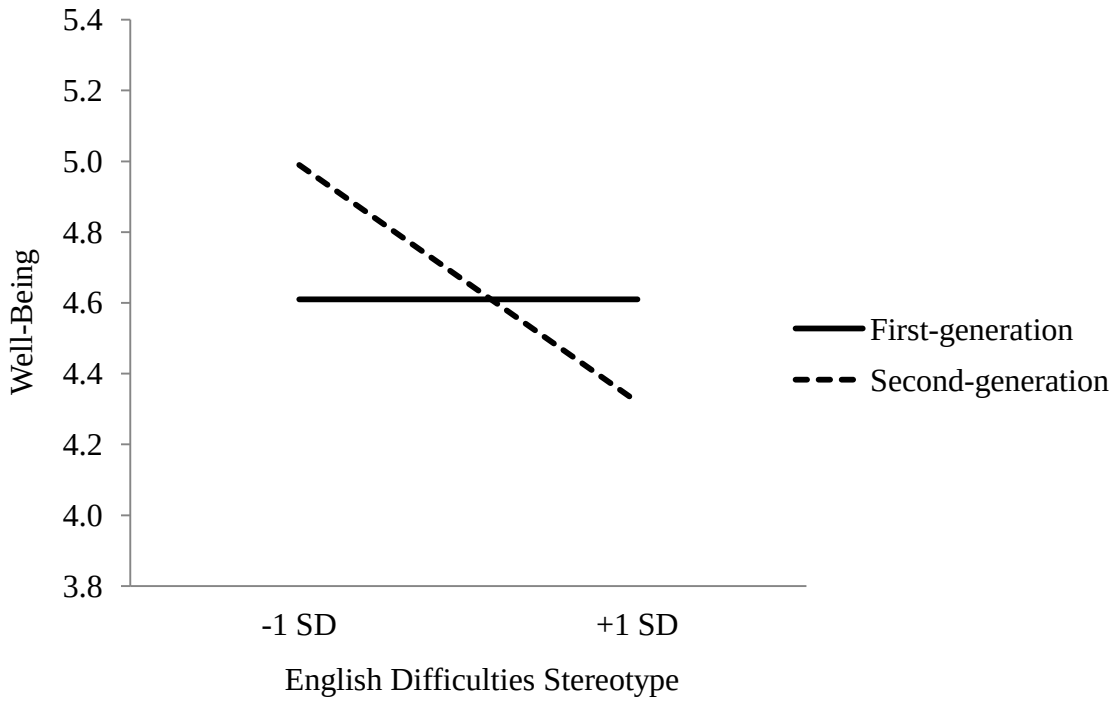

Figure 1.1. The relation between internalization of the English language difficulties stereotype and well-being by generational status (Study 1).

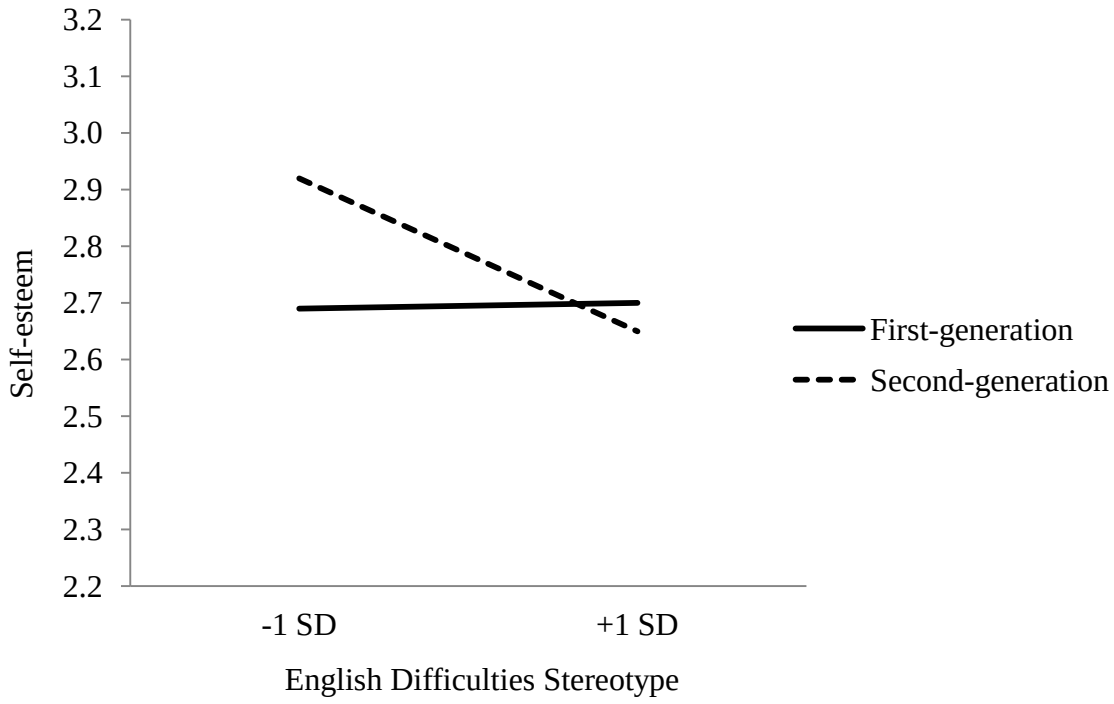

Figure 1.2. The relation between internalization of the English language difficulties stereotype and self-esteem by generational status (Study 1).

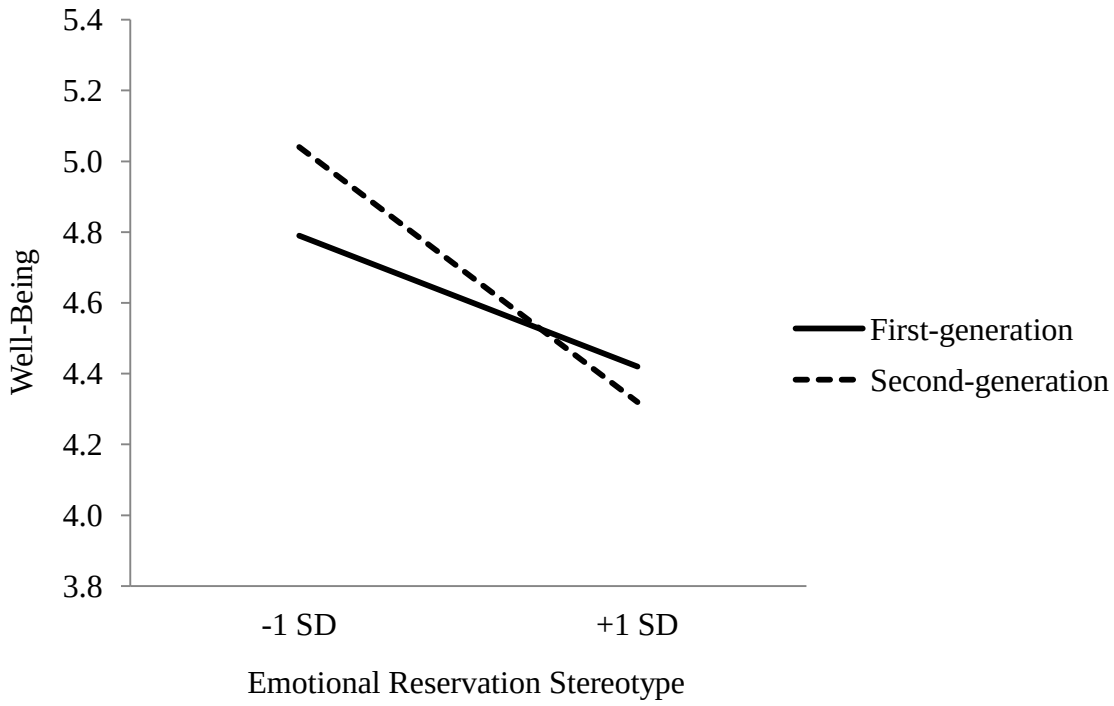

Figure 1.3. The relation between internalization of the emotional reservation stereotype and well-being by generational status (Study 1).

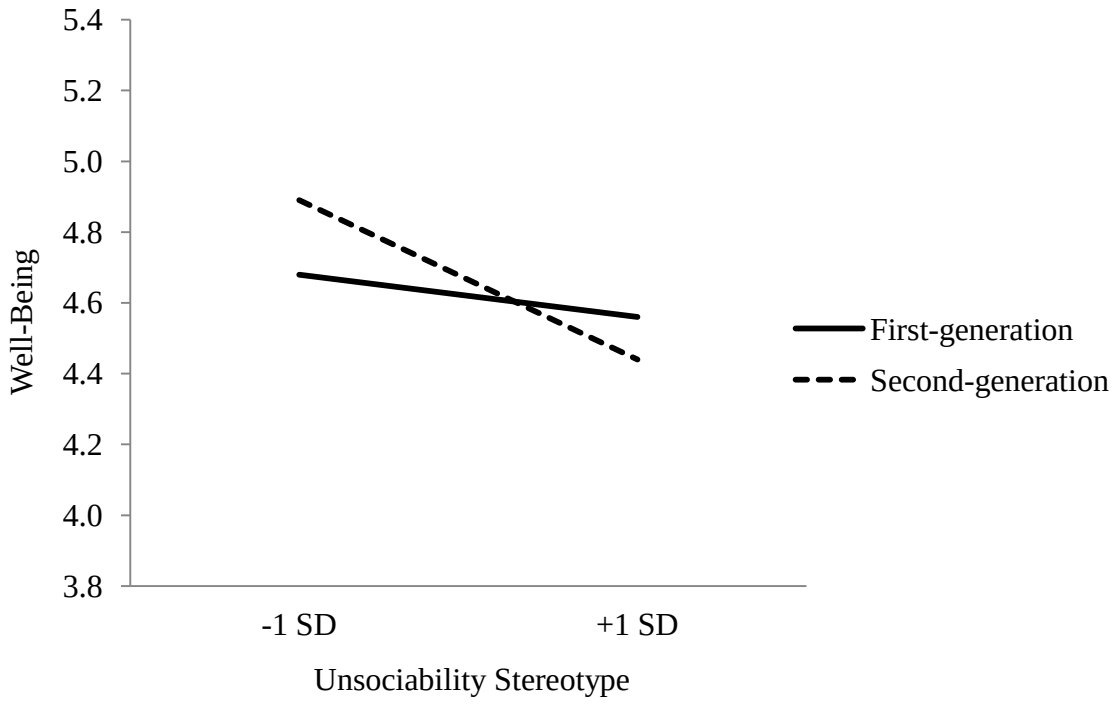

Figure 1.4. The relation between perception of the unsociability stereotype and well-being by generational status (Study 1).

In terms of outcomes associated with positive stereotypes, we found a statistically significant competence stereotype by generational status interaction when predicting well-being, b = -.34, t = -2.54, p = .012. As depicted in Figure 1.5, stronger perception of the competence stereotype was marginally related to a higher level of well-being for first-generation participants (b = .19, t = 1.74, p = .083), but to *poorer* well-being for second-generation participants, b = -.15, t = -1.96, p = .051. A marginally significant positive association was also observed between internalizing the pursuit of prestige stereotype and self-esteem among first-generation participants (b = .09, t = 1.87, p = .06), but this relation was not statistically significant among second-generation participants, b = -.04, t = -1.17, p = .24 (see Figure 1.6; interaction, b = -.13, t = -2.20, p = .029). These findings suggest that positive stereotypes may be linked to psychological outcomes, but the nature of this relation varies depending on one's generational status. Furthermore, this relation seems less consistent and weaker than that involving negative stereotype aspects.[4, 5]

[4] The pattern of results remained the same when international students (n = 10) were not included in the sample, with two exceptions. First, the Unsociability X Generational Status interaction predicting well-being became non-significant, b = -.21, t = -1.32, p = .19. Second, the Competence X Generational Status interaction predicting well-being was statistically significant (b = -.33, t = -2.25, p = .026), but the simple slope for first-generation participants was no longer marginally significant, b = .17, t = 1.43, p = .15.

[5] Although researchers often lump East Asians and Southeast Asians together in a broader "Asian" category, individuals of Southeast Asian descent may not view themselves as "East Asians" and may not feel that East Asian stereotypes apply to them. Thus, these analyses were repeated while excluding Southeast Asian Canadians (n = 10; Laotian, Kazakh, Cambodian, and Tibetan) from the sample. The pattern of results remained the same, except that two of the marginally significant interactions predicting well-being were no longer significant: the Unsociability X Generational status interaction (b = -.25, t = -1.15, p = .11) and the Emotional Reservation X Generational Status interaction, b = -.13, t = -1.52, p = .13.

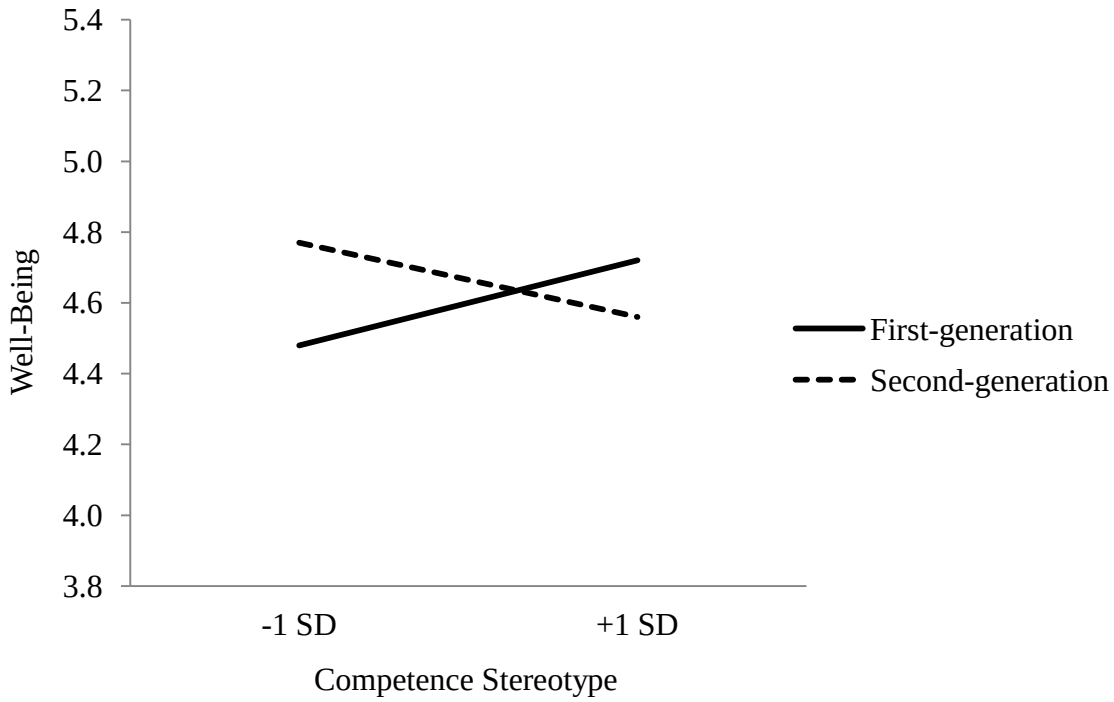

Figure 1.5. The relation between perception of the competence stereotype and well-being by generational status (Study 1).

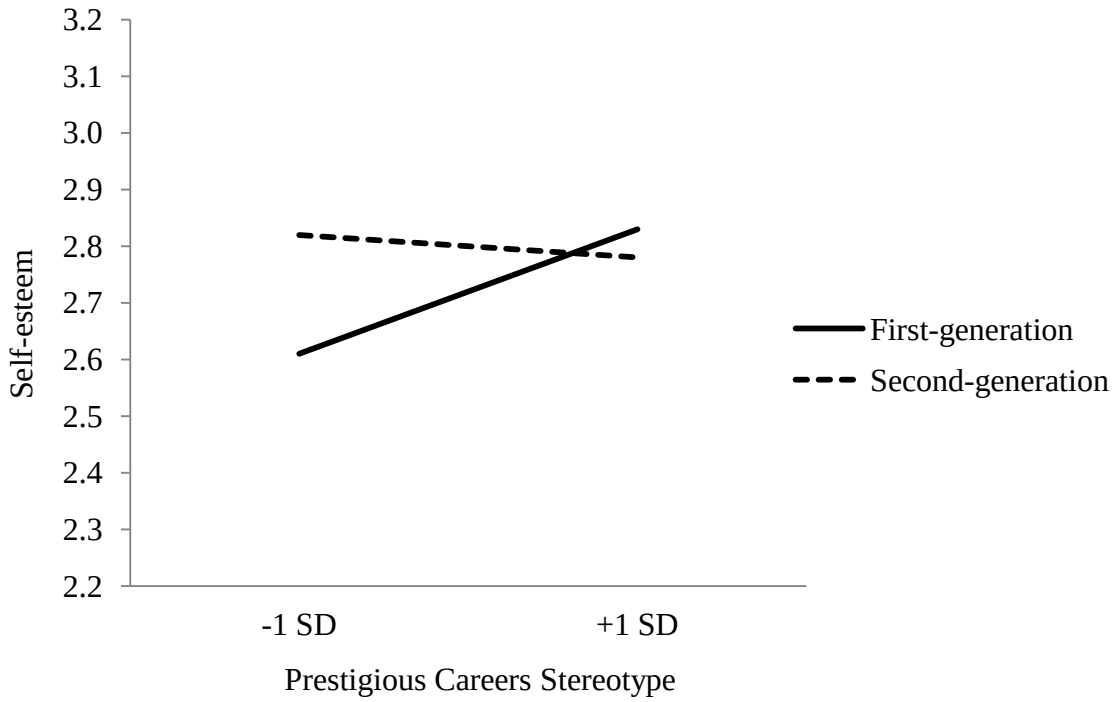

Figure 1.6. The relation between internalization of the pursuit of prestigious careers stereotype and self-esteem by generational status (Study 1).

Exploratory analyses: The moderating role of cultural identities. In addition to investigating generational status as a potential moderator, we also examined whether mainstream and ethnic identity would be moderating factors in the relation between stereotypes and psychological outcomes. Hierarchical regressions were conducted, where each stereotype dimension (mean-centered) and mainstream (or ethnic) identity (mean-centered) were entered as predictors in Step 1, and the interaction between stereotype and mainstream (or ethnic) identity was entered in Step 2. The outcome variable was either well-being or self-esteem.

Degree of mainstream identity was found to moderate the relation between the emotional reservation stereotype and well-being (b = -.14, t = -2.64, p = .009), but it did not moderate the relation between any other stereotype aspect and well-being. Simple slope analyses were used to compare this relation at one *SD* below the mean (low mainstream identity) and one *SD* above the mean (high mainstream identity). The negative association between internalizing this stereotype and well-being was statistically significant for participants with high mainstream identity (b = -.33, t = -6.25, p < .001), but only marginally for those with low mainstream identity, b = -.11, t = -1.71, p = .09.

Degree of ethnic identity consistently moderated the relations between the three negative stereotype aspects and well-being (though only marginally for the unsociability stereotype), bs > .10, ts > 1.81, ps < .073. For participants who indicated low ethnic identity, scores on the unsociability, emotional reservation, and English language difficulties stereotype measures were associated with lower well-being, |b|s > .29, |t|s > 2.42, ps < .018. These associations, however, were non-significant or only marginally significant for participants who indicated higher ethnic identity, |b|s < .12, |t|s < 1.81, ps

> .075. Ethnic identity also moderated the relation between the expected academic success stereotype (a positive aspect) and well-being (b = .15, t = 2.15, p = .034). Stronger stereotype internalization was marginally related to poorer well-being among individuals who had low ethnic identity (b = -.15, t = -1.64, p = .10), but not among those who had high ethnic identity, b = .11, t = 1.44, p = .15. Although the slopes were only suggestive of a trend, internalizing this positive stereotype seemed to be associated with poorer well-being for low ethnic identifiers, but not for high ethnic identifiers. Ethnic identity was not a moderator of the relation between the other positive stereotypes (competence, pursuit of prestige) and well-being. None of the associations between negative or positive stereotypes and self-esteem were moderated by degree of ethnic identity.

Ethnic group differences. As mentioned earlier, four particular ethnic groups (Chinese, Vietnamese, Filipino, and Korean) were most highly represented in the sample. Comparisons between these four ethnic groups indicated some slight group differences with respect to key variables and patterns of bivariate correlations. Note that the subsample sizes varied, and insufficient power for some groups may have concealed otherwise statistically significant relationships, so these results should be interpreted with caution. Nonetheless, results of a one-way ANOVA revealed that Filipino Canadians had marginally lower internalization of the English difficulties stereotype compared to both Chinese Canadians (p = .08) and Korean Canadians (p = .052), $F(3, 179) = 2.56$, p = .056, η^2 = .04.

We also examined the bivariate correlations between stereotypes and well-being outcomes for each group separately and found many commonalities and inconsistencies

across the four ethnic groups (see Table 1.6). One commonality was that aspects of negative stereotypes (unsociability, emotional reservation, English language difficulties) were negatively correlated with well-being or self-esteem, but statistically significant associations were found more often for the Chinese and Vietnamese groups (the two larger subgroups and with more statistical power) than for the Korean and Filipino groups. Another interesting finding was that internalizing the positive stereotype of academic success was related to higher self-esteem for Vietnamese participants, but it was associated with *lower* well-being for Korean participants (and not related to well-being or self-esteem for Chinese and Filipino participants). Internalizing the positive stereotype of pursuit of prestigious careers was also somewhat correlated with higher self-esteem for the Filipino participants, but was not correlated with psychological outcomes for the other three ethnic subsamples.

Chinese subsample analyses. Given that the relationships between stereotype dimensions and well-being and self-esteem varied across East Asian minority subgroups, we decided to test our generational status moderation hypothesis using only the Chinese subsample (n = 104); the sample sizes of the other East Asian subgroups were too small for reliable within-group analyses.

The hierarchical regression analyses described previously with generational status as the moderator were repeated with the Chinese subsample. Considering the much smaller sample size and less power, it was not surprising that some of the results were

Table 1.6

Zero-Order Correlations between Stereotype Dimensions and Well-Being and Self-Esteem Separated by Ethnic Subgroup (Study 1)

	Chinese (*n* = 104)		Vietnamese (*n* = 34)		Filipino (*n* = 23)		Korean (*n* = 22)	
	WB	SE	WB	SE	WB	SE	WB	SE
SAAAS–Comp	-.05	-.04	-.19	.04	.21	-.10	-.07	.21
SAAAS–Unsoc	-.25*	-.14	-.47***	-.27	.11	-.09	.13	-.10
IAASS–AC	-.02	.00	.28	.38*	.25	.12	-.50*	-.29
IAASS–PC	-.07	.05	.14	.11	.09	.40†	-.28	-.11
IAASS–ER	-.49***	-.44***	-.45**	-.43*	-.52*	.06	.12	-.33
IAASS–EngL	-.38***	-.27**	-.21	-.15	-.15	.21	.12	-.41†

Note. The competence (Comp) and unsociability (Unsoc) subscales are from the scale of anti-Asian American stereotypes (SAAAS; Lin et al., 2005); the expected academic success (AC), pursuit of prestige careers (PC), emotional reservation (ER), and English language difficulties (EngL) subscales are from internalization of Asian American stereotypes scale (IAASS; Shen et al., 2011); WB = well-being; SE = self-esteem.
$^{\dagger}p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

different from what was found using the original sample (N = 208). Two of the marginally significant interactions (Unsociability X Generational Status, Emotional Reservation X Generational Status) predicting well-being and two of the statistically significant interactions (Pursuit of Prestigious Careers X Generational Status, English Language Difficulties X Generational Status) predicting self-esteem in the original sample were non-significant with the Chinese subsample, $|b|$s < .11, $|t|$s < -1.55, ps > .12.

Interestingly, two of the non-significant interactions between generational status and positive stereotypes (competence, expected academic success) predicting self-esteem in the original sample were statistically significant among Chinese participants. First, although stronger perception of the competence stereotype was not linked to self-esteem among first-generation Chinese participants (b = .14, t = 1.50, p = .14), it was marginally associated with lower self-esteem among second-generation participants, b = -.12, t = -1.71, p = .090 (interaction, b = -.26, t = -2.24, p = .027). Second, stronger internalization of the expected academic success stereotype was linked to somewhat higher self-esteem for first-generation participants (b = .13, t = 1.87, p = .065), but to somewhat lower self-esteem for second-generation participants, b = -.11, t = -1.85, p = .067 (interaction, b = -.24, t = -2.62, p = .010). Although the statistical significance of results (according to conventional levels of significance) with the Chinese subsample differed slightly than the results for the whole sample, the overall pattern was consistent. Generational status seemed to moderate the relation between stereotypes and psychological outcomes (well-being, self-esteem), such that positive stereotypes were associated with better outcomes for the first-generation and poorer outcomes for the second-generation.

Discussion

In Study 1, perceiving or internalizing negative East Asian stereotypes was consistently associated with negative outcomes among our East Asian participants. The relations between negative stereotypes and negative outcomes were especially pronounced among second-generation participants, although not consistently. Perhaps more interesting, however, may be the story surrounding positive stereotypes. Perceiving the seemingly positive stereotype that East Asian minorities are highly competent had a somewhat positive impact on well-being for first-generation East Asian Canadians. For second-generation participants, however, this same stereotype had the opposite effect: the more they perceived that other people held these beliefs, the lower their well-being. Internalizing the stereotype that East Asians value pursuit of prestigious careers was also somewhat related to higher self-esteem among first-generation participants, but this relation was not found among second-generation participants.

Individuals who engage in both collectivistic and individualistic cultures may recognize that a positive stereotype is reducing them to their group membership, as their social category is being imposed on them by someone else (Siy & Cheryan, 2012). This categorization may be particularly threatening for those who see themselves as differentiated from their social groups (i.e., have an independent self-construal). Given that independent self-construal tends to be more common in Western individualistic cultures than in Eastern collectivistic cultures (Markus & Kitayama, 1991), East Asians who were born into and raised in a Western context such as Canada may be more likely than those who were raised in an Eastern context to perceive the model minority stereotype as a threat.

Offering additional support for this idea, results from our exploratory analyses revealed that the relation between stereotypes and psychological outcomes may be influenced by one's level of mainstream or ethnic identity. We found that participants who were high in mainstream identity or low in ethnic identity, compared to those who were low in mainstream identity or high in ethnic identity, indicated poorer well-being alongside perception or internalization of negative stereotype aspects. This finding was in line with generational differences in degree of identification with the mainstream culture. It is also consistent with previous research showing that the more one identifies with a group, the more negatively one responds to ingroup discrimination psychologically and physiologically (Eliezer et al., 2010).

The link between stereotypes and psychological outcomes also varied across four East Asian ethnic subgroups (Chinese, Vietnamese, Filipino, Korean), but one should note the small sample sizes of these groups when interpreting the observed differences in patterns of statistical significance. We did find that among the Chinese subsample (but not when using the original sample), higher scores on positive stereotypes about competence and academic success was associated with somewhat lower self-esteem for second-generation participants but not for first-generation participants. In fact, the academic success stereotype was associated with *higher* self-esteem for first-generation participants. Academic excellence and success tend to be highly valued in traditional Chinese culture and are expected of all children and adolescence. First-generation Chinese Canadians who have internalized these norms from a very young age may view academic success not only as a higher standard that presents a challenge, but also as a meaningful and achievable goal. Second-generation individuals, who have not strongly

internalized these norms, may suffer from the immense pressure and inflated standards communicated by the model minority stereotype. These preliminary findings suggest that the extent to which individuals perceive or internalize stereotypes and the psychological impact of these stereotypes cannot be easily generalized across different East Asian ethnic minority groups.

Together these findings suggest that negative stereotypes can have negative outcomes for both first- and second-generation East Asian Canadians (albeit more so for the second-generation). Positive stereotypes, on the other hand, allude to a more complex story in which their effects may be beneficial for some individuals but detrimental for others. Given that the most common stereotypes about East Asian minorities are positive in nature (Fiske et al., 2002; Kawai, 2005; Oyserman & Sakamoto, 1997) and that most of the stereotyping literature has focused on the effects of negative stereotypes, it is important to develop a better understanding of the intriguing psychological implications that positive stereotypes can have on members of this group.

Study 2

The primary aim of Study 2 was to investigate how personal experiences with the positive and negative aspects of the model minority stereotype influence individuals, using an experimental design. The correlational design in Study 1 does not allow for causal inferences in the relation between stereotypes and psychological outcomes. In order to isolate the influence of the different aspects of the stereotype, we experimentally manipulated whether positive or negative traits were presented to participants. Being stereotyped with a narrow set of prototypical characteristics associated with one's ethnic group can affect how a person identifies with the ethnic and mainstream cultures. Thus, in addition to psychological outcomes (i.e., well-being, state self-esteem), we also examined potential effects on cultural identification.

As suggested by our results from Study 1, the effects of racial stereotypes may be moderated by generational status, and this may also be the case when examining the effects of stereotypes on cultural identity. First-generation immigrants tend to have higher ethnic identification than second-generation immigrants (Phinney, 1990). Although this was not found in the first study of this dissertation, second-generation Canadians, who were born into and socialized by the mainstream culture, tend to identify with the mainstream culture more so than first-generation Canadians (supported in Study 1). Second-generation individuals, then, may have greater personal stake in feeling like they are a part of their mainstream culture. They may be more likely to react to stereotyping by trying to "break out" of the stereotype and engage in behaviours that assert their mainstream identity. Related to this idea, Guendelman et al. (2011) found that Asian Americans reported stronger preferences for North American foods when their American

identity was questioned, in an attempt to appear more prototypically American. Thus, it was hypothesized that individuals (especially those of the second-generation) would respond to stereotyping by self-reporting higher scores on Canadian identity measures. We did not have clear predictions as to whether participants would distance themselves from or align themselves more closely to their ethnic culture as previous findings have been inconsistent (e.g., Cheryan & Monin, 2005; Pronin et al., 2004).

Another finding from Study 1 was that the stereotypes and psychological outcomes were not related in the same way for different ethnic subgroups. Thus, our sample in Study 2 consisted only of Chinese Canadians, a population that seems to be the most prevalent visible minority and also the most impacted by stereotype perceptions and internalization (based on preliminary evidence in Study 1). Chinese Canadians comprise the largest ethnolinguistic group in Canada (Statistics Canada, 2010) after British- and French-origin Canadians, and are the second largest visible minority group in Canada [6] (Statistics Canada, 2013).

Method

Participants. All participants (N = 95; 69 women) self-identified as being of Chinese descent. The mean age was 20.65 (SD = 3.32; range 18 to 28). Participants were recruited through the undergraduate research participant pool at York University (n = 81) and through convenience and snowball sampling (n = 14), and were granted course credit or given a chance to enter a draw for a $25 Amazon gift card respectively. Of the

[6] According to the National Household Survey (Statistics Canada, 2013), Chinese Canadians number 1.32 million, accounting for 21.1% of the visible minority population in Canada. South Asians (East Indian, Pakistani, Sri Lankan, etc.) are the largest visible minority group in 2011 at 1.57 million.

participants, 41 were first-generation and 54 were second-generation Canadians. Among the first-generation, the mean age of arrival in Canada was 9.98 (*SD* = 6.68), and ranged from 1 to 25 years of age. In terms of status in Canada, 79 of the participants were Canadian citizens, 7 were permanent residents, and 9 were international students.

Procedure and measures. Participants completed an online questionnaire administered through Survey Monkey. First, they were asked to provide basic demographic information (e.g., gender, generational status). Next, they completed the measure of ethnic (Chinese) and mainstream (Canadian) identity (Cameron, 2004) used in Study 1. This measure was used to control for baseline levels of identification with each culture, in line with the procedure used by Guendelman et al. (2011). Participants were then randomly assigned to one of three between-subjects conditions based on their month of birth. In each condition, participants were asked to think of a previous experience when another person made an assumption about them (see Appendix C). The three conditions differed only in the specific assumption that was made salient (positive stereotype, negative stereotype, or neutral characteristic). In the *positive stereotype* condition, participants were asked to think of a situation when they felt that others assumed that they were very good at math and science and would do well in a career that involved math or science because they were Asian. In the *negative stereotype* condition, participants were asked to think of a situation when they felt that others assumed that they were reserved or socially-awkward and would not fit well into a job that required a lot of social interaction because they were Asian. In the *control* condition, participants were asked to think of a situation when they felt that others had assumed that they were

good at bowling, a characteristic that is not usually perceived to be stereotypical of Chinese minorities.

After spending a few minutes thinking about this personal experience, participants were asked a series of open-ended questions with regards to this experience: what was the context, who made the assumption, why they think others made this assumption, how it made them feel, and how they responded to the experience.[7] The instructions were meant to be specific enough to get participants to think about a personal experience in which they were stereotyped based on their ethnic background without directly referring to "stereotypes," a word that comes with negative connotations. Minority individuals may encounter situations imbued with stereotypes in everyday life, but they may not always perceive the situation as such. Thus, it is valuable to understand how these situations are perceived, how salient the stereotypes are, and what psychological impact being associated with stereotypical characteristics has on the individual's well-being and identity, without explicitly connecting the situation to "stereotyping." If participants had never experienced the situation described in their assigned condition, they were asked to imagine what might have happened if they did encounter the situation and to answer the questions accordingly (65 had experienced it and 30 imagined experiencing it).[8]

[7] Responses to the open-ended questions about the stereotyping experience were used as a manipulation check. Participants who wrote very little (e.g., answered 1 of 6 questions) or who did not write anything at all may not have been engaged by the manipulation; thus, they were not included in the final sample (n = 22; 5 from positive condition, 9 from negative condition, and 8 from control condition).

[8] It should be noted that proportion of participants who had personally experienced the situation significantly differed across conditions (positive stereotype, 86.1%; negative stereotype, 48.0%; control, 64.7%), χ^2 (2, n = 95) = 10.26, p = .006.

After thinking and writing about the stereotype experience or imagined situation, participants filled out a series of measures presented in the order below (also see Appendix D).[9]

Canadian and Chinese acculturation. Ryder, Alden, and Paulhus's (2000) Vancouver index of acculturation (20 items) was used to measure participants' acculturation to the mainstream Canadian culture (10 items; "I believe in mainstream Canadian values") and one's heritage Chinese culture (10 items; "I often behave in ways that are typical of Chinese culture"). The items were identical for both scales except for cultural reference. Responses were provided on a 9-point scale ranging from 1 (*strongly disagree*) to 9 (*strongly agree*), where a higher average score for each subscale represented stronger acculturation to that culture.

Mainstream and heritage practices. Fourteen items were adapted from Cheryan and Monin's (2005) American and ethnic practices subscale to assess the extent to which one participated and engaged in the practices and traditions of mainstream Canadian culture (7 items; e.g., "I listen to Canadian music") and Chinese culture (7 items; e.g., "My friends are also from my heritage culture"). Items were identical for both scales except for cultural reference. Ratings were given on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). A higher mean score for each subscale

[9] The questionnaire also contained measures that were not relevant to the purpose of this study and thus will not be discussed or included in the analysis. One of these scales was the IRS (Marjanovic, 2009; see Appendix A). Four IRS items were embedded into the questionnaire; participants who answered fewer than 3 out of 4 items correctly were considered random responders and omitted from the final sample (n = 25).

represented more participation and engagement in that culture's practices and traditions of that culture.

Favourite food. Following the procedure used by Guendelman et al. (2011), food preference was assessed using an open-ended questions asking participants, "What is your favourite food or dish?" The dishes were then coded by an independent coder as prototypically North American, prototypically Asian, or neither (see Table 2.1 for list of responses and coding categories).

Psychological well-being. As in Study 1, Ryff and Keyes's (1995) 18-item scale was used to measure psychological well-being. For Study 2, each item was rated on a 7-point scale (instead of a 6-point scale) ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), with a higher mean indicating a higher level of psychological well-being.

State self-esteem. The 20-item state self-esteem scale was developed by Heatherton and Polivy (1991) to assess short-lived (i.e., state) changes in self-esteem. Participants indicated the degree to which items such as "I feel that others respect and admire me" and "I feel confident about my abilities" were true for them at that very moment. Responses were given on a 5-point scale ranging from 1 (*Not at all*) to 7 (*Extremely*), where a higher mean score was indicative of higher state self-esteem.

Results

Preliminary analyses.[10] As reported in Table 2.2, the reliability coefficients for all measures were acceptable in this sample, $\alpha s \geq .79$. Independent *t*-tests were conducted to see whether there were any generational differences on the primary measures. As

[10] Results of independent *t*-tests showed that no significant gender differences emerged for any of the primary measures, $|t|s < 1.45$, $ps > .14$.

Table 2.1

Categorization of Favourite Foods (Study 2)

North American	Asian	Neither
Cheese	BBQ pork on rice	Butter chicken
Chocolate	Beef and mushroom on rice	Chicken-related dishes
Deep fried chicken wings	Bibimbap	Corn
Fish & chips	Chinese food	Dessert
Frozen yogurt	Chow mein	Indian curry, aloo gobi
Ice cream	Congee	Lobster
Italian food	Dumplings	Soups
Italian pasta	Egg rolls	Souvlaki
Pasta	Fried rice or ma-po tofu	Watermelon
Penne with Italian sausage and garlic olive oil	Fried shrimp dumplings	
	Hor fun (rice noodles)	
Pizza	Hot pot	
Poutine	Japanese food	
Ribs	Kimchi	
Spinach salad with raspberry vinaigrette	Noodles	
	Radish cake with dried shrimp and pork	
Wings	Rice	
	Rice cake	
	Rice noodles	
	Rice with stirfry	
	Seafood ho fun noodles	
	Green onion pancakes	
	Steamed fish with soy sauce and green onions and ginger	
	Sushi	
	Sashimi	
	Pho	
	Sweet and sour chicken	
	Thai coconut curry	
	Unagi barbecue	
	Wonton soup	

Note. Responses that did not clearly match the criteria for either North American or Asian were placed in the "Neither" category; they were included in the chi-squared analysis.

Table 2.2

Descriptive Statistics of the Primary Measures Overall and Separated by Generational Status (Study 2)

		All participants	First-generation	Second-generation
Measure	α	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)
n		95	41	54
Canadian identity	.81	4.96 (.77)	4.58 (.86)	5.24 (.56)
Canadian acculturation	.86	6.55 (.98)	6.28 (1.20)	6.75 (.71)
Canadian practices and traditions	.83	5.41 (.92)	4.94 (.97)	5.77 (.71)
Chinese identity	.86	4.92 (.87)	4.97 (.88)	4.89 (.86)
Chinese acculturation	.89	6.24 (1.30)	6.36 (1.52)	6.15 (1.11)
Chinese practices and traditions	.79	5.00 (.98)	5.25 (1.18)	4.81 (.75)
Well-being	.81	4.85 (.67)	4.85 (.77)	4.85 (.59)
State self-esteem	.90	3.36 (.63)	3.41 (.60)	3.32 (.66)

shown in Table 2.2, the second-generation had higher scores than the first-generation on all of the measures tapping into mainstream Canadian culture: Canadian identity, $t(93) = -4.55$, $p < .001$, $d = -.94$, Canadian acculturation, $t(93) = -2.38$, $p = .019$, $d = -.49$, and engagement in mainstream Canadian traditions and practices, $t(93) = -4.82$, $p < .001$, $d = -1.00$. In terms of the ethnic Chinese culture measures, first-generation participants reported more engagement in Chinese cultural traditions and practices than second-generation participants, $t(93) = 2.23$, $p = .029$, $d = .46$. This generational difference, however, did not extend to the other two measures of Chinese culture (identity, acculturation), well-being, or state self-esteem, ts < .78, ps > .44, ds < .16.

Effects of stereotype condition and generational status. It was hypothesized that participants who described a previous personal encounter with a stereotype (compared to a non-stereotypical characteristic) would differ from those who described an experience with a non-stereotypical characteristic on measures of acculturation and engagement in cultural practices (related to Canadian and Chinese cultures), psychological well-being, and self-esteem. We also predicted that the effects of recalling a stereotype experience, particularly one related to a positive stereotype, would be moderated by generational status. Second-generation participants, who may feel more restricted by being stereotyped even when the salient characteristic is seen as a positive trait, were expected to react more negatively than first-generation participants, who may view the positive characteristic as a compliment.

Our hypothesis was not supported by the results of a series of 3 (Condition) by 2 (Generational status) factorial ANOVAs. The main effects of condition on Canadian acculturation and practices (controlling for baseline Canadian identification), Chinese

acculturation and practices (controlling for baseline Chinese identification), well-being, and state self-esteem, were not statistically significant, Fs < 1.73, ps > .19, η_p^2s < .033. Furthermore, the interactions between condition and generational status for all of the outcome measures were non-significant, Fs < 1.44, ps > .24, η_p^2s < .031.[11]

We did find a marginally statistically significant result when examining participants' favourite food or dish, using a chi-square analysis by condition and generational status, $\chi^2(1, n = 84) = 5.15$, $p = .076$, Cramer's $V = .25$.[12] Food preferences were coded as prototypically North American, prototypically Asian, or neither. In the positive stereotype condition, a higher proportion of second-generation participants (47.6%) compared to first-generation participants (9.1%) listed a North American dish as their favourite food, $\chi^2(1, n = 32) = 7.44$, $p = .024$, Cramer's $V = .48$ (see Table 2.3). Fittingly, fewer second-generation participants (52.4%) than first-generation participants (72.7%) listed an Asian dish as their favourite food. In contrast, the proportion of participants listing a North American dish did not differ across generational statuses in the negative stereotype condition, $\chi^2(1, n = 23) = 1.16$, $p = .56$, Cramer's $V = .23$, or in the control condition, $\chi^2(1, n = 29) = .19$, $p = .91$, Cramer's $V = .08$. Looking at the data another way, among first-generation participants, the positive stereotype condition yielded lower North American food preferences (9.1%) compared to the negative stereotype (15.4%) and control (22.2%) conditions. The second-generation participants,

[11] These results did not change when analyses were conducted while excluding international students (n = 9) from the sample, or while controlling for whether participants had personally experienced (n = 65) or imagined experiencing (n = 30) the described situation.

[12] Participants who did not list a food or dish (n = 11) were not included in the analysis.

Table 2.3

Percentage of First- and Second-Generation Chinese Canadians by Favourite Food Category within Each Stereotype Condition (Study 2)

Condition and generational status	Favourite Food Categorization (%)		
	North American (*n* = 24)	Asian (*n* = 49)	Neither (*n* = 11)
Positive stereotype			
First-generation	9.1	72.7	18.2
Second-generation	47.6	52.4	0.0
Negative stereotype			
First-generation	15.4	61.5	23.1
Second-generation	30.0	40.0	30.0
Control			
First-generation	22.2	66.7	11.1
Second-generation	30.0	60.0	10.0

Note. Participants who did not write anything (*n* = 11) were not included in the analysis.

however, show the opposite pattern, where North American food preference is higher in the positive stereotype condition (47.6%) than in the negative stereotype (30.0%) and control conditions (30.0%).

Exploratory analyses: Open-ended responses. We examined participants' responses to the open-ended questions in the manipulation task to see if the content varied by condition and generational status. Specifically, we coded the following information: a) who made the assumption (Asian, non-Asian person)[13], b) whether participants perceived that the assumption was made because of racial stereotypes or race-related stereotypes (because of race, not because of race)[14], and c) how the participant felt at the time of the experience (positive, negative, neutral/ambivalent). Chi-square analyses revealed statistically significant differences between the three conditions with respect to the coded information.

In the control condition, the person who made the assumption was non-Asian in only 47.1% of participants' reported experiences, whereas *all* of the participants in the negative stereotype condition and 80.0% of the participants in the positive stereotype condition said that the person making the assumption was non-Asian, $\chi^2(2, n = 55) = 11.60$, $p = .003$, Cramer's $V = .46$. In terms of why they thought that others made this assumption about them, almost 83% of participants in the positive stereotype condition

[13] This coding only includes responses that specified whether the assuming person was Asian or not Asian. Responses that were too vague or included multiple persons ($n = 27$) or did not mention the background of the person ($n = 7$) could not be coded and thus, were not included in this analysis.

[14] The umbrella category labeled *reasons not related to race* was comprised of different reasons: because of my other skills ($n = 18$), because the assumption is accurate ($n = 13$), don't know/other ($n = 7$).

thought that others assumed they were good at math and science because of the racial stereotype; in the other two conditions, the majority of participants attributed the assumption to a reason not related to their racial background (54.2% and 57.6% in the negative stereotype and control conditions respectively), $\chi^2(2, n = 92) = 13.67$, $p = .001$, Cramer's $V = .39$. The pattern of results was similar for first- and second-generation participants.

The three conditions also differed in their descriptions of how they felt at the time of the experience, $\chi^2(4, n = 86) = 25.85$, $p < .001$, Cramer's $V = .39$. Most of the participants in the negative stereotype condition wrote that their feelings about the experience were negative (72.0%) while the remaining 28.0% said that their feelings were neutral or ambivalent (none said their feelings were positive). This contrasts with the positive stereotype condition, where some participants felt positively (15.6%) and others felt negatively (34.4%) about the experience. Finally, in the control condition, 41.4% had positive feelings, 13.8% had negative feelings, and 44.8% felt neutral about the experience. These patterns of results differed slightly by generation status, but only among participants who were in the negative condition: while just over half (57.1%) of the first-generation described feeling negatively (42.9% felt neutral), almost all (90.9%) of the second-generation described feeling negatively (9.1% felt neutral).

Further exploratory analyses examining the effect of stereotyper race revealed that the racial background of the stereotyper (Asian vs non-Asian) somewhat influenced why they thought the assumption was made, $\chi^2(2, n = 55) = 3.26$, $p = .071$, Cramer's $V = .24$, and how participants' felt about the experience, $\chi^2(4, n = 52) = 5.77$, $p = .056$, Cramer's $V = .33$. When the person who made the assumption was non-Asian, 63.4% of participants

thought that the assumption was made because of race-related stereotypes, compared to 35.7% when the person who made the assumption was also Asian. In addition, when the person who made the assumption was also Asian, 58.3% of participants reported feeling neutral, 33.3% reported feeling positively, and only 8.3% reported feeling negatively. On the other hand, when the person who made the assumption was not Asian, 42.5% reported negative feelings and only 12.5% reported positive feelings (the remaining 45.0% felt neutral).

To summarize these results, the reported experiences for the two stereotype conditions were more likely to involve a non-Asian person and more likely to elicit negative emotions, relative to the control condition. In addition, an experience where the assumption was that participants were good at math and science (positive stereotype condition) was more likely to be attributed to racial stereotypes compared to when the assumption was related to being socially awkward and emotionally reserved (negative stereotype condition) or being good at bowling (control condition). Finally, when the assumption was made by a non-Asian person (versus an Asian person), participants were somewhat more likely to attribute the assumption to race-related stereotypes and to report negative emotions.

Discussion

In Study 2, we examined the effects of being attributed with positive and negative aspects of the model minority stereotype among Chinese Canadian undergraduates. Participants were asked to think about a time when another person assumed either that they were good at math and science (a positive stereotype) or that they were reserved and socially-awkward (a negative stereotype), or a control topic. It was hypothesized that

compared to participants in the control condition, those in the stereotype conditions would respond differently on measures of psychological well-being, state self-esteem, and degree of acculturation with Canadian and Chinese cultures. We also expected that responses would be more negative among second-generation participants relative to first-generation participants, even among participants who wrote about a seemingly positive characteristic. For the most part, our predictions were not supported, particularly when looking at responses on standard measures associated with rating scales.

There are several potential explanations that may account for the null findings. First, our sample size was relatively small, which may have only afforded enough statistical power to detect very large effects. Second, it is possible that the experimental manipulation was simply not strong enough. A single situation, especially one that happened in the past, may not exert a lasting impact, seem relevant or important in the present moment, or be representative of a person's many personal experiences. In retrospect, it might have been more fruitful to get a sense of participants' range of past experiences with stereotyping, or probe them more deeply using an interview or more intensive task. Third, although the overwhelming majority (86%) of participants in the positive stereotype condition had personally experienced the situation they were asked to think and write about, less than half of those in the negative stereotype condition had personally experienced their assigned situation. We statistically controlled for personal experience (yes, no) with the stereotyping situation and found that it did not affect the pattern of results. Hypothetical scenarios, however, have been criticized for being poor reflections of actual behavioural tendencies and emotions (e.g., see Baumeister, Vohs, & Funder, 2007, for a critique). Thus, asking participants to merely *imagine* the context of

the situation and think about how it *might* have felt may still be cause for concern in terms of the validity of our results, especially for the negative stereotype condition.

Finally, most of our outcome variables, such as psychological well-being and mainstream acculturation, are considered to be trait constructs and may be highly resistant to rapid temporal change. One might be more likely to observe statistically significant effects using state constructs (e.g., emotional, behavioural, or perceptual responses), which are more likely to vary across situations; albeit, we did not find support for our hypothesis with our measure of state self-esteem. In Study 3, we addressed some of these limitations by applying a more direct and controlled stereotyping manipulation (face-to-face stereotyping) and by including measures of state responses (e.g., emotion, subjective eating behaviour, meta-perception of identity).

Although the primary hypothesis in Study 2 was not generally supported with scaled measures, we did find interesting findings on open-ended responses. Among second-generation participants who wrote about being positively stereotyped, almost half of them mentioned a North American dish when asked to list their favourite food. In contrast, less than one-tenth of the first-generation group in the positive stereotype condition named a North American food. More importantly, first- and second-generation participants were equally likely to list a North American dish in the other two conditions. We argue that when minority individuals are stereotyped on the basis of their ethnic or racial minority background (even when the characteristic is favourable), it can also invalidate the identification that one has with the mainstream culture (Sue et al., 2007). Researchers who have looked at mainstream identity denial have found that U.S.-born Asian Americans were more likely to try to assert their "American-ness" after their

American identity was questioned (e.g., Cheryan & Monin, 2005; Guendelman et al., 2011; Siy & Cheryan, 2013). Similarly, second-generation Chinese Canadians in our study may have been trying to assert their membership in the mainstream culture by indicating a more prototypically mainstream dish as their favourite food, whereas first-generation participants did not feel the need to do the same.

A closer look at the open-ended responses to the manipulation also yielded some notable findings, although they should be interpreted with caution given the small subsample of responses. Participants were asked to consider reasons why the other person in the situation had made an assumption about them. When the assumption was related to the idea that Asians are socially-awkward (negative stereotype condition) or that the participants was good at bowling (control condition), about half of the participants thought that race was related and about half thought that race was not related to the assumption. When the assumption was about being excelling at math and science, however, an overwhelming majority (83%) of participants who wrote about this situation attributed the assumption to racial stereotypes about Asians. Race-related reasons for the assumption were also brought up almost twice as often when the assuming person was described as non-Asian relative to when the assuming person was said to be Asian.

In terms of participants' feelings at the time of the situation, positive emotion was reported most often for those in the control condition, followed by those in the positive stereotype condition, and then those in the negative stereotype condition. The majority of participants who wrote about the negative stereotype reported negative feelings about the experience. The fact that the positive stereotype condition elicited more negative feelings than positive feelings underscores the favourable façade of the model minority

stereotype; even those characteristics that appear purely complimentary may be riddled with darker implications for some individuals. Furthermore, negative feelings were five times more prevalent when the assuming person was not Asian compared to Asian, suggesting that being stereotyped by an ethnic outgroup member may elicit more negative emotions than when the other person is an ingroup member.

Study 3

Studies 1 and 2 provided a rudimentary picture of the relationships between East Asian stereotypes and both well-being and cultural identity, as well as the moderating role of generational status. In Study 3, we examined identity denial as an underlying mechanism that might account for *why* these effects were observed. Previous studies on U.S.-born Asian minority groups have investigated denial of a national identity, such as that which arises when one's English ability or country of origin is questioned (e.g., Cheryan & Monin, 2005; Guendelman et al., 2011). In a similar fashion, being stereotyped based on one's racial background can also make minority members feel as though they are treated as foreigners or excluded or rejected by fellow group members.

The first aim of Study 3 was to extend findings on national identity denial to stereotyping by examining whether being stereotyped during a social interaction in the lab would make East Asian Canadians feel as though they are viewed as less Canadian, or that their Canadian identity is being denied. Following from our previous results, it was expected that the effects would be stronger for second-generation East Asian Canadians compared to first-generation East Asian Canadians. Being stereotyped by a member of the mainstream culture was expected to exert stronger effects on second-generation individuals' emotional responses, Canadian identity, and well-being, compared to first-generation participants. We also predicted that second-generation participants would report more feelings of identity denial because being stereotyped with "Asian" traits, even with positive ones, can make people feel like they are not recognized as being fully Canadian. Furthermore, we investigated whether the racial background of the stereotyper (White or East Asian) moderated the outcomes associated with being stereotyped.

The second goal of Study 3 was to investigate whether feelings of mainstream identity denial account for the effects of stereotyping among first- and second-generation individuals. Minority members, particularly those of the second-generation, who experience identity denial when being stereotyped may react to the situation by attempting to prove to others that they belong to the ingroup. Existing work on identity denial demonstrated that U.S.-born Asian Americans who were asked if they spoke English by fellow Americans (a form of identity denial) asserted their American identity by behaving in ways that fit the prototypical American image. For example, these individuals recalled more American knowledge (e.g., 1980s TV shows), claimed greater participation in American traditions (Cheryan & Monin, 2005), and preferred and consumed more prototypical American foods (Guendelman et al., 2011), compared to individuals whose American identity was not denied. Thus, the mainstream identity denial that is experienced when East Asian Canadians are stereotyped may contribute not only to worse outcomes (i.e., more negative emotions, poorer well-being) but also to higher scores on identification and behaviours related to the mainstream culture (i.e., Canadian acculturation, preference for and frequency of eating Canadian foods), particularly among second-generation East Asian minorities. Thus, identity denial was examined as a potential mediator of the joint effects of stereotyping condition and generational status on well-being and identity outcomes.

To meet these two objectives, participants came into the lab for individual study sessions, where they were either stereotyped ("Asians are good at math") or not stereotyped (control condition) in a face-to-face social interaction with the experimenter, who was either White or East Asian.

Method

Participants. All participants (N = 108; 60 women) self-identified as being of East Asian descent. The mean age was 19.30 (SD = 2.31) and ranged from 17 to 30. All of the participants were recruited through the undergraduate research participant pool at York University and were granted course credit for participating. The sample was diverse in terms of ethnic background, with four groups being most represented: 41.7% of the participants were Chinese (n = 45), 22.2% were Vietnamese (n = 24), 13.0% were Korean (n = 14), and 10.6% were Filipino (n = 11). The remaining 13.0% of the sample (n = 14) were from other East Asian ethnic groups, including Japanese, Lao, Cambodian, and Burmese, or a combination of East Asian ethnicities (e.g., Chinese/Vietnamese). Of the participants, 43 were first-generation and 65 were second-generation Canadians. Those who were first-generation had lived in Canada for an average of 8.38 years (SD = 5.34; range 1 to 21); the average age of arrival in Canada was 11.44 (SD = 5.42; range 1 to 21), with the majority arriving Canada at age 15 or younger (n = 30; 4 did not report age of arrival or number of years living in Canada). In terms of status in Canada, 84 had Canadian citizenship, 13 were permanent residents, and 11 were international students.

Procedure. Participants arrived at the laboratory under the pretense that they would be participating in two unrelated studies during the same session. They were told that the first study would be about social practices and emotion and that the second study would be about level of education and Graduate Record Examination (GRE) performance. Participants were told that for the "first study," they would complete a questionnaire packet consisting of scales and measures, and for the "second study," they would be given some GRE questions taken from either the Verbal or Quantitative section, which

would assess their vocabulary and math knowledge respectively. They were asked to think about which section (Verbal or Quantitative) they would prefer to work on and to later indicate their choice on the final page of the questionnaire. In reality, participants were not given any GRE questions at all. Setting up the procedure this way allowed the experimenter to stereotype (or not stereotype) the participant when providing the instructions for the ostensible GRE task.

Participants were randomly assigned to one of four conditions in a 2 X 2 between-subjects design, which varied in the experimenter's comment (stereotype vs. no stereotype) and in the experimenter's cultural background (Western European vs. East Asian). All participants received the same basic description of the GRE and the same two options (Verbal or Quantitative) (see Appendix D for the script), but only half of the participants received the stereotype comment and the other half did not. In the stereotype condition, the experimenter provided the GRE study description and then said, "*If I were you, I would probably pick the math questions. Asians are really good at math, so I am pretty sure that you would do well on the math questions, and get a high score, but it's up to you to decide which part you would like to do.*" In the control condition, the experimenter provided the same GRE study description and then said, "*To tell you the truth, it doesn't really matter what you choose. They're matched for difficulty so people tend to do equally well on both. It's up to you to decide which part you would like to do.*" Half of the participants interacted with a male experimenter of Western European descent and the other half with a male experimenter of East Asian descent. Participants were then given the questionnaire packet (see next section) to fill out while the experimenter waited in the next room.

When they had finished the questionnaire, participants notified the experimenter who then explained that the principal investigator wanted some feedback on the first part of the study (actually the manipulation check) before the GRE questions task. The manipulation check followed a funnel debriefing procedure. In funnel debriefing, respondents are first asked a question that is more general and not focused on the manipulation and then questions become more direct and specific. It was very important that participants completed the questions in order and that they did not go back and change their previous responses. Thus, the three open-ended questions were presented to the participant in three envelopes (one question per envelope), which were labeled 1-2-3. Participants were instructed to write their response for each question, put the paper back in the envelope, and seal the envelope before moving to the next question. The three questions were as follows: "Why did you choose the section that you did (Verbal or Quantitative) over the other one?", "Did the experimenter say or do anything that influenced your choice of task (Verbal or Quantitative)? If so, what did the experimenter say?", and "Did you hear the experimenter say anything about your racial or cultural background? If so, what was it?"

Finally, participants were told that the study was completed and that they would not be given any GRE questions. They were fully debriefed and probed for suspicions about the study's manipulation and hypotheses.[15]

[15] Participants who were in the stereotyping condition but who did not indicate that they heard the experimenter's comment that "Asians are good at math" (n = 11) were not included in the final sample. We also excluded participants who did not complete or understand the questionnaire properly (n = 2), or who guessed the true purpose and hypothesis of the study (n = 1).

Measures. The questionnaire packet contained the following measures (see Appendix E), in the order that they are described below, and were followed by questions about basic demographic information (e.g., gender, generational status).

Emotion. Participants indicated the extent to which they felt each of 10 emotions (along with 3 other moods irrelevant to the hypothesis: pressured, calm, surprised) at the time they were filling out the questionnaire. Responses were given on a scale ranging from 1 (*not at all*) to 7 (*very much*), where higher average scores indicated stronger positive emotion (5 items, $\alpha = .76$) and negative emotion (5 items, $\alpha = .72$). Examination of the negative emotion scores revealed a floor effect and limited variability ($M = 1.38$, $SD = .65$); thus, the negative emotion mean was subtracted from the positive emotion mean ($M = 3.61$, $SD = 1.02$) to form a single index of overall positive affect.

Food preferences and frequency. Food preference was assessed using three open-ended questions asking participants about their favourite, second favourite, and third favourite food dish. The dishes were then coded with 0 representing prototypically Asian and 1 representing prototypically North American (see Table 3.1 for list of responses and coding categories). Foods that did not clearly match the criteria for either North American or Asian (e.g., soupy food, beef) were coded by an independent coder as "neither" and excluded from further analysis. Responses (0 or 1) to the three items were then summed so that a higher total score (ranging from 0 to 3) indicated stronger preference for North American food. Another food behaviour that was assessed was frequency of eating mainstream and heritage dishes. Participants rated the frequency in which they ate each of 16 dishes. Eight dishes were prototypically mainstream North

Table 3.1

Categorization of Favourite Foods (Study 3)

North American	Asian	Neither
12 oz steak	Beef noodle soup	Anything in a barbeque
Alfredo pasta	Beef stirfry	Anything mom makes
Any pasta	Beef teriyaki	Beef
Avocado salad	Bibimbap	Black cod
Bacon and eggs	Black pepper beef	Burritos
BBQ chicken (wings)	Bulgogi (type of bbq)	Caribbean oxtail
BBQ ribs	Chicken and rice	Chicken
Bread	Chicken noodle soup	Chicken breast
Brownie cake	Chicken with White Rice	Chicken souvlaki
Burgers	Congee	Crab
Chicken carbonara	Dumplings	Enchiladas
Chicken salad	Fried noodle	Fish
Chicken stew	Fried rice	Grilled chicken pita
Chicken wings	Fried rice with salted fish and chicken	Indian butter chicken
Clam chowder	Hot and sour soup	Jerk chicken
Dessert (ice cream)	Hot Pot	Lamb
Dessert cakes	Kimchi	Lamb souvlaki
Fish and chips	Korean BBQ	lobster
French fries	Korean cuisine	Meat
French onion soup	Mango sushi	Mushroom with chicken
Fried calamari	Menudo - a Filipino dish	Nachos
Fried chicken	Noodles	Pasta/noodles
Fries	Pad Thai	Pork chop
Funghi salad	Pho (Vietnamese noodle soup)	Rice or pasta (Alfredo)
Fruit salad	Pork bone soup	Roti
Gelato	Ramen	Salmon
Greek pizza	Red Bean Waiful	Seafood
Grilled salmon with lemon	Rice	Seafood dish
Hamburgers	Rice and chicken	Shawarma
Hawaiian pizza	Rice and chicken curry	Shrimp
Lasagna	Rice and eggs	Soup
Lobster bisque	Salmon sashimi	Soupy food
Macaroni Pie	Salmon sushi	Souvlaki
Macdouble & Chicken junior mixed (Mcdonald)	Sashimi	Stern fish
Mashed potatoes and gravy	Sinigang (Filipino dish with seafood soup and rice)	Tacos
Mashed potatoes and meatballs		Vegetable

McDonalds
Mozzarella sticks
Pancakes and maple syrup
Pasta (with any non-spicy sauce; with red pasta sauce with ground beef & onions)
Perogies
Pizza
Popeye's fried chicken
Poutine
Raw oysters
Ribs
Roast beef
Russian Salad
Salad
Salmon filet
Shepherd's pie
Spaghetti and meatballs
Steak and potatoes
Steak, pan fried
Steak/Seafood
Tomatoes soup
Turkey stuffing
Soon tofu
Spider rolls (sushi)
Steak ramen
Stir fry vegetables
Stir-fried noodles
Sushi
Sweet and sour chicken
Thai curry
Thai red curry
Tofu soup
Tom yum soup
Tomato with fried egg
Tomatoes & eggs
Vermicelli noodles with chicken
Vietnamese noodles

Note. Responses that did not clearly match the criteria for either North American or Asian were placed in the “Neither” category and were excluded from further analysis.

American (pepperoni pizza, apple pie with vanilla ice cream, macaroni and cheese, pasta with marinara sauce, roast turkey and stuffing, poutine, grilled cheese sandwich, cheeseburger and fries), 6 were prototypically East Asian [Pho (noodle soup), bibimbap (rice with vegetables and meat), Thai chicken curry, pad Thai, sushi, bubble milk tea], and 2 were filler items (quesadillas, chicken/pork/lamb souvlaki). Eating frequency was indicated on a 7-point scale ranging from 1 (*never*) to 7 (*very often*), where higher average scores for the North American and East Asian dishes indicated higher relative frequency of consuming North American and East Asian dishes respectively.

Identity denial. Identity denial was assessed using a single item that had been used in previous research (Rodriguez, Schwartz, & Kras Whitbourne, 2010) to specifically measure this construct. Participants answered the question, "How Canadian do other people perceive you to be?," on a 9-point scale ranging from 1 (*not at all Canadian*) to 9 (*extremely Canadian*). The response was reverse-coded so that a higher number was indicative of stronger identity denial.[16]

[16] An 8-item scale of identity denial was created to validate the single-item measure of identity denial. We adapted our own items from very similar items in the foreigner objectification scale (Armenta et al., 2013), the Asian American racism-related stress inventory (Liang et al., 2004), and the racial microaggressions scale (Torres-Harding, Andrade, & Diaz, 2012). Examples of items were, "Because of your ethnicity or race, other people assume that you are a foreigner," and "you are asked by other people, 'where are you really from?'." Responses were provided on a 7-point scale ranging from 1 (*Never*) to 7 (*Extremely often*). The eight items were factor analyzed using different methods, but we failed to find a clean solution. Furthermore, the Cronbach's alpha coefficients of the eight items or subsets of items were consistently low. Thus, these items were not included in subsequent analyses.

Mainstream and East Asian acculturation. Ryder et al.'s (2000) Vancouver index of acculturation (20 items) was used to measure participants' acculturation to the mainstream Canadian culture (10 items; "I believe in mainstream Canadian values") and one's heritage culture (10 items; "I often behave in ways that are typical of my heritage culture"). Responses were provided on a 9-point scale ranging from 1 (*strongly disagree*) to 9 (*strongly agree*), where a higher average score for each subscale represented stronger acculturation to the mainstream Canadian culture or to one's East Asian heritage culture.

Psychological well-being. Ryff and Keyes's (1995) 18-item scale was used to measure psychological well-being. Each item was rated on a 6-point scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*), with a higher mean indicating higher psychological well-being.

GRE section choice. At the end of the questionnaire, participants indicated with an "X" which type of GRE questions they would prefer to do in the second part of the study: Verbal section (vocabulary knowledge) or Quantitative section (math knowledge).

Results

Preliminary analyses.[17] As reported in Table 3.2, the reliability coefficients for almost all measures were acceptable in this sample, $\alpha s \geq .77$; the alpha coefficient for East Asian food behaviour was .60. Results of independent *t*-tests revealed some

[17] Independent *t*-tests revealed some gender differences. Women were significantly higher than men in terms of mean frequency of eating Asian dishes ($M = 4.18$, $SD = 1.03$ vs. $M = 3.70$, $SD = .91$), $t(106) = 2.50$, $p = .014$, $d = .49$. Women were also marginally higher than men in mean frequency of eating North American dishes ($M = 3.14$, $SD = 1.04$ vs. $M = 2.78$, $SD = .80$), $t(106) = 1.95$, $p = .054$, $d = .38$. Including

Table 3.2

Descriptive Statistics of the Primary Measures Overall and by Generational Status (Study 3)

Measure	α	All participants *M* (*SD*)	First-generation *M* (*SD*)	Second-generation *M* (*SD*)
n		108	43	65
Identity denial	--	2.74 (1.00)	4.37 (2.10)	2.79 (1.67)
Positive emotion	--	2.24 (1.32)	2.16 (1.36)	2.29 (1.30)
Mainstream food preference	--	1.27 (.84)	1.12 (.85)	1.37 (.82)
East Asian food behaviour	.60	3.97 (1.00)	3.96 (.97)	3.97 (1.03)
Mainstream food behaviour	.77	2.98 (.95)	2.90 (.78)	3.03 (1.06)
Heritage acculturation	.85	6.19 (1.30)	6.68 (1.33)	5.87 (1.17)
Mainstream acculturation	.77	6.56 (.94)	6.37 (.80)	6.69 (1.00)
Well-being	.77	4.41 (.52)	4.44 (.47)	4.38 (.55)

gender as a factor in subsequent analyses with these outcome variables, however, did not change the pattern of results.

generational differences on the primary measures (see Table 3.2). Compared to first-generation participants, second-generation participants reported less identity denial, $t(106) = 4.93$, $p < .001$, $d = .96$, marginally stronger mainstream acculturation, $t(106) = -1.75$, $p = .083$, $d = -.34$, and weaker heritage acculturation, $t(106) = 3.32$, $p = .001$, $d = .64$. We also found one statistically significant difference with respect to our other manipulated variable, experimenter race. Participants who interacted with the White experimenter had a lower level of identity denial ($M = 2.54$, $SD = .90$) than participants who interacted with the Asian experimenter ($M = 2.95$, $SD = 1.05$), $t(106) = 2.21$, $p = .029$, $d = .43$. No other statistically significant differences across experimenter race groups were observed.

Testing moderators: Generational status and experimenter race. The first hypothesis was that participants in the stereotyped condition would have higher scores on measures of identity denial, mainstream acculturation, and mainstream food preference and behaviour and lower scores on positive emotion and well-being. Furthermore, these effects of stereotyping were expected to be more pronounced for second-generation participants (compared to first-generation) and for participants who were stereotyped by a White experimenter (compared to an East Asian). A factorial ANOVA was conducted for each of the continuous outcome variables (identity denial, emotion, well-being, acculturation to mainstream and heritage cultures, preference for mainstream dishes, eating frequency mainstream and heritage dishes). Three dichotomous independent variables (condition, generational status, experimenter race) and two condition-by-moderator interaction terms (Condition X Generational Status, Condition X Experimenter Race) were entered into the model. Statistically significant interaction terms would represent preliminary support for our moderation hypothesis.

While controlling for the main effects of condition, generational status, and experimenter race and the interaction of condition by generational status, none of the condition by experimenter race interactions were statistically significant, *F*s < 1.28, *p*s > .26, η_p^2s < .013. Generational status, however, was a marginally significant moderator of the effect of stereotyping condition for two of the outcome variables. We used the PROCESS SPSS macro (Hayes, 2013; Model 1) to probe the nature of these two-way interactions. Means and standard deviations of the primary measures by condition and generational status are presented in Table 3.3.

The interaction between condition and generational status was marginally significant for identity denial, $F(1, 102) = 3.03$, $p = .085$, $\eta_p^2 = .03$. Although the pair-wise comparisons across conditions within each generational status were not statistically significant, the pattern of results (see Figure 3.1) was in line with our predictions. Second-generation participants who were stereotyped by the experimenter reported a higher level of identity denial compared to those who were not stereotyped (i.e., control condition), $b = .51$, $t = 1.11$, $p = .27$. The reverse trend emerged for the first-generation participants ($b = -.76$, $t = -1.35$, $p = .18$), such that those in the stereotype condition reported *less* identity denial relative to those in the control condition. The interaction between condition and generational status was also marginally significant for mainstream acculturation, $F(1, 102) = 3.34$, $p = .070$, $\eta_p^2 = .03$. As predicted, differences across conditions were observed among second-generation participants ($b = -.53$, $t = -2.34$, $p = .02$), but not among first-generation participants, $b = .12$, $t = .44$, $p = .66$ (see Figure 3.2). The direction of the difference among second-generation participants, however, was unexpected. Contrary to the hypothesis that second-generation participants would try to

Table 3.3

Descriptive Statistics of the Primary Measures by Condition and Generational Status (Study 3)

	First-generation		Second-generation	
Measure	Control *M* (*SD*)	Stereotype *M* (*SD*)	Control *M* (*SD*)	Stereotype *M* (*SD*)
n	21	22	35	30
Identity denial	4.76 (2.05)	4.00 (2.14)	2.56 (1.51)	3.07 (1.84)
Positive emotion	1.87 (1.51)	2.42 (1.18)	2.26 (1.39)	2.33 (1.20)
Mainstream food preference	1.05 (.80)	1.18 (.91)	1.34 (.80)	1.40 (.86)
East Asian food behaviour	4.00 (1.01)	3.91 (.95)	4.07 (1.07)	3.86 (.99)
Mainstream food behaviour	2.84 (.66)	2.96 (.89)	3.01 (1.13)	3.06 (.98)
Heritage acculturation	6.89 (1.20)	6.49 (1.45)	5.73 (1.24)	5.92 (1.12)
Mainstream acculturation	6.30 (.78)	6.43 (.83)	6.93 (1.00)	6.40 (.95)
Well-being	4.50 (.51)	4.39 (.45)	4.38 (.50)	4.39 (.61)

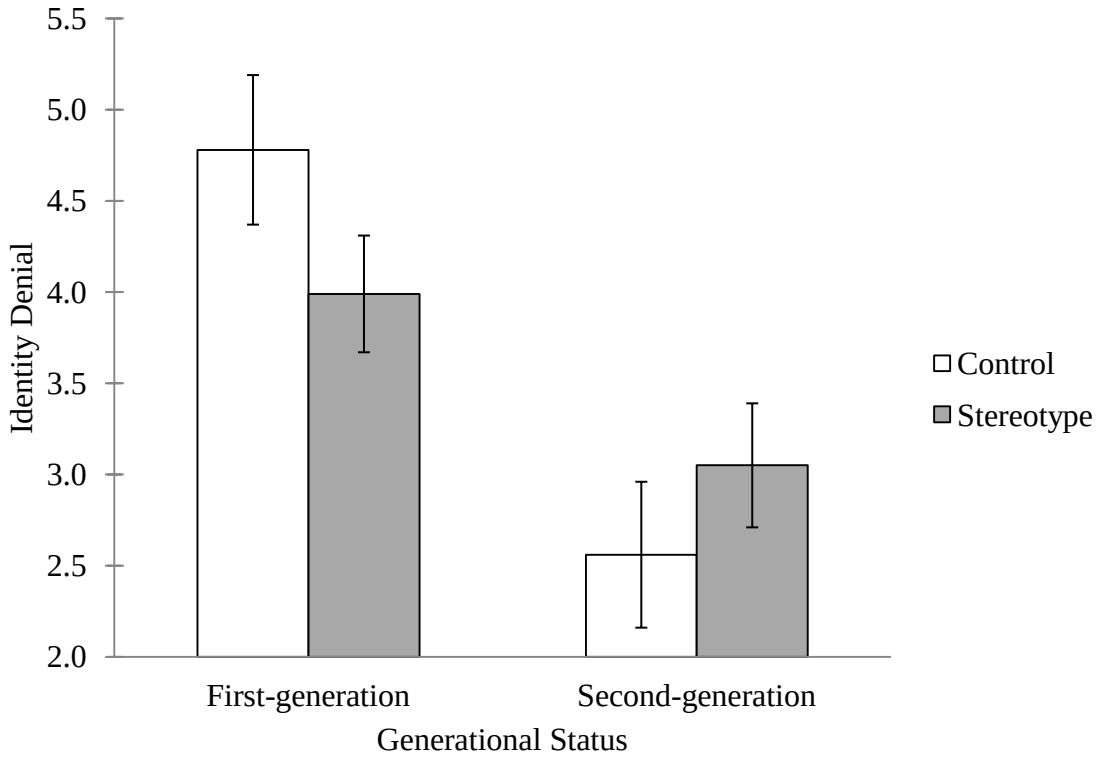

Figure 3.1. Identity denial group means by condition and generational status (Study 3).

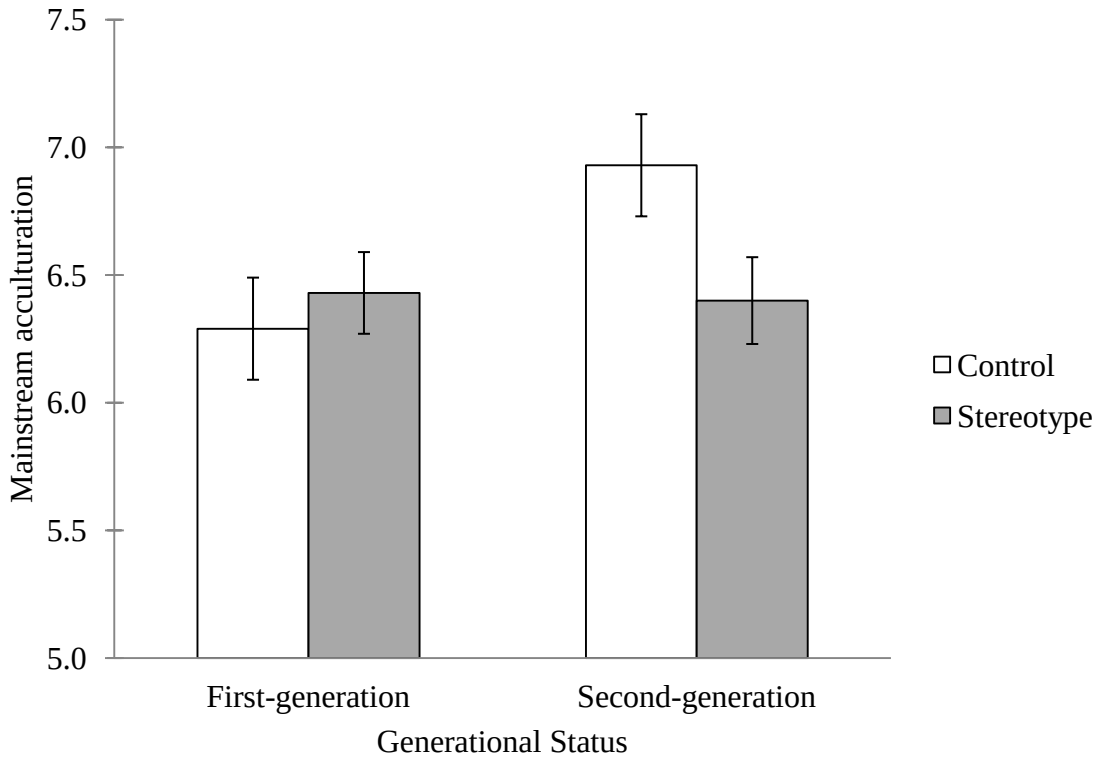

Figure 3.2. Mainstream acculturation group means by condition and generational status (Study 3).

assert their mainstream identity in response to being stereotyped, mainstream acculturation was *lower* among second-generation participants in the stereotype condition compared to those in the control condition. The other condition by generational status interactions were not statistically significant. [18, 19]

Testing mediated-moderation: Identity denial. The second hypothesis was that the interaction between stereotyping condition and generational status would be mediated by identity denial. In other words, the different effects of being stereotyped for first- and second-generation participants would impact well-being, emotion, and mainstream identity and behaviours through the experience of mainstream identity denial. As shown in Figure 3.3, a mediated-moderation model was proposed, where condition was entered as the primary predictor, generational status was entered as a moderator, and identity denial was entered as the mediating variable for each of the outcome variables. Model 8 of Hayes's (2013) PROCESS SPSS macro was used to estimate the conditional indirect effect of stereotyping condition on the outcome variable through identity denial at each level of the moderator (i.e., first- and second-generation participants) as well as the

[18] The pattern of results predicting remained the same when international students (n = 11) were not included in the sample, with one exception. The Condition X Generational Status interaction predicting identity denial, which was marginally significantly with the original sample, became non-significant, $F(1, 91) = 1.71$, $p = .19$, $\eta_p^2 = .02$.

[19] The pattern of results were the same when Southeast Asian Canadians (n = 4; Laotian, Burmese, Cambodian) were not included in the sample.

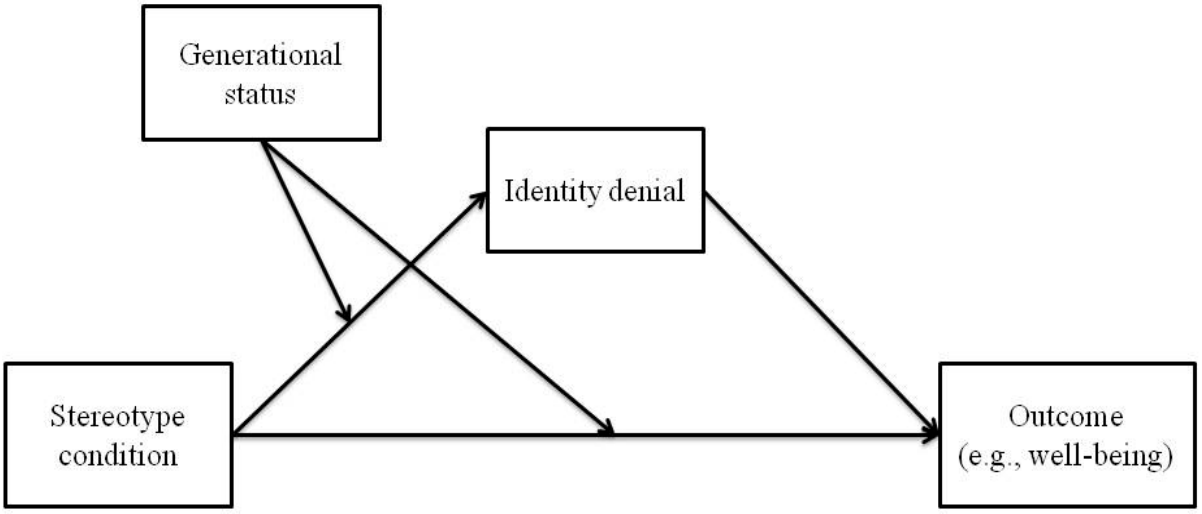

Figure 3.3. Mediated-moderation model (Study 3).

indirect effect of the *interaction* between stereotyping condition and generational status on the outcome variable through identity denial. [20]

Identity denial did not mediate the interaction effect of stereotyping and generational status on any of the outcome measures (well-being, positive emotion, mainstream/ heritage acculturation, preferences and frequency of eating mainstream/heritage dishes). None of the indirect effects or joint indirect effects of stereotype condition and generational status were statistically significant.

Exploratory analyses: GRE section choice. Results of a Chi-square analysis showed that condition impacted participants' choice of GRE section: Verbal or Quantitative, χ^2 (1, n = 108) = 4.35, p = .037, Cramer's V = .20. A larger proportion of stereotyped participants compared to control participants (53.8% vs. 33.9%) chose the quantitative section over the verbal section. We also conducted an analysis to see whether this condition effect was moderated by generational status or experimenter race. In terms of generational status, the effect of condition on GRE section choice was statistically significantly for the first-generation, χ^2 (1, n = 43) = 3.94, p = .047, Cramer's V = .30, but not for the second-generation, χ^2 (1, n = 65) = .94, p = .33, Cramer's V = .12. Among

[20] Bootstrapping is a nonparametric resampling procedure that involves repeatedly sampling the data set and estimating the indirect effect using the resampled data. The advantages of this statistical method over traditional product-of-coefficient approach (i.e., Sobel test) is that it does not involve the same assumptions about multivariate normality, avoids issues of power, and allows for multiple mediators or moderators to be assessed simultaneously (MacKinnon, Lockwood, & Williams, 2004; Preacher & Hayes, 2008). This procedure was repeated 5,000 times to generate an empirical approximation of the sampling distribution and used to generate 95% bias-corrected confidence intervals (CIs). Confidence intervals that do not include zero are reflective of statistical significance at the .05 level.

first-generation participants, 72.7% of those who were stereotyped chose the quantitative section over the verbal section, compared to 42.9% of those who were not stereotyped (40.0% vs. 28.6% respectively among second-generation participants). The influence of condition on GRE choice held the same pattern when the sample was conducted separately by experimenter race. The subsample analyses, however, were only marginally significant when the experimenter was Asian, χ^2 (1, n = 53) = 2.85, p = .09, Cramer's V = .23, and non-significant when the experimenter was White, χ^2 (1, n = 55) = 1.63, p = .20, Cramer's V = .17.

Discussion

Our first two studies provided evidence that generational status may moderate the effects of positive stereotypes on well-being (Study 1) and preference for mainstream foods (Study 2) for East Asian Canadians. Results from Study 3 further supported our hypothesis that positive stereotyping may have more negative consequences for second-generation than first-generation members of this group, specifically with respect to identity denial. Compared to their generational counterparts who were not stereotyped, second-generation participants who heard the experimenter say that "Asians are very good at math" reported being perceived by others as less Canadian, whereas first-generation participants who were stereotyped felt being perceived by others as *more* Canadian. Thus, for individuals who were born in an East Asian country, being attributed with this positive aspect of the model minority stereotype leads to greater feelings of acceptance into the mainstream Canadian culture. For East Asians who were born in Canada, however, the same positive characteristic can make them feel rejected from Canadian culture and excluded from the mainstream cultural group. This finding adds to

national survey data showing that second-generation Canadians, despite having been socialized into mainstream society since they were born, perceive more discrimination than first-generation Canadians (Reitz & Banerjee, 2007). While positive stereotypes like the model minority stereotype may seem like compliments (Oyserman & Sakamoto, 1997) and perhaps offer a sense of social inclusion for first-generation East Asian minorities, they may have harmful social consequences or even feelings of social exclusion for second-generation individuals.

Second-generation participants were also lower on mainstream acculturation as a result of being stereotyped, but this effect was not observed among first-generation participants. The fact that there was a generational difference was not surprising, but the nature of the effect for second-generation was not anticipated. In line with the literature on the impact of identity denial (Cheryan & Monin, 2005), we had expected that second-generation participants would want to assert their mainstream identity after being stereotyped (i.e., report higher, rather than lower, mainstream acculturation) and experiencing a sense of mainstream identity denial. Rather, the outcome of stereotyping on mainstream acculturation mapped onto our finding with identity denial; that is, being stereotyped led to participants reporting being less acculturated to mainstream Canadian society. The construct of mainstream acculturation that we used (Ryder et al., 2000) may not have been distinct enough from our measurement of identity denial, though our hypothesis also lacked support from other non-identity related measures, such as emotion and food preference and behaviours.

Experimenter race was not a moderator of the effects of stereotypes on East Asian Canadian participants' responses. Several studies in the discrimination literature have

found that the race of the experimenter influenced African American participants' test performance (Deaux et al., 2007; Marx & Goff, 2005; Thames at al., 2013). The negative impact of stereotype threat on performance that is observed when the experimenter is an outgroup member seems to diminish when the experimenter is an ingroup member, indicating that the perceived ingroup or outgroup membership of the other person is a critical component driving these effects. The distinction between ingroup and outgroup members, however, may be complicated by generational status. Qualitative research by Kibria (1997) has found that some second-generation Asian Americans construct their ethnic identity based on their upbringing and experiences as a second-generation American, while perceiving a boundary between themselves and first-generation Asian Americans. The East Asian experimenter in the current study was a first-generation Canadian and had a pronounced accent in his speech. Due to this discernible marker of the East Asian experimenter's first-generation status, second-generation may not have viewed him as a fellow ingroup member, weakening our experimental manipulation of experimenter race. It is also possible that participants' reactions in the East Asian experimenter condition were based on their assumption of the experimenter's knowledge or beliefs about the stereotype.

A second potential explanation for our null result was that our primary measures were focused on psychological outcomes related to emotion, well-being, and cultural identities rather than performance in cognitive domains. It would have been interesting if we had actually administered the GRE questions, as we would have been able to see whether our manipulation of experimenter race has an impact on GRE performance. In fact, generational status, the other moderator, was a key variable in predicting whether

participants chose the verbal or the quantitative GRE section. The proportion of second-generation participants who chose the quantitative section over the verbal section was comparable across the stereotyping and control conditions. Yet almost three-quarters of first-generation participants in the stereotyping condition chose the quantitative section, relative to just over 40% in the control condition. First-generation but not second-generation individuals may have taken on the GRE task as a challenge where they have the chance to live up to the high expectations of the positive stereotype. This finding also brings up intriguing questions on the different factors that may affect performance-related outcomes.

General Discussion

This dissertation built upon the existing stereotyping literature by moving beyond the traditional focus on negative stereotypes and examining their effects for an understudied population. Across three studies, we demonstrated that the model minority stereotype *is* like a double-edged sword, both with respect to content (i.e., both positive and negative aspects) and its associated outcomes (i.e., both positive and negative consequences), for East Asian Canadian young adults. Second, this research tested variables that may determine when and for whom positive or negative outcomes occur. Our results indicated that generational status is one of these factors; whether an individual was born in Canada or an East Asian country had some bearing on the nature of these outcomes, especially with respect to positive stereotypes.

Negative characteristics (i.e., lacking social skills, being too emotionally-reserved, or having English difficulties) were related to lower levels of well-being and self-esteem (Study 1) and more negative emotion (Study 2). This consistent result was not surprising, given that being attributed with such undesirable traits would likely have a negative impact on any individual, regardless of racial background or stereotype applicability. The negative impact of negative stereotype characteristics did tend to be stronger among second-generation compared to first-generation participants. Previous work has shown that second-generation individuals are more likely to perceive racial discrimination (Reitz & Bannerjee, 2007) and to be more negatively affected by discrimination (Ying et al., 2000). Thus, although negative stereotypes may have unwanted consequences for first-generation individuals, their effects may be magnified for second-generation individuals.

Our pattern of results for positive stereotype characteristics was not as consistent across generational statuses as the pattern for negative stereotypes. Positive stereotypes were linked to both positive and negative outcomes, and in general, the outcomes were much more positive for first-generation participants compared to second-generation participants. Among first-generation participants, positive stereotypes were linked to better well-being and self-esteem (Study 1). First-generation individuals also felt that others perceived them as more Canadian after hearing another person say that "Asians are very good at math" (Study 3). Perhaps first-generation participants took these positive characteristics at face value, viewing them as compliments about their racial ingroup or as indicators of social inclusion. In contrast, second-generation participants reported poorer well-being (Study 1) and more denial of their mainstream Canadian identity (Study 3) in response to competence or math stereotypes. These findings suggest that whereas the first-generation may embrace the flattering qualities associated with their racial category, the second-generation may perceive these qualities as being threatening to or as invalidating their Canadian identity.

Stereotyping may also be seen as threatening because it denies an individual the sense of individuality from the group (Siy & Cheryan, 2012). Individuality is particularly valued in Western cultures with independent self-construal (Markus & Kitayama, 1991). Therefore, stereotyping and the threat of being depersonalized may be particularly strong among second-generation individuals, who have been socialized to view themselves as differentiated from their social groups. Recent work by Siy and Cheryan (2012) found that positive stereotyping led both first- and second-generation Asian Americans to feel more depersonalized compared to those who were not positively stereotyped. This sense

of depersonalization then predicted negative interpersonal responses (i.e., dislike for the stereotyper), but only among second-generation Asian Americans, suggesting that depersonalization is more threatening for those who were born in the U.S. than those who were foreign-born.

Although the effect of being positively stereotyped was not moderated by racial background of the stereotyper in Study 3, stereotyper race did influence the participants' open-ended responses in Study 2. Participants who wrote about a situation in which another person made an assumption about them were twice as likely to attribute the assumption to a racial categorization or stereotype when the other person was not Asian compared to when the other person was Asian. In addition, participants were five times as likely to report feeling negatively when the other person was not Asian compared to when the other person was Asian. These rudimentary findings seem to suggest that whether the other person is of the same or different race as the target may affect how an assumptive comment is interpreted (e.g., as discriminatory or racialized) or experienced emotionally. It is important to note, however, that when the assumption involved a trait that is stereotypical of East Asians, the majority of participants said that the stereotyper was non-Asian.

Another notable difference between positive and negative stereotypes was in the reason underlying the characteristic. While only half of the participants in Study 2 attributed the assumption that they are socially-awkward to their racial background, over 80% of participants attributed the assumption that they excel at math and science to their racial background. This finding is consistent with research indicating that achievement-

related traits are more common and more tightly yoked to the idea of the model minority stereotype than traits in the interpersonal domain (Oyserman & Sakamoto, 1997).

Limitations and Future Research

There are number of limitations that should be noted. First, our sample sizes, especially in Studies 2 and 3, were smaller than we initially hoped, which presented challenges in detecting small but real effects. Obtaining larger sample sizes would also allow us to test statistical models that can identify additional moderating and mediating factors. As discussed earlier, the degree to which one has an independent self-construal has been proposed to influence the degree to which positive stereotyping is viewed as a depersonalizing threat to the self (Siy & Cheryan, 2012).

We were able to identify one statistically significant moderator, generational status, which played a role in whether the outcomes related to being stereotyped were positive, negative, or neutral. Although we found meaningful differences between first- and second-generation participants, this dichotomous categorization may not capture the wide variation within each generational status group. For example, Wang et al. (2013) found that among first-generation Asian Americans, earlier age of arrival in North America predicted more negative emotional outcomes following identity denial. Other researchers have differentiated between first-generation Chinese Canadian cohorts based on age of arrival, such as those who arrived in Canada prior to completion of elementary school, after elementary school, and international students (e.g., Kuo & Roysircar, 2004), with respect to factors and outcomes related to acculturation (e.g., Cheung, Chudek, & Heine, 2010). Although the subsample sizes within the first-generation in our three

studies were not large enough for such analyses, it would be interesting in future research to explore the effects of minority stereotypes within generational statuses.

Another limitation of this research was that it cannot speak to variation among East Asian ethnic subgroups. Previous research on Asian minority stereotypes has typically used the "Asian" pan-ethnic category to refer to perceptions of Asian Americans (a group which includes East, Southeast, and South Asians) as a whole. Exploratory findings from Study 1 suggested that not all East Asian groups are associated with the same stereotypes or respond to stereotypes in the same way. Moreover, research in the U.S. has indicated that different Asian groups can vary in their patterns of acculturation, given their reasons for migration and prior contact history with the new host society, (Oyserman, Coon, & Kemmelmeir, 2002) and levels of education or career success (Reeves & Bennett, 2004).

Particularly relevant to the positive aspects of the model minority stereotype, the most educated ethnic groups (i.e., university completion) in Canada on the basis of the 2002 Ethnic Diversity Survey were the Korean and Japanese, followed by the Chinese and South Asians (Abada, Hou, & Ram, 2009), whereas Cambodians and Laotians in the U.S. tend to be less educated, experience more poverty, and have higher rates of unemployment. Such differences in educational and career attainment among different Asian groups may be associated with wide variation in the extent to which individuals believe the model minority stereotype to be self-relevant, or the extent to which stereotypes are related to psychological outcomes. Education level has also been noted to influence perceived discrimination, such that higher educated immigrants tend to perceive more discrimination and less respect for minorities (de Vroome, Martinovic, &

Verkuyten, 2014). In this dissertation research, the samples were relatively homogeneous in education level (the majority were first-year undergraduates). Nonetheless, broad categorization of a cultural group may be misleading when trying to generalize knowledge across its heterogeneous subgroups, especially when using non-undergraduate samples (see Lalonde, Cila, Lou, & Giguère, 2013). Our sample in Study 2—which consisted only of Chinese Canadians—was a first step in a direction towards uncovering the heterogeneity between different East Asian groups.

Studies using Asian American samples were used to inform hypotheses for East Asians Canadians in my studies because the relevant literature originates almost exclusively from the U.S. There may be differences between these two contexts (see Reitz, Zhang, & Hawkins, 2011, for a review), however, and Asians are particularly attuned to cues in their social context (Tsai, Ying, & Lee, 2000), meaning that the experience of stereotypes and racial discrimination in each country may be quite different. Identity denial, for example, may vary in frequency or meaning across contexts. In large, multicultural cities such as Toronto, where a large proportion of individuals were born outside of Canada (approximately 2.3 million in 2006; Statistics Canada, 2007), being asked, "Where are you from?" may be perceived as a legitimate question rather a discriminatory remark. This idea may also speak to why the multi-item identity denial measure we created for Study 3 had poor psychometric properties and why we did not find the same magnitude of effects as prior American research. Future studies should attempt to test the generalizability of our findings as East Asian minority stereotypes in Canada may differ from those in other areas in terms of their content, intensity, and valence, as well as their influence on other psychological aspects such as identity and

perceived discrimination. In order to develop an accurate understanding of socially-constructed attitudes and beliefs like stereotypes, it is important to take into account the specific historical and contemporary cultural environments and experiences of the particular groups of interest within that context.

Although we conducted this research from the lens of East Asian minorities, it is important to consider the findings in tandem with existing literature based on the majority group perspective. Research has shown that although White Americans hold some positive stereotypes about Asian Americans, they also harbour negative attitudes towards Asians (Maddux, Galinsky, Cuddy, & Pollfroni, 2008). Beliefs about attributes of the model minority stereotype were also linked to negative emotions in White participants, such as envy, and a greater degree of social rejection towards non-Asian Americans (Lin et al., 2005). This finding suggests that although the model minority stereotype is harmless and innocuous on the outside, it may arouse negative feelings and targeted prejudice. A potential reason for this may be the unwavering connection between the positive and negative aspects of this stereotype. In other words, positive stereotypes about African Americans may facilitate White Americans' application of negative stereotypes about African Americans (Kay, Day, Zanna, & Nussbaum, 2013). This idea is further supported by the numerous associations found between negative and positive stereotype aspects for our East Asian Canadian sample in Study 1. It would be interesting to test whether East Asian Canadians, especially second-generation individuals, interpret positive stereotyping as discrimination because they suspect that others are actually assuming negative beliefs behind the positive smokescreen.

Finally, a recent and large-scale meta-analytic review of the relationship between perceived discrimination and psychological well-being by Schmitt, Branscombe, Postmes, and Garcia (in press) revealed that effect sizes differ depending on how well-being is operationalized. The relationship between discrimination and negative outcomes (e.g., psychological distress, depression, anxiety) was larger than the relationship with positive outcomes (e.g., self-esteem, positive mood, positive well-being). Almost all of the outcome measures that were assessed in our studies were positive in nature, which could be relatively weakly related to stereotyping compared to more undesirable consequences. It would be interesting to assess a larger variety of outcome variables that tap into both positive and negative types of well-being and see whether the negative effects of stereotyping come about by increasing harmful aspects of well-being or by reducing the beneficial aspects of well-being.

Implications

Despite some of our methodological limitations, the present research has important theoretical and practical implications. For example, research that explores how positive stereotypes can make second-generation individuals feel less a part of the mainstream society may highlight the negative underpinnings of compliments directed at East Asian minorities. The pervasiveness of the model minority stereotype means that East Asian minorities are constantly faced with perceptions of their groups that may change how they view themselves if they begin to believe that the stereotypes are accurate. Perception or internalization of stereotypes that are perceived to be positive may be especially psychologically costly if second-generation individuals feel that they are defined by the stereotypical characteristics yet are unable live up to the high

expectations of the stereotype (Yoo, Burrola, et al., 2010). Positive stereotypes might not only lead to unfair expectations within the stereotyped domain, they may also pigeonhole members of the stereotyped group into certain academic or career paths that they may not have chosen otherwise (Czopp, 2010).

The positive valence of stereotypes can also allow them to go unnoticed or unchallenged (Barreto & Ellemers, 2005), leading to other psychological consequences, such as decreased likelihood of help-seeking (Gupta et al., 2011; Kim & Lee, 2014). Moreover, the positive attributes may mitigate opportunities for discarding common East Asian stereotypes as individuals continue to hold them, discuss them, and apply them, without realizing that they can be problematic for East Asian minorities. Researchers as well as the larger society and media should strive for an increased awareness of the dual nature of the model minority stereotype and be alerted to the ways in which even the positive side of East Asian stereotypes can have negative implications for well-being, cultural identity, and feelings of social inclusion among those of the second-generation. In practice, professional counsellors and educators should encourage members of this group to seek help and support as they are faced with the exceedingly high expectations of the positive stereotype and to foster opportunities for development of interpersonal skills and social competence (Tayag, 2011).

Our findings suggest that extra attention should be directed at understanding how stereotypes affect second-generation minorities, but the model minority stereotype may not be all bad. From the perspective of first-generation East Asian minorities, this stereotype may even have some positive effects. Generational differences in dealing with the extreme intellectual and academic expectations of the stereotype may align with

cross-cultural differences in theories regarding the nature of the self. People who hold an incremental view of the self tend to believe that one's abilities and traits are malleable and can be improved through effort (Dweck & Leggett, 1988). In contrast, those who hold an entity view of the self perceive one's abilities and traits as largely fixed and innate. The incremental view is more likely to be embraced by those from Asian cultures whereas the entity view is more likely to be endorsed by those from North American cultures (e.g., Norenzayan, Choi, & Nisbett, 2002). Thus, the stereotype's extremely high standard may suggest that one's innate abilities and skills are not adequate among the second-generation (who may be more likely to have an entity view of self) and lead to psychological consequences (e.g., greater stress, lower well-being). At the same time, it may represent a meaningful goal that can be achieved through self-improvement and adaptation among the first-generation (who may be more likely to have an incremental view of self) and lead to psychological benefits (e.g., heightened motivation, self-esteem).

Conclusion

The driving aim of this dissertation was to unmask the façade of the model minority stereotype. The discrepant relationships noted for the different sides of this stereotype suggest that researchers should consider not only the valence of overall attitudes about a group, but also the content of specific beliefs about a group. The findings of these three studies offer a starting point for understanding the complex picture created by mixed stereotypes such as those associated with East Asian minority groups and will inform how we might be able to reduce the harmful effects of stereotypes for members of ethnic minority groups.

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Appendix A: Indiscriminate Responses Scale (IRS; Marjanovic, 2009, unpublished scale)

1. To answer this question, please choose number four, “neither agree nor disagree.”

Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

2. Choose the first option—“strongly disagree”—in answering this question.

Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

3. To respond to this question, please choose number five, “slightly agree.”

Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

4. Please answer this question by choosing number two, “disagree.”

Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

5. In response to this question, please choose number three, “slightly disagree.”

Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

Note. To boost the effectiveness of IRS-type items, two conditions should be met. First, a statement in the questionnaire’s instructions should tell responders that some of the items they are about to answer will be instructional and direct them exactly how to respond. This will prepare responders for the nature of the IRS items which may at first seem strange given they require very different responses than regular personality inventory items. Second, randomly imbedding IRS items in a questionnaire makes them more effective because they are more difficult for responders to visually identify where and when they appear. This maximizes the items’ efficacy in identifying random responding.

Appendix B: Study 1 Measures

Stereotype Perception: Scale of Anti-Asian American Stereotypes (SAAAS; Lin, Kwan, Cheung, & Fiske, 2005)

Below are a number of statements with which you will agree or disagree. There are absolutely no right or wrong answers. Use the specified scale to indicate the number that best matches your response to each statement (original instructions).

0	1	2	3	4	5
Strongly disagree	Moderately disagree	Slightly disagree	Slightly agree	Moderately agree	Strongly agree

	Strongly disagree	Moderately disagree	Slightly disagree	Slightly agree	Moderately agree	Strongly agree
East Asian Canadians seem to be striving to become number one. (C)	0	1	2	3	4	5
East Asian Canadians commit less time to socializing than others do. (U)	0	1	2	3	4	5
In order to get ahead of others, East Asian Canadians can be overly competitive. (C)	0	1	2	3	4	5
East Asian Canadians do not usually like to be the center of attention at social gatherings. (U)	0	1	2	3	4	5
Most East Asian Canadians have a mentality that stresses gain of economic power. (C)	0	1	2	3	4	5
East Asian Canadians can sometimes be regarded as acting too smart. (C)	0	1	2	3	4	5
East Asian Canadians put high priority on their social lives. (U)	0	1	2	3	4	5
East Asian Canadians do not interact with others smoothly in social situations. (U)	0	1	2	3	4	5
As a group, East Asian Canadians are *not* constantly in pursuit of more power. (C)	0	1	2	3	4	5
When it comes to education, East Asian Canadians aim to achieve too much. (C)	0	1	2	3	4	5
East Asian Canadians tend to have less fun compared to other social groups. (U)	0	1	2	3	4	5
A lot of East Asian Canadians can be described as working all of the time. (C)	0	1	2	3	4	5
The majority of East Asian Canadians tend to be shy and quiet. (U)	0	1	2	3	4	5

East Asian Canadians are not very "street smart." (U)	0	1	2	3	4	5
East Asian Canadians know how to have fun and can be pretty relaxed. (U)	0	1	2	3	4	5
Most East Asian Canadians are not very vocal. (U)	0	1	2	3	4	5
East Asian Canadians are a group *not* obsessed with competition. (C)	0	1	2	3	4	5
East Asian Canadians spend a lot of time at social gatherings. (U)	0	1	2	3	4	5
Oftentimes, East Asian Canadians think they are smart than everyone else is. (C)	0	1	2	3	4	5
East Asian Canadians enjoy a disproportionate amount of economic success. (C)	0	1	2	3	4	5
East Asian Canadians are not as social as other groups of people. (U)	0	1	2	3	4	5
East Asian Canadians are motivated to obtain too much power in our society. (C)	0	1	2	3	4	5
Most East Asian Canadians function well in social situations. (U)	0	1	2	3	4	5
Many East Asian Canadians always seem to compare their own achievements to other people's. (C)	0	1	2	3	4	5
East Asian Canadians rarely initiate social events or gatherings. (U)	0	1	2	3	4	5

Note. (C) = Competence subscale, (U) = Unsociability subscale.

Stereotype Internalization: Internalization of Asian American Stereotypes Scale (IAASS; Shen, Wang, & Swanson, 2011)

Below are a number of statements with which you will agree or disagree. There are no right or wrong answers. Use the specified scale to indicate the number that best matches your response to each statement.

1	2	3	4	5	6
Strongly disagree	Moderately disagree	Slightly disagree	Slightly agree	Moderately agree	Strongly agree

Modified from Shen, Wang, & Swanson's (2011) Internalization of Asian American Stereotypes Scale (IAASS) – 23 items **This scale will be modified according to the participant's racial background (i.e., East Asian, South Asian, European Canadian)*	Strongly disagree	Moderately disagree	Slightly disagree	Slightly agree	Moderately agree	Strongly agree
I feel I do not express my emotions as openly as my non-East Asian peers do. (ER)	1	2	3	4	5	6
As an East Asian Canadian, I expect myself to achieve more academically than students from other racial groups. (AC)	1	2	3	4	5	6
I am not comfortable showing my emotions in public. (ER)	1	2	3	4	5	6
As an East Asian Canadian, I feel that it would be difficult for me to enter a career not in math, science, or technical-related field. (EngL)	1	2	3	4	5	6
As an East Asian Canadian, I feel that I can be successful in a major that requires a lot of reading, writing, and verbal communication in English. (EngL)	1	2	3	4	5	6
I do not care more about my academic achievement than my non-East Asian peers do. (EngL)	1	2	3	4	5	6
I believe that it is important to keep my feelings to myself. (ER)	1	2	3	4	5	6
I am expected to perform well in math and science because I'm East Asian Canadian. (AC)	1	2	3	4	5	6
I sometimes feel that my poorer verbal communication skills put me at a disadvantage compared to my White Canadian peers. (EngL)	1	2	3	4	5	6
I am known among my non-East Asian peers as being academically successful. (AC)	1	2	3	4	5	6
I will be happy in a career that I am interested in, even if it does not offer a lot of prestige or money. (PC)	1	2	3	4	5	6
As an East Asian Canadian, I would choose a major that requires minimal reading, writing, and verbal communication in English. (EngL)	1	2	3	4	5	6
As an East Asian Canadian, I am expected by others to be	1	2	3	4	5	6

academically successful. (AC)						
I am as comfortable expressing negative feelings (e.g., anger, sadness, irritation) as my non-East Asian peers are. (ER)	1	2	3	4	5	6
As an East Asian Canadian, others expect me to pursue a career in math and science-related fields. (AC)	1	2	3	4	5	6
When choosing a career, I do not consider the prestige it would bring me. (PC)	1	2	3	4	5	6
I won't be happy in a career that does not offer prestige or money. (PC)	1	2	3	4	5	6
I would be comfortable choosing a major that requires a lot of reading, writing, and verbal communication in English. (EngL)	1	2	3	4	5	6
As an East Asian Canadian, I feel less comfortable with the verbal sections of academic assessment tests than I do with the math and science sections. (EngL)	1	2	3	4	5	6
Salary is one of the most important determining factors when choosing a career. (PC)	1	2	3	4	5	6
I am not comfortable showing my emotions in public. (ER)	1	2	3	4	5	6
Prestige is one of the most important determining factors when choosing a career. (PC)	1	2	3	4	5	6
As an East Asian Canadian, I would face more difficulty in a career that requires a lot of reading, writing, and verbal communication in English. (EngL)	1	2	3	4	5	6

Note. AC = Expectations for academic success subscale, PC = Pursuit of prestigious careers subscale, ER = emotional reservation subscale, EngL = Difficulties with English language subscale.

Appendix C: Study 2 Writing Manipulation

The three conditions varied in the situation that they were asked to think and write about. Other than the specific situation, the instructions were the same across conditions.

> **Positive stereotype condition.** Think of a past experience where a non-Asian person(s) assumed that you must be good at math and science because you are Asian. The person(s) also thought that you would fit well into a job that requires skills involving knowledge of math and science. The assumption that you are good at math and science was made regardless of what your actual math and science abilities were.
>
> **Negative stereotype condition.** Think of a past experience where a non-Asian person(s) assumed that you must be reserved or socially awkward because you are Asian. The person(s) also thought that you would not fit well into a job that requires a lot of social interaction. The assumption that you are reserved or socially awkward was made regardless of what your actual interpersonal skills were.
>
> **Control condition.** Think of a past experience where another person(s) assumed that you must be good at bowling. The assumption that you are good at bowling was made regardless of what your actual bowling skills were.

Instructions

(If you have never been in a situation like this before, please try to imagine it happening to you, and think about what it would be like to have this experience.)

Before continuing to the next page, CLOSE YOUR EYES for a few minutes to think about the situation. This might be difficult, but try to really think about past events that might be relevant. The goal of this activity is to visualize the situation in as much details as possible, including the people that were involved in the event, when and where it happened, and the emotions you felt. You will be asked to describe your personal experience, and the brief description of the situation above will be repeated throughout this section of the questionnaire.

[Next page]

Have you ever experienced a situation like this before? _____ YES _____ NO

1. Who made the assumption that <u>you must be good at math and science because you are Asian</u>? Please include details, such as their age, ethnicity, their relationship to you, and how well you know each other.

2. Please describe the context of the situation when the assumption was made that <u>you are good at math and science</u>. For example, where and when did it happen? What were you doing at the time?

3. Why do you think the person(s) assumed that <u>you must be good at math and science because you are Asian</u>? What are potential reasons for this assumption?

4. Please describe how it made you feel when that person(s) assumed that you were good at math and science because you are Asian. How good or bad did it make you feel? How intense were these feelings?

5. How did you react in this particular situation, when someone assumed that you were good at math and science because you are Asian? Why do you think you responded the way you did?

Note. The underlined text in the questions above was specific to the positive stereotype condition; the text was replaced with the relevant content (using the same format) for the negative stereotype condition (i.e., "you must be reserved or socially awkward because you are Asian") and control condition (i.e., "you are good at bowling").

Appendix D: Study 3 Experimenter Script

Thanks for coming in today. Did you have a hard time finding the place? I'm going to bring you to a different room for now but please remember where this room is.

[While walking down the hall] Is this your first study?

[In the study room] Before we begin, can you tell me your URPP number? ***[Get participant's 6-digit URPP number.]***

[Ask participant to turn off his/her cell phone.]

Let me tell you a bit about what is involved today and let me know if you have any questions as we go along. So, the way things work for the people working in this lab is that we have a lot of different studies going on at the same time. Given that it is pretty hard to get URPP students to come into the lab, the primary investigators often get us research assistants to run more than one study in the same session. So you will be participating in two different studies, but you will be getting an hour's worth of credit. Is this clear? Do you have any questions?

OK. Let me describe the two studies now, so you know what you will be doing today. I will also get you to sign the informed consent form for the first study now, and will give you the one for the second study after you finish the first part.

The first study is about social practices and how they are related to emotion. This study is pretty straightforward and consists of filling in a bunch of scales and measures in a questionnaire packet. I think you will find it is fairly self-explanatory. Any questions? Can you sign the form for this study?

[Hand participant the Consent Form and collect the signed form.]

The second study involves completing some sample questions for the GRE. It is a shorter study and takes only about 10 minutes. Have you ever heard of the GRE? So, GRE stands for Graduate Record Examination. This is an exam about general knowledge that you have to write if you want to get into an MA or PhD program in Psychology and students typically write the exam when they are in their 4th year. What we want to do is to see if 1st year psychology students who have not prepared for the exam are any different than 4th year students who have prepared for the exam. Any questions?

Have you ever seen the GRE or done any prep or practice questions for the GRE? ***[Make note of the answer, if "yes"].***

I am not going to give you the full GRE, but just a sample of questions. The complete exam takes over 4 hours. Don't worry, you will be getting a much shorter version today. There are two big parts to the GRE. One tests your verbal aptitude, basically your vocabulary knowledge and how well you work with words. The other part of the GRE tests your quantitative knowledge, basically your math knowledge and how well you work with numbers. We want to see how people perform on both parts of the GRE, but you will only have time for one of the sections in this session. It's up to you – you can either do some of the verbal problems or some of the math problems. For now, think about which type of questions you would like to do. You will have a chance to indicate your choice on the final page of the questionnaire packet.

[Stereotype condition:] If I were you, I would probably pick the math questions. Asians are really good at math, so I am pretty sure that you would do well on the math questions, and get a high score, but it's up to you to decide which part you would like to do.

[Control condition:] To tell you the truth, it doesn't really matter what you choose. They're matched for difficulty so people tend to do equally well on both. It's up to you to decide which part you would like to do.

[Give participant the questionnaire packet.]
Okay. You are all set to go on the first study. Please come find me in the other room when you are finished the questionnaire.

[Participant lets the RA know that he/she is finished the questionnaire.]
Okay, I see that you have chosen to do the Math (or Verbal) GRE questions. Before we move onto Part 2 of today's session, there are a few questions that the Principal Investigator wanted participants to answer separately and in a particular order. She said she wanted to get your feedback about the session so far, but I don't know what is in the envelopes and I will not be reading your responses. The questions are in these envelopes, which are numbered 1-2-3. After you write your answer for one question, put the piece of paper back into the envelope and <u>seal it</u>, before you open the next envelope. Please let me know when you are finished.

[Participant lets the RA know that he/she is finished]
Thank you. You have now finished participating in this research. There is actually no second part of the session. We were interested in providing you with two options for the hypothetical second study and seeing which option you would choose, but there are no actual GRE questions for you to answer. Do you have any idea what this study is actually about?

[DEBRIEFING: Summarize the following information in your own words, but make sure the message gets across, especially the part asking participants not to talk to other people about the study.]

The reason we had those questions in the envelope is because there was more going on today than I originally told you. First of all, everything that I have said to you today was part of a carefully-rehearsed script that was created for the experiment. ***[SHOW participant the experimenter script. If participant was in the Stereotype condition, you can say apologize for what you said to them.]***

So I am going to go over the study and explain what it was really about and if you have any questions, you can ask me.

A. The purpose of today's study was to investigate the effects of stereotypes on ethnic minorities in North America, specifically those of East Asian descent. I'll start with the theoretical rationale for the study and then I'll talk about the design.

B. Many of the immigrant groups who have come to the U.S. and Canada in recent decades are visible minorities. Compared to non-visible minorities, individuals who are visible minorities tend to encounter stereotyping more often and tend to be more psychologically affected by being the target of racial/ethnic stereotypes. East Asian Canadians are one of the largest visible minority groups in the country. Some of the most prevalent stereotypes

of this group are based on the characteristics of the model minority—being good at math, ambitious, and hardworking. Although these traits may seem complimentary in nature, the psychological effects of positive stereotypes can be positive for some people and negative for others. Our research seeks to understand the factors influencing when, why, and for whom certain outcomes may transpire. For example, how an individual responds to being stereotyped may depend on who does the stereotyping, specifically whether the person is an ingroup or outgroup member.

C. In today's study, we are interested in seeing how people respond to being positively stereotyped in a social interaction. To test this idea, you were greeted by a research assistant who was of either East Asian or Western European descent. I am one of the two research assistants for this study, and as I said earlier, everything that I said to you was actually part of a script created for the purposes of the study. All participants were all given the same instructions for the study and the same two options (math or verbal GRE questions) for the so-called "second part of the session." When I gave you the instructions earlier, you may have heard me make a comment about Asians being good at math. Do you remember me stating that? This was part of the script and does not reflect what I really think. Half of the participants heard this stereotype remark and the other half did not, so we can compare their responses on the questionnaire that they fill out afterwards. The questions in the envelopes were to check whether you had heard the comment. All other parts of the script were the same across conditions.

D. The goal of this experimental manipulation was to see whether being stereotyped as being good at math (compared to not being stereotyped) would subsequently influence how participants responded in terms of their self-reported emotions, cultural identities, and well-being. In addition, we were interested in how these measured responses to being positively stereotyped might vary depending on whether the research assistant was East Asian Canadian or Western European Canadian. It was hypothesized that being stereotyped (even when in a positive light) would have more negative psychological outcomes (e.g., more negative emotions) if one is stereotyped by a member of the mainstream society (i.e., a Western European Canadian person) than by a member of one's cultural ingroup (i.e., another East Asian Canadian). One reason for this prediction is that being stereotyped by a member of the mainstream culture may make the person feel like they are being judged solely on the basis of their ethnic category rather than being seen as "being Canadian enough."

E. Now, if I would have told you everything at the beginning of the study, it could have influenced your responses. Sometimes if people come into these experiments knowing exactly what the study is about, they try to be good participants and give us the responses we are looking for. On the other hand, if students know what the study is about, they might react and do the opposite of what we are looking for—either way these responses invalidate our results. Because we were only interested in people's natural responses, we had to be a little misleading. Do you have any questions, comments, or problems with this, because if you do, I would be happy to discuss it further with you. ***[deal with the deception VERY tactfully or give participants Evelina's email: elou@yorku.ca, which is on the Debriefing form.]***

F. Before I let you go, I want to ask for your help in not telling anyone about what you did in the experiment today until the end of the semester. As I just explained, if other students participate in this study with the knowledge of what the study is about, it would invalidate our results. So, can you do me a favour in agreeing not to tell anyone about it until the semester is over? ***[Get "yes" or head-nod from participant]***.

G. Thank you very much for participating and good luck with the rest of the term! ***[Give participant Debriefing form]***

Appendix E: Study 3 Measures

Emotions

Use the scale below to indicate the extent to which you are experiencing each of the following emotions right now, at this very moment.

	Not at all			Somewhat			Very much
Surprised	1	2	3	4	5	6	7
Angry	1	2	3	4	5	6	7
Proud	1	2	3	4	5	6	7
Offended	1	2	3	4	5	6	7
Confident	1	2	3	4	5	6	7
Annoyed	1	2	3	4	5	6	7
Excited	1	2	3	4	5	6	7
Calm	1	2	3	4	5	6	7
Satisfied	1	2	3	4	5	6	7
Upset	1	2	3	4	5	6	7
Happy	1	2	3	4	5	6	7
Pressured	1	2	3	4	5	6	7
Sad	1	2	3	4	5	6	7

Food Preferences

What is your favourite food dish? _____

What is your second favourite food dish? _____

What is your third favourite food dish? _____

Food Eating Frequency

Using the scale provided, please indicate how frequently you eat each of the food dishes listed below.

	Never						Very often
Pepperoni pizza	1	2	3	4	5	6	7
Pho (noodle soup)	1	2	3	4	5	6	7
Quesadillas	1	2	3	4	5	6	7
Apple pie with vanilla ice cream	1	2	3	4	5	6	7
Bibimbap (rice with vegetables and meat)	1	2	3	4	5	6	7
Macaroni and cheese	1	2	3	4	5	6	7
Thai chicken curry	1	2	3	4	5	6	7
Pasta with marinara sauce	1	2	3	4	5	6	7
Roast turkey and stuffing	1	2	3	4	5	6	7
Poutine	1	2	3	4	5	6	7
Pad Thai	1	2	3	4	5	6	7
Grilled cheese sandwich	1	2	3	4	5	6	7
Sushi	1	2	3	4	5	6	7
Chicken/pork/lamb souvlaki	1	2	3	4	5	6	7
Cheeseburger and fries	1	2	3	4	5	6	7
Bubble milk tea	1	2	3	4	5	6	7

Identity Denial (reversed-coded; Rodriguez, Schwartz, & Kraus Whitbourne, 2010)

How Canadian do other people perceive you to be?

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

What is your heritage or ethnic cultural background (e.g., Chinese)?
_____

Use the scale below to indicate the extent to which you have experienced the following situations:

**Armenta et al. (2013) Foreigner objectification scale (4 items) – MODIFIED version* Followed by 4 items taken from racial microaggression or perpetual foreigner items measures (*Liang et al., 2004; Torres-Harding et al., 2012*)	Never			Sometimes			Extremely often
You are asked by other people, "Where are you really from?"	1	2	3	4	5	6	7
Someone you do not know speaks to you in an unnecessarily slow or loud way.	1	2	3	4	5	6	7
Someone comments on or is surprised by your English language ability.	1	2	3	4	5	6	7
Someone questions your Canadian citizenship or residency.	1	2	3	4	5	6	7
Because of your ethnicity or race, other people assume that you are a foreigner.	1	2	3	4	5	6	7
Someone tells you that "you people are all the same."	1	2	3	4	5	6	7
Someone asks you if all your friends are the same race as you.	1	2	3	4	5	6	7
Someone assumes that you were born outside of Canada.	1	2	3	4	5	6	7