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“You’re not my Leader.” The Impact of Gender and Ethnic Stereotypes on Leadership Evaluations

By

Arief B. Kartolo

A Dissertation
Submitted to the Faculty of Graduate Studies
through the Department of Psychology
in Partial Fulfillment of the Requirements for the Degree of
Doctor of Philosophy
at the University of Windsor

Windsor, Ontario, Canada

2022

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by

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ABSTRACT

The effectiveness of a leader is important to the success of an organization across many levels. Because the effectiveness of leadership is subject to the evaluation and perception of followership, it is often influenced through biases and expectations – such as stereotypes. Although ample studies have demonstrated the impact of stereotyping on leadership roles, several gaps still need to be addressed in the literature. First, the literature tends to focus on the impact of gender stereotypes, while fewer studies have considered the impact of ethnic stereotypes on leadership roles. Second, few studies have investigated the impact of stereotypes based on multiple identities on leadership evaluations. Lastly, there is a lack of consistency as to how stereotypes are understood and approached within the leadership literature.

The aim of this project is to address these research gaps by introducing the Stereotype Content Model (Fiske et al., 2002) as a standardized framework to understand the impact of stereotypes on leadership expectations. The project explored the effects of both ethnic and gender stereotypes, and their intersections, on leadership expectations across two studies. The first study investigated the specific stereotypes associated with several demographic groups, while comparing the stereotypes with the expectations of effective leaders to highlight the (mis)matches between specific demographic groups and perceptions of effective leadership. The second study investigated the impact of stereotype-congruent and -incongruent information on subsequent leadership evaluation.

The first study found all leaders, regardless of demographic groups, were evaluated with the expectations of high warmth and high competence. However, despite the overall positive ratings, biases persisted affirming the barriers that women and ethnic minority individuals must navigate through in their pursuit of leadership roles. The second study found all leadership

groups were evaluated as most effective when displaying high warmth and high competence behaviours regardless of stereotypical expectations.

Overall, results of this study suggest the possible gatekeeping mechanisms that cultural stereotypes have in preventing otherwise potentially effective leaders from attaining leadership roles, due to biases in expectations stemming from gender and ethnicity. While women and members of ethnic minority groups elicited lower expectations of warmth and competence compared to White male leaders, such expectations did not influence the evaluation of perceived leadership effectiveness based on behavioural observations. This suggests biases stemming from cultural stereotypes mainly manifest during the early stages of the organizational hiring and promotion process, as leadership behaviours are more indicative than stereotypes in evaluating perceived leadership effectiveness.

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TABLE OF CONTENTS

CHAPTER I: INTRODUCTION

The concept of leadership is defined in many ways. Although those definitions vary (Stogdill, 1974), they consistently include the idea that leadership is a process of interpersonal influence involving different dynamics of power and authority to structure, guide, and facilitate organizational activities and goals (Lotts, 2007; Sanchez-Hucles & Davis, 2010; Yukl, 2009). The performance of a leader is crucial to organizational success in many ways. For instance, at an organizational level, effective leaders can reinforce and maintain organizational cultures and facilitate positive organizational change (Hao & Yazdanifard, 2015; Schein, 2004). At the employee level, effective leadership is associated with positive job satisfaction, improved job effort and performance, increased commitment, and better group performance outcomes (House et al., 2014; Madanchian et al., 2017).

The current understanding of leadership performance is influenced by several theories, including the Ohio State Leadership Studies (Fleishman et al., 1955), Theory X and Theory Y (McGregor, 1960), and the Managerial Grid (Blake & Mouton, 1964, 1985). These theories posit that differences in leadership performance can be accounted for by two dimensions of leadership attitudes and behaviours: concern for people and concern for production (Blake & Mouton, 1985; Fleishman et al., 1955; McGregor, 1960). Concern for people reflects the degree to which a leader accommodates and prioritizes the needs and well-being of their employees, whereas concern for production reflects the degree to which a leader places an emphasis on organizational objectives, efficiency, and productivity (Blake & Mouton, 1985). These two dimensions are not mutually exclusive. Rather, the performance of a leader is evaluated through the combination of both dimensions which are used to predict a wide range of leadership outcomes, including follower satisfaction and motivation, leader effectiveness, group and organization performance,

perceived organizational support, and organizational commitment (Hutchinson et al., 1998; Judge et al., 2004; Pool, 1997). Accordingly, effective leadership requires an emphasis on both the well-being and needs of the employees, as well as the production of the work teams to meet organizational goals (Blake & Mouton, 1985).

These two dimensions – people and production – offer a framework to assess leadership performance (Blake & Mouton, 1964), and are adapted widely to derive other prominent management performance theories (e.g., Hall, 1969; Rahim, 1983; Renwick, 1975; Thomas & Kilmann, 1974). This framework, however, does not take into account the biases and subjectivity that are rooted within leadership evaluation (Hutchinson et al., 1998). Leadership is a reciprocated process that involves relational influence between the leader and the follower (Ilie & Schnurr, 2017; Kwantes, 2019). This reciprocation of relational influence posits that the evaluation of a leader is often influenced through a biased, cultural lens (House et al., 2014). Lord, Foti, and De Vader (1984) introduced the Implicit Leadership Theory, which contends that every individual has their own conceptualizations of cognitive categories related to leadership. The theory suggests that individuals have implicit assumptions and expectations of what a leader should look like and how a leader should behave (Offermann et al., 1994), influenced by the demographic characteristics, such as gender and ethnicity, of those being evaluated (Javidan, 2006).

Importantly, both gender and ethnicity are social constructs. Gender is derived from roles and expectations related to the biological sex (Phillips, 2005), and ethnicity is defined by the physical characteristics, culture, and relational status of the individual in the society (Ford & Harawa, 2010). Individuals then use these preconceived expectations derived from those social

constructs – or stereotypes – to establish a prototypical conceptualization of leadership (Rosette et al., 2008).

There is a general presumption in the literature that leaders constitute a homogeneous population (Hooijberg & DiTomaso, 1996). This presumption still echoes in the current understanding of leadership, with most studies investigating leadership through the lens of a specific demographic group: White, Anglo North American, and heterosexual males (Chin, 2014). This is not surprising, as the scholarship reflects the current demographic make-up of leadership which shows a staggering gap in the proportion of White men and members of minority groups (i.e., gender and ethnic minority) occupying leadership positions in North America. According to the 2015 Labour Force Survey, women are underrepresented in the private sector, accounting for only 25.6% of senior manager roles across Canada (Moyser, 2017). A study looking into 69 large Canadian corporations found women occupy 25% of vice-president positions and an even smaller percentage (15%) of CEO positions (Evans, 2017). Additionally, of the top 500 companies in Canada, 109 of those companies do not have any women on their board of directors, and women occupy only 19.5% of those board seats (Canadian Women's Foundation, 2017). Ethnic minorities are also underrepresented in leadership positions in Canada. Despite the fact that ethnic minorities comprise 22.3% of the country's population and account for 21.21% of the labour force in Canada (Statistics Canada, 2017a), ethnic minorities occupy only 5.9% of the board seats in Financial Post 500 organizations (Catalyst, 2019).

To this day, there is still an underwhelming body of research explaining the underrepresentation of minority groups in leadership positions and the barriers preventing the advancement of marginalized groups as a result of stereotyping (Avolio et al., 2013; Eagly &

Chin, 2010; Holmes, 2017). Therefore, to address the concerns raised by multiple scholars (e.g., Avolio et al., 2013; Chin, 2014; Eagly & Chin, 2010; Holmes, 2017; Ospina & Su, 2009), it is imperative to study how stereotyping creates barriers that challenge the advancement of minority group members into leadership roles.

Purpose

The impact of stereotyping on leadership expectations has been well documented in the literature (e.g., Eagly & Karau, 2002; Knight et al., 2003; Logan, 2011). Through interactions, individuals develop sets of beliefs and expectations regarding the behaviours, characteristics, and traits of leaders. These beliefs – or stereotypes – then are developed into leadership categories. Subsequently, these various forms of categories are further developed to formulate an exemplar of what a typical leader looks like. This exemplar is known as the implicit leadership prototype (Lord & Maher, 1991; Lord & Maher, 1993). Many researchers agree that these stereotypes of what leaders ought to be are one of the underlying reasons for the underrepresentation of women and ethnic minority individuals in leadership roles (e.g., Castaño et al., 2019; Duehr & Bono, 2006; Fiske & Lee, 2008), since generally, the majority of the population in North America perceives White males as the prototypical image of a leader (e.g., Avery et al., 2015; Rosette et al., 2008; Sackett & DuBois, 1991).

Studies have consistently demonstrated that leaders who possess traits and characteristics that match the implicit leadership prototype are appraised and evaluated more favourably than leaders who do not fit the implicit leadership prototype – such as female leaders or ethnic minority leaders (Eagly & Carli, 2007; Rosette et al., 2008). For example, Eagly, Karau, and Makhijani (1995) conducted a meta-analysis to investigate the impact of gender on the assessment of leadership effectiveness. Although the results of this meta-analysis found that both

men and women were perceived as equally effective leaders, women were evaluated as less effective than men in male-dominated work settings. Such inequitable evaluations can also be observed even when female leaders hold equivalent qualifications and behave similarly to male leaders (Eagly & Karau, 2002). The stereotypical image of a leader also impacts the evaluation of ethnic minority leaders. One study conducted using both American and Canadian undergraduate participants found ethnic minority leaders are evaluated as less trustworthy compared to White leaders (Lutz et al., 2018). Through four experiments, Rosette and colleagues (2008) provided vignettes describing different types of leaders (i.e., project leaders, division leaders, CEOs) along with the ethnic composition of the organization, and requested participants to identify the ethnicity of the leader using a multiple-choice type response. The authors found that participants assumed organizational leaders were White, regardless of the demographic composition of the organization or industry. Rosette and colleagues (2008) concluded that being White is a stereotypical attribute of a business leader in the United States, and as a result of this attribution, White leaders are evaluated more favourably and are perceived to have more potential in comparison to their ethnic minority counterparts.

Although studies have demonstrated the impact of stereotyping on leadership evaluation, three gaps still exist in the literature. First, while issues relating to gender diversity in leadership roles have gained some traction recently, scholars have continuously asserted concerns regarding the lack of systematic investigation of how other demographic characteristics, such as ethnicity, impact leadership evaluations (e.g., Avolio et al., 2013; Chin, 2014; Cortina, 2008; Eagly & Chin, 2010). Second, most of the studies in this area tend to focus on the stereotypes associated with one specific demographic group such as women (e.g., Hoyt, 2010) or Asians (e.g., Kiang et al., 2017) in leadership positions. Very few have explored the intersection of multiple identities,

such as female ethnic minority and their effects on leadership expectations (e.g., Sanchez-Hucles & Davis, 2010). Third, although the literature provides a standardized framework for evaluating leadership performance through person and production dimensions (e.g., Blake & Mouton, 1985; Fleishman et al., 1955; McGregor, 1960), this framework does not consider the influence of stereotyping in leadership evaluation. As pointed out by Hooijberg and DiTomaso (1996) and Eagly and Chin (2010), the current literature still lacks a standardized method to study the impact of stereotyping on leadership roles.

The purpose of this project is to close those gaps by introducing and integrating a standardized framework to investigate the impact and function of multiple demographic stereotypes in leadership roles. Specifically, this study draws on the Stereotype Content Model (SCM, Fiske et al., 2002). The SCM provides a standardized approach to assess all forms of stereotypes along two dimensions – warmth and competence – that is similar to the model for assessing leadership performance through person and task dimensions respectively. Several studies have used the SCM to assess the impact of different leadership styles on leadership outcomes, such as the impact of warmth and competence expectations on organizational commitment (Falvo et al., 2016), justice perceptions in the workplace (Huang et al., 2017), voter support (Michel et al., 2013) and voting behaviour (Costa & Ferreira da Silva, 2015). Although these studies have demonstrated the utility of warmth and competence dimensions for predicting leadership outcomes, and have demonstrated similarities in the outcomes they predicted in comparison to the person and task dimensions, no studies have explored the impact of demographic stereotypes on leadership evaluation using a standardized framework such as the SCM. The integration of the SCM can advance the understanding of leadership performance, by exploring how the expectations of effective leadership may be influenced by stereotypes that are

ingrained through our preconceived biases of various demographic groups. Using the SCM, this study evaluates and approaches stereotypes using the intersection of gender and ethnicity; specifically, it evaluates stereotypes of male and female leaders in combination with various ethnic backgrounds (i.e., White, Asian, Black, and Indigenous Peoples). Use of the SCM allows this study to capture the biases and subjectivity that are rooted in leadership performance evaluation by comparing and contrasting discrepancies between the perceptions of effective leaders and leaders of various demographic groups. The proposed project is guided by the following research questions:

RQ1. What is the stereotype of an effective leader based on the Stereotype Content Model (Fiske et al., 2002)?

RQ2. What are the stereotypes for White Canadians, Black Canadians, Asian Canadians, and Indigenous Peoples in Canada in relation to leadership roles, and do the stereotypes of those groups differ based on gender?

RQ3. Is the expectation of effectiveness the same for every leader? Would ethnic and gender minority leaders be perceived as more effective when they match their demographic stereotypes, or would they be perceived as more effective when they fit the 'effective leader' stereotype?

Two studies were designed to address these research questions. The goal of Study 1 is to look at the replicability of SCM in leadership studies, by first replicating the affective and behavioural responses associated with the two dimensions of leadership expectations in warmth and competence, and establishing the stereotype expectations of leaders from various demographic groups. The goal of Study 2 is to investigate the perceived effectiveness of leaders from various demographic profiles based on various scenarios of leadership behaviours.

CHAPTER II: LITERATURE REVIEW

This chapter provides a review of the current literature, starting with a discussion of the stereotyping literature, followed by an in-depth review of the Stereotype Content Model (SCM), including the conceptualization of the warmth and competence dimensions and their impact on emotional and behavioural responses. The review of the SCM also expands into its application and integration with organizational studies, along with hypotheses that replicate the SCM emotional and behavioural responses specifically in the organizational context. Finally, hypotheses of specific stereotype content associated with various demographic profiles are formed through review of the current understanding of ethnic and gender stereotypes in relation to leadership expectations and evaluations. It should be noted that much of the literature is based on Anglo North American viewpoints, and unless explicitly mentioned otherwise, those are the respondents and the culture that the findings are ascribed to.

Stereotyping

The term ‘stereotype’ was first coined by Lippmann (1922) and was originally defined as knowledge structures that portray mental pictures of different groups of people. The current literature defines stereotypes as qualities, characteristics, or traits that are perceived as associated with, and often overgeneralized to, specific groups or categories of people (Gaertner & Dovidio, 1986; Schneider, 2005). Stereotypes are heuristics which perceivers utilize to understand – often inaccurately – and make inferences about specific groups of people (Operario & Fiske, 1998). Perceivers use stereotypes to reframe their attitudes and behaviours towards members of specific social groups to avoid the cognitively demanding tasks that are required to learn the unique qualities and characters of every encountered individual (Bodenhausen, 1990).

Stereotyping can lead to adverse consequences for the target group (e.g., Appel & Kronberger, 2012; Hartley & Sutton, 2013). One of the most prominent theories explaining the negative impact of stereotyping is known as the *stereotype threat*, a self-induced fear that one is conforming to the domain-specific stereotypes associated with their group membership (Steele, 1997). Stereotype threat diminishes the performance of an individual significantly because of the awareness of negative stereotypes. For example, Steele and Aronson (1995) conducted studies that induced the ethnic stereotypes of Black undergraduate participants' intellectual ability by increasing the saliency of the diagnostic nature of the verbal test; in other words, the authors generated the stereotypes by merely framing the same test as diagnostic or non-diagnostic of intellectual abilities. Results confirmed the negative effects of stereotype threat. Black participants underperformed compared to White participants in the ability-diagnostic (i.e., stereotype inducing) condition, but such differences were not found in the control condition. Spencer, Steele, and Quinn (1999) conducted similar experiments by investigating whether stereotype threat could also be induced for STEM (i.e., science, technology, engineering, mathematics) related tasks in female participants. Results found women performed worse than men when the stereotype was induced, but both genders performed similarly when the stereotype was not induced. The negative impact of stereotype threat is not limited only to marginalized groups. For example, White participants performed worse in sports when the task was framed as diagnostic of athletic abilities in comparison to Black participants (Stone et al., 1999), and White men underperformed in math tests when told that their tests would be compared to the results of Asian men (Aronson et al., 1999).

It is important to note, however, that the negative impact of stereotype threats is conditional based on a number of factors (Pennington et al., 2016). Effects of stereotype threat

are more likely to emerge when the tasks are more cognitively demanding and higher in difficulty (Blascovich et al., 2001; Spencer et al., 1999). For example, Hess, Emery, and Queen (2009) found older adults performed worse in memory tasks when the stereotype of aging was activated, but only when the memory task was cognitively more demanding; Keller (2007) found women performed significantly worse on math tests when the stereotype threat was induced, but only for questions that were higher in difficulty. In addition, studies found that individuals who believe in the legitimacy of stereotypes associated with their social groups are more susceptible to the effects of stereotype threat (Elizaga & Markman, 2008; Schmader et al., 2004). The impact of stereotype threat is also stronger when the target individuals are more aware of the stigma associated with their social category (Brown & Pinel, 2003; Hess et al., 2009), have lower self-esteem (Rydell & Boucher, 2009), or have internal locus of control tendencies (Cadinu et al., 2006).

Research found the majority of stereotypes – even positive stereotypes – have negative connotations or impact for the target group. Czopp (2008) conducted two experiments investigating how positive stereotypes, such as compliments made based on stereotypical assumptions, are perceived by the target group. In the first experiment, Black participants watched a video of a White candidate interviewing for a job in a diversity task force at a university. In the positive stereotype condition, the candidate complimented the African American community by praising their athletic ability, and in the control condition, the candidate only responded to the interview questions without providing extra comments. Results of this experiment found Black participants evaluated the White candidate in the positive stereotype condition more negatively than the candidate in the control condition. The authors explained that the negative reactions from Black participants are likely due to several reasons such as

resentment at having been forced to listen to inaccurate generalizations about their ethnic group (Branscombe et al., 1999), sensitivity towards social cues that are potentially prejudiced (Flournoy et al., 2002), and perceptions of the candidate's incompetency for making ignorant and stereotypical remarks. In the second experiment, Black and White participants evaluated interracial interactions with a White actor expressing stereotypic remarks of admiration towards the Black actor. Results found Black participants evaluated the interactions more negatively than White participants when stereotypes were expressed in comparison to the control group. Although positive stereotypes are often expressed with benevolent intent from the perpetrator's perspective, such stereotypes are likely to be perceived as ignorant, thus leading to negative reactions from the target group.

Following the results of Czopp (2008), Kay and colleagues (2013) conducted a series of experiments using fake media articles exploring whether positive stereotypes of African Americans are expressed with innocuous or insidious beliefs. Results of the experiments suggested the use of positive stereotypes harmed the target group by masking the negative intent. Exposure to positive stereotypes reduced participants' level of skepticism towards their own negative beliefs, while affirming their beliefs in explaining group differences as biological underpinnings and facilitating the application of negative stereotypes in their evaluations of the target group.

In short, stereotyping sets behavioural and attitudinal expectations during intergroup and intercultural interactions, but these expectations are often inaccurate and overgeneralized, leading to unwanted biases and discrimination across many situations (Operario & Fiske, 1998). Research has consistently demonstrated the negative effects of stereotyping (e.g., Czopp, 2008;

Steele & Aronson, 1995), and these negative effects are not limited only to individuals in marginalized groups (e.g., Aronson et al., 1999; Stone et al., 1999).

Stereotype Content Model

In order to find solutions to address the negative effects of stereotyping, it is important to first understand the content of stereotypes, as they partly dictate the behaviours, attitudes, and beliefs toward the stereotyped group. The study of stereotype content can be traced back to Katz and Braly (1933), followed by Gilbert (1951) and Karlins, Coffman, and Walters (1969). Collectively these three studies are known as the Princeton Trilogy Studies. These studies assessed stereotype content by using a list of traits consisting of 84 adjectives (e.g., intelligent, persistent, arrogant, radical, loud) and requested participants (White male Princeton undergraduate students) to assign "traits which they considered most characteristic of" (Katz & Braly, 1933, p. 282) various social groups. Traits that were assigned with considerable consensus among the participants were judged to reflect the stereotypical characteristics of that particular demographic group. Gilbert (1951) and Karlins and colleagues (1969) replicated Katz and Braly (1933) and found that while many stereotypes persisted, some of the stereotype contents changed over time for many groups.

Another historic contribution in the stereotyping literature can be traced back to Allport's (1954) work on *The Nature of Prejudice.* Considered as one of the most influential figures in stereotyping, prejudice and discrimination research (Dovidio et al., 2005), Allport (1954) approached the topic of prejudice as a cognitive process, involving the categorization – or stereotyping – of various demographic groups. Allport (1954) argued that this process creates in-group and out-group dynamics, leading to variable social interactions between groups.

The contributions of the Princeton Trilogy Studies, on the one hand were monumental in the stereotype content literature, as they demonstrated both the persistence and malleability of stereotype content over time. However, the methodologies of these studies had three critical limitations: lack of standardization of the stereotype content, limited applicability of the results, and resistance from the participants to record individual level stereotypes for the study. The contribution of Allport's (1954) *Nature of Prejudice,* on the other hand, was foundational to the current research in the field through social cognitive approach. However, Allport's (1954) approach to understanding stereotyping behaviours emphasized on the negative stereotypes, grounded within a binary in-group verses out-group model. To address these challenges and limitations, Fiske and colleagues (2002) developed the Stereotype Content Model (SCM) and provided a theoretical framework for the study of stereotype content on the societal level, leading to standardized results with meaningful and pragmatic implications. The SCM also provided a framework that views stereotypes beyond the binary lens, introducing ambivalent stereotypes through the understanding and integration of both positive and negative stereotypes.

Fiske and colleagues (2002) posit that every social demographic group is subjected to evaluations involving stereotypes comprising various specific qualities and characteristics. Using the SCM, Fiske and colleagues (2002) organize the stereotype content of all target groups along two dimensions: warmth and competence. Warmth is explained by the perceived intent of the target group. Warmth is measured on a continuum, operationalized with characteristics such as good-naturedness, trustworthiness, tolerance, friendliness, and sincerity (Cuddy et al., 2008). Competence refers to the perceived ability of target group members to carry out those intentions. Competence is also measured on a continuum, operationalized as relative levels of capability, skill, intelligence and confidence (Cuddy et al., 2008).

Stereotypical perceptions and expectations are all subjective and are arrived at through interpersonal evaluations of warmth and competence that are grounded in different role relationships (Russell & Fiske, 2008). The distinguishing expectations of warmth and competence in the SCM can be predicted based on relative perceptions of competition and status: with greater competition predicting a lack of warmth and higher status predicting competence (Fiske et al., 2002). Competition reflects the perceived incompatibility and conflict between ingroups and outgroups in relation to goals, worldviews, and allocation of societal resources (Kervyn et al., 2015); status refers to the target group's perceived economic success and societal prestige (Fiske et al., 2002). Studies have consistently found that members of social groups that are perceived as having higher status in the society are evaluated as being higher in competence than lower status groups, and those that are perceived as competing over resources are evaluated as being lower in warmth in comparison to non-competitive groups (e.g., Brambilla et al., 2011; De Lemus & Bukowski, 2013; Nier et al., 2013).

Through the various combinations of the warmth and competence dimensions, the SCM suggests that many social groups are the target of ambivalent stereotypes. That is, many stereotypes are comprised of a negative evaluation on one dimension and a positive evaluation on the other (Fiske et al., 2002). Taken together, the varying combinations of warmth and competence can generally be composed of four clusters of stereotype content. For example, reference groups – also known as ingroup or dominant societal groups – are evaluated positively on both dimensions (e.g., middle-class and Christian in the United States; Cuddy et al., 2007), while many societal outgroups are evaluated as warm but incompetent (e.g., housewives, the elderly; Fiske et al., 2002; Fiske, 2012), or as competent but cold (e.g., Asians, career women; Cuadrado-Guirado & López-Turrillo, 2014; Fiske et al., 2002). Some groups – those that are

competing for societal resources and are perceived as having low status, such as homeless individuals and welfare recipients – are evaluated negatively on both warmth and competence (Fiske et al., 2002).

These four clusters of stereotypes have been found to produce unique emotional responses, which in turn are related to different types of attitudes or prejudice (Fiske et al., 2002; see Table 1). Groups that are perceived as high in both warmth and competence (e.g., ingroups) evoke admiration; groups that are evaluated as high in competence but cold (e.g., Asians) produce an envious emotional response and envious prejudice; groups that are expected to be warm but incompetent (e.g., the elderly) produce emotions of pity and paternalistic prejudice; and groups perceived as low in both dimensions (e.g., welfare recipients) elicit a contemptuous emotional response and contemptuous prejudice.

Table 1. The Stereotype Content Model

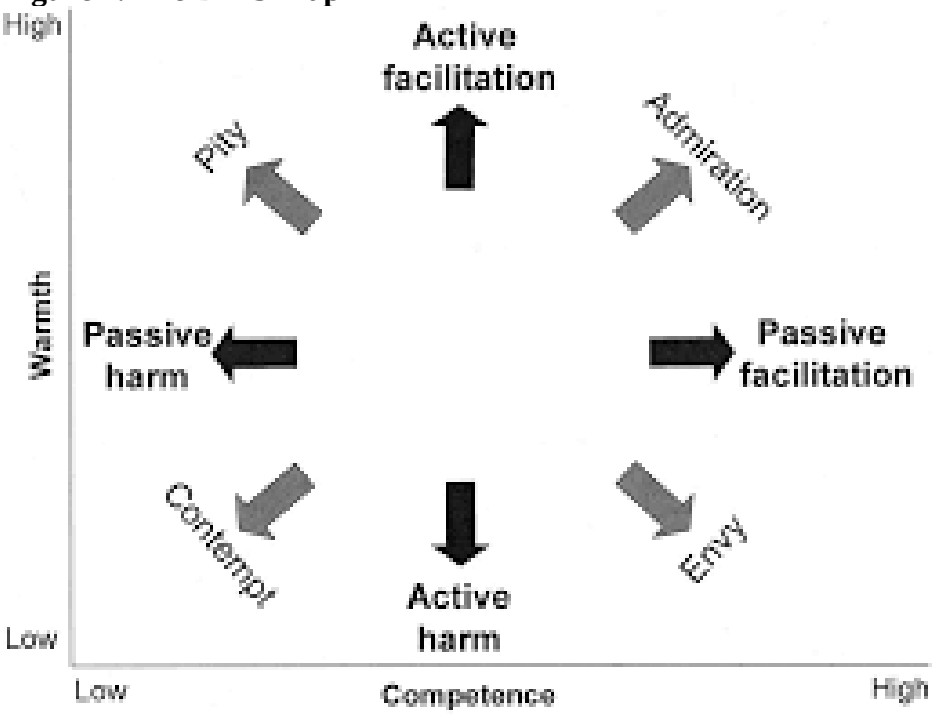
	Competence	
Warmth	Low	High
High	**Paternalistic Prejudice** Low status, not competitive **Emotions**: Pity, sympathy **Example groups**: Elderly people, people with disabilities, housewives	**Admiration** High status, not competitive **Emotions:** Pride, admiration **Example groups:** in-group, close allies
Low	**Contemptuous Prejudice** Low status, competitive **Emotions:** Contempt, disgust, anger **Example groups:** welfare recipients, poor people	**Envious Prejudice** High status, competitive **Emotions:** Envy, jealousy **Example groups:** Asians, Jews, rich people, feminists

Note: adapted from Fiske et al. (2002, p. 881)

Cuddy and colleagues (2007) further expanded the framework of the SCM, introducing a range of behavioural responses associated with each quadrant, known as the BIAS map (short for

Behaviors for Intergroup Affect and Stereotypes; see Figure 1). The BIAS map posits that there are two main types of behaviours – active and passive. According to the BIAS map, active behaviours are predicted by perceived warmth; specifically, high warmth predicts active facilitating (i.e., helping) and low warmth predicts active harming behaviours (i.e., attacking) (Cuddy et al., 2007). Passive behaviours, on the other hand, are predicted by perceived competence; specifically, high competence predicts passive facilitating behaviours (i.e., associating) and low competence predicts passive harming behaviours (i.e., neglecting) (Cuddy et al., 2007).

Figure 1. The BIAS Map



Note: Extracted from Cuddy, Fiske, & Glick (2007, p. 634)

The SCM, in conjunction with the BIAS map, suggests that stereotypes based on warmth and competence lead to varying emotional and behavioural tendencies (Cuddy et al., 2007; Fiske et al., 2002). Groups that are evaluated as high warmth and high competence (i.e., ingroup) evoke admiration which leads to active and passive facilitating behavioural tendencies, such as individuals helping the group to achieve their goals and associating themselves with the group. Groups that are perceived as low warmth but high competence (i.e., Asians) evoke envious emotions. These elicit active harming but with passive facilitating behavioural tendencies, such as passive cooperation with active hostility. Groups that are perceived as high warmth but low competence (i.e., elderly) evoke pity and elicit active facilitating but passive harming behavioural tendencies, such as helping but demeaning behaviours. These negative emotional and behavioural reactions towards social groups associated with both positive and negative stereotypes further demonstrate that even positive stereotypes can have negative impacts (e.g., Czopp, 2008; Kay et al., 2013), as marginalized outgroups often experience negative stereotypes in conjunction with positive stereotypes about them. Groups that are evaluated as low in both dimensions (i.e., welfare recipients) evoke contemptuous emotions, which lead to both active and passive harming behavioural tendencies, such as rejecting and neglecting.

Applications of the Stereotype Content Model

Studies have found the impact of stereotypes can be manipulated by changing expectations of warmth and competence (e.g., Bergsieker et al., 2012; Heflick et al., 2011; Schlehofer et al., 2011). Using the SCM, researchers have been able to experimentally shift less favourable warmth and competence-based perceptions of specific groups to more favourable evaluations. For example, several studies highlight how varying perceptions of the level of physical activity engaged in by people with disabilities can change the stereotypical expectations

associated with individuals with disabilities (e.g., Barg et al., 2010; Gainforth et al., 2013; Kittson et al., 2013). Specifically, the demonstration of a high level of physical activity by an individual with a disability was associated with higher attributions of competence toward that individual. Kittson and colleagues (2013) conducted an experiment with 212 undergraduate participants using a pre-post design to explore how associating higher levels of physical activity with disability may challenge the traditional stereotypes. Participants first read a vignette depicting an individual with a disability and then completed a questionnaire assessing the individual's warmth and competence. As expected, participants evaluated the individual in the vignette as warm but incompetent. One week later, the same participants were randomly assigned to watch one of three videos portraying the target individual participating in three different levels of physical activity, including sports activities (e.g., Paralympics), regular exercises (e.g., resistance training), or activities of daily living (control group; e.g., entering a car). Following the video, participants evaluated the target's warmth and competence once again. Results indicated that the participants' evaluations of the target individual's competence changed as a result of exposure to the videos, with the sports condition leading to the largest increase in comparison to the other conditions.

With this study, Kittson and colleagues (2013) demonstrated how the SCM may be used to assess changes in stereotypical expectations by providing a standardized method to measure stereotypes through the evaluation of warmth and competence. Their approach involves challenging stereotypes through exposure to stereotype-incongruent information and assessing changes and shifts in evaluations of individuals with disabilities following an observation that disconfirms the stereotypes (Barg et al., 2010; Gainforth et al., 2013; Kittson et al., 2013). This model suggests that increasing the visibility of people with disabilities partaking in physical

activities in popular media, such as increased broadcasting time of Paralympic events, might help to mitigate the negative stigma against individuals with disabilities.

Other studies have applied the SCM framework to assess how different sources of media – such as news and entertainment media – can shape and activate stereotypes of different groups (Kroon et al., 2016; Schlehofer et al., 2011; Seate & Mastro, 2017; Sink et al., 2018). Sink and colleagues (2018) explored how entertainment media (i.e., sitcoms) portrays gay men with stereotypical and non-stereotypical characterizations on dimensions of warmth and competence. The authors also examined how these portrayals influence the extent to which participants feel that the character depicted in the media is a positive representation of gay men in general. A total of 169 heterosexual undergraduate students participated in the study. Participants were instructed to watch an episode of *The New Normal*, which included the portrayal of both stereotypical (i.e., feminine) and non-stereotypical (i.e., masculine) gay men. Following the video, participants were instructed to complete several measures to assess the masculinity and femininity of the character, to examine the stereotypes of gay men for each of the characters involved, and to evaluate the characters' demonstration of the dimensions of warmth and competence and the valence associated with each character. Results suggest that the gay men portrayed as more stereotypically feminine were evaluated with higher levels of perceived warmth but lower levels of perceived competence than their more masculine gay counterparts, who received a more neutral evaluation of warmth and a high level of competence. Interestingly, the study found no significant differences in the ratings of positive valence of the characters between the effeminate and masculine characterization. The authors concluded the non-significant difference was a result of ambivalent evaluations for both characterizations, as feminine gay men are perceived as incompetent and masculine gay men are perceived as cold. Although masculine characterizations

did produce non-stereotypical evaluations and perceptions of gay men, such perceptions did not increase the positive valence of that minority group in general.

While Sink and colleagues (2018) used media manipulation to examine the impact of stereotypical and non-stereotypical information on the assessment of positive valence, other studies included media manipulation to study the behavioural impact of stereotype information. Seate and Mastro (2017) experimentally assessed the impact of media portrayals of different immigrant ethnic groups on a number of intergroup outcomes using the SCM framework and the BIAS map. The study used a 2 x 2 design to manipulate the threat imposed by immigration along with the emotional endorsement of the media coverage. The manipulations were immigration news reports that were produced by public media news studios and adapted for use by the researchers. The threat condition provided a story that covered the (supposed) negative consequences of illegal immigration, such as an increase in crime rate, as well as threats to the U.S. culture and economy. The no-threat condition provided coverage highlighting the favourable cultural and economic consequences of immigration to the community. The second factor manipulated the emotional endorsement by providing media coverage featuring ingroup members (i.e., White, U.S. citizens) in the story who emotionally endorsed or did not endorse immigration. Participants were randomly assigned to one of the four conditions in the 2 (immigration: threat vs. no threat) x 2 (ingroup emotional endorsement: present vs. absent) experimental design, followed by questionnaires assessing the level of contempt, active harm, and passive harm tendencies. Results suggested that the presence of threat in news media coverage of the immigration issue, coupled with high level of ingroup identity, produced active and passive harming behavioural tendencies that were mediated through the feeling of contempt.

The warmth and competence dimensions are useful to assess the impact and outcomes of various intergroup or intercultural interactions. It is noted in the SCM literature that the conceptualizations of warmth and competence as the basis of impression evaluation is universal (Cuddy et al., 2009; Durante et al., 2013), not only for the assessment of intergroup or intercultural interactions, but also for interactions between a person and abstract conceptions (Malone & Fiske, 2013). For example, the SCM has been applied in the advertising and branding literature to further the understanding of brand preferences and consumer behaviour through the assessment of warmth and competence. Kervyn, Fiske, and Malone (2012) theoretically conceptualized the SCM dimensions of warmth and competence as intentional agents for marketing and advertising brands. They found that consumers tend to evaluate brands and products based on intentions and abilities, similar to the evaluation of warmth and competence respectively. Using the intentional agents dimensions (i.e., intentions and abilities), Kervyn and colleagues (2012) were able to establish four quadrants of brands (similar to how the SCM establishes four quadrants of stereotypes) in the United States. Popular brands such as Hershey's and Johnson & Johnson were perceived as ingroup brands, receiving positive evaluations on both ability and intention. Prestigious brands such as Rolex and Mercedes were evaluated as high in ability but low in intention. Governmentally subsidized brands, such as United States Postal Services and Veterans Hospitals were evaluated as with good intentions but limited abilities. And, finally, certain brands with poor reputations such as Marlboro and Goldman Sachs were evaluated as having poor intentions and abilities.

Malone and Fiske (2013) contended that the impression of a brand's intention and ability has implications for consumers' purchasing intention and brand loyalty. For example, the authors argue that Lululemon, a popular brand that sells active apparel and products, is able to garner

support and loyalty from the consumers due to its perceived competence and warmth at that time. In terms of ability, Lululemon is able to attract and retain its consumers through its consistent quality and continuous innovation of the product. In areas of intention, Lululemon receives and maintains support and loyalty from its consumer base due to its community involvement (i.e., hosting community yoga classes and different types of self-empowering workshops), relaxing and friendly storefront, and referring to customers as guests. All of these elements work to create a welcoming experience.

Indeed, several studies confirmed the impact of brand stereotypes on consumer evaluations and purchasing intentions (e.g., Bauer et al., 2018; Robertson & Davidson, 2013; Wu et al., 2017). For instance, Bauer and colleagues (2018) conducted an experiment to examine the match and mismatch of place-brand stereotypes, in terms of warmth and competence, for new foreign and domestic brands, and their impact on purchasing intentions and brand responses. A total of 265 field participants were recruited in the United States and were randomly assigned to receive one of the six fictional advertisements marketing a new bicycle brand, ProCycle. The first advertisement marketed ProCycle as a brand that was founded in Brazil and represented a warm foreign product as the place-brand stereotype. The second advertisement marketed ProCycle as a Japanese brand and represented a competent foreign product as the place-brand stereotype. The third and fourth advertisements marketed ProCycle as an American brand and represented the new domestic product with high warmth or high competence place-brand stereotype. The other two advertisements presented the product as originating from Brazil or Japan, but advertised with stereotypical mismatching information; specifically, ProCycle was marketed as a competent foreign brand from Brazil and as a warm foreign brand from Japan. Results indicated that stereotype-congruent advertising increased the perceived fit for a new

foreign brand, but not for a domestic brand; that is, the study found stereotype-congruent information in advertising (i.e., Brazilian brand as warm and Japanese brand as competent) had a positive impact on subsequent purchase intentions and brand responses for new foreign brands.

The various applications of the SCM have furthered the understanding of our reactions towards stereotypical and non-stereotypical information and observations. Studies have demonstrated how the dimensions of warmth and competence in the SCM can be manipulated to produce different outcomes. The congruence and incongruence between stereotypical expectations and actual observations have many implications across different contexts, leading to a wide range of emotional and behavioural reactions. That is, studies have demonstrated how our preconceived biases and expectations impact our subsequent behaviours, such as impression management (e.g., Gainforth et al., 2013), evaluation (e.g., Sink et al., 2018), threat responses (e.g., Seate & Mastro, 2017), and even purchasing behaviour (e.g., Robertson & Davidson, 2013).

Stereotype Content Model in Organizational Studies

In addition to the application of warmth and competence dimensions to the analysis of intergroup and intercultural interactions, as well as to branding and advertising, the SCM also addresses the lack of standardization of methods to measure the role of stereotyping in organizational contexts (Eagly & Chin, 2010; Hooijberg & DiTomaso, 1996). The SCM offers a standardized approach to study the function and impact of stereotyping across various organizational variables, such as hiring and selection (e.g., Budziszewska et al., 2014; Coleman & Franiuk, 2011; Martinez et al., 2016), performance appraisals (e.g., Andrzejewski & Mooney, 2016; Cuddy et al., 2004; Smith et al., 2016), and employee relation outcomes (e.g., Follmer & Jones, 2017; Lyons et al., 2018).

Cuddy, Fiske, and Glick (2004) tested the applicability of the SCM in organizational settings by exploring the stereotypes of female professional subtypes (i.e., working mothers and childless female professions), along with their impacts on subsequent organizational outcomes. The study was conducted in a 2 (male or female) x 2 (child or childless) between participant design, with 122 student participants who were recruited in the United States. Participants were given a profile of either a male or female professional consultant either with or without children and were instructed to rate the warmth and competence of the fictitious consultants. Results indicated that working mothers were perceived as warmer but less competent in comparison to childless female professionals, who were perceived as more competent but less warm. Additionally, results indicated that parenthood status did not impact the performance appraisal and perceived competence of working fathers. The study also found competence to be a strong factor influencing several organizational decisions. In particular, participants reported less interest in hiring, promoting, and educating working mothers than working fathers or childless female and male professionals.

Martinez and colleagues (2016) explored the stereotypes associated with employees who survived cancer and the subsequent impact of these stereotypes on organizational outcomes. Using field participants, the authors found that employees with a history of cancer tended to disclose their medical history at a relatively high rate. Those who disclosed their cancer history were evaluated as higher in warmth and less favourably in competence; consequently, applicants who disclosed their cancer history were evaluated unfavourably as potential employees and were discriminated against in the hiring process.

The evidence suggests, therefore, that the theoretical structure of the SCM is applicable to assess and evaluate the impact of stereotyping across various organizational variables. The

application of the SCM in organizational studies has offered valuable insights as to how stereotype-congruent and incongruent information impacts the assessment of various demographic groups in organizational contexts. However, research has yet to investigate how stereotypes impact the perceptions of leadership effectiveness.

Stereotype Content Model and Leadership

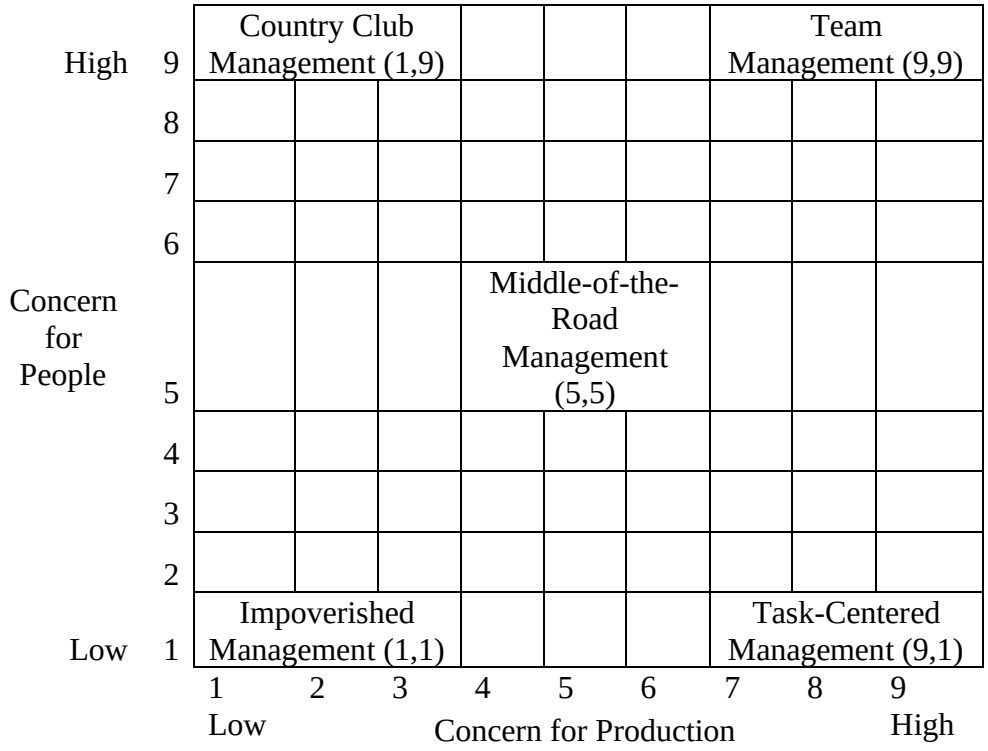
The current application and discussion of the SCM in the leadership literature focuses on the impact of warmth and competence dimensions on subsequent behavioural outcomes (e.g., Costa & Ferreira da Silva, 2015; Falvo et al., 2016; Huang et al., 2017; Michel et al., 2013), such as the impact of organizational leaders' perceived warmth and competence on organizational commitment (Falvo et al., 2016), and the influence of political leaders' perceived warmth and competence on voting behaviours (Michel et al., 2013). There is still a lack of literature using the SCM to investigate specific stereotypes associated with leaders with various demographic characteristics, and their impact on perception of leadership effectiveness. It is noted that while the current SCM literature provides the general stereotypes associated with a wide range of demographic groups (e.g., Cuddy et al., 2009; Durante et al., 2013; Fiske, 2012), these general stereotypes cannot be generalized as stereotypes of specific subtypes (i.e., Asian leader) from the same demographic group (Fiske et al., 2002). Every specific subtype exhibits different perceived status and competition. For example, as found in the German SCM, women in general are stereotyped as high warmth and low competence, but some female subtype groups – career women and feminists – are stereotyped as low warmth and high competence (Asbrock, 2010). Although these three groups – women, career women, and feminists – are all considered as belonging in the same gender category, they are evaluated with different stereotypes due to their specific roles, as these roles demonstrate evaluative differences in perceived status and

competition (Fiske, 2018). Therefore, differentiating between general stereotypes and leadership role stereotypes associated with specific demographic groups is necessary due to differences in perceived status and competition.

The dimensions evaluated by the SCM (Fiske et al., 2002) – warmth and competence – are similar to the conceptualizations of leadership performance based on person and production orientations (Blake & Mouton, 1985; Fleishman et al., 1955; McGregor, 1960). Specifically, warmth is reflective of the person-focused dimension of leadership because both focus on concerns for people, while competence is reflective of the production-focused dimension of leadership because both emphasize the ability of the evaluated individual. Given the similarities between the SCM and leadership performance theories, integrating the two theories may provide a platform to increase an understanding of the impact of demographic characteristics on leadership evaluation.

Blake and Mouton (1985) created the Managerial Grid which illustrates five distinct profiles of leadership styles using the concern for people and concern for production dimensions, including impoverished management, country club management, task-centred management, middle-of-the-road management, and team management (see Figure 2).

Figure 2. The Managerial Grid



Note: Adapted from Blake and Mouton (1984)

Impoverished management is a management style where leaders score low on both dimensions. In this style of management, the leader shows no interest or concern to motivate employees or to create effective systems to complete tasks. Rather, leaders with an impoverished management style focus on protecting their own job status and security. Impoverished management style leaders are ineffective, as they often avoid conflicts or responsibilities that would place their own needs and security in jeopardy (Blake & Mouton, 1985). This style of leadership is reflective of the low warmth and low competence stereotype of the SCM, where leaders are perceived as having no benevolent intentions toward their employees and lack the necessary attention or ability to enable employees to produce effectively for the organization. The SCM posits that employee evaluation of their leaders as low warmth and low competence

leads to contemptuous prejudice, eliciting a wide range of negative emotions such as anger and resentment (Fiske et al., 2002). As a result, leaders who are perceived as having no concern toward either their employees or organizational productivity tend to have employees who are unhappy and unproductive (Fleishman & Harris, 1962, 1998).

Similar to the ambivalent stereotypes that are demonstrated in the SCM, the Managerial Grid also illustrate two profiles of leadership styles with a score high on one leadership dimension and low on the other. On the one hand, country club management is a management style where leaders place high priority on the needs and well-being of their employees, and low priority on tasks and production. Leaders with this style of management are supportive and behave warmly towards their subordinates, but are more hands-off and withdrawn in their leadership approach. Country club management leaders' goal is to ensure the satisfaction and well-being of their employees, even at the cost of organizational productivity (Blake & Mouton, 1985). This leadership style is reflective of the warm but incompetent stereotype of the SCM (Fiske et al., 2002). The combination of perceived warmth coupled with incompetence generates paternalistic prejudice that can lead to cooperative behaviours that are elicited through pity and sympathy (Cuddy et al., 2008). In the context of leadership, this paternalistic prejudice creates a disconnection between the employee and the leader, as employees would often assume the dominant role and are afforded a high level of autonomy (Cuddy et al., 2008; Falvo et al., 2016). In other words, the emphasis on employees leads to high levels of job satisfaction and organizational commitment (Pheng & Lee, 1997; Wofford & Liska, 1993) due to high levels of autonomy (Falvo et al., 206), but the lack of emphasis on tasks and production often leads to low performance and productivity (Blake & Mouton, 1985), as employees perform only at their bare minimum just to get the job done.

Task-centred management is a style where leaders emphasize the importance of task productivity and completion, while negating the needs and welfare of their employees. Task-centred leaders believe their employees are not motivated intrinsically; thus, task-centred leaders tend to manage through authority by assigning goals and making decisions without considering their subordinates (Pheng & Lee, 1997). This leadership style is reflective of the cold but competent stereotype in the SCM (Fiske et al., 2002). In the context of leadership, the combination of coldness and competence leads to passive facilitation, where employees accept the differences in hierarchies as a result of leadership authority; however, such passive facilitation is coupled with negative intent which is driven by negative emotions such as envy and jealousy (Cuddy et al., 2008). Therefore, leaders with a task-centred management style are able to elicit high performance and organizational output through the use of their authority; but employees with these types of leaders tend to react with negative emotions. This results in low satisfaction and high turnover (Blake & Mouton, 1985).

Middle-of-the-road management is a management style where leaders have moderate concerns about both the employees and the production. Leaders with a middle-of-the-road management approach compromise and balance their focus to attend to both employees and production with minimally required effort. This style of management leads to average performance for organizations (Blake & Mouton, 1985; Pheng & Lee, 1997).

Leaders with a team-management approach place high emphasis on both the well-being and needs of the employees, as well as the production of the organization. Leaders with this style of management approach are able to motivate employees by building personal bonds and involving them in the decision-making process. Leaders with a team-management approach believe that employees are intrinsically motivated; thus, leaders attend to the needs and goals of

their employees with the assumption that their employees will be self-motivated to perform effectively when their personal needs and goals are cultivated. In addition to attending to the needs of their subordinates, team-management leaders are also committed to organizational goals and missions. They communicate their expectations and develop personal goals effectively in collaboration with their subordinates. Team-management leaders foster a team environment, where team members are empowered and motivated to achieve those organizational goals. This style of leadership generates the high warmth and high competence expectations of the SCM, which elicit positive emotions such as admiration (Fiske et al., 2002). In the context of leadership, these positive emotions associated with the leader are translated into positive behavioural responses from their followers, inducing both active and passive facilitating behaviours such as helping and associating (Cuddy et al., 2007). As a result, this type of leadership is understood as the most effective leadership style, as the high emphasis placed on both the employees and organizational goals evokes positive emotional and behavioural reactions (Cuddy et al., 2007; Fiske et al., 2002), leading to satisfied and productive employees (Blake & Mouton, 1985; Hutchison et al., 1998).

Research using the Managerial Grid (Blake & Mouton, 1985) has connected the two-dimensional leadership styles based on task and person orientations with a variety of emotional and behavioural responses. Studies using the BIAS map (Cuddy et al., 2007) have also found the connection between stereotypes based on warmth and competence with distinct emotional and behavioural outcomes. Following the theoretical framework and results of Fiske and colleagues (2002) and Cuddy and colleagues (2007), and to replicate the emotional and behavioural responses of the SCM in conjunction with the Managerial Grid (Blake & Mouton, 1985), this study hypothesizes that:

H1. Each quadrant of the SCM will predict different sets of emotional and behavioural responses. Specifically –

H1a. Low warmth and low competence leaders will evoke contempt, leading to both active and passive harming behaviours.

H1b. High warmth and low competence leaders will evoke pity, leading to active facilitating and passive harming behaviours.

H1c. Low warmth and high competence leaders will evoke envy, leading to passive facilitating and active harming behaviours.

H1d: High warmth and high competence leaders will evoke admiration, leading to both active and passive facilitating behaviours.

Collectively, research has supported Blake and Mouton's leadership theory (1985) in which effective leaders emphasize concern towards both the people and the production. For example, charismatic leaders and transformational leaders (Bass & Bass, 2008) are able to motivate followers through inspiring visions, elevated but attainable goals, emotional involvement, and collective efficacy (House, 1977; Michel et al., 2013). Research has established both charismatic and transformational leadership as effective leadership styles, as these styles have consistently demonstrated a wide range of positive outcomes in organizational settings, including improved employee performance, work engagement, job satisfaction, work-group identification, and organizational commitment (e.g., Babcock-Roberson & Strickland, 2010; Cicero & Pierro, 2007; Judge & Piccolo, 2004).

Considering that Blake and Mouton's Managerial Grid (1985) contended that it is important to focus on both people and production, and that Michel and colleagues (2013) found charismatic leaders to be perceived as both warm and competent, and additionally, because other

studies demonstrate effective leaders require both communal and agentic traits (Eagly & Carli, 2003; Sy et al., 2010), this project hypothesizes that:

H2. Effective leaders will receive high ratings on both warmth and competence dimensions of the Stereotype Content Model.

Stereotype Content Model, Implicit Leadership Theory, and Leadership Prototype

Implicit leadership theories posit that every individual has their own pre-established conceptualizations of cognitive categories, comprised of specific traits or characteristics, which are used to distinguish leaders from nonleaders (Lord et al., 1984; Offermann et al., 1994). These implicit ideas – schemas – help define what leaders should look like and how leaders should behave (Eden & Leviatan, 1975). Consequently, individuals develop a set of cognitive representations that exemplify a typical leader, known as an implicit leadership prototype, and this prototype is later used as an exemplar to evaluate individuals as leaders or nonleaders (Lord et al., 1984). A prototypical effective leader should, in theory, have both warm and competence qualities, as research has shown ineffective leaders are perceived to have ambivalent or low evaluations across the two leadership dimensions (Blake & Mouton, 1985; Pheng & Lee, 1997). When target individuals display characteristics similar to evaluators' implicit leadership prototype, evaluators would perceive or categorize their target as a leader; however, when their target fails to display similar traits or characteristics to the implicit leadership prototype, they may be evaluated as a nonleader or ineffective leader (Eagly & Karau, 2002).

The ethnicity of the target is one of the primary characteristics that makes up many individuals' implicit categorization of leadership. An overwhelming majority of high-profile leaders in North America have been White, regardless of gender (Avery et al., 2015). In addition, many stereotypes associated with minority groups tend to demonstrate nonleader-like

characteristics, such as laziness, incompetence, and impassivity (Chung-Herrera & Lankau, 2005). These factors make it evident that being White is perceived as being the prototypical image of an effective leader and that non-White leaders are perceived and evaluated as ineffective (Chung-Herrera & Lankau, 2005; Rosette et al., 2008). For example, White managers were evaluated generally as more competent than Black managers, regardless of the demographic characteristics of the evaluators (Block et al., 2012). In fact, studies with Western samples suggest that these subconscious biases of White being the prototype of leadership are so pervasive that the majority of the population – regardless of their ethnicity – tends to evaluate minority leaders with their respective negative stereotypes, whereas White leaders tend to receive evaluations based on actual performance, not through the stereotypical expectations related to their ethnicity (Ospina & Foldy, 2009; Rosette et al., 2008). Avery and colleagues (2015) noted, however, that such stereotypical patterns are not indicative of individuals' preferences for leaders based on ethnicity; rather, the distinction in evaluation between White and ethnic minority leaders demonstrates the impact of implicit leader prototypes, such that leaders are commonly perceived as White over other ethnicities.

Gündemir and colleagues (2014) conducted a series of studies using the Implicit Association Test (IAT) to assess the implicit biases of leadership categorization. The IAT is a research tool used to measure implicit assumptions based on various categories (Greenwald, McGee, & Schwartz, 1998). The IAT posits that stronger associations are readily available and cognitively more accessible than weaker associations; thus, reaction times for strong associations should be significantly faster than weak associations. Using the IAT, Gündemir and colleagues (2014) found both White and ethnic minority participants reacted significantly faster when

native-Dutch names were paired with leadership roles or traits in comparison to Arab-Dutch sounding names.

Similar results were found in studies comparing the impact of gender on perception of leadership. Males were ascribed characteristics more closely aligned with leadership stereotypes than females, who were ascribed non-leader-like characteristics (Eagly & Chin, 2010; Hooijberg & DiTomaso, 1996). For example, men were stereotyped as more agentic with leader-like characteristics, such as assertiveness, dominance, and confidence, whereas women were stereotyped as communal with characteristics concerned with the welfare of others, such as compassion, kindness, and sentimentality (Duehr & Bono, 2006). However, other authors pointed out the close association between traditionally feminine stereotypes and effective leadership style: specifically, transformational leadership (Bass, 1985, 1998; Eagly & Carli, 2003; Powell et al., 2008). Transformational leadership is a style of leadership approach in which emotions and consideration of wellbeing are involved, where leaders influence their subordinates through charisma, inspiration, individual consideration, and intellectual stimulation (Bass, 1985; Deluga, 1990). Despite the argument that women were ascribed stereotypes that are reflective of effective leadership (i.e., transformational leadership), studies still find that women continue to be subjected to biases and prejudicial evaluations of their competence as effective leaders (Duehr & Bono, 2006; Eagly & Carli, 2003). Thus, it is evident that White and male are the demographic expectations of effective leadership roles for the majority of the population, including gender and ethnic minorities (Ospina & Foldy, 2009; Sackett & DuBois, 1991).

Taken together, a large body of research has consistently demonstrated that the perceived prototypical leaders for the large majority are White men and has found White men therefore tend to be in advantageous positions when evaluated in leadership roles in North America (Eagly

& Karau, 2002; Heilman et al., 1995; Hooijberg & DiTomaso, 1996; Logan, 2011; Rosette et al., 2008). Considering previous findings, integrated with hypothesis 1 that effective leaders are evaluated as both warm and competent, it is hypothesized that:

> *H3. White male leaders will receive higher ratings than leaders of other demographic groups in both warmth and competence dimensions of the Stereotype Content Model, similar to the ratings for effective leaders.*

Ethnic Minority Stereotypes and Leadership Roles

The Canadian Board Diversity Council (2018) conducted a survey to examine the opinions on the representation of ethnic and cultural minorities in leadership roles among the directors and board members of Financial Post 500 organizations in Canada. Results of the survey found the majority of the respondents (i.e., 54.7% of the board members and 61.3% of the directors) recognized diversity as a very important ingredient to advance their companies in a globalized environment. However, despite this recognition, reports found members of ethnic minority groups are still not proportionately represented in leadership roles in Canada today (Canadian Board Diversity Council, 2018; Catalyst, 2019).

Members of ethnic minority groups (i.e., Asian, Black, Indigenous) experience multiple barriers that either hinder or prevent their advancement potential and opportunity for leadership roles. Studies have found stereotyping to be one of the most common factors that explains the underrepresentation of ethnic minority in leadership positions (e.g., Chin, 2014; Chin et al., 2007; Eagly & Chin, 2010; Hooijberg & DiTomaso, 1996; Kilian et al., 2005; Knight et al., 2003; Ospina & Su, 2009; Powell & Butterfield, 1997).

Stereotypes are considered to be one of the antecedents of workplace discrimination (Castaño et al., 2019; Duehr & Bono, 2006). Although instances of blatant discrimination against

members of ethnic minority groups have decreased over the past decades as a result of governmental and organizational legislation and policy changes, members of various minority groups are still faced with more subtle, but equally harmful, forms of discrimination (Dovidio & Gaertner, 2004). Son Hing and colleagues (2008) tested a 2-dimensional model of prejudice (i.e., implicit vs. explicit) and found many individuals still unconsciously hold prejudiced attitudes toward outgroup members but are able to suppress and mask their implicit prejudice by explicitly advocating for egalitarian values. This form of racism, known as *aversive racism*, is problematic in the workplace because individuals can hold biased attitudes and discriminate against members of minority groups without outwardly behaving in such a manner. When placed in ambiguous situations, individuals who are aversively racist are more likely to endorse stereotype related values and be more easily influenced by stereotypes during decision-making process than individuals who are not (Fiske, 1998). Indeed, studies found participants who score high on aversive racism did not show bias in the selection process when they were given sets of candidates with obviously contrasting qualifications; however, these individuals discriminated against marginalized individuals, and preferred White candidates, when the candidates demonstrated equivalent qualifications (Dovidio & Gaertner, 2000; Son Hing et al., 2008). This subtle form of discrimination relies on the activation of stereotypes to generate unfair biases towards members of marginalized groups.

In addition to the relation of stereotyping and aversive racism, the literature has identified several stereotype-associated factors that hinder the advancement of ethnic minorities in leadership roles, such as the influence of stereotypes on the perception and expectations of leaders (e.g., Chung-Herrera & Lankau, 2005; Rosette et al., 2008), biases regarding evaluations and performance appraisals (e.g., Carton & Rosette, 2011; Knight et al., 2003), and distribution

of support (e.g., Wong & Halgin, 2006). Indeed, members of ethnic minority groups are often described with nonleader-like characteristics (Chung-Herrera & Lankau, 2005; Knight et al., 2003). These expectations of nonleader qualities lead to biases against ethnic minority leaders regarding their performance appraisals and evaluations. Studies have consistently demonstrated that leaders are evaluated differently depending on the demographic group they belong to (e.g., Avery et al., 2015; Carton & Rosette, 2011; Knight et al., 2003). For example, Carton and Rosette (2011) examined how college football quarterbacks (generally known as the leaders on the football field) are perceived and evaluated based on their ethnicity. Specifically, the authors investigated how the media portray Black and White quarterbacks following their games. Results found no evaluative differences between Black and White quarterbacks when their teams won; however, the media tended to describe Black quarterbacks as more incompetent in comparison to White quarterbacks when their teams lost their matches.

Members of ethnic minority groups are also in a disadvantaged position during the promotion and selection process, as employers subconsciously and/or unconsciously rely on their ethnic stereotypes when processing different organizational evaluations and decisions (Lancee, 2019; Yeman & Feráández-Reino, 2019). Often, minority members have to rely on unorthodox strategies in order to overcome those biases that stem from stereotypes related to their demographic characteristics. For example, Kang and colleagues (2016) found many minority members would “whitewash” their resumes in order to receive more callbacks from their applications. Examples of whitewashing include replacing ethnic sounding names with more traditional Western names or omitting culturally related or relevant experience in favour of “White” experience. For example, some participants reported having replaced their Chinese sounding names with Western sounding names, such as “Luke”, and some participants opted to

display their name as “L. James Smith” instead of “Lamar J. Smith” to avoid being perceived as Black (p. 488). Additionally, some participants reported omitting their culturally relevant experience (e.g., removing their involvement with “National Society for Black Engineers”); changing the description of their experience to remove their association with their culture (e.g., changing their description of involvement with “Black Christian Fellowship” to just “Christian Fellowship”). Some even added “White” experience in order to blend in the expected pool of applicants (e.g., adding their involvement with generally more White campus clubs; p. 475).

Members of marginalized communities are often placed in disadvantaged positions, either by experiencing biases during selection and evaluation process, or difficulties in securing mentorship or support in organizational settings. In addition, stereotyping can influence the performance of marginalized individuals internally through expectancy confirmation (Knight et al., 2003) and stereotype threat (Block et al., 2011; Chin, 2014; Xin, 2004). In other words, the literature posits that the impact of stereotyping is pervasive, and marginalized individuals often internalize those beliefs themselves, leading to actions that inadvertently confirm the stereotypes (Knight et al., 2003).

Knight and colleagues (2003) posited that when marginalized individuals are continuously stereotyped in the workplace, the perception of incompetence can develop into actual incompetence, as those stereotypes often prevent minority members from asking for and receiving appropriate support and training. This might cripple their performances due to the stress of trying not to confirm the negative stereotypes. For example, studies have demonstrated the negative impact of policies similar to Affirmative Action as a result of expectancy confirmation (Leslie et al., 2014; Pettigrew & Martin, 1987). When other variables are controlled for (i.e., similar levels of abilities), minority members who believe that they are selected to

leadership positions due to their particular demographic characteristics through preferential selection policies – such as the Affirmative Action – are likely to characterize themselves as having poor leadership skills in comparison to those who believe that they are appointed based on performance related skills and qualifications (Heilman et al., 1990). Brown and colleagues (2000) found the activation of self-stereotyping impacted subsequent performance. The authors found ethnic minority members who were primed to believe that they were selected based on their demographic characteristics performed significantly worse in comparison to those who were primed to believe that they were selected based on performance related qualities.

Stereotypes are one of the main challenges for marginalized individuals to overcome in order to attain and maintain a leadership role successfully, with members of ethnic minority groups often being perceived as nonleaders (e.g., Block et al., 2012; Chung-Herrera & Lankau, 2005; Heilman et al., 1992; Rosette et al., 2008). Additionally, according to the Stereotype Content Model, members of ethnic minority groups – regardless of the country of study – are often depicted as part of the outgroup and evaluated with ambivalent stereotypes (Cuddy et al., 2009; Durante et al., 2013; Hřebíčková & Graf, 2015). That is, studies using the SCM found members of ethnic minority groups are evaluated with at least one negative stereotype along the warmth and competence dimensions (Fiske, 2012; Kil et al., 2019).

To better understand how specific ethnic minorities are disadvantaged in leadership positions, the following sections explore the specific stereotypes associated with leadership roles across the three largest ethnic minority groups in Canada: Asians, Blacks, and Indigenous Peoples (Statistics Canada, 2017a).

Asian Stereotypes and Leadership

Compared to members of other ethnic minority groups, Asians are perceived and stereotyped more positively in leadership roles. Chung-Herrera and Lankau (2005) conducted a study using a managerial attribute inventory to explore the attribute ratings of five target groups, including a generic "successful manager," a White manager, a Black manager, an Asian manager, and a Hispanic manager. The inventory was administered to White managers in the hospitality industry, at hotels, restaurants, and airlines. Participants were randomly assigned to rate one of the five target groups and were instructed to rate members of the target group on 84 characteristics that depict the prototype of successful managers. Results suggested the rating of successful middle managers closely matched the ratings of White and Asian managers, and significantly differed from Black and Hispanic managers. White managers were rated similarly on 56 of the 84 characteristics, Asian managers were rated similarly on 60 of the 84 characteristics, while Black managers matched with only 48 and Hispanic managers matched with only 45 of the attributes (Chung-Herrera & Lankau, 2005). It is noted, however, that the Asian manager stereotypes that were rated similarly to the prototypical leadership were mostly competence-related characteristics, while characteristics that depicted sociability were rated negatively. Asian managers were characterized as less articulate, less charismatic, quieter, shyer, more reserved, more timid, more passive, and more submissive. While Asian managers were perceived as fairly competent in comparison to the prototypical image of leadership and other ethnic groups, they were still not depicted as a great fit for managerial roles due to negative perceptions of their social-related attributes (Chung-Herrera & Lankau, 2005).

The findings of Chung-Herrera and Lankau (2005) support the notion that Asians are generally perceived as the *model minority* (Chin, 2014; Kiang et al., 2017; Ngo & Lee, 2007;

Thompson & Kiang, 2010; Wong & Halgin, 2006; Zhou & Lee, 2017), where Asians are ascribed with many competence-related characteristics, while simultaneously being perceived as socially inept. The model minority stereotype refers "to the idea that Asian Americans are relatively problem free, hardworking, and it constitutes a powerful typecast for Asian[s]" in North America today (Kiang et al., 2017, p. 1). This stereotype portrays Asians as highly competent and high achieving (Ngo & Lee, 2007; Zhou & Lee, 2017) and depicts Asians as being wealthy with high social status (Wong & Halgin, 2006). This model minority stereotype is extremely pervasive and dominant. One study reported that 100% of its respondents (all of whom were Asian Americans) had experienced the stereotype (Thompson & Kiang, 2010). Another study found that Asian American participants experienced the model minority stereotype more than stereotypes associated with their other demographic characteristics (i.e., age stereotype, generational stereotype; Sin, 2017).

Although the model minority stereotype portrays a seemingly positive image of Asians in Europe and North America, studies have demonstrated the harmful effects of model minority stereotypes. One such harmful effect is that, like all stereotypes, the model minority stereotype by definition portrays an image that is overgeneralized, and thus masks the heterogeneous experience and cultural variability of the Asian population, which consists of ethnic groups from more than 40 different countries (Kiang et al., 2017). Additionally, the model minority stereotype tends to prevent many Asian Americans from accessing and receiving resources and support that benefit other groups due to the overgeneralized assumption that Asian Americans are generally competent and self-reliant (Kiang et al., 2017).

In the organizational context, the model minority stereotype is often used to justify the lack of access and support for Asian Americans to advance into leadership positions, as Asians

are perceived to be well equipped with their own competence and ability to succeed (Chin, 2014). One study using the National Survey of Midlife Development in the United States found that Asians reported lower levels of workplace support than other ethnic minority groups (Taylor, 2010).

In addition to the lack of support, the model minority stereotype also constricts career paths and leadership aspirations for many Asians. Fernando and Kenny (2018) conducted a series of interviews with British Sri Lankans (an ethnic minority in the UK) to explore how ethnic stereotypes were imposed on and impacted them in the workplace. Participants reported being stereotyped as a model minority; perceived as hard working and competent with exceptional analytical skills. However, these seemingly positive stereotypes were undermined with negative connotations, such as assumptions of passivity, lack of creativity and poor social skills (Kiang et al., 2017). In fact, participants reported that the combinations of those stereotypes often become barriers, limiting their advancement potential in the workplace, as they were viewed as lacking the necessary social skills to advance in their roles. The authors also found many respondents subscribed to the model minority stereotypes themselves, demonstrating a tendency to reinforce the positive stereotypes that Asians are inherently technical and hardworking, while overlooking other strengths that could be nurtured to expand their career options (Fernando & Kenny, 2018). Thus, not only does the model minority stereotype hinder Asians' advancement opportunities through the lack of support, but the model minority stereotype is also extremely pervasive (Sin, 2017; Thompson & Kiang, 2010), such that Asians often internalize the stereotypes themselves, leading to lower aspirations to become leaders while constricting them to specific career paths.

The impressions depicted through the model minority stereotype also generate unrealistic pressure and expectations for Asian Americans (Kiang et al., 2017; Zhou & Lee, 2017). Similar

to how stereotype threat functions – leading people to perform worse than their actual ability due to the fear of confirming negative stereotypes – Cheryan and Bodenhausen (2000) found the model minority stereotype negatively impacted the performance of Asian Americans due to the stress of attempting to meet unreasonable expectations. Zhou and Lee (2017) conducted a study using archival qualitative data in the Los Angeles metropolitan area and found that Asian Americans often experience backlash due to the model minority stereotype in their quest for leadership roles. Specifically, the authors found the stereotypes resulted in Asians being held to higher standards than other demographic groups, hindering their progression and development towards leadership roles. This paradoxical phenomenon, where Asians are depicted as extremely competent but are still largely underrepresented in leadership positions, has been called the *bamboo ceiling* (Hyun, 2005), much like the *glass ceiling* metaphor for women which will be discussed in more detail below. It describes an invisible barrier that impedes the upward mobility of Asian American in the labour market.

In addition to model minority stereotypes, Asian Americans face a multitude of other stereotypes that disadvantage their advancement to leadership positions. Chin (2014) postulated that Asian Americans often behave in a respectful manner, demonstrating respect and understanding of the hierarchical system, but such behaviours are often misunderstood as a sign of passivity, which is evaluated as not a good fit for leadership roles. In addition, Asian Americans are stereotyped as less sociable and less authentic than other ethnic groups (Anderson et al., 2019; Burris et al., 2013). In their study, Anderson and colleagues (2019) found Asian American leaders to be treated more negatively at the interpersonal level in comparison with leaders from other demographic groups.

Some evidence suggests that perceptions of Asian Americans having weak interpersonal skills may stem from a cultural misunderstanding. Xin (2004) found a cultural gap in impression management tactics that cripples the opportunities for Asian Americans to attain leadership positions. Specifically, Xin (2004) found that Asian Americans focused more on job-focused impression management tactics and reported using significantly lower levels of self-disclosure and self-focused impression management tactics than European Americans. The author argued that the low levels of interpersonal impression management tactics are due to cultural influences, as the Asian culture promotes modesty and respect for hierarchy. Behaviours enacted by Asian people that indicate modesty and respect for hierarchy are perceived by non-Asians as unfriendly and create a negative perception of the quality of relationship between the supervisor and employee, thus leading to more unfavourable impressions and evaluations. The perceptions of low sociability, coupled with overly competent stereotypes (i.e., model minority stereotype), further disadvantage leadership opportunities for Asian Americans, as the perceptions of competency are translated into negative emotions such as envy and resentment, which are subsequently used for justifying the exclusion of Asian Americans from access and support to leadership development (Chin, 2014).

The model minority stereotype is captured in the research using the Stereotype Content Model, where studies found Asians were perceived as highly competent but lacking in warmth in multiple non-Asian countries, such as the United States (Fiske et al., 2002), Canada (Fiske, 2012), Germany (Asbrock, 2010), and Belgium (Cuddy et al., 2009). Therefore, it is hypothesized in this project that:

H4a. Asian leaders will receive higher ratings on competence than warmth.

Black Stereotypes and Leadership

Black employees are placed in a disadvantaged position for attaining leadership positions due to a multitude of negative stereotypes. Chung-Herrera and Lankau (2005) assessed and compared ratings of a list of relevant attributes (i.e., stereotype content) describing a successful manager, a White manager, Black manager, Asian manager, and Hispanic manager. They found that Black managers were ascribed only 48 of the 84 successful manager characteristics – the second lowest among the four ethnic groups – with Hispanic managers receiving the lowest rating of all groups. While Black managers were stereotyped similarly to successful managers as energetic, achievement oriented, ambitious, and hospitable, in comparison to White managers, Black managers were perceived to have less self-confidence and less desire for responsibilities, and to be less hard working, and less goal oriented. They were also perceived as being less articulate, having less influence, not as technically proficient as their White counterparts, less able to separate emotions from ideas, and less likely to attribute success to their own abilities or efforts. Additionally, Black managers were perceived to be more religious, more reserved, more passive, shyer, and more submissive. Notably, Black managers were the only ethnic group in the study who were characterized as less hard working than the prototypical image of a manager (Chung-Herrera & Lankau, 2005). The authors argued that many negative stereotypes were ascribed to Black managers due to the lack of representation of Black employees in leadership roles. Overall, the results suggest Black managers were characterized less favourably on many competence-related attributes in comparison to the leadership prototype, which echoes the findings of many other studies where Blacks were generally stereotyped as incompetent in leadership roles (e.g., Block et al., 2012; Heilman et al., 1992; Tomkiewicz et al., 1998).

Block, Aumann, and Chelin (2012) conducted a study using undergraduate and graduate students to assess whether ethnic group membership is diagnostic for predicting characteristics associated with leaders. The authors used the diagnostic ratio approach to assess the stereotype content of Black and White individuals occupying managerial positions. The diagnostic ratio approach takes into account the perceived probability that the target person possesses specific stereotypical characteristics. This approach allowed for participants to assign the percentage of Black or White managers that would portray a number of stereotypes ascribed to their group membership, thus, providing a more sensitive measure of stereotype content. This approach is useful in that it can examine various characteristics that might be perceived as infrequent but remain as part of the stereotypes. For example, studies found Whites to be stereotyped as competent (Madon et al., 2001; Niemann et al., 1998), with the assumption that all White individuals are ascribed with this stereotype. The diagnostic ratio approach allows the respondents to assign the stereotype content with a specific percentage (e.g., 50% of Whites as competent). Results of the study suggested ethnic group membership alone was enough for participants to assume and assign specific traits and characteristics associated with their leadership role. In terms of competence-related assessments, Black managers were characterized as having less ambition and competence in comparison to White managers. However, in areas of interpersonal characteristics, Black managers were characterized as more interpersonally skilled than White managers. It was noted that Black managers were still in a disadvantageous position compared to White managers despite being stereotyped as interpersonally more skilled, because competence-related characteristics were perceived as a better indicator for managerial success than interpersonal skills (Heilman et al., 1989). However, results also indicated that the

difference in competence characterizations could be minimized if both Black and White managers were described as successful managers.

Although Block and colleagues (2012) found that instances of managerial success could ameliorate the negative stereotypes of Black managers, Avery and colleagues (2015) found that instances of failure amplified the negative aspects of ethnic stereotypes and negatively impacted subsequent consumer behaviours. Specifically, Avery and colleagues (2015) conducted a series of studies and experiments using archival data, undergraduate students, and field participants to assess the effects of ethnicity (i.e., Black and White) on leadership appraisal and consumer purchasing behaviour. Results of the study confirmed stereotypes against Black leaders. They were evaluated less favourably than their White counterparts. Additionally, there were significant differences in consumer behaviours based on the ethnicity of the leader when organizations experienced failure. Specifically, failing organizations that were helmed by Black leaders received significantly more backlash, resulting in lower patronage compared to failing organizations that were helmed by White leaders.

Indeed, studies have consistently demonstrated that Black individuals are perceived to be less suited to managerial roles, and stereotypically more suited to be employees rather than leaders compared to White individuals – who are perceived to be more of a leader than an employee (Knight et al., 2003; Rosette et al., 2008). When occupying leadership positions, Black leaders are evaluated under a microscopic lens, where failures are magnified to reinforce and justify the negative stereotypes portraying Blacks as unfit for leadership roles (Avery et al., 2015; Carton & Rosette, 2011). Therefore, in line with previous findings, it is hypothesized in this project that:

H4b. Black leaders will receive higher ratings on warmth than competence.

Indigenous Stereotypes and Leadership

According to the National Household Survey (2011), Indigenous Peoples represented 4.3% of the total Canadian population in 2011. There are well over 600 bands that are recognized through distinctions of culture, language, art, and music in Canada, with most of the Indigenous respondents identified as members of one of the three major groups: First Nations, Métis, and Inuit (National Household Survey, 2011). According to a report prepared by the National Indigenous Economic Development Board (NIEDB, 2019), as of 2016, a total of 61.4% of the Indigenous people in Canada participated in the labour force, those who are employed or unemployed but looking for work, compared to 65.4% of the non-Indigenous populations. Roughly 15% of Indigenous people participating in the labour force reported being unemployed in 2016, compared to 7.4% of the non-Indigenous population in Canada (NIEDB, 2019). That is, while both Indigenous and non-Indigenous people participated in the labour force at a relatively similar rate, there existed a gap of 7.6% for unemployment rates between the two populations in 2016.

In addition to higher unemployment rates, a report from Statistics Canada (2017b) indicated that Indigenous individuals are less likely than their non-Indigenous counterparts to occupy professional, managerial, and technical positions. Specifically, only 7.1% of Indigenous people work in management occupations compared to 9.5% of their non-Indigenous counterparts; 14.4% vs. 17.0% in business related positions; 5.5% vs. 9.3% in the field of natural and applied sciences; 6.8% vs. 8.0% in health occupations; and 1.9% vs. 2.7% in art, culture, recreation, and sports related field. Indigenous people represent a greater proportion, however, in education, law and social, and community and government services in comparison to non-Indigenous counterparts (15.1% vs. 12.8%).

As the evidence suggests, Indigenous people are not represented proportionately in the labour force versus non-Indigenous people, with the Indigenous population facing higher unemployment rates (NIEDB, 2019) and having less likelihood of occupying leadership positions (Statistics Canada, 2017b) than the non-Indigenous population. While there is a lack of research investigating why the gap between the Indigenous and non-Indigenous populations exists in the labour force in Canada, Todorova (2016) contended that the media contributes to the oppression of Indigenous people through stereotyping and (mis)representations. Fleming (2006) further supported this contention, stating "[when] it comes to Americans' knowledge about Native American culture and history, one might say there are two types of people – those who know nothing about Natives and those who know less than that" (p. 213). Although Fleming (2006) agreed that the statement was an exaggeration, it still does not take away from the fact that Indigenous people are often misunderstood and misrepresented in North America.

Indigenous people in Canada and in the United States are generally stereotyped negatively in terms of their ability, social status, personality, and health (Werhun & Penner, 2010). For example, Haddock, Zanna, and Esses (1994) requested participants in their study to list characteristics describing typical members of the Indigenous community. Results of the study found Indigenous people were stereotyped most frequently as alcoholic, lazy, and uneducated. Similarly, Fleming (2006) asserted that Indigenous people were stereotyped as drunks who continuously received free money from the government and were wealthy through casino revenue. Indigenous people were also stereotyped as connected with nature, and as deeply rooted with their religious beliefs and spirituality (Fleming, 2006). Overall, characteristics that were typically used to describe the Indigenous groups were generally negative and unfavourable, such

as uneducated, lazy, primitive, ignorant, poor, aggressive, dishonest, disloyal, and alcoholics (Corenblum & Stephan, 2001; Dvorakova, 2018; Werhun & Penner, 2010).

It is noted that while these stereotypes are not specifically associated with leadership roles, Block and colleagues (2012) found global stereotypes (i.e., stereotypes that are ascribed at the societal level) to be applicable to context specific stereotypes. In particular, Block and colleagues (2012) found that global stereotypes of Blacks and Whites consistently match with the stereotypes that are ascribed to Black and White managers. Therefore, the stereotypes attached to Indigenous people on the societal level should be consistent with the stereotypes of Indigenous managers, with characteristics describing poor competence and social skills (i.e., Werhun & Penner, 2010). In Canada, Indigenous people are frequently perceived as lacking in competence and social skills (e.g., Corenblum & Stephan, 2001; Dvorakova, 2018; Haddock et al., 1994; Werhun & Penner, 2010). Therefore, it is hypothesized in this project that:

H4c. Indigenous leaders will receive below average ratings on both warmth and competence.

Gender Minority Stereotypes and Leadership Roles

Studies of traits associated with effective leadership have demonstrated very few differences between men and women (Bartol, 1978; Hoyt, 2010). The literature supports the assertion that effective leadership requires a combination of both stereotypically feminine (e.g., emotional intelligence, empathy) and stereotypically masculine (e.g., assertiveness, risk taking) personality traits (*cf.* Eagly & Carli, 2007; Hooijberg & DiTomaso, 1996; Hoyt, 2010; Judge et al., 2002). As Bass and Bass (2008) noted "[o]nce they are legitimated as leaders, the preponderance of research suggests that women actually do not behave much differently from men in the same kind of positions" (p. 1278). This begs the question: if research shows no

significant differences between men and women on their leadership effectiveness, why is there a continued underrepresentation of women in leadership positions?

Some scholars explain the underrepresentation of women in leadership positions as a result of behavioural differences between men and women. For example, men are more aggressive in their pursuit of and promote themselves more for leadership positions compared to women (Bowles & McGinn, 2005). To reach elite leadership positions, negotiations for desired positions, opportunities, support, and resources are inevitable. Through a series of experiments involving word games and monetary payouts, Small and colleagues (2007) found that men had a significantly higher propensity to negotiate for their desired outcomes than women. Even when women approached the table for negotiation, they were still disadvantaged by the system, as negotiations involved for the advancement to elite leadership roles are often unstructured and ambiguous (Bowles & McGinn, 2005) resulting in a process of bargaining and negotiation for advancement which is often clouded by societal norms and stereotypes.

Babcock and Laschever (2003) argued that women tend to show more reluctance to initiate negotiations to attain their desired outcomes simply due to the fear of societal backlash, as women are stereotypically expected to be passive rather than assertive regarding their own needs. This argument is supported by the multiple experiments conducted by Bowles, Babcock, and Lai (2007), in which they assessed the differences between men and women on the impact of negotiating behaviours during job interviews. Bowles and colleagues (2007) provided male and female student (experiment 1) and non-student (experiment 2) participants with a fictitious candidate's resume and a set of transcripts and notes from an interview with the candidate. In the initiating negotiation condition, participants read a transcript where the candidate explicitly requested additional compensations. After reviewing the fake resume and interview notes and

transcripts, participants evaluated the candidate's employability. Experiment 3 followed the same procedure, except participants were instructed to evaluate the candidate through a videotaped interview. In experiment 4, both male and female participants were instructed to imagine an interview scenario and were given two plans of actions (i.e., negotiating or not-negotiating) to respond to the fake interview process. As expected, women experienced several backlashes. They were penalized more than men and were evaluated both less favourably and as less hirable when they attempted to negotiate for higher wages across all three experiments. Furthermore, results of experiment 4 suggested female participants were less inclined than male participants to negotiate when the evaluator was male. The authors suggested that the reason for those behavioural differences in negotiation was the fear of stereotyping. Unfortunately, it seems that women are disadvantaged whether or not they choose to negotiate; negotiating leads to backlashes for violating the expected stereotypes, but not negotiating leads to passivity and hinders advancement for leadership positions.

Although these studies suggest that behavioural differences may explain some of the gap between men and women occupying leadership positions, the literature provides overwhelming evidence demonstrating the impact of various external influences that hinder women's advancement to leadership or bias women's leadership performance evaluation. Women face multiple challenges and barriers in their quest for a leadership role, and the term *glass ceiling* has been coined to describe the experiences that women face (Hymowitz & Schellhardt, 1986). The glass ceiling metaphor refers to the invisible barrier that prevents women from ascending beyond a certain level in the hierarchy of organizations. The term implies an absolute barrier, which prevents women's access to high-level positions through an obstruction made of glass, suggesting that women are being misled about their potential and opportunities to succeed (Eagly

& Carli, 2007). However, the research community seems to agree that this metaphor of a glass ceiling is outdated (Eagly & Carli, 2007; Hoyt, 2010), as there is no longer a complete exclusion of women for high-level positions. Women no longer face a single unbreakable barrier but are hindered by multiple barriers and challenges during their journey to the top of the chain. Eagly and Carli (2007) offered a new metaphor, describing these treacherous paths to leadership as the *labyrinth*. Nevertheless, both the glass ceiling and labyrinth metaphors provide insights regarding the multiple barriers and challenges which women must face in their quest for high-level leadership positions.

Building on the glass ceiling and labyrinth metaphors, Ryan and Haslam (2005) contended that in addition to women being confronted with a multitude of barriers that hinder their advancement opportunities into leadership roles, women are also faced with challenges once they have achieved a high-profile position. Ryan and Haslam (2005) proposed the term, the *glass cliff*, to describe the hardships that women have to navigate during their tenure in elite positions. The glass cliff refers to the challenges from leadership assignments that expose women to higher risk of failing that may not be readily apparent. Specifically, after reviewing the archival data consisting of FTSE 100 companies' performance before and after appointing a new male or female board member, Ryan and Haslam (2005) found that women were more likely to be appointed as board members after the organization had experienced bad performance consistently or when the organization was faced with a multitude of crises. Consequently, it seems that women are placed in positions where there is a higher risk of failure in comparison to men in their respective roles.

Another challenge that women are confronted with in their quest for career advancement is ambivalent sexism (Hideg & Shen, 2019), which is comprised of two forms of sexist attitudes:

hostile sexism and benevolent sexism (Glick & Fiske, 1996). Hostile sexism is a blatant form of sexism, in which women are generally perceived as inferior to men. This overt form of sexist attitude is not socially accepted in Western culture, and therefore, organizations tend to implement policies attempting to prevent hostile sexism from manifesting itself in the workplace (Cortina, 2008; Hideg & Shen, 2019). In contrast, benevolent sexism is more problematic due to its seemingly positive and innocuous nature. Benevolent sexism refers to positive attitudes towards women that endorse traditional gender roles through the expression of protectiveness, idealization, and affection (Glick & Fiske, 1996). Essentially, this form of sexism depicts women as weak individuals who need and seek protection and care from men. Furthermore, this form of sexism endorses the ideology that women are generally incompetent, and unlike men, do not have the necessary traits and qualities to become leaders. Due to its positive valence – through the expression of protective and affective ideologies – benevolent sexism is more prevalent and socially accepted and is often not recognized as a form of gender discrimination (Becker, 2010). This is reflected in many studies using the SCM where women are often stereotyped as having high warmth and low competence (e.g., Cuadrado-Guirado & López-Turrilo, 2014; Heflick et al., 2011). Cuddy and colleagues (2008) contend that this warm but incompetent gender stereotype for women emphasizes the paternalistic nature of benevolent sexism, where women are perceived to have lower status and power because of their incompetence, thus requiring protection by men.

Despite its innocuous appearance, studies have demonstrated the negative impact of benevolent sexism in the workplace, especially pertaining to the development and advancement of women in organizations. Hideg and Shen (2019) noted that the underrepresentation of women in leadership positions is partly due to the lack of support that they receive as a result of

benevolent sexism. Specifically, women often face benevolent sexism from both work and family members, in ways that undermine women's ambition to achieve leadership roles. For example, women are often tasked with less challenging assignments than men in the workplace as a way to protect and shelter them from difficult and challenging situations (King et al., 2010). As a result, women do not receive the support and networking opportunities that are critical for the advancement of leadership roles as they are perceived as being disinterested in the pursuit.

King and colleagues (2010) conducted multiple experiments using undergraduate participants, as well as male and female managers in the energy industry. Results suggested that both men and women managers participate in a similar number of developmental experiences (i.e., experiences that contribute to the development of job-relevant knowledge, skills, and abilities), but the quality of those experiences tends to disadvantage the development and advancement of women managers. Women managers tend to receive fewer challenging types of experiences in comparison to male managers, despite expressing similar levels of interest to take on those challenging tasks. Using psychology and MBA student participants, the study found that men with high levels of benevolent sexism tended to assign fewer challenging experiences to women. They displayed biases against women, undermined their abilities and competencies, and consequently impeded the development and advancement of women in the workplace.

A review of the literature affirms that this bias manifests in many different observations. For example, women are given less authority and provided with less access to higher-level responsibilities or more complex challenges that are perceived as necessary for promotion. This often leads to significant wage gaps, even when women attain leadership roles, in comparison to men (Eagly & Karau, 2002). Another study found biases in the leadership selection process. Evaluation of male candidates for leadership roles tends to be based on their potential to perform

as a leader, and not based on their past performances; whereas female candidates tend to receive evaluation that scrutinizes their past performances, while their potential to perform as a leader is often not considered during the process (Player et al., 2019). Rather than being trusted for having the potential to become a good leader, women are faced with continuous challenges stemming from their nonleader-like gender stereotypes, and the lack of opportunities in organizational roles to prove their leadership capabilities.

When support is put in place to advocate for fairness between genders, for instance through policies advocating for employment equity, such support is often driven by feelings of compassion – or pity – rather than actual recognition of women's competence in the workplace (Hideg & Ferris, 2016). The support for employment equity often only extends to women who occupy traditionally feminine roles, and not women in more traditionally masculine positions. Hideg and Ferris (2016) contended that benevolent sexism contributes to gender segregation in the workplace, undermining the abilities of women in non-feminine related roles, which contributes to the lack of female representation in leadership positions. This sexist attitude stemming from traditional gender role expectations is also often internalized by women, where women devalue their own leadership performance, take less credit for positive outcomes and report less interest in becoming a leader (Heilman, Simon, & Repper, 1987).

The impact of stereotyping is understood as one of the more prominent barriers that explains the underrepresentation and prevents women's advancement to leadership positions across the literature (e.g., Castaño et al., 2019; Duehr & Bono, 2006; Eagly & Carli, 2007; Heilman, 2001; Hideg & Shen, 2019; Hooijberg & DiTomaso, 1996; Hoyt, 2010). Gender stereotypes and the expectations associated with those beliefs dictate the roles of men and women in organizations, as those stereotypes create descriptive (what they are like) and

prescriptive (how they should behave) expectations of gender roles (Heilman, 2001). These gender stereotypes are pervasive and resilient, portraying women as the ones to take care and men as the ones to take charge. Men are labeled as agentic and stereotyped with leader-like characteristics and qualities that emphasize assertiveness, dominance, confidence, aggressiveness, self-reliance, independence, and ambitiousness (Duehr & Bono, 2006; Hoyt, 2010). Conversely, women are labeled as communal and assigned nonleader-like characteristics and qualities that highlight concern for the well-being of others, such as compassion, kindness, sentiment, helpfulness, and generosity (Duehr & Bono, 2006; Hoyt, 2010).

Using the Managerial Grid, Bartol and Butterfield (1976) found that even when both female and male leaders behaved similarly, female leaders received higher evaluation in areas that reflected their concerns for people, and male leaders received higher ratings in areas that reflected their concerns for production. Vial and Napier (2018) found that people tended to describe competence related characteristics as more important than communal related characteristics for successful leaders (Vial & Napier, 2018). While communal traits were perceived as desired characteristics in leaders, they were not viewed as an essential component; rather, communal traits were perceived as nonessential add-ons that can improve a leader's overall effectiveness (Vial & Napier, 2018). As a result, men are generally evaluated more favourably than women as leaders, and men are perceived as having more potential occupying the leadership role and as possessing more leader-like characteristics than women (Eagly & Karau, 2002; Heilman, 2001). Unfortunately, women often must face the perception that they do not possess the necessary qualities to become an effective leader, regardless of their actual qualifications and abilities (Eagly & Karau, 2002; Heilman, 2001).

González, Cortina and Rodriguez (2018) contended that employers often demonstrate biases stemming from both descriptive and prescriptive stereotypes, when performance evaluations and assessments are completed using cognitive shortcuts and heuristics. Specifically, González and colleagues (2018) found that highly skilled women employees are preferred over lower skilled men, as those highly skilled women defy the cognitive expectations of women being generally incompetent. However, the general biases against women still manifest when evaluated against highly skilled men, because highly skilled men are still preferred and receive more favourable evaluations despite demonstrating equivalent performance and qualifications. Luksyte, Unsworth, and Avery (2016) found similar biases favouring male employees. Specifically, they found innovative work behaviours were associated with positive evaluations only for male employees, not female employees.

A meta-analysis that explored how gender stereotypes impact women in the workplace found no perceived gender differences in cognitive abilities, performance effectiveness, or interpersonal skills (Castaño et al., 2019). Although there was an absence of perceived gender differences in skills and abilities, there was an overall bias favouring men over women in the workplace due to gender stereotypes. Men were evaluated as more effective than women despite demonstrating similar levels of performance; men were preferred for leadership roles, leadership positions were stereotyped with more masculine characteristics, and men were preferred for male-dominated jobs.

Heilman, Block, and Martell (1995) conducted a field study using both female and male managers from various fields (e.g., sales, purchasing, marketing, production) and industries (e.g., chemical, steel, government, business) to explore whether or not the perceptions of managers are influenced by gender stereotypes. Results found women managers being described with more

leader-like attributes (i.e., competent, active, potent) than women in general. However, even when depicted as managers, women were generally characterized as less agentic than men. Furthermore, women managers, especially successful women managers, were characterized more negatively on interpersonal related attributes compared to the typical women stereotypes. This result suggested that in order for women to be successful in leadership roles, there must be a tradeoff, where they must behave in an extremely masculine manner in order to overcome the feminine stereotypes that are hindering their advancement opportunities. Overall, the study suggested women are still disadvantaged and described as significantly more deficient relative to men for attributes relevant to managerial roles.

Consistent with previous findings on the impact of gender roles on leadership, it is hypothesized in this project that:

H5a. Female leaders will receive lower ratings on the competence dimension and higher ratings on the warmth dimension in comparison to male leaders across all ethnicities.

It is noted that among female leaders, women of colour are challenged with more barriers in leadership roles, as they must navigate through the intersections of both gender and ethnicity. In general, White women are accepted more than women of colour in leadership roles (Sanchez-Hucles & Davis, 2010). Studies have reported the double jeopardy effect for women of colour, where they reported experiencing more negative stereotypes, more unfair treatment and discrimination, along with reduced access to professional networks as a result of both racism and sexism (Bova, 2000; Combs, 2003; Hoyt, 2007). That is, women of colour reported having difficulties gaining access to appropriate networks or channels that are critical for career progression because “[women of colour] are too different from White women to benefit from their shared gendered status and too different from [ethnic minority] men to benefit from their

shared race]" (Sanchez-Hucles & Davis, 2010, p. 174). Additionally, due to the lack of representation, women of colour reported feeling invisible in the leadership role, being perceived as lacking credibility, and having limited power and fewer opportunities than other leaders (Turner, 2002).

Female leaders of colour are faced with more challenges than White female leaders, as they have to navigate through the conflicts stemming from both racism and sexism (Sanchez-Hucles & Davis, 2010). Therefore, in line with previous findings, it is hypothesized in this project that:

> *H5b. Female leaders of colour (i.e., Asian, Black, and Indigenous female leaders) will receive lower ratings on both warmth and competence dimensions in comparison to White female leaders.*

Stereotype Congruency and Leadership Effectiveness

Are ethnic and gender minority leaders perceived as more effective when they match their demographic stereotypes, or are they be perceived as more effective when they fit the 'effective leader' stereotypes? To address this research question, it is proposed in this project to test two hypotheses derived from Blake and Mouton's (1964, 1985) leadership performance theory and Eagly and Karau's (2002) role congruity theory.

Blake and Mouton (1964, 1985) offered a framework (i.e., the Managerial Grid) to evaluate leadership effectiveness through the assessments of two dimensions – people and production. It is noted that the people and production dimensions of the Manager Grid are similar to the dimensions identified in the SCM, such that warmth is reflective of the person-focused dimension, while competence is reflective of the production dimension. A large body of research has supported the notion that an effective leader requires emphasis on both people and

production (e.g., Bass & Bass, 2008; Blake & Mouton, 1985; Hutchinson et al., 1998). Therefore, following previous findings, it is hypothesized in this project that:

H6. Regardless of demographic category, leaders will be perceived as most effective when behaving with high warmth and high competence.

Although studies found that both person- and production-orientations are important, these studies did not take into account the impact of demographic characteristics on leadership evaluation. The role congruity theory considers the congruity between the expectations based on demographic characteristics and the expectations of specific roles (Eagly & Karau, 2002). The role congruity theory posits that individuals will receive positive evaluations when their expected characteristics are aligned with the expectations associated with the specific role. Eagly and Karau (2002) tested the role congruity theory by comparing people's attitudes toward and evaluation of male and female leaders. Given that men have congruent stereotypical expectations and women have incongruent stereotypical expectations in relation to the leadership role (Duehr & Bono, 2006; Hoyt, 2010), Eagly and Karau (2002) found women to be in a disadvantaged position, as they were evaluated less favourably as leaders than men. However, when leadership roles are prescribed with more feminine attributes – although these instances are "rare" (Eagly & Karau, 2002, p. 576) – the congruity between gender role and leadership role expectations would align, thus mitigating the disadvantages of women being perceived less favourably as a leader.

While most of the studies explore the role congruity theory in gender related topics (e.g., Garcia-Retamero & López-Zafra, 2006; Hoyt & Burnette, 2013; Ritter & Yoder, 2004), the theory has also been found to be applicable among other demographic characteristics. For example, Grappendorf and colleagues (2011) found that both White male and female candidates were perceived as having more leader-like qualities in comparison to Black male and female

candidates. As a result, White candidates – regardless of gender – received more favourable evaluations than Black candidates in the promotion and selection process for leadership roles. Diekman and Hirnisey (2007) found older employees were stereotyped as less adaptable than younger employees. Consequently, organizations that are more dynamic (i.e., organizations that experience change frequently) prefer hiring younger employees, whereas organizations that are stable prefer hiring older employees. In line with the role congruity theory, it is hypothesized in this project that:

H7. Leaders (regardless of demographic characteristics) will be perceived as most effective when behaving in stereotypically congruent manner. Specifically:

H7a. White male leaders will be perceived as most effective when behaving with high warmth and high competence;

H7b. Asian leaders will be perceived as most effective when behaving with high competence and low warmth;

H7c. Black leaders will be perceived as most effective when behaving with high warmth and low competence;

H7d. Female leaders – regardless of ethnicity – will be perceived as most effective when behaving with high warmth and low competence.

Current Project

Although there are numerous studies that investigate the impact of stereotypes on leadership roles, the current literature lacks standardizations in its approach to understanding the issues related to stereotype content in leadership positions. That is, current leadership studies in the area of stereotype content uses a variety of attributes to evaluate leaders of specific demographic profiles, without a standardized framework that allows for more direct comparisons

of stereotypes for those in different demographic categories (e.g., Block et al., 2012; Chin, 2014; Chung-Herrera & Lankau, 2005; Duehr & Bono, 2006). Furthermore, a large majority of the studies that investigate the impact of stereotyping on leadership positions focus solely on one dimension of an individual's identity, with most studies focusing on either gender or ethnic stereotypes. Every individual, however, is ascribed with multiple identities (such as Asian male), and the intersection of those multiple identities tends to create patterns of complex interactions and perceptions of management strategies (Jones, 2009). The current state of stereotyping research, especially in the area of leadership, has overlooked the complexity of the intersectionality of multiple identities and its subsequent impact on leadership evaluations. Therefore, this project conducted two studies to address the gaps in the current understanding of stereotyping in leadership literature. The first study used the SCM to explore the stereotypes associated with multiple demographic groups in relation to leadership roles (H1-H5), and the second study implemented an experimental design to investigate the impact of stereotypes on leadership evaluations (H6-H7). That is, the aim of the first study is to establish the specific stereotype content associated with each specific leadership profile using the warmth and competence dimensions, while the second study expands on the first study by experimentally testing to assess leadership effectiveness based on stereotype-congruent or -incongruent behaviours.

CHAPTER III: STUDY ONE

Studies have established the impact of stereotyping on leadership evaluation (e.g., Hoyt, 2010; Kiang et al., 2017). However, many authors have raised concerns about the one-dimensional approach to investigating the impact of stereotyping on leadership evaluation (e.g., Avolio et al., 2013; Chin, 2014; Cortina, 2008), with the majority of the studies investigating stereotypes associated with one specific demographic identity, such as gender or ethnicity. Other authors have pointed to the lack of standardized method to understand the effects of stereotyping during the leadership evaluation process (Eagly & Chin, 2010; Hooijberg & DiTomaso, 1996). The goal of Study One is to address these gaps by introducing the Stereotype Content Model (SCM, Fiske et al., 2002) in leadership studies. Specifically, Study One aims to replicate previous SCM findings by assessing whether specific stereotypes predict similar affective and behavioural responses in leadership situations (Cuddy et al., 2007), as well as to determine the efficacy of the SCM as a standardized framework for studying the intersectional stereotypes of various gender and ethnic profiles in leadership positions. Study One tested Hypotheses 1 to 5.

H1. Each quadrant of the SCM will predict different sets of emotional and behavioural responses.

H1a. Low Warmth and low Competence leaders will evoke Contempt, leading to both Active and Passive Harming Behaviours.

H1b. High Warmth and low Competence leaders will evoke Pity, leading to Active Facilitating and Passive Harming Behaviours.

H1c. Low Warmth and high Competence leaders will evoke Envy, leading to Passive Facilitating and Active Harming Behaviours.

H1d: High Warmth and high Competence leaders will evoke Admiration, leading to both Active and Passive Facilitating Behaviours.

H2. Effective leaders will receive high ratings in both Warmth and Competence dimensions of the Stereotype Content Model.

H3. White male leaders will receive higher ratings than leaders of other demographic groups in both Warmth and Competence dimensions of the Stereotype Content Model, similar to the ratings for effective leaders.

H4a. Asian leaders will receive higher ratings on Competence than Warmth.

H4b. Black leaders will receive higher ratings on Warmth than Competence.

H4c. Indigenous leaders will receive below average ratings on both Warmth and Competence.

H5a. Female leaders will receive lower ratings on the Competence dimension and higher ratings on the Warmth dimension in comparison to male leaders across all ethnicities.

H5b. Female leaders of colour (i.e., Asian, Black, and Indigenous female leaders) will receive lower ratings on both Warmth and Competence dimensions in comparison to White female leaders.

Methods

Participants

A total of 257 undergraduate students from a university in southern Ontario participated in the study. After the data were cleaned (details of the data cleaning process outlined later in the section), a sample of 143 participants were retained for further analyses. All participants were employed either full-time or part-time (see Table 3). The majority of the participants identified

as White or European, followed by Asian, Black, and Latin American, along with some who identified with multiple ethnic backgrounds (see Table 4). Participants ranged in age from 18 to over 25, with the mean age of 21.43 (See Table 5). Most of the participants identified as female (n=125, 87.4%), some as male (n=17, 11.9%), and one as nonbinary (0.7%) (see Table 6). A total of n=130 participants were born in Canada, and the other n=13 outside of Canada (see Table 7).

Table 3. Participants' Employment Status

Employment Status	Frequency	Percentage
Full-time	17	11.9%
Part-time	126	88.1%

Table 4. Participants' Ethnic Background

Ethnicity	Frequency	Percentage
White or European	114	79.7%
Asian	20	14.0%
Black	2	1.4%
Latin American	2	1.4%
Multiple ethnic backgrounds	5	3.5%

Table 5. Participants' Age

Age	Frequency	Percentage
18	28	19.6%
19	27	18.9%
20	31	21.7%
21	23	16.1%
22	9	6.3%
23	6	4.2%
24	4	2.8%
25+	15	10.5%

Mean age: 21.43 (SD: 5.77)

Table 6. Participants' Gender

Gender	Frequency	Percentage
Male	17	11.9%
Female	125	87.4%
Nonbinary	1	0.7%

Table 7. Participants' Citizenship Status

	Frequency	Percentage	<1 year	1-5 years	6-10 years	10+ years
Born in Canada	130	90.9%				
Born outside of Canada	13	9.1%	0	2	2	9

Procedure

Undergraduate students were recruited through the Psychology Participant Pool at a university in southern Ontario. Participants were required to be employed either full-time or part-time to be eligible to participate in the study. Those who were eligible to participate were given a link to complete the study consisting a set of measures online hosted on Qualtrics. All participants provided informed consent to participate in the study, and were compensated with course credit for their participation. This study obtained approval from the university Research Ethics Board where the research was conducted.

Measure

Eligible participants were given a total of 27 questionnaires, consisting of 288 items. Specifically, this study included three questionnaires assessing the stereotype content (12 items), the affective responses (8 items), and the behavioural responses (12 items) associated with the specific stereotype of nine demographic groups of leaders, including effective leader, White male leader, White female leader, Asian male leader, Asian female leader, Black male leader, Black female leader, Indigenous male leader, and Indigenous female leader. Every participant was

requested to complete all questionnaires associated with each of the nine demographic groups of leaders, and the sets of questionnaires were administered in random order to counterbalance the order of the questionnaire for each participant. The Cronbach's alpha of each scale is provided in Table 8. Results of inter-rater reliability analysis found some variables had unexpectedly low reliabilities. However, subsequent analyses (i.e., cluster analyses) found no leadership groups fell outside of the high Warmth and high Competence quadrant, and thus allowing for the removal of those variables that yield low reliabilities. For example, while Contempt yielded low reliabilities across all leadership profiles, it was subsequently removed due to the lack of low Warmth low Competence leaders found in the study.

Table 8. Study 1 Scale Cronbach's Alpha (α)

Scale	EL*	WML	WFL	AML	AFL	BML	BFL	IML	IFL
Competence	0.89	0.93	0.94	0.93	0.94	0.95	0.96	0.96	0.96
Warmth	0.88	0.95	0.94	0.94	0.94	0.95	0.96	0.96	0.95
Admiration	0.71	0.93	0.85	0.87	0.91	0.85	0.92	0.94	0.92
Contempt	0.38	0.12	0.39	0.38	0.33	0.24	0.26	0.29	0.37
Envy	0.78	0.71	0.92	0.91	0.92	0.91	0.89	0.93	0.91
Pity	0.32	0.59	0.62	0.68	0.69	0.70	0.61	0.72	0.69
Active Facilitation	0.86	0.93	0.94	0.94	0.94	0.93	0.93	0.95	0.95
Active Harm	0.84	0.90	0.88	0.91	0.91	0.95	0.95	0.95	0.95
Passive Facilitation	0.80	0.89	0.89	0.90	0.90	0.89	0.92	0.91	0.93
Passive Harm	0.82	0.89	0.93	0.94	0.93	0.96	0.96	0.96	0.96

**Note ***Effective Leaders (EL), White Male Leaders (WML), White Female Leaders (WFL), Asian Male Leaders (AML), Asian Female Leaders (AFL), Black Male Leaders (BML), Black Female Leaders (BFL), Indigenous Male Leaders (IML), Indigenous Female Leaders (IFL)

The Stereotype Content Model (SCM; Fiske et al., 2002) was used to assess the stereotype contents associated with each specific group, including: effective leaders, White male leaders, White female leaders, Asian male leaders, Asian female leaders, Black male leaders, Black female leaders, Indigenous male leaders, and Indigenous female leaders. The SCM

assessed stereotype contents based on two dimensions: Competence and Warmth. Competence was measured through ratings of six characteristics: competent, confident, capable, efficient, intelligent, and skillful. Warmth was measured through ratings of six characteristics: friendly, well intentioned, trustworthy, warm, good-natured, and sincere. Participants were requested to make the ratings based on how the listed groups are perceived in Canadian society using 5-point Likert type scales, with 1 being *not at all* and 5 being *extremely*. In order to reduce concerns related to social desirability and to measure the stereotypes on the cultural level, the measure was prompted by the following instruction that was extracted and adapted from Fiske and colleagues (2002). The prompt reads: "We are not interested in your personal beliefs, but in how you think they are viewed by others in Canada." In addition, each of the item in the questionnaire is prefaced with "As viewed by most Canadians," to further prime the participants to recall the cultural level stereotypes associated with each leadership group.

It should be noted that the items were changed from the original measure in order to assess stereotypes associated with leadership roles. The item questions were followed by "... in leadership roles" rather than "... members of this group." For example: "As viewed by most Canadians, how confident are Asian women in leadership roles?" and "As viewed by most Canadians, how trustworthy are White men in leadership roles?" For effective leaders, the items are changed from questions to statements. For example: "As viewed by most Canadians, effective leaders are capable" and "As viewed by most Canadians, effective leaders are sincere." The measure with the full list of items can be found in Appendix A. Both Competence and Warmth scales yielded good reliabilities as shown on Table 8.

Affective Responses on the SCM (Cuddy et al., 2007; Fiske et al., 2002) were measured in accordance with the clusters of the SCM in order to determine the emotional responses that

were manifested through stereotypes of the nine groups. Four types of emotions were measured: Admiration, Contempt, Envy, and Pity. The original measure included a total of 24 items to measure the four emotions (Fiske et al., 2002); however, given the length of the instrument, a shortened version of the survey was used, which included a total of eight items (Cuddy et al., 2007). Participants were requested to make the ratings based on how most Canadians tend to feel towards the listed groups using 5-point Likert type scales, with 1 being *not at all* and 5 being *extremely.* Example items include "Most Canadians tend to feel contempt toward Asian men" "Most Canadians tend to feel admiration toward Black women," "Most Canadians tend to feel sympathy toward White men," and "Most Canadians tend to feel jealous toward Indigenous women." Similar to the instruction used in the SCM, this instrument included instructions to reduce concerns related to social desirability and to assess emotional responses on the cultural level. The instruction included a prompt that read: "We are not interested in your personal emotional response, but in how you think most Canadians would tend to feel about the listed groups." The measure with the full list of items can be found in Appendix B.

Subscales that assessed Admiration and Envy yielded good range of reliabilities based on Cronbach's alphas; but subscales that assessed Contempt and Pity did not (see Table 8). Although the two subscales assessing Contempt and Pity yielded unacceptable reliabilities, subsequent cluster analyses suggested all nine groups of leaders belonged in the high Warmth and high Competence quadrant. Therefore, the reliabilities for Contempt, Envy and Pity were irrelevant as the subscales associated with measuring these variables were not used in subsequent hypotheses testing.

The BIAS map (Cuddy et al., 2007) examined the behavioural responses to the leadership stereotypes associated with the nine groups. The BIAS map assessed behavioural

responses that were organized into four categories: Active Facilitation, Active Harm, Passive Facilitation, and Passive Harm. Each category included three items, with Active Facilitation including assist, help and protect; Active Harm including harass, fight and attack; Passive Facilitation including unite with, cooperate with and associate with; and Passive Harm including ignore, exclude and neglect. Participants were requested to make the ratings based on how most Canadians are likely to behave towards the listed groups using a 5-point Likert type scales, with 1 being *not at all* and 5 being *extremely.* Example items include: "Most Canadians tend to help [group membership]," "Most Canadians tend to attack [group membership]," "Most Canadians tend to cooperate with [group membership]," and "most Canadians tend to exclude [group membership]." Similar to the instruction used in the SCM, the BIAS map included instructions intended to reduce the effect of social desirability on responses, as well as to assess behavioural tendency on the cultural, rather than individual, level. To this end, the instructions included a prompt that read: "We are not interested in your personal behaviour, but in how you think [members of this group] are approached by others in Canada." The measure with the full list of items can be found in Appendix C. All four subscales from the BIAS map yielded good reliabilities across all four categories (see Table 8).

Data Cleaning and Preparation

The original data set included a total of n = 257 participants. Prior to assumption and hypotheses testing, data were cleaned using both Microsoft Excel and the Statistical Package for the Social Sciences (SPSS) version 25, including: investigating item response checks, detecting missing data, and diagnosing univariate outliers.

Visual inspection of the data found n =18 cases with no responses other than the demographic items, and these cases were removed from subsequent analyses; n =10 participants

responded twice, and the second recorded response sets were removed; *n* = 4 were unemployed, and therefore were ineligible to participate in the study and were removed from subsequent analyses; and *n* = 3 were removed as their responses to each question across the survey were identical. To ensure participants read through each item carefully and did not respond to the survey items randomly, two random responding checks were included in the survey. The first item requested participants to respond with "3 – Moderately," and the second with "2 – Slightly." Inspection of these two response check items found *n* = 9 failed the first response check, and *n* = 4 failed the second response check. In total, *n* = 48 cases were removed from the dataset as a result of visual inspection of the data, as well as the response check items.

Missing data were diagnosed using visual inspection and the Little's MCAR test (Little, 1988). No missing data were found after the 48 cases were removed after the previous round of visual inspection of the data. Univariate outliers were diagnosed using a z-score of |3| as a cut-off (Stevens, 2009) across all 10 variables (Warmth and Competence, four affective and four behavioural responses) for leaders of all demographic profiles. A total of *n* = 66 outliers were found and removed from the dataset. Therefore, out of the original data set of *n* = 257 cases, *n* =143 were retained and included in the subsequent assumptions and hypotheses testing.

Assumption Testing

The current study employed various statistical analyses methods, including: analysis of variance (ANOVA), t-tests, mediation analyses, hierarchical cluster analyses, and k-means cluster analyses. Several authors have suggested that both hierarchical cluster analyses and k-means cluster analyses have no statistical assumptions, as they are both mathematical techniques (Everitt et al., 2011; Gordon, 1999; Milligan & Hirtle, 2003). However, both types of cluster analyses are sensitive to outliers (Everitt et al., 2011); therefore, outliers should be removed to

ensure an accurate depiction of the cluster groups. As outliers were removed during data cleaning and preparation, and no further assumption testing related to cluster analyses were conducted.

Assumption Testing for ANOVA and t-tests

In addition to the absence of univariate outliers, both ANOVA and t-tests assume that there is an equivalence of variances across each group that is being compared. Both statistical methods also assume normal distribution across variables (Field, 2009).

In subsequent hypotheses testing, the assumption of homogeneity of variance was tested using Levene's Test of Variances. Significant results of Levene's Test indicate violation of the assumption. For t-tests, comparisons that violated the assumption were adjusted using the t-test values that assume non-equivalent variance. For ANOVA, comparisons that violated the assumption were adjusted using the Welch's F ratio, and post hoc tests were conducted using the Games-Howell procedure (Field, 2009).

The assumption of normal distribution was tested using the Shapiro-Wilk Test, visual inspection of the histogram, as well as inspection of the skewness and kurtosis of each variable (see Tables 9 to 18). Although all variables across all nine leadership groups violated the assumption of normality based on the Shapiro-Wilk Test, all variables fell within the acceptable range of skewness (-2 to 2) and kurtosis (-3 to 3) (Field, 2009). Therefore, no further adjustments were made for the subsequent hypotheses testing.

Table 9. Competence Mean Ratings, Shapiro-Wilk Test of Normality, Skewness and Kurtosis

Group	Mean	SD	W	Skewness	Kurtosis
Effective Leader	4.12	0.60	0.95*	-0.20	-0.65
White Male Leader	4.38	0.61	0.87*	-0.61	-0.35
White Female Leader	3.64	0.79	0.97*	0.04	-0.69
Asian Male Leader	3.96	0.69	0.96*	-0.12	-0.77
Asian Female Leader	3.67	0.80	0.97*	-0.13	-0.54
Black Male Leader	3.57	0.73	0.97*	0.14	-0.36
Black Female Leader	3.38	0.88	0.97*	0.01	-0.69
Indigenous Male Leader	3.17	0.93	0.98*	0.08	-0.39
Indigenous Female Leader	2.92	0.95	0.97*	0.38	-0.32

Note *Shapiro-Wilk Statistics (W), $p < .05$

Table 10. Warmth Mean Ratings, Shapiro-Wilk Test of Normality, Skewness and Kurtosis

Group	Mean	SD	W	Skewness	Kurtosis
Effective Leader	3.70	0.70	0.97*	-0.08	-0.71
White Male Leader	3.68	0.87	0.94*	0.12	-0.98
White Female Leader	3.75	0.70	0.97*	-0.15	-0.24
Asian Male Leader	3.34	0.75	0.97*	0.44	-0.11
Asian Female Leader	3.45	0.75	0.97*	0.26	-0.27
Black Male Leader	3.32	0.80	0.98	0.23	-0.25
Black Female Leader	3.43	0.81	0.97*	0.08	-0.37
Indigenous Male Leader	3.22	0.88	0.98	-0.11	-0.13
Indigenous Female Leader	3.31	0.85	0.97*	0.22	-0.67

Note *Shapiro-Wilk Statistics (W), $p < .05$

Table 11. Admiration Mean Ratings, Shapiro-Wilk Test of Normality, Skewness and Kurtosis

Group	Mean	SD	W	Skewness	Kurtosis
Effective Leader	3.67	0.74	0.95*	-0.18	-0.26
White Male Leader	4.11	0.88	0.86*	-0.88	0.21
White Female Leader	3.55	0.82	0.94*	-0.02	-0.63
Asian Male Leader	3.05	0.91	0.95*	0.05	-0.40
Asian Female Leader	3.04	0.93	0.96*	0.21	-0.38
Black Male Leader	3.17	0.93	0.96*	0.05	-0.44
Black Female Leader	3.19	0.95	0.96*	0.03	-0.46
Indigenous Male Leader	2.80	1.03	0.94*	0.35	-0.49
Indigenous Female Leader	2.84	1.11	0.94*	0.28	-0.50

Note * Shapiro-Wilk Statistics (W), $p < .05$

Table 12. Contempt Mean Ratings, Shapiro-Wilk Test of Normality, Skewness and Kurtosis

Group	Mean	SD	W	Skewness	Kurtosis
Effective Leader	2.30	0.75	0.92*	-0.26	-0.74
White Male Leader	2.41	0.80	0.94*	-0.20	-0.50
White Female Leader	2.37	0.73	0.95*	-0.05	-0.47
Asian Male Leader	2.21	0.61	0.93*	-0.14	-0.43
Asian Female Leader	2.19	0.65	0.94*	-0.08	-0.50
Black Male Leader	2.38	0.66	0.94*	0.09	0.69
Black Female Leader	2.36	0.72	0.95*	0.04	0.03
Indigenous Male Leader	2.39	0.71	0.95*	0.16	-0.35
Indigenous Female Leader	2.31	0.74	0.95*	0.08	-0.35

Note * Shapiro-Wilk Statistics (W), $p < .05$

Table 13. Envy Mean Ratings, Shapiro-Wilk Test of Normality, Skewness and Kurtosis

Group	Mean	SD	W	Skewness	Kurtosis
Effective Leader	2.07	0.77	0.93*	0.34	-0.55
White Male Leader	2.11	0.88	0.92*	0.46	-0.62
White Female Leader	2.12	0.85	0.90*	0.49	-0.30
Asian Male Leader	1.85	0.78	0.85*	0.79	0.24
Asian Female Leader	1.81	0.71	0.85*	0.62	0.13
Black Male Leader	1.93	0.72	0.86*	0.41	-0.19
Black Female Leader	1.97	0.78	0.88*	0.49	-0.23
Indigenous Male Leader	1.81	0.76	0.85*	0.70	0.05
Indigenous Female Leader	1.87	0.82	0.85*	0.75	-0.07

Note * Shapiro-Wilk Statistics (W), $p < .05$

Table 14. Pity Mean Ratings, Shapiro-Wilk Test of Normality, Skewness and Kurtosis

Group	Mean	SD	W	Skewness	Kurtosis
Effective Leader	1.84	0.64	0.91*	0.36	-0.59
White Male Leader	1.77	0.76	0.86*	0.68	-0.30
White Female Leader	2.14	0.73	0.92*	-0.01	-0.67
Asian Male Leader	1.79	0.69	0.88*	0.38	-0.79
Asian Female Leader	1.92	0.69	0.90*	0.41	-0.06
Black Male Leader	2.09	0.78	0.92*	0.22	-0.71
Black Female Leader	2.23	0.75	0.93*	0.09	-0.44
Indigenous Male Leader	2.11	0.77	0.93*	0.13	-0.82
Indigenous Female Leader	2.28	0.81	0.93*	0.38	-0.34

Note * Shapiro-Wilk Statistics (W), $p < .05$

Table 15. Active Facilitation Mean Ratings, Shapiro-Wilk Test of Normality, Skewness and Kurtosis

Group	Mean	SD	W	Skewness	Kurtosis
Effective Leader	3.37	0.85	0.97*	-0.21	0.18
White Male Leader	4.11	0.80	0.88*	-0.76	0.21
White Female Leader	3.39	0.93	0.96*	-0.14	-0.52
Asian Male Leader	2.97	0.92	0.97*	0.132	-0.48
Asian Female Leader	2.81	0.94	0.95*	0.45	-0.04
Black Male Leader	2.90	0.89	0.96*	0.25	-0.28
Black Female Leader	2.85	0.97	0.96*	0.19	-0.42
Indigenous Male Leader	2.62	1.05	0.95*	0.24	-0.65
Indigenous Female Leader	2.55	1.07	0.95*	0.34	-0.69

Note * Shapiro-Wilk Statistics (W), $p < .05$

Table 16. Active Harm Mean Ratings, Shapiro-Wilk Test of Normality, Skewness and Kurtosis

Group	Mean	SD	W	Skewness	Kurtosis
Effective Leader	1.83	0.66	0.92*	0.59	-0.13
White Male Leader	1.66	0.61	0.87*	0.51	-0.68
White Female Leader	2.17	0.89	0.93*	0.46	-0.75
Asian Male Leader	1.91	0.68	0.90*	0.18	-0.77
Asian Female Leader	2.02	0.83	0.92*	0.61	-0.26
Black Male Leader	2.44	0.98	0.95*	0.48	-0.34
Black Female Leader	2.34	0.97	0.94*	0.34	-0.46
Indigenous Male Leader	2.41	0.99	0.95*	0.39	-0.42
Indigenous Female Leader	2.34	1.03	0.94*	0.46	-0.59

Note * Shapiro-Wilk Statistics (W), $p < .05$

Table 17. Passive Facilitation Mean Ratings, Shapiro-Wilk Test of Normality, Skewness and Kurtosis

Group	Mean	SD	W	Skewness	Kurtosis
Effective Leader	3.63	0.77	0.97*	-0.26	-0.30
White Male Leader	4.07	0.78	0.90*	-0.64	-0.05
White Female Leader	3.14	0.85	0.96*	0.30	-0.29
Asian Male Leader	2.97	0.87	0.96*	-0.07	-0.55
Asian Female Leader	2.80	0.85	0.94*	0.62	0.19
Black Male Leader	2.96	0.80	0.96*	0.20	0.46
Black Female Leader	2.80	0.90	0.95*	0.47	-0.13
Indigenous Male Leader	2.57	0.96	0.96*	0.37	-0.44
Indigenous Female Leader	2.47	0.94	0.94*	0.61	-0.07

Note * Shapiro-Wilk Statistics (W), $p < .05$

Table 18. Passive Harm Mean Ratings, Shapiro-Wilk Test of Normality, Skewness and Kurtosis

Group	Mean	SD	W	Skewness	Kurtosis
Effective Leader	1.65	0.58	0.89*	0.52	-0.46
White Male Leader	1.29	0.43	0.68*	1.15	-0.12
White Female Leader	2.21	0.92	0.91*	0.59	-0.49
Asian Male Leader	2.04	0.82	0.90*	0.43	-0.57
Asian Female Leader	2.31	0.97	0.93*	0.51	-0.54
Black Male Leader	2.36	1.02	0.91*	0.70	-0.07
Black Female Leader	2.48	1.06	0.94*	0.45	-0.46
Indigenous Male Leader	2.64	1.11	0.94*	0.33	-0.65
Indigenous Female Leader	2.70	1.14	0.94*	0.35	-0.76

Note * Shapiro-Wilk Statistics (W), $p < .05$

Multivariate Assumptions of Mediation Analyses

Several multivariate assumptions were checked prior to hypotheses testing, including: absence of influential variables, adequate sample size, absence of multicollinearity, homoscedasticity of error, independence of error, multivariate normality, and linearity between independent and dependent variables.

Influential variables are multivariate outliers that have significant impact on the overall results of multivariate analyses (Tabachnick & Fidell, 2007). As suggested by Field (2009), Cook's distance was used to identify influential variables, with cut-off value of 1; that is, cases with Cook's distance value less than 1 indicates the absence of influential variables. Results of Cook's distance suggested no influential variables for variables that are included in subsequent mediation models. Thus, no adjustments were made prior to the analyses.

Sample size requirement was calculated using the equation: 50+8k, where 'k' denoted the number of variables included in the analyses (Field, 2009). The subsequent mediation analyses included three variables, including one of the SCM dimensions (i.e., warmth or competence), affective response, and behavioural response. The provided equation determines n =74 as

adequate sample size. The study had a total of n =143 participants; therefore, the assumption of adequate sample size was met for subsequent mediation analyses.

Multicollinearity occurs when two or more predictors are highly correlated (Field, 2009). Multicollinearity can be detected using the variance inflation factor (VIF) and tolerance values. To meet the assumption of absence of multicollinearity, VIF must not exceed 10 and tolerance values must be lower than 0.2. No variables in the proposed mediation models had VIF over 10 or tolerance values lower than 0.2. As a result, the assumption of absence of multicollinearity was met, suggesting that none of the variables were redundant in subsequent hypotheses testing.

The assumption of homoscedasticity of error requires consistent variance across all predictor variables included in the analyses (Field, 2009). The assumption was tested by plotting standardized residuals against the outcome variable, and visually examining the uniformity of the scattered data around the line of best fit on the standardized residual plots. Visual inspections indicated that the assumption of homoscedasticity of error was met for the subsequent mediation analyses.

Independence of error means that the residuals of one independent variable are not related to the residuals of another independent variable (Field, 2009). This assumption was diagnosed with the Durbin-Watson value. Field (2009) suggested that the assumption is met when the value falls between 1 and 3. Durbin-Watson values were calculated for the proposed mediation models, and results indicated values falling within acceptable range. Thus, the assumption of independence of error was met for subsequent mediation analyses.

The assumption of multivariate normality was diagnosed using visual examination of the histogram on related dependent variables for all subsequent analyses. Results suggested no

violation of normality occurred, as they generally formed the bell-curved shape of normal distribution; therefore, the assumption was met.

Linearity between independent and dependent variables were examined visually using scatterplots. Results found no violation of linearity; hence no changes were made on the dataset for the subsequent analyses. Overall, all multivariate assumptions were met in the dataset.

Results

Cluster Analyses

Before testing the hypotheses, hierarchical and k-means cluster analyses were first conducted to determine how the nine leadership groups were represented in the warmth and competence two-dimensional space identified by the Stereotype Content Model. Mean ratings on Warmth and Competence for each demographic group of leaders can be found in Table 19.

Table 19. Competence and Warmth Rating for each Leadership Group

Group	Competence		Warmth	
	Mean	SD	Mean	SD
Effective Leader	4.12	0.60	3.70	0.70
White Male Leader	4.38	0.61	3.68	0.87
White Female Leader	3.64	0.79	3.75	0.70
Asian Male Leader	3.96	0.69	3.34	0.75
Asian Female Leader	3.67	0.80	3.45	0.75
Black Male Leader	3.57	0.73	3.32	0.80
Black Female Leader	3.38	0.88	3.43	0.81
Indigenous Male Leader	3.17	0.93	3.22	0.88
Indigenous Female Leader	2.92	0.95	3.31	0.85

Following Hair and colleagues' (1995) suggestion, hierarchical cluster analysis was first conducted to determine the number of cluster solutions among the nine groups; and k-means cluster analysis was conducted after to determine the group make-up of each cluster. Hierarchical cluster analysis was conducted using Ward's method and Squared Euclidian's distance (Ward,

1963). Ward's method minimizes the within-cluster variance while maximizing the between-cluster variance (Ward, 1963). The agglomeration statistics from the hierarchical analysis (see Table 20) identified three possible cluster solutions: 2-cluster, 3-cluster, and 4-cluster (Blashfield & Aldenderfer, 1988). A series of ANOVAs were then conducted to investigate whether Competence or Warmth were significantly different in determining the cluster solutions. Results of ANOVA found Competence was not significantly different for both 2-cluster and 3-cluster solutions (see Table 21 and 22); the 4-cluster solution, on the other hand, found that both Warmth and Competence produced a significant impact on the cluster solution (see Table 23). Therefore, this study proceeded with the 4-cluster solution.

Table 20. Agglomeration Schedule

Stage	Cluster Combined		Coefficients	Difference
	Cluster 1	Cluster 2		
1	5	6	0.014	
2	1	2	0.046	0.032
3	5	7	0.083	0.037
4	8	9	0.133	0.05
5	3	5	0.231	0.098
6	1	4	0.367	0.136
7	3	8	0.784	0.417
8	1	3	1.996	1.212

Table 21. 2 Cluster Solution ANOVA

	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
Competence	3.409	1	0.656	1	5.197	0.057
Warmth	6.917	1	0.155	1	44.702	0

Table 22. 3 Cluster Solution ANOVA

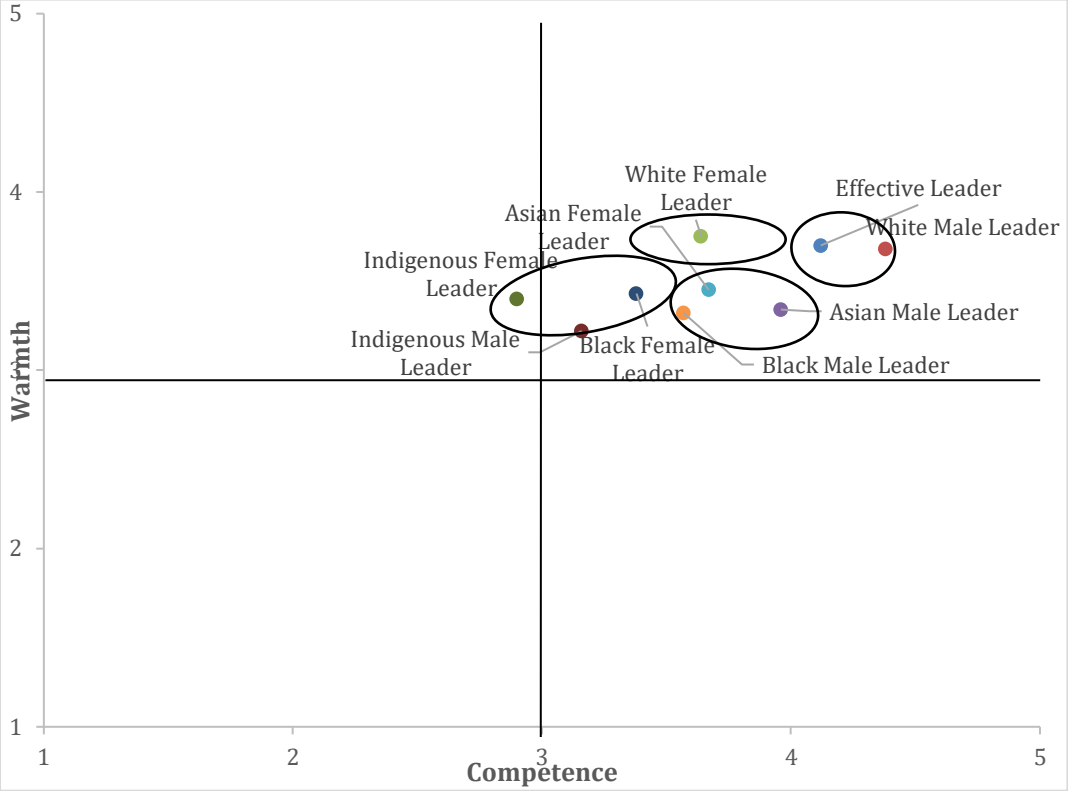
	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
Competence	2.429	2	0.524	6	4.637	0.061
Warmth	3.001	2	0.333	6	9.008	0.016

Table 23. 4 Cluster Solution ANOVA

	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
Competence	2.307	3	0.216	5	10.694	0.013
Warmth	2.338	3	0.197	5	11.836	0.01

K-means cluster analyses were conducted thereafter to determine which group fit into which cluster in the four-cluster solution. Results indicated the following: Cluster 1 included Effective Leader and White Male Leader; Cluster 2 comprised the White Female Leader; Cluster 3 included Asian Male Leader, Asian Female Leader and Black Male Leader; Cluster 4 included Black Female Leader, Indigenous Male Leader, and Indigenous Female Leader (see Figure 3). The cluster centres (i.e., mean ratings) of Competence and Warmth for each cluster can be found in Table 24.

Figure 3. Four-Cluster Solution



Although all leadership demographic profiles fell into the high Warmth and high Competence quadrant, results of t-tests indicated statistically significant differences between perceived Warmth and Competence for all leadership groups, reflecting ambivalent stereotypes. Specifically, both Cluster 1 and Cluster 3 consist of leaders who are viewed as more competent but less warm, and both Cluster 2 and Cluster 4 consist of leaders who were viewed as warmer but less competent (see Table 24).

Table 24. Competence and Warmth Means within Each Cluster

Cluster	Groups	*t*-statistics	Competence (SD)		Warmth (SD)
Cluster 1	Effective Leader, White Male Leader	12.82	4.25 (.62)	>	3.69 (.79)
Cluster 2	White Female Leader	-2.00	3.64 (.79)	<	3.75 (.70)
Cluster 3	Asian Male Leader, Asian Female Leader, Black Male Leader	10.96	3.73 (.75)	>	3.37 (.77)
Cluster 4	Black Female Leader, Indigenous Male Leader, Indigenous Female Leader	-5.35	3.16 (.94)	<	3.32 (.85)

Note. Means differ ($p < .05$) if > or < is indicated.

Two One-Way ANOVAs were conducted to compare the differences on Warmth and Competence between clusters. Results of ANOVA indicated significant differences on both Warmth, $F(3, 1283) = 20.42$, $p < .05$, $\omega^2 = .03$, and Competence, $F(3, 1283) = 109.71$, $p < .05$, $\omega^2 = .16$, between clusters. Additionally, as each cluster had different sample sizes, post-hoc tests using the Gabriel's procedure were conducted (Field, 2009). Results of the Gabriel's procedure revealed significant differences on Warmth and Competence across most cluster comparisons. Non-significant differences were found on Warmth between Cluster 1 ($M = 3.69$, $SD = .79$) and Cluster 2 ($M = 3.75$, $SD = .70$), Warmth between Cluster 3 ($M = 3.37$, $SD = .77$) and Cluster 4 ($M = 3.32$, $SD = .85$), and Competence between Cluster 2 ($M = 3.64$, $SD = .79$) and Cluster 3 ($M = 3.73$, $SD = .75$). A summary of the results can be found in Table 25.

Table 25. Competence and Warmth Differences between Each Cluster

Comparisons			95% Confidence Interval	
			Lower	Upper
C1 Competence	>	C2 Competence	0.40	0.82
C1 Warmth	=	C2 Warmth	-0.27	0.15
C1 Competence	>	C3 Competence	0.36	0.68
C1 Warmth	>	C3 Warmth	0.16	0.47
C1 Competence	>	C4 Competence	0.93	1.25
C1 Warmth	>	C4 Warmth	0.21	0.53
C2 Competence	=	C3 Competence	-0.29	0.10
C2 Warmth	>	C3 Warmth	0.18	0.57
C2 Competence	>	C4 Competence	0.28	0.68
C2 Warmth	>	C4 Warmth	0.24	0.63
C3 Competence	>	C4 Competence	0.43	0.72
C3 Warmth	=	C4 Warmth	-0.09	0.20

Note. Cluster 1 (C1), Cluster 2 (C2), Cluster 3 (C3), and Cluster 4 (C4); Means are significantly different ($p < .05$) if > or < is indicated, and not significantly different ($p > .05$) if = is indicated

The mean ratings for affective responses and behavioural responses of each cluster can be found in Table 26 and 27. As expected, all four clusters generated high levels of affective and behavioural responses associated with high Competence and high Warmth quadrants (Cuddy et al., 2007; Fiske et al., 2002). Namely, all four clusters produced Admiration, as well as Active and Passive Facilitating Behaviours.

Table 26. Emotions Expressed for Each Cluster

Cluster	Groups	Admiration	Contempt	Envy	Pity
Cluster 1	Effective Leader, White Male Leader	3.89	2.35	2.09	1.80
Cluster 2	White Female Leader	3.55	2.37	2.12	2.14
Cluster 3	Asian Male Leader, Asian Female Leader, Black Male Leader	3.09	2.26	1.87	1.93
Cluster 4	Black Female Leader, Indigenous Male Leader, Indigenous Female Leader	2.94	2.35	1.88	2.21

Table 27. Behaviours Expressed for Each Cluster

Cluster	Groups	AF	AH	PF	PH
Cluster 1	Effective Leader, White Male Leader	3.74	1.75	3.85	1.47
Cluster 2	White Female Leader	3.39	2.17	3.14	2.21
Cluster 3	Asian Male Leader, Asian Female Leader, Black Male Leader	2.89	2.12	2.91	2.23
Cluster 4	Black Female Leader, Indigenous Male Leader, Indigenous Female Leader	2.68	2.36	2.61	2.61

Note. Active Facilitation (AF), Active Harm (AH), Passive Facilitation (PF), Passive Harm (PH)

Hypotheses Testing

H1. *Each quadrant of the SCM will predict different sets of emotional and behavioural responses.*

H1a. *Low Warmth and low Competence leaders will evoke Contempt, leading to both Active and Passive Harming Behaviours.*

H1b. *High Warmth and low Competence individuals will evoke Pity, leading to Active Facilitating and Passive Harming Behaviours.*

H1c. *Low Warmth and high Competence leaders will evoke Envy, leading to Passive Facilitating and Active Harming Behaviours.*

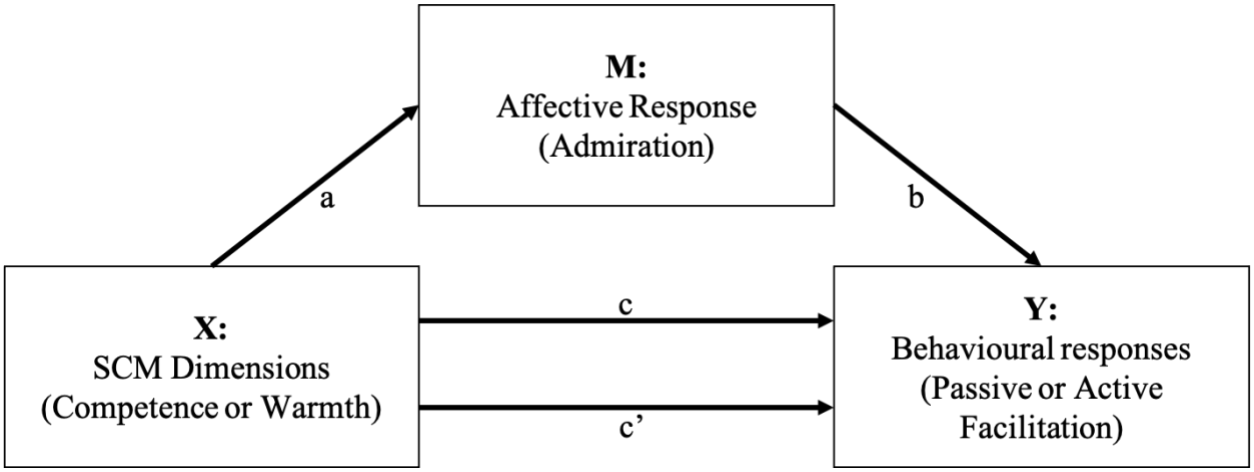
H1d. *High Warmth and high Competence leaders will evoke Admiration, leading to both Active and Passive Facilitating Behaviours.*

Although hierarchical and k-means cluster analyses determined a four-cluster solution, all four clusters fell into the high Warmth and high Competence quadrant with mean ratings above 3 across all groups – with the exception of Indigenous female leader's competence rating at 2.92. Given that there are no groups in the high Warmth and low Competence, low Warmth and high Competence, or low Warmth and low Competence quadrants, only H1d was tested with the overall aggregated data of all nine groups.

The Baron and Kenny (1986) mediation method was used to test H1d. Specifically, two mediation models were tested to investigate the relationship between stereotype dimensions, and their associated affective and behavioural responses (see Figure 4). Three steps were involved in the Baron and Kenny (1986) mediation analyses. First, significance testing of the relationships between stereotype dimensions and behavioural responses were conducted to assess the main

effects between the independent and dependent variables, shown as path c. Second, the mediating variable (i.e., affective response: Admiration) was introduced in the analyses to assess the relationship between the independent variable and the mediating variable, shown as path a. Lastly, the total effect of all three variables was calculated, and significance testing of independent and dependent variables was conducted again (shown as path c') when the mediator was introduced in the model and statistically controlled for, shown as path b. Rucker and colleagues (2011) suggested that if the effect of independent on dependent variable was no longer significant after the mediating variable was introduced, the effect would be concluded to be complete mediation. If, on the other hand, the effect of independent on dependent variable decreased but remained significant after the mediating variable was introduced, the relationship between the variables would be concluded to be partial mediation.

Figure 4. Overall Baron and Kenny (1986) Mediation Model (X= SCM Dimensions, M= Affective Response, Y= Behavioural Responses)



The Baron and Kenny (1986) mediation method comes with a few limitations, however. First, the Baron and Kenny (1986) mediation method emphasizes a significant relationship between the predictor and outcome variable as the requirement for every mediation analyses.

Rucker and colleagues (2011) conducted a simulation study, and found a significant indirect effect was possible even with the absence of a significant relationship between predictor and outcome variables. Second, many authors have argued that the Baron and Kenny (1986) approach produces low statistical power, increasing the probability of committing Type II error (e.g., Fritz & MacKinnon, 2007; Hayes, 2009; Mackinnon et al., 2002). Last, conclusions drawn from the Baron and Kenny (1986) mediation method are sensitive to the sample size. An increase in sample size increases the probability of finding a significant effect of predictor on outcome variable (path c), and a decrease in sample size increases the probability of complete mediation, as path c' becomes more likely to be nonsignificant (Rucker et al., 2011).

Considering all the limitations in the Baron and Kenny (1986) mediation approach, the Sobel test was also conducted with bootstrapping method in order to test for the mediation effect more accurately (Hayes, 2009; Preacher & Hayes, 2004). The Sobel test calculates the indirect effect by comparing the strength of path c' with c using a direct bootstrapping test (Preacher & Hayes, 2004), a parametric process that generates a larger sample by resampling a dataset multiple times (Tabachnick & Fidell, 2007). Therefore, the mediation effect of affective responses on the relationship between SCM dimensions and behavioural responses was tested using both the Baron and Kenny (1986) method and the Sobel test (Sobel, 1986).

In the first mediation analysis, Competence (M = 3.64, SD = .894) was treated as the predictor variable, Admiration (M = 3.27, SD = 1.01) as the mediating variable, and Passive Facilitating Behaviour (M = 3.04, SD = .98) as the outcome variable. Results of the mediation analyses suggested a significant partial mediation effect of Admiration on Competence and Passive Facilitating Behaviour (see Table 28 and Figure 5). The Sobel test (1000 resamples;

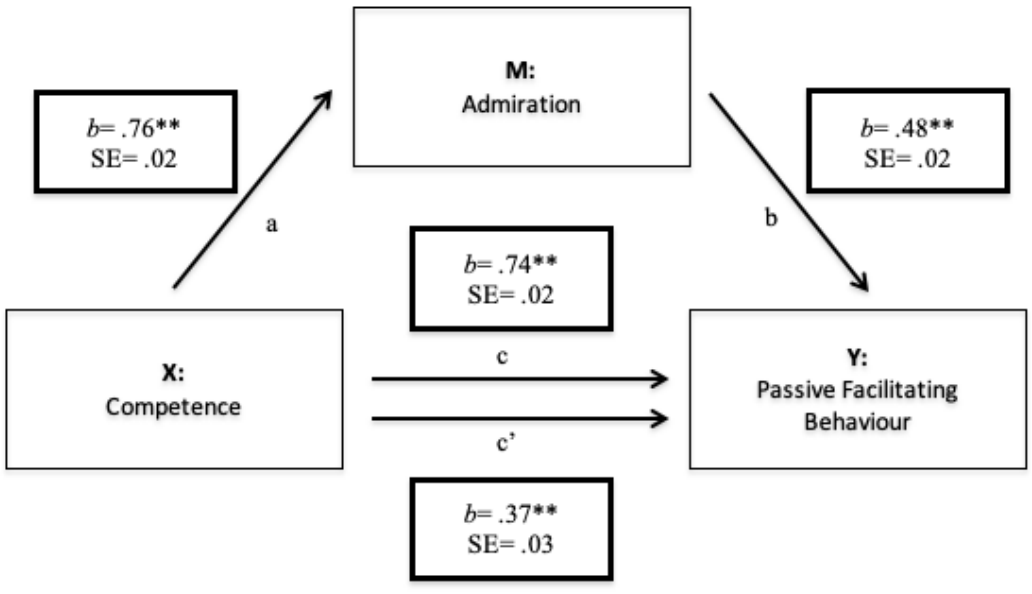
Sobel, 1986) supported the results, indicting a significant partial mediation effect of Admiration on Competence and Passive Facilitating Behaviour, $P_M = .50$, z = 20.29, $p < .05$.

Table 28. Mediation Analysis of High Competence (X), Admiration (M), and Passive Facilitating Behaviour (Y)

		Unstandardized Coefficient		95.0% Confidence Interval	
Steps	Variable	*B*	*SE B*	Lower Bound	Upper Bound
Step 1					
Outcome	Admiration	-	-	-	-
Predictor (a)	Competence	.76**	0.02	0.72	0.81
Step 2					
Outcome	BIAS_PF	-	-	-	-
Predictor (c)	Competence	.74**	0.02	0.69	0.78
Step 3					
Outcome	BIAS_PF	-	-	-	-
Mediator (b)	Admiration	.48**	0.02	0.44	0.53
Predictor (c')	Competence	.37**	0.03	0.32	0.42

Note: (a) path a, (b) path b, (c) path c, (c') path c', *p< .05, **p< .01

Figure 5. Mediation Model (X= Competence, M= Admiration, Y= Passive Facilitating Behaviour)



*Note: Bootstrapped (1000 samples); *p< .05, **p< .01, ***p< .001*

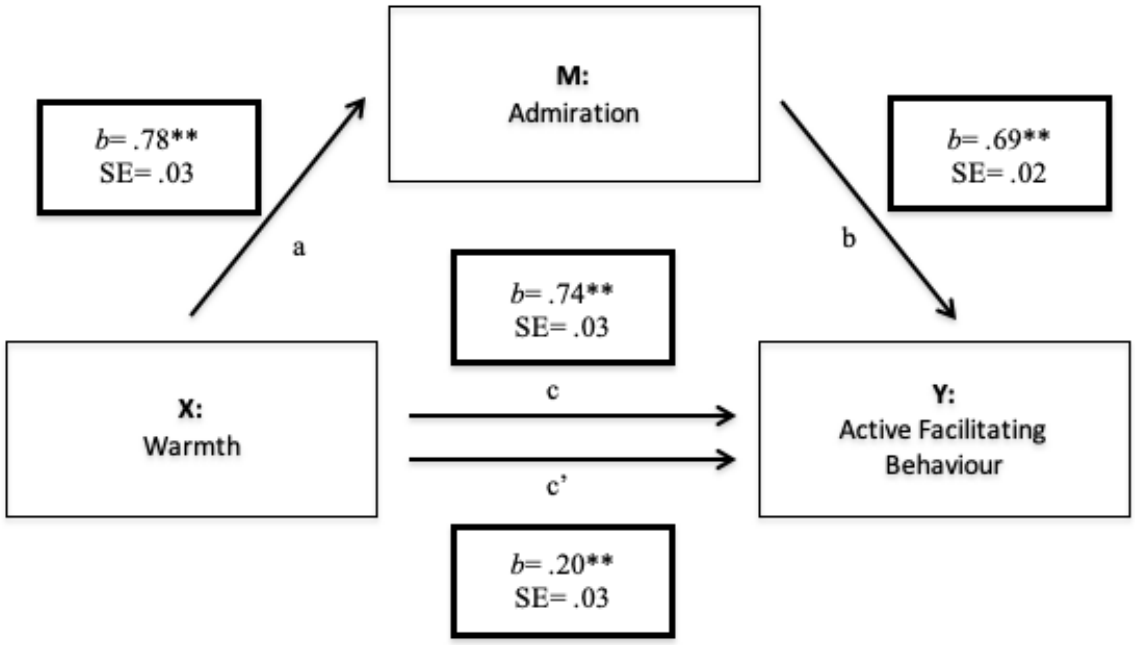
In the second mediation analyses, Warmth (M = 3.47, SD = .81) was treated as the predictor variable, Admiration as the mediating variable (M = 3.27, SD = 1.01), and Active Facilitating Behaviour (M = 3.04, SD = .98) as the outcome variable. Results of the mediation analyses found significant partial mediation of Admiration on Warmth and Active Facilitating Behaviour (see Table 29 and Figure 6). The Sobel test (Sobel, 1986) supported the results, suggesting a significant partial mediation effect of admiration on warmth and active facilitating behaviour, P_M = .72, z = 20.76, $p < .05$.

Table 29. Mediation Analysis of High Warmth (X), Admiration (M), and Active Facilitating Behaviour (Y)

		Unstandardized Coefficient		**95.0% Confidence Interval**	
Steps	Variable	*B*	*SE B*	Lower Bound	Upper Bound
Step 1					
Outcome	Admiration	-	-	-	-
Predictor (a)	Competence	.78**	0.03	0.73	0.83
Step 2					
Outcome	BIAS_AF	-	-	-	-
Predictor (c)	Warmth	.74**	0.03	0.68	0.8
Step 3					
Outcome	BIAS_AF	-	-	-	-
Mediator (b)	Admiration	.69**	0.02	0.65	0.74
Predictor (c')	Warmth	.20**	0.03	0.14	0.25

Note: (a) path a, (b) path b, (c) path c, (c') path c', *p< .05, **p< .01

Figure 6. Mediation Model (X= Warmth, M= Admiration, Y= Active Facilitating Behaviour)



*Note: Bootstrapped (1000 samples); *p< .05, **p< .01, ***p< .001*

Therefore, results of the analyses provided partial support for H1d: the perception of high Competence led to Passive Facilitating Behaviour, and the perception of high Warmth led to Active Facilitating Behaviour, with both models being partially mediated by Admiration.

H2. *Effective leaders will receive high ratings in both Warmth and Competence dimensions of the Stereotype Content Model.*

To test for hypothesis 2, the mean ratings and the z-score of effective leaders' Warmth and Competence were calculated. Overall, mean ratings indicated that Effective Leaders have high ratings for both Warmth (M = 3.70, SD = .70) and Competence (M = 4.12, SD = 0.60). An inspection on the anchors of the scale (i.e., 1 = not at all; 2 = slightly; 3 = moderately; 4 = very; 5 = extremely) revealed that, on average, participants rated effective leaders as very competent and higher than moderately warm. The z-scores (calculated in comparison to other leaders' ratings) confirmed that effective leaders were rated high in both Warmth and Competence, with z-scores of z = 1.03 and z = 1.19 respectively. That is, the effective leaders' Warmth and Competence ratings were both one standard deviation higher than the mean; specifically, with warmth at the 85th percentile, and competence at the 88th percentile. Therefore, hypothesis 2 was confirmed, such that effective leaders received high ratings in both Warmth and Competence dimensions of the Stereotype Content Model.

H3. *White male leaders will receive higher ratings than leaders of other demographic groups in both Warmth and Competence dimensions of the Stereotype Content Model, similar to the ratings for effective leaders.*

Hypothesis 3 was tested using MANOVA, with Warmth and Competence being treated as the dependent variables, and the nine leadership groups being treated as the independent variable. Prior to conducting MANOVA, the assumption of homogeneity of covariance matrices – in addition to other assumptions assessed previously – was tested to evaluate whether variances of each group were homogeneous (Field, 2009). Results of the Box's test suggested violation of

this assumption, Box's M = 117.26, $p < .001$. To adjust for the violation of this assumption, subsequent MANOVA was tested using Pillai's Trace statistics (Field, 2009).

Results of the MANOVA suggested a statistically significant effect on warmth and competence ratings based on the nine leadership groups, V = .32, $F(16, 2556) = 30.49$, $p < .05$, partial $\eta^2 = .16$. Separate univariate ANOVAs were conducted to inspect the significant effects of leadership groups on competence and warmth. Bonferroni adjustments were applied to both main analyses and subsequent post-hoc tests to avoid Type I error. Specifically, the Bonferroni adjusted alpha level of $\alpha = .025$ was used for the main analyses for both competence and warmth comparisons; and the Bonferroni adjusted alpha level of $\alpha = .006$ was used for subsequent post-hoc analyses as eight comparisons were made to test for differences between White male leaders and eight other leadership groups.

Results of the ANOVA revealed significant effects of leadership groups on Competence, Welch's $F(8, 531.61) = 52.154$, $p < .025$, $\omega^2 = .79$. A closer inspection using Bonferroni adjusted level of $\alpha = .006$ and Games-Howell procedure (Field, 2009) found significant differences between White male leaders and all other leadership groups, with the exception of effective leaders (see Table 30).

Table 30. Post-hoc Test using Games-Howell Procedure on Competence, White Male Leader (M = 4.38, SD = .61)

	Mean	SD	95% Confidence Interval	
			Lower	Upper
Effective Leader	4.12	0.60	0.03	0.48
White Female Leader	3.64*	0.79	0.48	1.00
Asian Male Leader	3.96*	0.69	0.18	0.66
Asian Female Leader	3.67*	0.80	0.45	0.97
Black Male Leader	3.57*	0.73	0.56	1.06
Black Female Leader	3.38*	0.88	0.71	1.27
Indigenous Male Leader	3.17*	0.93	0.92	1.50
Indigenous Female Leader	2.92*	0.95	0.71	1.27

**Note ***$p < .006$

Results of the ANOVA revealed significant effects of leadership groups on Warmth, Welch's $F(8, 532.27) = 8.88$, $p < .025$, $\omega^2 = .37$. A closer inspection using Bonferroni adjusted alpha of $\alpha = .006$ and Games-Howell procedure (Field, 2009) found significant differences between White male leaders and Indigenous male leaders. All other leadership groups did not produce significant differences in warmth compared to White male leaders (see Table 31).

Table 31. Post-hoc Test using Games-Howell Procedure on Warmth, White Male Leader (*M* = 3.68, *SD* = .87)

	Mean	SD	95% Confidence Interval	
			Lower	Upper
Effective Leader	3.70	0.70	-0.31	0.27
White Female Leader	3.75	0.70	-0.36	0.22
Asian Male Leader	3.34	0.75	0.03	0.64
Asian Female Leader	3.45	0.75	-0.07	0.53
Black Male Leader	3.32	0.80	0.05	0.67
Black Female Leader	3.43	0.81	-0.06	0.56
Indigenous Male Leader	3.22*	0.88	0.13	0.78
Indigenous Female Leader	3.31	0.85	0.05	0.69

**Note ***$p < .006$

Therefore, hypothesis 3 was partially supported. White male leaders received higher ratings of Competence than leaders of other demographic groups except for effective leaders. White male leaders, however, received higher ratings of Warmth only in comparison to Indigenous male leaders.

H4a. *Asian leaders will receive higher ratings on Competence than Warmth.*

A t-test was conducted to evaluate differences between Competence and Warmth for Asian leaders. Results of the t-test found Asian leaders were rated significantly more competent (M = 3.81, SD = .76) than warm (M = 3.40, SD = .75), $t(285) = 9.73$, $p < .05$, CI 95% [.33, .50]. Therefore, hypothesis 4a was supported.

H4b. *Black leaders will receive higher ratings on Warmth than Competence.*

A t-test was conducted to evaluate differences between Competence and Warmth for Black leaders. Significant differences were found between Competence (M = 3.47, SD = .81) and Warmth (M = 3.37, SD = .75), $t(285) = 2.95$, $p < .05$, CI 95% [.03, .17] for Black leaders. However, the direction of the difference was opposite of what was predicted in the hypothesis, as Black leaders received significantly higher rating on Competence than Warmth, instead of higher rating of Warmth than Competence. Therefore, hypothesis 4b was not supported.

H4c. *Indigenous leaders will receive below average ratings on both Warmth and Competence.*

To test for hypothesis 4c, the mean ratings of Indigenous leaders' Warmth and Competence were compared to the overall Warmth and Competence mean ratings of the nine groups. Results suggested Indigenous leaders received lower mean ratings for both warmth (M = 3.26) and competence (M = 3.04) than the overall mean ratings (M = 3.47 and M = 3.64 respectively). Therefore, hypothesis 4c was supported, as Indigenous leaders were evaluated with below average ratings for both warmth and competence.

H5a. *Female leaders will receive lower ratings on the Competence dimension and higher ratings on the Warmth dimension in comparison to male leaders across all ethnicities.*

A series of t-tests were conducted to investigate differences in Competence and Warmth ratings between female and male leaders across all demographic groups. As a total of 8 t-tests were conducted (i.e., 4 leadership groups [White, Asian, Black, and Indigenous leaders] by 2 dimensions [Competence and Warmth]), Bonferroni adjustments were calculated to avoid Type 1 error, with adjusted alpha of $\alpha = .006$. Note that adjustments were also made based on the results of Levene's test for variance. Comparisons that violated the assumption of homogeneity of variance were adjusted using corrected t-tests for unequal variances accordingly.

For White leaders, results of the t-tests indicated significant differences on Competence ratings, with White male leaders being evaluated as significantly more competent than White female leaders (see Table 32). However, significant differences were not found for evaluations of Warmth (see Table 33).

Table 32. *t*-test Results Comparing White Male and Female Leaders Competence

	M	SD	df	*t*	*p*	Cohen's D
White Male Leader	4.38	0.61	266.72	8.85	0.00	1.05
White Female Leader	3.64	0.79				

Note: Levene's Test for Variances: $p < .05$

Table 33. *t*-test Results Comparing White Male and Female Leaders Warmth

	M	SD	df	*t*	*p*	Cohen's D
White Male Leader	3.68	0.87	271.54	-0.76	0.45	0.09
White Female Leader	3.75	0.70				

Note: Levene's Test for Variances: $p < .05$

For Asian leaders, findings suggested significant difference on Competence, with Asian male leaders being evaluated as significantly more competent than Asian female leaders (see

Table 34). Significant differences were not found for Warmth between Asian male and female leaders (see Table 35).

Table 34. *t*-test Results Comparing Asian Male and Female Leaders Competence

	M	SD	df	*t*	*p*	Cohen's D
Asian Male Leader	3.96	0.69	284	3.30	0.00	0.39
Asian Female Leader	3.67	0.80				

Note: Levene's Test for Variances: $p > .05$

Table 35. *t*-test Results Comparing Asian Male and Female Leaders Warmth

	M	SD	df	*t*	*p*	Cohen's D
Asian Male Leader	3.34	0.75	284	-1.21	0.23	0.15
Asian Female Leader	3.45	0.75				

Note: Levene's Test for Variances: $p > .05$

For Black leaders, neither Competence (see Table 36) nor Warmth (see Table 37) differed significantly between Black male and Black female leaders. Similarly for Indigenous leaders, neither the Competence (see Table 38) nor Warmth (see Table 39) dimensions produced significant differences between Indigenous male and Indigenous female leaders.

Table 36. *t*-test Results Comparing Black Male and Female Leaders Competence

	M	SD	df	*t*	*p*	Cohen's D
Black Male Leader	3.57	0.73	274.90	1.89	0.06	0.24
Black Female Leader	3.38	0.88				

Note: Levene's Test for Variances: $p < .05$

Table 37. *t*-test Results Comparing Black Male and Female Leaders Warmth

	M	SD	df	*t*	*p*	Cohen's D
Black Male Leader	3.32	0.80	284	-1.12	0.26	0.14
Black Female Leader	3.43	0.81				

Note: Levene's Test for Variances: $p > .05$

Table 38. *t*-test Results Comparing Indigenous Male and Female Leaders Competence

	M	SD	df	*t*	*p*	Cohen's D
Indigenous Male Leader	3.17	0.93	284	2.20	0.03	0.27
Indigenous Female Leader	2.92	0.95				

Note: Levene's Test for Variances: $p > .05$

Table 39. *t*-test Results Comparing Indigenous Male and Female Leaders Warmth

	M	SD	df	*t*	*p*	Cohen's D
Indigenous Male Leader	3.22	0.88	284	-0.83	0.41	0.10
Indigenous Female Leader	3.31	0.85				

Note: Levene's Test for Variances: $p > .05$

Overall, hypothesis 5a was partially supported. White and Asian male leaders were evaluated as more competent than White and Asian female leaders respectively. However, significant differences were not found on Competence ratings between Black male and Black female leaders, and Indigenous male and Indigenous female leaders. Also, there were no significant differences on Warmth ratings between male and female leaders across all ethnicities.

H5b. *Female leaders of colour (i.e., Asian, Black, and Indigenous female leaders) will receive lower ratings on both warmth and competence dimensions in comparison to White female leaders.*

To test for hypothesis 5b, MANOVA was conducted with Warmth and Competence as the dependent variables, and the four female leadership groups (i.e., White, Asian, Black, and Indigenous female leaders) as the independent variables. It is noted that the assumption of homogeneity of covariance matrices was met based on Box's test, Box's M = 22.22, $p > .001$; therefore, the subsequent MANOVA was tested using Wilk's Lambda as suggested by Field (2009).

Results of the MANOVA suggested a statistically significant effect on Warmth and Competence ratings based on the nine leadership groups, $\Lambda = .84$, $F(6, 1134) = 16.73$, $p < .05$, partial $\eta^2 = .81$. Separate ANOVAs were conducted to further investigate the differences of Warmth and Competence between female leadership groups. Bonferroni adjustments were applied to both main analyses and subsequent post-hoc tests to reduce the chance of Type I error. The Bonferroni adjusted alpha level of $\alpha = .025$ was used for the main analyses for both Warmth and Competence comparisons; and the Bonferroni alpha level of $\alpha = .008$ was used for subsequent post-hoc tests of six comparisons between White female leaders and three other leadership groups on both stereotype dimensions.

For Competence, the assumption of homogeneity of variance was met based on Levene's test for variance, $F(3,568) = 2.17$, $p > .05$. Results of the ANOVA found significant effects of leadership groups on Competence, $F(3, 568) = 23.23$, $p < .025$, $\omega^2 = .086$. A closer inspection using Bonferroni adjusted level of $\alpha = .008$ and Tukey's test (Field, 2009) found significant differences of Competence only between White and Indigenous female leaders (see Table 40). No significant differences of Competence were found between White and Asian, and White and Black female leaders.

Table 40. Post-hoc Test using Tukey's Test on Competence, White Female Leader (*M* = 3.64, *SD* = .79)

	Mean	SD	95% Confidence Interval	
			Lower	Upper
Asian Female Leader	3.67	0.80	3.54	3.80
Black Female Leader	3.38	0.88	3.24	3.53
Indigenous Female Leader	2.92*	0.95	2.76	3.08

**Note ****p*< *.008*

For Warmth, the assumption of homogeneity of variance was violated based on Levene's test for variance, $F(3,568) = 2.92$, $p < .05$. Therefore, Welch's statistics were used in subsequent

ANOVA test. The ANOVA results revealed significant effects of leadership groups on Warmth, Welch's $F(3, 314.78) = 9.00$, $p < .025$, $\omega^2 = .18$. A closer inspection using Bonferroni adjusted level of α= .008 and Games-Howell procedure (Field, 2009) found significant differences on Warmth between White female leaders and all other leadership groups (see Table 41).

Table 41. Post-hoc Test using Games-Howell Procedure on Warmth, White Female Leader (*M* = 3.75, *S D*= .70)

	Mean	SD	95% Confidence Interval	
			Lower	Upper
Asian Female Leader	3.45*	0.75	3.33	3.58
Black Female Leader	3.43*	0.81	3.29	3.56
Indigenous Female Leader	3.31*	0.85	3.17	3.45

**Note ****p*< *.006*

Therefore, hypothesis 5b was partially supported. Results of the analyses suggested that White female leaders had higher ratings of Warmth than female leaders of colour (i.e., Asian, Black and Indigenous female leaders). The Competence of White female leaders was also rated as significantly higher than Indigenous female leaders. However, the Competence of female leaders did not differ significantly the Competence of both Asian and Black female leaders.

Summary of Results

The current leadership literature has overlooked the importance of intersectionality (e.g., gender and ethnicity) and its effects on leadership evaluation and does not utilize a standardized framework to provide a uniform understanding of the impact of stereotypes on leadership evaluation. Study 1 aimed to close these research gaps by creating standardized profiles to map out stereotypes of White, Asian, Black, and Indigenous male and female leaders with the Stereotype Content Model (SCM, Fiske et al., 2002). The SCM provides a standardized theoretical framework to investigate stereotypes based on two dimensions: Warmth and Competence (Fiske et al., 2002). In addition to creating the standardized profile of multiple

demographic categories, Study 1 also aimed to replicate the affective and behavioural responses associated with specific stereotypes. A summary of Study 1 hypotheses and their results may be found in Table 42.

Table 42. Summary Results of Study 1 Hypotheses Testing

Hypotheses	Method	Results
H1. Each quadrant of the SCM will predict different sets of emotional and behavioural responses		Partially Supported
H1a. Low Warmth and Low Competence leaders will evoke Contempt, leading to both Active and Passive Harming Behaviours	Not Tested	N/A
H1b. High Warmth and low Competence individuals will evoke Pity, leading to Active Facilitating and Passive Harming Behaviours.	Not Tested	N/A
H1c. Low Warmth and high Competence leaders will evoke Envy, leading to Passive Facilitating and Active Harming Behaviours.	Not Tested	N/A
H1d. High Warmth and high Competence leaders will evoke Admiration, leading to both Active and Passive Facilitating Behaviours.	Mediation Analyses and Sobel Tests (Bootstrapped)	Partially Supported (partial mediation for both models)
H2. Effective leaders will receive high ratings in both Warmth and Competence dimensions of the Stereotype Content Model.	Mean Ratings and Z-Scores	Supported
H3. White male leaders will receive higher ratings than leaders of other demographic groups in both Warmth and Competence dimensions of the Stereotype Content Model, similar to the ratings for effective leaders.	MANOVA and ANOVA with Bonferroni Adjustments	Partially Supported (White male leaders did not receive significantly higher warmth than other leaders)
H4a. Asian leaders will receive higher ratings on Competence than Warmth.	T-Test	Supported
H4b. Black leaders will receive higher ratings on Warmth than Competence.	T-Test	Not Supported (Black leaders received significantly higher ratings on competence than warmth)

H4c. Indigenous leaders will receive below average ratings on both Warmth and Competence.	Mean Ratings	Supported
H5a. Female leaders will receive lower ratings on the Competence dimension and higher ratings on the Warmth dimension in comparison to male leaders across all ethnicities.	T-Tests with Bonferroni Adjustments	Partially Supported (significant differences between gender found for White and Asian leaders, not Black and Indigenous leaders)
H5b. Female leaders of colour (i.e., Asian, Black, and Indigenous female leaders) will receive lower ratings on both Warmth and Competence dimensions in comparison to White female leaders.	MANOVA and ANOVA with Bonferroni Adjustments	Partially Supported (non-significant differences found on competence between White and Asian and Black female leaders)

Results of a cluster analysis – using the SCM dimensions – found that all leaders, regardless of demographic characteristics, were evaluated as both warm and competent with mean ratings of above 3 for both dimensions across all groups. This finding was contrary to the results when the Stereotype Content Model was previously applied to non-leadership groups in the Canadian context (Fiske, 2012; Kil et al., 2019). In those studies, White Canadians were evaluated with high warmth and high competence (Fiske, 2012), Asian Canadians with low warmth and high competence (Fiske, 2012; Kil et al., 2019), Black Canadians with high warmth and moderate competence (Fiske, 2012; Kil et al., 2019), and Indigenous Peoples in Canada with low warmth and low competence (Kil et al., 2019). That is, previous studies found varying evaluations of warmth and competence for non-leaders based on ethnicities, while findings of this project found all demographic groups in leadership roles to be evaluated as high warmth and high competence. Furthermore, as hypothesized, high levels of warmth and competence produced feelings of admiration, leading to both active and passive facilitating behaviours.

However, although every demographic group was evaluated as having high warmth and high competence, distinct differences emerged within the quadrant. The SCM identified four

clusters of leadership groups. The first cluster included Effective Leaders and White Male Leaders, which received the highest ratings of Warmth and Competence expectations. As expected, White Male Leaders was the only demographic group rated similarly to Effective Leaders, further confirming previous findings that White Males are the prototypical image of a leader (Avery et al., 2015; Rosette et al., 2008; Sackett & DuBois, 1991). The second cluster included only White Female Leaders. White Female Leaders received high Warmth expectations that were statistically similar to the Warmth expectations of Effective and White Male Leaders. However, biases against women in leadership roles were demonstrated in expectations of Competence, as White Female Leader received significantly lower Competence ratings in comparison to Effective and White Male Leaders. The third cluster was composed of Asian Male, Asian Female, and Black Male Leaders. The Competence of leaders in the third cluster was rated similarly to White Female Leaders, but was significantly lower in Warmth. This indicated that Asian Male, Asian Female, and Black Male Leaders were on an equal footing with White Female Leaders on expectations of Competence but were rated lower on perceived expectations of Warmth. Compared to Effective and White Male Leaders, leaders in the third cluster were rated significantly lower in perceived expectations of Warmth and Competence. The last cluster included Black Female, Indigenous Male, and Indigenous Female Leader. Leaders in the fourth cluster received the lowest ratings of Competence in comparison to other clusters and received similar expectations on their level of Warmth in comparison to Leaders of the third cluster.

CHAPTER IV: STUDY TWO

While Study One established the stereotypes and their corresponding emotional and behavioural effects associated with each specific demographic group in leadership roles, the goal of Study Two was to explore whether being effective is viewed in the same way for every leader. Specifically, Study Two tested two hypotheses that were developed through Blake and Mouton's (1985) Managerial Grid and Eagly and Karau's (2002) Role Congruity Theory. The Managerial Grid (Blake & Mouton, 1985) suggests that leaders are evaluated as most effective when they place a high level of focus on both people and production. That is, the Managerial Grid suggests that regardless of demographic characteristics, leaders are most effective when behaving with high warmth and high competence. However, the Managerial Grid does not take the impact of stereotypes into account. In contrast, the Role Congruity Theory posits that individuals will receive their most positive evaluations when they behave in a stereotypically congruent manner (Eagly & Karau, 2002). Specifically, this theory predicts that women in leadership roles would be evaluated as most effective when the leadership role is defined with feminine attributes. While the Role Congruity Theory was initially conceptualized around the congruity of gender role and leadership role expectations, it also has been successfully used in research examining expectations associated with an individual's ethnic group and leadership roles (Grappendorf et al., 2011). To test these two theories, this project investigated whether or not it is more effective for leaders to behave in a way that matches prototypical leadership expectations (i.e., the Managerial Grid) or to behave in accordance with their demographic group's stereotypical expectations (i.e., Role Congruity Theory). Specifically, the hypotheses for Study Two were as follow:

H6. Regardless of demographic category, leaders will be perceived as most effective when behaving with high warmth and high competence.

H7. Leaders (regardless of demographic characteristics) will be perceived as most effective when behaving in stereotypically congruent manner. Specifically:

H7a. White male leaders will be perceived as most effective when behaving with high warmth and high competence;

H7b. Asian leaders will be perceived as most effective when behaving with high competence and low warmth;

H7c. Black leaders will be perceived as most effective when behaving with high warmth and low competence;

H7d. Female leaders – regardless of ethnicity – will be perceived as most effective when behaving with high warmth and low competence.

Method

Participants

A total of *n* = 369 Canadians participated in this study. After data were cleaned through initial data checks and assumption testing (detailed of the data cleaning process provided in later sections), a sample of 296 were retained in subsequent hypotheses testing. The majority of the participants were employed either full-time or part-time; some were unemployed, but were employed for at least three months before the outbreak of COVID-19 pandemic in March, 2021 (see Table 43). Almost half of the participants identified as White or European, followed by Asian, Black, those who identified with multiple ethnic identities, Indigenous and Latin American (see Table 44). The majority of the participants were between the age of 18 to 40, with the mean age of 33.57 (see Table 45). About half of the participants identified as male (*n* = 155,

52.4%), and almost half as female (*n* = 140, 47.3%), along with one who identified as gender fluid (0.3%) (see Table 46). Finally, *n* = 219 participants reported being born in Canada, while *n* = 77 were born outside of Canada (see Table 47).

Table 43. Participants Employment Status

Employment Status	Frequency	Percentage
Full-Time	207	69.9%
Part-Time	59	19.9%
Unemployed, but employed for at least three months before COVID-19 pandemic	30	10.1%

Table 44. Participants' Ethnicities

Ethnicity	Frequency	Percentage
White/European	143	48.3%
Asian	127	42.9%
Black	12	4.1%
Multiple Identities	9	3.0%
Indigenous	3	1.0%
Latin American	2	0.7%

Table 45. Participants' Age

Age	Frequency	Percentage
18-30	122	41.2%
31-40	121	40.9%
41-50	29	9.8%
51-60	21	7.1%
60+	3	1.0%

Mean age: 33.57

Table 46. Participants' Gender

Gender	Frequency	Percentage
Male	155	52.4%
Female	140	47.3%
Gender Fluid	1	0.3%

Table 47. Participants' Citizenship Status

	Frequency	Percentage	Years Lived in Canada			
			<1 year	1-5 years	6-10 years	10+ years
Born in Canada	219	74.0%				
Born outside of Canada	77	26.0%	0	19	6	52

Procedure

Participants were recruited through Amazon Mechanical Turk (MTurk) – a data crowdsourcing website – and social media platforms (i.e., Facebook and LinkedIn). MTurk is an online crowd sourcing work-for-hire service that is designed for researchers or organizations to access and collect data from a large pool of participants at a cost. Several authors have confirmed the appropriateness of MTurk as a data collection method for various kinds of academic research. Mortensen and Hughes (2018), for example, reviewed 35 articles to compare data collected from MTurk with other data collection methods (e.g., in-lab data collection, university sample, in-person interviews, social media), and found no significant differences between data collection methods in health research. Other authors in the social sciences conducted experimental studies on MTurk and compared the results to studies drawn from population-based samples (e.g., National Science Foundation). Results of these studies found samples recruited through MTurk replicated the experimental findings from studies utilizing nationally

representative samples (Coppock, 2018; Mullinix et al., 2015). Similarly, social media (e.g., Facebook, LinkedIn) have been successfully used as effective data collection platforms (King et al., 2014; Martí et al., 2019). Thus, both MTurk and social media platforms have been deemed to be good data collection platforms to recruit non-student Canadians who have full-time work experience.

To be eligible for the current study, participants were required to be employed either full-time or part-time, or if they were unemployed, must had been employed for at least three months before the outbreak of COVID-19 pandemic. Eligible participants were provided with a link to participate in the study online, and were compensated financially (i.e., USD $0.50) for their participation. This study was approved by the author's university Research Ethics Board.

The study consisted of three main vignettes describing leaders with high warmth and high competence, high warmth and low competence, and low warmth and high competence behaviours. Each vignette described one of the three behaviours, along with manipulating eight leadership demographic identities (i.e., White male, White female, Asian male, Asian female, Black male, Black female, Indigenous male or Indigenous female leader), yielding a total of 24 vignettes. As suggested by Aguinis and Bradley (2014), this study implemented a between-subjects design in order to avoid fatigue for reading and completing multiple vignettes and questionnaires. Participants were randomly assigned to complete one of the eight sets of vignettes. Each set included three vignettes, depicting the specific demographic group as leaders with high Warmth and high Competence, high Warmth and low Competence, and low Warmth and high Competence (see Table 48). Following each vignette, participants completed a measure assessing the stereotype content of the target leader, as well as a questionnaire evaluating expected leadership effectiveness.

Table 48. Vignette Random Assignment of *n* = 296 participants

	n	Leadership Behaviour and Demographic Identity		
		High Warmth High Competence	**High Warmth Low Competence**	**Low Warmth High Competence**
Set 1	37	White Male	Black Female	Asian Female
Set 2	34	White Female	Indigenous Male	Black Male
Set 3	36	Asian Male	Indigenous Female	Black Female
Set 4	37	Asian Female	White Male	Indigenous Male
Set 5	38	Black Male	White Female	Indigenous Female
Set 6	35	Black Female	Asian Male	White Male
Set 7	39	Indigenous Male	Asian Female	White Female
Set 8	40	Indigenous Female	Black Male	Asian Male

Measures

A Vignette is a "short, carefully constructed description of a person, object, or situation, representing a systematic combination of characteristics" (Atzmüller & Steiner, 2010, p. 128). Vignettes provide researchers the possibility of manipulating multiple variables at once, while reducing potential confound variables that are otherwise uncontrollable in observational or field studies (Gould, 1996). Using an experimental design to compare the results of vignette manipulation and direct observation, Woehr and Lance (2002) found paper people style vignettes (i.e., vignettes that are displayed as written short stories) yield results similar to direct observations. Hughes (1998) contended that vignettes are valid and reliable for extracting perceptions, beliefs and attitudes from a large number of participants, and they have been used extensively in leadership literature (e.g., Bartol & Butterfield, 1976; Levy et al., 2002; Powell et al., 2008).

Participants were presented with vignettes in written form and were provided with questionnaires following the vignettes to make appropriate judgments and evaluations (Aguinis & Bradley, 2014; Hughes & Huby, 2004). A total of eight demographic groups (i.e., White male leader, White female leader, Asian male leader, Asian female leader, Black male leader, Black

female leader, Indigenous male leader, and Indigenous female leader), along with three scenarios for each group (i.e., high Warmth high Competence [HWHC], high Warmth low Competence [HWLC], and low Warmth high Competence [LWHC]), were included in the study, yielding a total of 24 vignettes. A total of eight unique vignette sets were created, and each set contained all three behavioural scenarios with specific leadership demographic identity (see Table 48). The vignettes did not include scenarios depicting low Warmth and low Competence leaders, as studies found leaders who place low emphasis on the needs of people and production are consistently evaluated as ineffective (e.g., Blake & Mouton, 1985; Fleishman & Harris, 1962, 1998). Following recommendations by Aguinis and Bradley (2014), Atzmüller and Steiner (2010), and Hughes and Huby (2004), participants were randomly assigned to one of the eight sets of vignettes to avoid fatigue. The vignettes were created by the author and was pilot tested with n = 58 undergraduate student participants before being administered in the study. The pilot test was conducted to ensure that each leadership behaviour manipulation – without the inclusion of leadership demographic characteristics – would produce the corresponding evaluations of Warmth, Competence and Perceived Leadership Effectiveness. Results of the pilot confirmed the manipulation (see Table 49), such that HWHC leaders produced high Warmth, high Competence and high Effectiveness ratings; HWLC leaders produced high Warmth, low Competence and low Effectiveness ratings; and lastly, LWHC leaders produced low Warmth, high Competence and low Effectiveness ratings. The complete list of vignettes can be found in Appendix D.

Table 49. Pilot Test (*n* = 58)

Leadership Behaviour	Variable	Mean	SD
HWHC	Competence	4.46	0.53
	Warmth	4.49	0.62
	Effectiveness	4.47	0.47
HWLC	Competence	2.17	0.57
	Warmth	3.79	0.69
	Effectiveness	1.99	0.60
LWHC	Competence	4.13	0.72
	Warmth	2.24	0.63
	Effectiveness	2.64	0.68

Stereotype content was assessed using the framework provided in the Stereotype Content Model (Fiske et al., 2002). This study examined the stereotype content associated with the specific leader described in each vignette through the examination of Warmth and Competence. Competence was measured through six characteristics: competent, confident, capable, efficient, intelligent, and skillful. Warmth was measured through six characteristics: friendly, well-intentioned, trustworthy, warm, good-natured, and sincere. Participants were requested to provide ratings for each described leader using 5-point Likert type scales, with 1 being *not at all* and 5 being *extremely*. The original measure (Fiske et al., 2002) prompted the questionnaire with the following instruction to prevent social desirability issues: "We are not interested in your personal beliefs, but in how you think they are viewed by others" (p. 884). That is, Fiske and colleagues (2002) attempted to minimize issues pertaining to social desirability by requesting participants to evaluate the stereotype content that is reflective of the attitude of the general population rather than describing their own attitudes. Given that this study was interested in personal evaluations of leaders, the measure did not include the statement above. Rather, the current measure requested participants to assess the leader based on their personal evaluations. The measure with the full list of items can be found in Appendix E. Both

Competence and Warmth subscales across the three scenarios yielded good reliabilities (see Table 50).

Table 50. Study 2 Cronbach's Alpha (α)

Scenario*	Scale	Demographic Groups**							
		WML	WFL	AML	AFL	BML	BFL	IML	IFL
HWHC	Competence	0.87	0.88	0.90	0.93	0.85	0.85	0.90	0.90
	Warmth	0.92	0.89	0.92	0.93	0.83	0.90	0.90	0.89
	Effectiveness	0.92	0.91	0.89	0.96	0.89	0.92	0.91	0.92
HWLC	Competence	0.93	0.91	0.84	0.80	0.86	0.80	0.89	0.87
	Warmth	0.86	0.86	0.81	0.83	0.88	0.85	0.85	0.92
	Effectiveness	0.97	0.92	0.92	0.93	0.91	0.88	0.92	0.94
LWHC	Competence	0.76	0.78	0.89	0.89	0.84	0.89	0.91	0.86
	Warmth	0.86	0.84	0.85	0.78	0.91	0.87	0.90	0.91
	Effectiveness	0.91	0.85	0.92	0.89	0.92	0.92	0.92	0.91

Note* High Warmth High Competence (HWHC), High Warmth Low Competence (HWLC), Low Warmth High Competence (LWHC); **White Male Leaders (WML), White Female Leaders (WFL), Asian Male Leaders (AML), Asian Female Leaders (AFL), Black Male Leaders (BML), Black Female Leaders (BFL), Indigenous Male Leaders (IML), Indigenous Female Leaders (IFL)

Perceived Leadership Effectiveness was measured using nine items adapted from Day and Sin (2011) and Lutz and colleagues (2018). The original scale by Day and Sin (2011) included a total of five items to assess leadership effectiveness. However, this scale was used to assess the task performance effectiveness of the leader, with example items such as “This person helps to set the direction of the team in meeting project goals,” and “This person helps the team learn.” That is, Day and Sin’s (2011) measure of Perceived Leadership Effectiveness focuses on the leaders’ abilities to direct and motivate team members to achieve tasks that meet the overall organizational goals. To assess Perceived Leadership Effectiveness from both person- and task-orientation, this project also included items from adapted Lutz and colleagues (2018), where Perceived Leadership Effectiveness was evaluated through person-focused items, such as trust and likability. Additionally, given that this project approached stereotypes as expectations and

that leadership evaluations were hypothesized to be influenced by those stereotypical expectations, the items extracted from Day and Sin (2011) and Lutz and colleagues (2018) were reframed as expectations, rather than direct evaluations. For example, an item from the original scale was rephrased from "This person helps to set the direction of the team in meeting project goals" to "I expect this person would set the direction of the team in meeting project goals."

Overall, Perceived Leadership Effectiveness was measured with a 9-item scale, with five items evaluating leader's task-focused effectiveness (e.g., "I expect this person would help the team learn") and four items evaluating leader's person-focused effectiveness (e.g., "I would trust this person as my leader"). Participants were requested to rate the items on a 5-point scale, with 1 being *strongly disagree*, 3 being *neither agree nor disagree*, and 5 being *strongly agree.* The measure with full list of items can be found in Appendix F. The Perceived Leadership Effectiveness scale yielded good reliabilities across three scenarios, as shown in Table 50.

Data Preparation and Sample Consolidation

The original data set included a total of n = 369 participants. Prior to assumption and hypotheses testing, data were cleaned using both Microsoft Excel and Statistical Package for the Social Sciences (SPSS) version 25, including: investigating item response checks, detecting missing data, and diagnosing univariate outliers.

Visual inspections of the data found 31 participants were unemployed and were not employed for three months prior to the outbreak of COVID-19 pandemic. Thus, these participants were not eligible for the study, and were removed from subsequent analyses. To ensure participants did not provide random responses, two item checks were included in the survey. The first item requested participants to respond with "2 – Slightly," and the second item requested participants to respond with "5 – Strongly Agree." Item check analyses found 31 cases

who failed at least one of the item checks, and they were removed from subsequent analyses. An additional case did not provide any response to one of the three scenarios, high warmth and low competence, and therefore was removed from the subsequent analyses. In total, 63 cases were removed from the dataset as a result of visual inspections of the data, as well as the response check items.

After removing ineligible participants, cases with failed item checks, and one case of incomplete responding, a total of $n = 306$ cases were left before consolidation, missing value analyses, and univariate outlier analyses. Samples collected from MTurk and social media/snowball sampling were first checked using t-tests to ensure no significant differences between the two data collection methods before consolidation. Given the different sample sizes of the two methods, Welch's t-test were used instead of Student's t-test (Delacre, Lakens, & Leys, 2017). Table 51 provides the sample sizes collected from both MTurk and social media.

Table 51. Sample Size from MTurk and Social Media

	MTurk	Social Media	Total n
Set 1	34	5	39
Set 2	29	6	35
Set 3	34	3	37
Set 4	32	6	38
Set 5	32	6	38
Set 6	28	7	35
Set 7	35	5	40
Set 8	39	5	44

Note: MTurk (Amazon Mechanical Turk); Social media includes Facebook, LinkedIn, and snowball sampling.

Welch's t-tests were conducted on all variables (Competence, Warmth, and Perceived Effectiveness ratings of the 24 leaders in the vignettes). Results of the Welch's t-tests (see Table 52, 53, and 54) found two of the 72 (2.8%) variables to be significantly different. Specifically, Indigenous female leaders' Warmth ratings in the high Warmth and low Competence scenario,

t(6.59) = 4.57, $p < .05$, and White male Warmth ratings in the low Warmth and high Competence scenario, *t*(11.21) = -2.59, $p < .05$. Therefore, no changes were made as only 2.8% of the variables were significantly different between the two data collection methods. The two samples were consolidated prior to missing data analyses and assumption testing.

Table 52. Comparisons of MTurk and Social Media - High Warmth High Competence Scenario

Demographic	Variable	MTurk		Social Media		*t*-statistics
		M	***SD***	***M***	***SD***	
White Male	Competence	4.11	0.48	4.13	0.69	0.69
	Warmth	3.99	0.72	4.13	0.62	0.47
	Effectiveness	4.21	0.58	4.39	0.48	0.69
White Female	Competence	4.45	0.58	4.75	0.42	1.60
	Warmth	4.36	0.58	4.25	0.46	-0.50
	Effectiveness	4.64	0.40	4.44	0.43	-1.01
Asian Male	Competence	4.29	0.52	4.17	0.60	-0.36
	Warmth	4.19	0.64	4.39	0.38	0.82
	Effectiveness	4.39	5.08	4.48	0.39	0.37
Asian Female	Competence	4.20	0.61	4.42	0.42	1.06
	Warmth	4.08	0.64	4.44	0.55	1.43
	Effectiveness	4.32	0.72	4.44	0.38	0.60
Black Male	Competence	4.30	0.43	4.56	0.63	0.95
	Warmth	4.26	0.52	4.57	0.45	1.37
	Effectiveness	4.53	0.43	4.72	0.39	1.11
Black Female	Competence	4.36	0.55	4.52	0.48	0.80
	Warmth	4.21	0.68	4.29	0.58	0.28
	Effectiveness	4.49	0.55	4.33	0.59	-0.62
Indigenous Male	Competence	4.29	0.56	4.47	0.59	0.61
	Warmth	4.36	0.62	4.20	0.57	-0.57
	Effectiveness	4.46	0.50	4.51	0.50	0.19
Indigenous Female	Competence	4.20	0.52	4.47	0.57	1.01
	Warmth	4.32	0.58	4.53	0.38	1.12
	Effectiveness	4.32	0.56	4.67	0.62	1.19

Note: MTurk (Amazon Mechanical Turk); Social media includes Facebook, LinkedIn, and snowball sampling; *$p < .05$

Table 53. Comparisons of MTurk and Social Media - High Warmth Low Competence Scenario

Demographic	Variable	MTurk		Social Media		*t*-statistics
		M	***SD***	***M***	***SD***	
White Male	Competence	2.44	0.82	2.33	0.95	-0.27
	Warmth	3.85	0.70	3.64	0.61	-0.76
	Effectiveness	2.70	1.10	2.41	1.25	-0.53
White Female	Competence	2.30	0.70	2.47	1.21	0.35
	Warmth	3.94	0.65	4.10	0.74	0.46
	Effectiveness	2.19	0.82	2.04	0.88	-0.39
Asian Male	Competence	2.35	0.67	2.31	0.70	-0.14
	Warmth	3.85	0.67	3.71	0.81	-0.40
	Effectiveness	2.37	0.78	2.52	0.98	0.38
Asian Female	Competence	2.38	0.64	2.43	0.53	0.19
	Warmth	4.00	0.65	4.10	0.25	0.63
	Effectiveness	2.47	0.88	2.42	0.95	-0.11
Black Male	Competence	2.31	0.64	2.03	0.58	-1.00
	Warmth	3.82	0.89	4.13	0.51	1.19
	Effectiveness	2.26	0.81	1.98	0.64	-0.89
Black Female	Competence	2.54	0.61	2.43	0.60	-0.37
	Warmth	4.03	0.64	3.87	0.46	-0.68
	Effectiveness	2.68	0.75	2.42	0.62	-0.84
Indigenous Male	Competence	2.25	0.79	2.31	0.64	0.19
	Warmth	4.00	0.68	3.86	0.87	-0.37
	Effectiveness	2.07	0.76	2.02	0.82	-0.15
Indigenous Female	Competence	2.30	0.67	2.45	0.69	0.35
	Warmth	3.86	0.78	4.78	0.25	4.57*
	Effectiveness	2.30	0.86	1.93	0.95	-0.66

Note: MTurk (Amazon Mechanical Turk); Social media includes Facebook, LinkedIn, and snowball sampling; *$p < .05$

Table 54. Comparisons of MTurk and Social Media - Low Warmth High Competence Scenario

Demographic	Variable	MTurk		Social Media		*t*-stastistics
		M	***SD***	***M***	***SD***	
White Male	Competence	4.10	0.50	4.40	0.64	1.20
	Warmth	2.52	0.71	1.86	0.57	-2.59*
	Effectiveness	2.88	0.85	2.57	0.84	-0.88
White Female	Competence	4.02	0.56	4.00	0.53	-0.08
	Warmth	2.38	0.70	2.47	0.81	0.24
	Effectiveness	2.72	0.69	2.62	0.69	-0.29
Asian Male	Competence	3.99	0.76	3.83	0.44	-0.66
	Warmth	2.45	0.78	2.33	0.39	-0.54
	Effectiveness	2.68	1.00	2.56	0.70	-0.34
Asian Female	Competence	4.01	0.67	4.17	0.60	0.54
	Warmth	2.51	0.65	2.40	0.58	-0.37
	Effectiveness	2.74	0.86	2.62	0.24	-0.65
Black Male	Competence	3.90	0.66	4.28	0.33	2.10
	Warmth	2.56	0.95	2.67	0.98	0.24
	Effectiveness	2.72	0.87	2.67	1.19	-0.10
Black Female	Competence	3.80	0.85	4.33	0.67	1.30
	Warmth	2.33	0.78	2.44	0.82	0.24
	Effectiveness	2.40	0.83	2.89	0.49	1.54
Indigenous Male	Competence	3.77	0.88	3.86	0.34	0.44
	Warmth	2.56	0.86	2.50	1.06	-0.14
	Effectiveness	2.70	0.90	2.72	0.91	0.06
Indigenous Female	Competence	3.97	0.67	4.47	0.42	2.24
	Warmth	2.56	0.90	2.56	1.22	-0.01
	Effectiveness	2.71	0.87	2.57	0.82	-0.37

Note: MTurk (Amazon Mechanical Turk); Social media includes Facebook, LinkedIn, and snowball sampling; *$p < .05$

Missing Data and Outliers

Missing data analyses using visual inspections and Little's MCAR test (Little, 1988) were conducted on all 8 sets of participants to identify missing data. Results of the missing data analyses found all missing data were missing completely at random (see Table 55). Following

Kang's (2013) suggestion, the expectation-maximization technique was used to replace missing values for all the missing data in sets 1 to 8.

Table 55. Missing Data Analyses

	Number of Cases with Missing Data	Little's MCAR Test		
		df	X^2	***p***
Set 1	6	30	24.46	0.75
Set 2	3	24	33.65	0.09
Set 3	2	16	11.52	0.78
Set 4	4	32	29.09	0.62
Set 5	7	54	51.21	0.58
Set 6	3	16	18.12	0.32
Set 7	7	56	73.92	0.06
Set 8	1	8	1.93	0.98

Univariate outliers were diagnosed using a z-score of |3| as the cut-off (Stevens, 2009) across all three variables for all scenarios across eight sample sets. A total of four cases were removed from set 8 as a result of univariate outliers; two cases were removed from set 1; one case was removed from set 2, set 3, set 4 and set 7; and no cases were removed from sets 5 and 6. A total of n =10 outliers were found and removed from the data. Therefore, n =296 were retained and included in the subsequent assumptions and hypotheses testing.

Assumption Testing

A series of ANOVAs were conducted to test for Study Two hypotheses. In addition to univariate outliers, three other assumptions were tested prior to the main analyses, including the assumption of normal distribution among the dependent variables, adequate sample size, and the assumption of homogenous variance across each comparison group.

Ghasemi and Zahediasl (2012) recommended using the Shapiro-Wilk test of normality when the sample size is less than 50. Given that each variable of Competence, Warmth and Perceived Leadership Effectiveness across all scenarios and demographic groups in this study has a sample size of less than 50, the Shapiro-Wilk test of normality was used to test the

assumption of normal distribution. Although the Shapiro-Wilk test indicated significant results on some variables – suggesting violation of the normality assumptions – visual inspection of the histograms, as well as further inspections of each variable's skewness and kurtosis suggested all variables were within the acceptable range of |2| for skewness and |3| for kurtosis (see Table 56, Table 57, and Table 58; Field, 2009). Therefore, no changes were made prior to hypotheses testing.

Table 56. Normality Test - High Warmth High Competence Group

	Variables	N	*M*	*SD*	*W*	S	K
White Male	Competence	37	4.12	0.51	0.95	-0.10	0.19
	Warmth		4.07	0.59	0.95	-0.01	-0.77
	Effectiveness		4.25	0.56	0.95	-0.38	-0.50
White Female	Competence	34	4.51	0.43	0.89*	-0.35	-0.91
	Warmth		4.35	0.55	0.91*	-0.84	0.29
	Effectiveness		4.61	0.41	0.87*	-0.86	-0.20
Asian Male	Competence	36	4.29	0.52	0.93*	-0.24	-0.40
	Warmth		4.20	0.63	0.93*	-0.52	-0.24
	Effectiveness		4.41	0.50	0.91*	-0.55	0.02
Asian Female	Competence	37	4.26	0.57	0.91*	-0.37	0.11
	Warmth		4.21	0.59	0.90*	-0.40	0.21
	Effectiveness		4.40	0.54	0.88*	-0.30	-0.96
Black Male	Competence	38	4.34	0.47	0.92*	-0.13	-0.33
	Warmth		4.31	0.51	0.94*	-0.28	-0.69
	Effectiveness		4.54	0.43	0.90*	-0.52	-0.92
Black Female	Competence	35	4.40	0.53	0.91*	-0.45	-0.81
	Warmth		4.23	0.65	0.92*	-0.54	-0.28
	Effectiveness		4.45	0.55	0.85*	-0.50	-0.86
Indigenous Male	Competence	39	4.29	0.55	0.91*	-0.14	-0.92
	Warmth		4.32	0.61	0.91*	-0.52	-0.72
	Effectiveness		4.47	0.52	0.89*	-0.90	0.29
Indigenous Female	Competence	40	4.27	0.48	0.92*	-0.07	-0.24
	Warmth		4.43	0.48	0.90*	-0.27	-1.22
	Effectiveness		4.41	0.52	0.91*	-0.67	-0.19

Note* $p < .05$; Shapiro-Wilk Statistics (W), Skewness (S), Kurtosis (K)

Table 57. Normality Test - High Warmth Low Competence Group

	Variables	N	*M*	*SD*	*W*	S	K
White Male	Competence	37	2.40	0.82	0.95	0.58	-0.10
	Warmth		3.81	0.69	0.96	0.06	-0.43
	Effectiveness		2.61	1.10	0.93*	0.74	-0.08
White Female	Competence	38	2.34	0.78	0.96	0.49	0.60
	Warmth		3.96	0.64	0.97	-0.62	0.46
	Effectiveness		2.17	0.81	0.96	0.35	-0.48
Asian Male	Competence	35	2.34	0.66	0.98	0.22	-0.41
	Warmth		3.82	0.69	0.93*	-0.89	0.64
	Effectiveness		2.40	0.81	0.97	0.32	-0.47
Asian Female	Competence	39	2.38	0.63	0.98	0.08	-0.45
	Warmth		4.03	0.61	0.96	-0.13	-1.07
	Effectiveness		2.51	0.89	0.97	-0.05	-0.69
Black Male	Competence	40	2.18	0.54	0.98	0.01	-0.35
	Warmth		3.88	0.85	0.92*	-0.93	0.47
	Effectiveness		2.14	0.73	0.96	0.10	-0.75
Black Female	Competence	37	2.48	0.53	0.97	-0.12	-0.60
	Warmth		3.96	0.63	0.96	-0.41	0.75
	Effectiveness		2.61	0.71	0.97	0.31	1.21
Indigenous Male	Competence	34	2.18	0.60	0.92*	-0.30	-1.14
	Warmth		3.92	0.72	0.96	-0.47	-0.23
	Effectiveness		1.99	0.65	0.96	0.25	-0.50
Indigenous Female	Competence	36	2.26	0.61	0.97	-0.08	-0.29
	Warmth		3.94	0.79	0.92*	-0.58	0.24
	Effectiveness		2.22	0.82	0.95	0.12	-0.86

Note* $p < .05$; Shapiro-Wilk Statistics (W), Skewness (S), Kurtosis (K)

Table 58. Normality Test - Low Warmth High Competence Group

	Variables	N	*M*	*SD*	*W*	S	K
White Male	Competence	35	4.16	0.53	0.97	-0.32	-0.12
	Warmth		2.39	0.73	0.97	-0.05	-0.72
	Effectiveness		2.82	0.85	0.97	-0.15	-0.87
White Female	Competence	39	3.97	0.54	0.94*	0.35	-0.39
	Warmth		2.34	0.63	0.97	0.37	-0.16
	Effectiveness		2.66	0.57	0.98	0.22	0.14
Asian Male	Competence	40	4.01	0.59	0.96	-0.29	-0.62
	Warmth		2.42	0.61	0.97	0.21	0.79
	Effectiveness		2.63	0.90	0.98	0.29	-0.45
Asian Female	Competence	37	4.04	0.67	0.95	-0.29	-0.71
	Warmth		2.48	0.59	0.97	-0.13	-0.61
	Effectiveness		2.71	0.81	0.96	0.51	-0.37
Black Male	Competence	34	3.96	0.64	0.95	-0.66	0.56
	Warmth		2.53	0.91	0.97	0.56	0.19
	Effectiveness		2.67	0.89	0.96	0.27	-0.77
Black Female	Competence	36	3.81	0.84	0.94*	-0.41	-0.88
	Warmth		2.26	0.64	0.98	0.12	-0.44
	Effectiveness		2.41	0.77	0.97	0.11	-0.72
Indigenous Male	Competence	37	3.85	0.69	0.95	-0.68	0.95
	Warmth		2.60	0.84	0.96	0.22	-0.19
	Effectiveness		2.74	0.86	0.99	0.13	-0.30
Indigenous Female	Competence	38	4.02	0.66	0.95	-0.22	-0.82
	Warmth		2.56	0.94	0.98	0.43	0.02
	Effectiveness		2.68	0.84	0.95	0.63	0.31

Note* $p < .05$; Shapiro-Wilk Statistics (W), Skewness (S), Kurtosis (K)

Four factors were taken into consideration when determining the appropriate sample size for Study Two: power level, significance level, effect size, and number of groups. Cohen (1992) argued that a power level smaller than .80 would increase the risk of committing Type II error, and a larger value would likely demand a large sample size that exceeded the investigator's resources. Following Cohen's (1992) advice, a power level of .80 with a significance level of $\alpha = .05$ was be used as the cut-off to determine the appropriate sample size for Study Two. Several

sources were taken into consideration to determine the appropriate effect size. Previous studies involving the SCM found a wide range of effect sizes with their results. For example, Fiske and colleagues (2002) reported large effect sizes ranging between d = .83 to 1.35, while Durante and colleagues (2013) found a wide range of effect sizes ranging between d = .03 to .77 in their 30-country studies. Given the disparity in previous findings, it is difficult to determine an appropriate effect size for Study Two. Thus, a medium effect size of d = .5 (Cohen, 1992) was used as the appropriate level to determine the sample size needed for Study Two. Finally, the study was conducted using a between-subjects design, randomly assigning participants to one of the eight groups. A power analysis using G*Power 3.1 (Erdfelder et al., 1996) was conducted with the power level (.80), the significance level (α = .05), the speculated effect size (d = .5), and the number of groups (n = 8) taken into consideration. Results of the power analysis suggested a minimum of 240 participants, or at least 30 participants per group. Therefore, the assumption of adequate sample size was met with n =296.

Finally, ANOVA assumes equivalent variances between each group that is being compared. The Levene's test for variances were used to test for the assumption prior to every comparison being made in hypotheses testing. Comparisons that violated the assumption of homogeneity of variance were adjusted using Welch's adjusted F ratio, as well as Games-Howell procedure for post hoc tests.

Results

To test H6 and H7 (see Table 70 for an overview of all hypotheses), a series of ANOVA analyses was conducted to investigate the differences on Perceived Leadership Effectiveness between the eight demographic leadership groups across the high Warmth and high Competence, high Warmth and low Competence, and low Warmth and high Competence conditions. In

addition, within group comparisons were made across the eight demographic leadership groups to investigate within group differences across the high Warmth and high Competence, high Warmth and low Competence, and low Warmth and high Competence conditions.

ANOVA Tests for Between Group Comparisons across Three Conditions

For the high Warmth and high Competence condition (n = 296), results of the ANOVA indicated non-significant differences among the eight demographic leadership groups, $F(7, 288) = 1.58$, $p > .05$, $\omega^2 = .003$ (see Table 59). Post-hoc tests were conducted using the Gabriel's procedure as the compared groups were composed of slightly different sample sizes (Field, 2009). Results of the post-hoc tests confirmed the non-significant findings across all comparisons among the eight demographic leadership groups.

Table 59. Comparisons between the 8 Demographic Leadership in High Warmth and High Competence Condition

Source	*df*	*SS*	*MS*	*F*	*p*	ω^2
Between	7	2.83	0.40	1.58	0.14	0.003
Within	288	73.45	0.26			
Total	295	76.28				

Note Levene's test for variances: $F(7, 288) = 1.39$, $p > .05$

For the high Warmth and low Competence condition (n = 296), results of the ANOVA – corrected using the Welch's adjusted F ratio – suggested significant differences, Welch's $F(7,122.98) = 3.25$, $p < .05$, $\omega^2 = .05$ (see Table 60). Post-hoc tests using Games-Howell procedure (Field, 2009) revealed significant differences between Black female leaders (M = 2.61, SD = .71) and Indigenous male leaders (M = 1.99, SD = .65) ($p < .05$, 95% CI = [.11, 1.12]). That is, high Warmth and low Competence Black female leaders were perceived as significantly more effective the high Warmth and low Competence Indigenous male leaders. All other comparisons yielded non-significant findings.

Table 60. Welch's Test between the 8 Demographic Leadership in High Warmth and Low Competence Condition

Welch's F	*df1*	*df2*	*p*	ω^2
3.25	7	122.98	0.00	0.05

Note Levene's test for variances: F(7, 288)= 2.15, $p < .05$

For the low Warmth and high Competence condition (n = 296), results of the ANOVA found non-significant differences between the eight demographic leadership groups, F(7, 288) = 3.56, $p > .05$, $\omega^2 = -.004$ (see Table 61). Post-hoc tests using Gabriel's procedure (Field, 2009) confirmed the non-significant findings across all comparisons among the eight demographic leadership groups.

Table 61. ANOVA between the 8 Demographic Leadership in Low Warmth and High Competence Condition

Source	*df*	*SS*	*MS*	*F*	*p*	ω^2
Between	7	3.56	0.51	0.76	0.62	-0.004
Within	288	191.67	0.67			
Total	295	195.23				

Note Levene's test for variances: F(7, 288) = 1.49, $p > .05$

ANOVA Tests for Within Group Comparisons across Three Conditions

For White male leaders (n = 109), results of the Welch's adjusted ANOVA found significant differences on Perceived Leadership Effectiveness between the three Warmth and Competence conditions, Welch's F(2, 64.95) = 54.10, $p < .05$, $\omega^2 = .49$ (see Table 62). A closer inspection using Games-Howell procedure (Field, 2009) revealed significant differences between White male leaders in the high Warmth and high Competence condition (M = 4.25, SD = .56) and the high Warmth and low Competence condition (M = 2.61, SD = 1.10) ($p < .05$, 95% CI= [1.15, 2.12]), as well as the low Warmth and high Competence condition (M = 2.82, SD = .85) ($p < .05$, 95% CI= [.93, 1.92]). No significant differences were found between the high Warmth and low Competence condition and the low Warmth and high Competence condition ($p > .05$,

95% CI = [-.70, .28]). High Warmth and high Competence White male leaders were perceived as significantly more effective than high Warmth and low Competence, and low Warmth and high Competence White male leaders.

Table 62. Welch's Test of White Male Leaders between the Three Conditions

Welch's F	*df1*	*df2*	*p*	ω^2
54.10	2	64.95	0.00	0.49

Note Levene's test for variances: F(2, 106) = 6.78, $p < .05$

For White female leaders (n = 111), results of the Welch's adjusted ANOVA found significant differences on Perceived Leadership Effectiveness between the three Warmth and Competence conditions, Welch's F(2, 69.50) = 213.22, $p < .05$, $\omega^2 = .79$ (see Table 63). Post-hoc analyses using the Games-Howell procedure found significant differences between all comparisons -- specifically, the high Warmth and high Competence condition (M= 4.61, SD= .41) and the high Warmth and low Competence condition (M = 2.17, SD = .81) ($p < .05$, 95% CI = [2.08, 2.79]); the high Warmth and high Competence condition and the low Warmth and high Competence condition (M = 2.66, SD = .57) ($p < .05$, 95% CI = [1.60, 2.31]); and finally, the high Warmth and low Competence condition and the low Warmth and high Competence condition ($p < .05$, 95% CI = [-.83, -.14]). High Warmth and high Competence White female leaders were perceived as significantly more effective than high Warmth and low Competence, and low Warmth and high Competence White female leaders. Low Warmth and high Competence White female leaders were perceived as significantly more effective than high Warmth and low Competence White female leaders.

Table 63. Welch's Test of White Female Leaders between the Three Conditions

Welch's F	*df1*	*df2*	*p*	ω^2
213.22	2	69.50	0.00	0.79

Note Levene's test for variances: F(2, 108) = 8.14, $p < .05$

For Asian male leaders (n = 111), results of the Welch's adjusted ANOVA yielded significant differences on Perceived Leadership Effectiveness between the three Warmth and Competence conditions, Welch's F(2, 67.50)= 107.40, $p < .05$, $\omega^2 = .66$ (see Table 64). A closer inspection using Games-Howell procedure (Field, 2009) revealed significant differences between Asian male leaders in the high Warmth and high Competence condition (M = 4.41, SD = .50) and high Warmth and low Competence condition (M = 2.40, SD = .81) ($p < .05$, 95% CI= [1.57, 2.45]), as well as low Warmth and high Competence condition (M = 2.63, SD = .90) ($p < .05$, 95% CI= [1.36, 2.21]). No significant differences were found between the high Warmth and low Competence condition and the low Warmth and high Competence condition ($p > .05$, 95% CI = [-.70, .25]). High Warmth and high Competence Asian male leaders were perceived as significantly more effective than either high Warmth and low Competence, and low Warmth and high Competence Asian male leaders.

Table 64. Welch's Test of Asian Male Leaders between the Three Conditions

Welch's F	*df1*	*df2*	*p*	ω^2
107.40	2	67.50	0.00	0.66

Note Levene's test for variances: F(2, 108) = 4.95, $p < .05$

For Asian female leaders (n = 113), results of the Welch's adjusted ANOVA found significant differences on Perceived Leadership Effectiveness between the three Warmth and Competence conditions, Welch's F(2, 70.07) = 92.19, $p < .05$, $\omega^2 = .62$ (see Table 65). A closer inspection using Games-Howell procedure (Field, 2009) revealed significant differences between Asian female leaders in the high Warmth and high Competence condition (M = 4.40, SD = .54) and high Warmth and low Competence condition (M = 2.51, SD = .89) ($p < .05$, 95% CI = [1.47, 2.32]), as well as low Warmth and high Competence condition (M = 2.72, SD = .81) ($p < .05$,

95% CI= [1.26, 2.12]). No significant differences were found between the high Warmth and low Competence condition and the low Warmth and high Competence condition ($p > .05$, 95% CI = [-.63, .21]). High Warmth and high Competence Asian female leaders were perceived as significantly more effective than either high Warmth and low Competence, and low Warmth and high Competence Asian female leaders.

Table 65. Welch's Test of Asian Female Leaders between the Three Conditions

Welch's F	*df1*	*df2*	*p*	ω^2
92.19	2	70.07	0.00	0.62

Note Levene's test for variances: $F(2, 110) = 3.53$, $p < .05$

For Black male leaders ($n = 112$), results of the Welch's adjusted ANOVA found significant differences on Perceived Leadership Effectiveness between the three Warmth and Competence conditions, Welch's $F(2, 64.18) = 184.82$, $p < .05$, $\omega^2 = .77$ (see Table 66). A closer inspection using Games-Howell procedure (Field, 2009) revealed significant differences between all comparisons. Specifically, the high Warmth and high Competence condition ($M = 4.54$, $SD = .43$) and the high Warmth and low Competence condition ($M = 2.14$, $SD = .73$) ($p < .05$, 95% CI = [2.02, 2.79]); the high Warmth and high Competence condition and the low Warmth and high Competence condition ($M = 2.67$, $SD = .89$) ($p < .05$, 95% CI = [1.47, 2.27]); and finally, the high Warmth and low Competence condition and the low warmth and high competence condition ($p < .05$, 95% CI = [-2.79, -2.02]). High Warmth and high Competence Black male leaders were perceived as significantly more effective than either high Warmth and low Competence, or low Warmth and high Competence Black male leaders. Low Warmth and high Competence Black male leaders were perceived as significantly more effective than high Warmth and low Competence Black male leaders.

Table 66. Welch's Test of Black Male Leaders between the Three Conditions

Welch's F	*df1*	*df2*	*p*	ω^2
184.82	2	64.18	0.00	0.77

Note Levene's test for variances: F(2, 109) = 7.49, $p < .05$

For Black female leaders (n = 113), results of the ANOVA found significant differences on Perceived Leadership Effectiveness between the three Warmth and Competence conditions, F(2, 105) = 96.40, $p < .05$, $\omega^2 = .83$ (see Table 67). A closer inspection using Gabriel's procedure (Field, 2009) revealed significant differences between Black female leaders in the high Warmth and high Competence condition (M = 4.46, SD = .55) and high Warmth and low Competence condition (M = 2.61, SD = .71) ($p < .05$, 95% CI = [1.46, 2.24]), as well as low Warmth and high Competence condition (M = 2.41, SD = .77) ($p < .05$, 95% CI = [1.65, 2.44]). No significant differences were found between the high Warmth and low Competence condition and the low Warmth and high Competence condition ($p > .05$, 95% CI = [-.20, .58]). High Warmth and high Competence Black female leaders were perceived as significantly more effective than high Warmth and low Competence, and low Warmth and high Competence Black female leaders.

Table 67. ANOVA of Black Female Leaders between the Three Conditions

Source	*df*	*SS*	*MS*	*F*	*p*	*ω2*
Between	2	90.13	45.06	96.40	0.00	0.830
Within	105	49.08	0.47			
Total	107	139.21				

Note Levene's test for variances: F(2, 105) = 1.41, $p > .05$

For Indigenous male leaders (n = 110), results of the Welch's adjusted ANOVA found significant differences on Perceived Leadership Effectiveness between the three Warmth and Competence conditions, Welch's F(2, 67.37) = 170.29, $p < .05$, $\omega^2 = .75$ (see Table 68). A closer inspection using Games-Howell procedure (Field, 2009) revealed significant differences between

all comparisons. Specifically, the high Warmth and high Competence condition (M = 4.47, SD = .52) and the high Warmth and low Competence condition (M = 1.99, SD = .65) ($p < .05$, 95% CI = [2.14, 2.86]); the high Warmth and high Competence condition and the low Warmth and high Competence condition (M = 2.74, SD = .86) ($p < .05$, 95% CI = [1.34, 2.10]); and finally, the high Warmth and low Competence condition and the low warmth and high competence condition ($p < .05$, 95% CI = [-2.86, -2.08]). High Warmth and high Competence Indigenous male leaders were perceived as significantly more effective than high Warmth and low Competence, and low Warmth and high Competence Indigenous male leaders. Low Warmth and high Competence Indigenous male leaders were perceived as significantly more effective than high Warmth and low Competence Indigenous male leaders.

Table 68. Welch's Test of Indigenous Male Leaders between the Three Conditions

Welch's F	*df1*	*df2*	*p*	ω^2
170.29	2	67.37	0.00	0.75

Note Levene's test for variances: F(2, 107) = 4.02, $p < .05$

For Indigenous female leaders (n = 114), results of the Welch's adjusted ANOVA found significant differences on Perceived Leadership Effectiveness between the three Warmth and Competence conditions, Welch's F(2, 67.85) = 121.70, $p < .05$, ω^2 = .68 (see Table 69). A closer inspection using Games-Howell procedure (Field, 2009) revealed significant differences between all comparisons. Specifically, the high Warmth and high Competence condition (M = 4.41, SD = .52) and the high Warmth and low Competence condition (M = 2.22, SD = .82) ($p < .05$, 95% CI = [1.78, 2.60]); the high Warmth and high Competence condition and the low Warmth and high Competence condition (M = 2.68, SD = .84) ($p < .05$, 95% CI = [1.33, 2.14]); and finally, the high Warmth and low Competence condition and the low Warmth and high Competence

condition ($p < .05$, 95% CI = [-2.60, -1.78]). High Warmth and high Competence Indigenous female leaders were perceived as significantly more effective than either high Warmth and low Competence, or low Warmth and high Competence Indigenous female leaders. Low Warmth and high Competence Indigenous female leaders were perceived as significantly more effective than high Warmth and low Competence Indigenous female leaders.

Table 69. Welch's Test of Indigenous Female Leaders between the Three Conditions

Welch's F	*df1*	*df2*	*p*	ω^2
121.70	2	67.85	0.00	0.68

Note Levene's test for variances: $F(2, 111) = 4.45$, $p < .05$

Findings of both between-group and within-group comparisons support hypothesis 6 and reject hypothesis 7. Specifically, no significant differences on expectations of leadership effectiveness were found between leadership groups in the high Warmth and high Competence scenario, suggesting all leaders – regardless of gender and ethnicity – were all evaluated as effective when behaving with high Warmth and high Competence. Furthermore, comparisons of leaders among the three scenarios (i.e., high Warmth high Competence, high Warmth low Competence, and low Warmth high Competence) confirmed this pattern, such that all leaders were evaluated as most effective in high Warmth and high Competence scenario.

Summary of Results

Two hypotheses were tested in order to explore whether being effective is defined in the same way for leaders of various demographic groups. The Managerial Grid (Blake & Mouton, 1985) posits that leaders are perceived as most effective when they are able to mobilize employees by prioritizing organizational output and productivity, while attending to the needs and well-being of their employees. This project incorporated the SCM dimensions, such that person versus productivity was operationalized as the dimensions of Warmth and Competence

respectively. The Role Congruity Theory (Eagly & Karau, 2002) considers the stereotypes attached to specific demographic profiles during performance evaluation. Individuals who occupy roles that match their demographic stereotypes would receive positive evaluations, whereas incongruity between roles and stereotypes would lead to negative evaluations. Multiple studies have tested the Role Congruity Theory and found both women and members of ethnic minority being perceived as non-leaders, and therefore, receiving less favourable evaluations when occupying leadership roles (Garcia-Retamero & López-Zafra, 2006; Grappendorf et al., 2011; Hoyt & Burnette, 2013; Ritter & Yoder, 2004). A summary of Study 2 hypotheses can be found in Table 70.

Results of Study 2 supported the Managerial Grid hypothesis, such that leaders of all demographic groups were perceived as most effective when demonstrating high warmth and high competence behaviours. Comparisons of the eight demographic leadership profiles (i.e., White male, White female, Asian male, Asian female, Black male, Black female, Indigenous male, and Indigenous female leaders) revealed no significant differences on expectations of leadership effectiveness across all three levels of Warmth and Competence conditions: high Warmth and high Competence, high Warmth and low Competence, low Warmth and high Competence. This suggests that leaders – regardless of demographic characteristics – did not receive significantly different evaluations when behaving in a similar manner.

Table 70. Summary Results of Study 2 Hypotheses Testing

Hypotheses	Method	Results
The Managerial Grid Hypothesis		
H6. Regardless of demographic category, leaders will be evaluated as most effective when behaving with high Warmth and high Competence.	ANOVA	Supported
The Role Congruity Theory Hypothesis		
H7. Leaders (regardless of demographic characteristics) will be evaluated as most effective when behaving in stereotypically congruent manner.		
H7a. White male leaders will be evaluated as most effective when behaving with high Warmth and high Competence.	ANOVA	Supported
H7b. Asian leaders will be evaluated as most effective when behaving with high Competence and low Warmth.	ANOVA	Not Supported
H7c. Black leaders will be evaluated as most effective when behaving with high Warmth and low Competence.	ANOVA	Not Supported
H7d. Female leaders – regardless of ethnicity – will be evaluated as most effective when behaving with high Warmth and low Competence.	ANOVA	Not Supported

Furthermore, comparisons of leaders within each specific demographic group revealed that each group was perceived as most effective when displaying high Warmth and high Competence behaviours. These findings further supported the outcomes expected from Managerial Grid, where leaders of all demographic categories, based on both gender and ethnicity, were perceived as most effective when behaving with high Warmth and high Competence in comparison to leaders of the same demographic groups who behaved with high Warmth and low Competence or low Warmth and high Competence.

CHAPTER V: CONCLUSION

Discussion

Women and members of ethnic minority groups are not well-represented in leadership roles in Canada. Women make up 47.9% and members of ethnic minority groups make up 21.21% of the labour force in Canada (Statistics Canada, 2017a), but only 19.5% and 5.9% of the board seats of the top 500 companies in Canada are occupied by women and members of ethnic minority groups respectively (Canadian Board Diversity Council, 2018; Catalyst, 2019). Research has pointed to stereotypes as one of the factors contributing to the under representation of women and members of ethnic minority groups in leadership roles (e.g., Eagly & Karau, 2002; Knight et al., 2003; Logan, 2011). However, while the current literature captures the impact of stereotyping on leadership evaluations, there remains a lack of standardized efforts to understand its impact on members of various demographic groups. As such, it is difficult to compare the differing impact across groups and to provide a holistic understanding of the relationship between stereotypes and leadership evaluations.

The present project expanded on this line of research by introducing the Stereotype Content Model (SCM, Fiske et al., 2002) as a standardized framework to investigate the impact of stereotypes on leadership evaluation. This project also addressed the lack of understanding in the literature of how multiple identities impact leadership evaluations, through a focus on the intersectionality of gender and ethnicity. While the SCM has been previously introduced to evaluate the impact of leaders' Warmth and Competence on subsequent organizational outcomes, such as the impact of SCM dimensions on commitment (Falvo et al., 2016) and perceptions of organizational justice (Huang et al., 2017), this project is the first to evaluate the differing expectations of warmth and competence based on leaders' demographic profiles.

Results of this project support the Stereotype Content Model (SCM; Fiske et al., 2002), particularly regarding the implications of demographic profiles for the expectations of warmth and competence in leadership roles. Specifically, this project found the two dimensions of the SCM – warmth and competence – can be used to assess leadership expectations across multiple and intersecting demographic profiles. This project also identified perceptions of warm and competent behaviours as more important indicators for perceived leadership effectiveness than the expectations of warmth and competence based on demographic characteristics.

In Study 1, nine different categories of leadership profiles were evaluated based on warmth and competence expectations – the two dimensions of the SCM. The nine leadership categories included Effective Leader as the baseline comparison for warmth and competence expectations, and eight demographic profiles included White Male, White Female, Asian Male, Asian Female, Black Male, Black Female, Indigenous Male, and Indigenous Female Leaders. Contrary to predictions, all nine leadership profiles were evaluated as having high Warmth and high Competence. Collectively, all leadership profiles elicited positive affective and behavioural responses. Participants responded with feelings of admiration and pride towards all nine leadership groups and also responded with both active (i.e., assisting, helping, and protecting) and passive (i.e., uniting, cooperating and associating) facilitating behaviours. However, despite all leadership groups receiving evaluations in the high Warmth and high Competence quadrant, some biases still emerged, resulting in four clusters of leadership profiles on the SCM. Biases persisted whereby women leaders were perceived to be less competent than their male counterpart, and that members of ethnic minorities were more disadvantaged with lower Warmth and Competence expectations than White leaders. Past studies have found that Competence is highly favoured in organizational contexts, especially during human resources related decision

making process such as recruitment and promotion (Cuddy et al., 2004; Veit et al., 2021). Thus, being perceived as less competent further emphasizes the disadvantages women and ethnic minority groups face on their journey to leadership positions.

In Study 2, two hypotheses based on the Managerial Grid (Blake & Mouton, 1985) and the Role Congruity Theory (Eagly & Karau, 2002) were tested to see whether Perceptions of Leadership Effectiveness differed based on leaders' demographic characteristics. Results of Study 2 supported the predictions based on the Managerial Grid model, in that all leaders – regardless of demographic characteristics – were perceived as most effective when displaying high Warmth and high Competence behaviours.

The results of Study 1 and Study 2 collectively support the idea that there is a gatekeeping mechanism that stems from cultural level stereotypes in place (Cheryan et al., 2015). As the results of Study 1 suggest, the biases against women and ethnic minority as effective leaders are more likely to manifest during the selection process, as stereotypes impact the expectations of Warmth and Competence for leaders. However, with some knowledge of leadership behaviours, those behaviours affect evaluations of leaders' effectiveness, rather than perceived demographic stereotypes as found in Study 2. Collectively, this suggests that women and ethnic minority leaders can be perceived as being just as effective as White male leaders when they behave similarly in the role; but aspiring women and ethnic minority leaders are disadvantaged by cultural stereotypes because they are not expected to be as effective as aspiring White male leaders. This gatekeeping through cultural stereotypes contributes to the underrepresentation of women and other minorities in leadership roles. The lack of representation then inadvertently confirms the stereotype that White men are the prototypical effective leaders, feeding into the cycle of stereotyping, prejudice and discrimination, and

creating layers of cultural and organizational barriers, such as the *bamboo ceiling*, *glass ceiling*, and *labyrinth* effects (Eagly & Carli, 2007; Hymowitz & Schellhardt, 1986; Hyun, 2005).

Multiculturalism and the Global Mindset

The unexpectedness of the finding that all leadership profiles were evaluated as high in Warmth and high in Competence highlights the importance of taking culture into account when examining stereotypes. These findings may result from cultural differences between the current sample (in Canada) and previous samples (in the United States). The hypotheses tested in the present project were largely derived from literature based in the United States (due to the lack of SCM research conducted in Canada), and it is possible that United States stereotypes differ significantly from Canadian stereotypes.

Cochrane, Blidook and Dyck (2017) outline differences between Canadian and American cultures on five values, including: 1. Balance between individualism and collectivism; 2. Particularism, diversity, and tolerance; 3. Deference to authority; 4. Egalitarianism; and 5. Caution, diffidence, dependence, idealism, and nonviolence. The first difference between Canada and the United States is that Canada's individualistic orientation is balanced with its collectivistic mindset. Cochrane and colleagues (2017) contend that Canadians, while upholding individualistic values, demonstrate less hostility toward social institutions and more inclination to rely on public interventions to support its economy, as well as individual well-being, compared to the United States.

The second difference is the distinction between the Canadian and American approach to diversity. On the one hand, the dominant approach to diversity in the United States is the concept of a 'melting pot,' where cultural diversity is forcefully assimilated to the dominant culture (Levine & Serbeh-Dunn, 1999). The cultural profile of Canada, on the other hand, has for more

than 50 years been officially described as a ‘cultural mosaic,’ in which multiple cultural views co-exist within the Canadian society (Kalman, 2010). Cultural diversity serves as the foundation of multiculturalism, so that diversity among its people is celebrated actively and recognized at the policy level in Canada (Government of Canada, 1985).

The third difference between Canadian and American values is the differing response to authority. Cochrane and colleagues (2017) assert that Canadians generally demonstrate greater respect toward figures of authority, such as police and judges in comparison to those in the United States. This distinction is exemplified in the Canadian Constitution and the United States Declaration of Independence (Gall & McLellan, 2006). The Canadian Constitution, on the one hand, specifically includes the phrase “peace, order and good government” to declare the importance of government order and authority (The Government of Canada, 2021). In other words, Canadians uphold individual liberty, but individual liberty in Canada is balanced by its trust and respect towards government institutions and concerns for the public good. The United States Declaration of Independence, on the other hand, includes the phrase “life, liberty and pursuit of happiness.” The phrase emphasizes individual rights and liberty, over the maintenance of power and authority (National Archives, 2021).

The fourth difference is the underlining of egalitarian values in the Canadian culture. This emphasis on egalitarianism is evidenced in many Canadian policies. For example, the 1982 Charter of Rights and Freedoms guarantees equality and forbids discrimination on many grounds, such as gender, ethnicity, religion, age, and sexual orientation (Government of Canada, 2021). Other examples include the Canadian healthcare system and welfare programs that are available to all citizens to ensure a degree of equality among its people. Canada’s egalitarianism is also displayed at the economic front. A Statistics Canada study (Wolfson & Murphy, 2000)

reports that families in the bottom 25 percent of the income distribution in Canada have more purchasing power than their counterparts in the United States; and that families in the top 20 percent of the income distribution in Canada, on the contrary, have less purchasing power than their counterparts in the United States. That is, Canada has lower income inequality compared to the United States, while having higher taxes to offset the cost of various welfare and social programs across the country (Wolff et al., 2012).

Lastly, the fifth difference relates to the Canadian emphasis on caution and diffidence, dependence on other countries and general avoidance of violent interventions (i.e., wars). A Maclean's 1995 (Wilson-Smith, 1995) survey found that almost three quarters of respondents agreed with the statement that Canadians have distinct characteristics compared to other countries, including tolerance of others from different backgrounds, a non-violent tradition as a country, and a strong but silent patriotism. In addition, Cochrane and colleagues (2017) argued that Canadians are "not a war-like people" (p. 247); rather, Canadians try to be peacekeepers in international relations, and avoid a combative role in global conflicts.

Collectively, the five basic Canadian values, along with the rapid globalization of economic ventures and industries across the globe, has effectively changed the mindset of industry leaders and business managers to adapt to the global market (Kwantes & Chung-Yan, 2012). Kwantes and Chung-Yan (2012) argued that Canadians have developed a global mindset to respond to the changing demographic and increasing diversity in Canada. A global mindset is defined as "a cognitive ability that helps individuals figure out how to best understand and influence individuals, groups, and organizations from diverse social/cultural systems" (Clapp-Smit et al., 2007, p. 106). The acceptance of multiculturalism, as well as the cultural emphasis on the global mindset allows Canadians to have richer understanding of differences among different

demographic groups, which may reduce the reliance on stereotypes when interacting with different groups of individuals.

While multiculturalism and a global mindset explains the high Warmth and high Competence ratings of all leadership profiles in this project, it is noted that Canada is not immune to stereotypes and discrimination. Some Canadians reject the notion of multiculturalism and view diversity as having a negative impact on overall Canadian cultures and values. Dasko (2003) argued that this push back against diversity is a result of high unemployment rates and eroding public services, such that some Canadians started to feel financially threatened and dislocated due to the influx of immigrants into the country. This pushback against multiculturalism by some Canadians may explain why biases persisted in leadership evaluation in the present study; some groups were evaluated less favourably – albeit still being evaluated as high Warmth and high Competence – than White male leaders.

Power and Status

In studies of the Stereotype Content Model with Canadian samples that did not involve the evaluation of leadership groups, the biases observed toward the eight demographic groups (i.e., White male and female, Asian male and female, Black male and female, Indigenous male and female) were more prominent than the findings of the current study. These previous studies also found a wider distribution of ratings for non-dominant groups, with many groups being perceived outside of the high Warmth and high Competence quadrant (Fiske, 2012; Kil et al. 2019).

The unexpected findings – that all nine leadership groups were located in the high Warmth and high Competence quadrant – could be the result of intersecting stereotypes, where expectations associated with demographic categories intersected with leadership expectations.

Leadership is understood as individuals with an elevated level of social power (Mittal & Elias, 2016) and status (Kelley et al., 2017), which is often exerted to influence and motivate others to accomplish a common goal. The elevated expectations of social power and status associated with leadership thus create elevated expectations of Warmth and Competence (Russell & Fiske, 2018) for leaders across all demographic groups compared to their non-leader counterparts.

Leadership Effectiveness during the COVID-19 Pandemic

Due to unexpected circumstances during data collection, it is also possible that current events impacted the results of this study. Data for this project were collected during the COVID-19 pandemic, between September and December of 2020 for Study 1 and between February and June of 2021 for Study 2. That is, at the time of data collection, the world of work was changed drastically due to the outbreak of COVID-19. According to Statistics Canada (2021), 30% of employees aged between 15 to 64 worked from home for the most part between April 2020 and June 2021. Only 4% of employees in the age group did so in 2016. The data also found almost every one of those who have the option to work from home did so, further epitomizing the change in work expectations as a result of the pandemic.

Effective organizational leaders are those who are able to motivate and mobilize employees to meet and advance organizational collective goals (Haslam et al., 2015; House et al., 2014; van Knippenberg, 2012), while considering the well-being and needs of the employees (Bass, 1985; Deluga, 1990). This holistic understanding of leadership effectiveness is captured by the Managerial Grid (Blake & Mouton, 1985), which uses people and production as two complementary dimensions to assess leadership performance. This project integrated the SCM (Fiske et al., 2002) with the Managerial Grid (Blake & Mouton, 1985), as the operationalization

of warmth and competence in the SCM parallels the operationalization of people and production dimensions in the Managerial Grid.

This project found leadership behaviours are more important in predicting perceptions of leadership effectiveness than demographic profiles. Specifically, leaders who placed greater emphasis on both the well-being and needs of the employees (i.e., warmth), as well as the production of the organization (i.e., competence), are deemed as having the most effective leadership style in comparison to leaders who display other combinations of warmth and competence. That is, in contrast to the Role Congruity Theory (Eagly & Karau, 2002), in which biases are expected in leadership evaluation as a result of demographic characteristics, this project found no significant differences in perceptions of leadership effectiveness when exhibiting similar leadership behaviours across demographic profiles

These findings of an absence of biases across various leadership demographic groups might be due to the pandemic, as research found the perceptions of effective leadership had inevitably shifted to address the uncertainty of changing work expectations during the COVID-19 global pandemic. Leaders who adopted a participative leadership style, distributing their influence and power in favour of joint decision-making between leaders and employees, thrived in the healthcare sector during the pandemic (Usman et al., 2021). Other studies found that transformational leadership, rather than transactional leadership, was highly favoured over the past couple of years. Leaders who exhibited a transformational leadership style were able to have a positive and significant effect on employees' job satisfaction and performance, whereas leaders who exhibited a transactional leadership style could not do so, in either academic or corporate sectors (Azizah et al., 2020; Wulandari et al., 2021). Blake-Beard, Shapiro and Ingols (2020) asserted that leaders must rely on both masculine and feminine traits – known as androgynous

leadership – to effectively manage the workforce as a result of this COVID-19 crisis. In fact, Garikipati and Kambhampati (2021) found that among the 194 countries included in their study, countries led by women were able to respond to the uncertainty and changing needs imposed by the COVID-19 pandemic more effectively, resulting in more positive outcomes such as fewer COVID-19 cases and deaths. The authors argued that women exhibit different leadership styles and different attitudes in risk-taking behaviours which contributed to the differing outcomes in governance.

The COVID-19 pandemic also created uncertainty around employment outcomes (Ruffolo et al., 2021) and work expectations (Tang et al., 2020). Studies have found that individuals' implicit leadership prototypes tend to weaken during the time of uncertainty (Randsley et al., 2018; Rast et al., 2012). Taken together, research points to the possible shift in perceptions of leadership effectiveness in response to the changing working cultures and expectations. Leaders who practised leadership styles that exemplified both warmth and competence (i.e., androgynous leadership, transformational leadership) were able to respond to the changing needs much more effectively than those who did not. The uncertainty shrouding these changing cultures and expectations may have also weakened participants' implicit leadership prototype. Thus, participants may have focused more on leadership behaviours than on leaders' demographic profiles, explaining the non-significant differences in perceptions of leadership effectiveness between various demographic groups in Study 2.

Limitations and Future Directions

Study 1 Sampling Method – Student Population

The current project, as with all research projects, has some limitations. In line with other SCM research, the first study in this project used a student sample to assess the expectations of

Warmth and Competence among nine leadership groups. Although previous SCM studies found no significant differences between student and non-student samples when assessing various demographic groups (e.g., Asbrock, 2010; de Paula Couto & Koller, 2012; Fiske et al., 2002), this project specifically focused on leadership profiles which may have introduced unintentional biases from the student sample, as students have limited exposure and experience with organizational leadership. To address this concern, the study recruited part-time or full-time working students, under the assumption that they would provide more insights and direct experiences working with individuals in leadership positions compared to those without working experience.

However, it is possible that working students have limited exposure to organizational leaders, since students are more likely to occupy lower-level position than the non-student working population. In addition, women and members of ethnic minority groups are better represented in leadership roles across college and university settings than in many other settings (Cukier et al., 2020); as a result, students are more likely than workers in other settings to be exposed to gender and ethnically diverse leaders in the post-secondary environment. Cukier and colleagues (2020) identified 9,843 individuals occupying board of director positions across seven sectors and eight Canadian cities (i.e., Toronto, Montreal, Vancouver, Calgary, Halifax, Hamilton, London, and Ottawa), and examined their demographic profiles based on gender and ethnicity. The seven sectors included: the corporate sector, provincial agencies boards and commissions sector, municipal agencies boards and commissions sector, hospital sector, voluntary sector, school boards, and university and college sector. The research found 43.1% of the directors on boards in the university and college sector were women, and 14.6% were members of ethnic minority groups. While women and members of ethnic minority groups

remained under-represented in the university and college sector, they nonetheless were better represented relative to the other sectors included in the research. The corporate sector, in contrast, only had 25.3% of women and 4.5% members of ethnic minority groups represented on their board of directors.

As women and members of ethnic minority groups are better represented in leadership roles at colleges and universities in Canada, university students are more likely to be exposed to gender and ethnic diversity in leadership roles. Even though most university students have limited interactions with senior leaders such as the president, vice-presidents, dean and board of governors, students are exposed to the representation of these leaders through various communication channels, in the form of institution wide messages and newsletters. In other words, the sample used for this project may have inadvertently introduced a confound due to availability heuristics. Availability heuristics are mental shortcuts that are influenced by frequency or recency of exposure to relevant information during a decision-making process, or when evaluating a specific topic or concept (Tversky & Kahneman, 1973, 1974). As stereotypes are heuristics that individuals use to make inferences about a specific group of people (Bodenhausen, 1990; Operario & Fiske, 1998), it is possible that the students' expectations – or stereotypes – of women and ethnic minority leaders were skewed to be more favourable, as they were more likely than non-university students to recall leaders with diverse profiles through more frequent exposures and interactions. To generate findings that can be generalized and applicable to the general population, specifically in organizational settings where leadership evaluations take place, future studies would benefit from including samples drawn from the general working population.

Samples drawn entirely from a student population in a post-secondary institution might also have skewed the findings, in that post-secondary students represent a specific pocket of the general population (Henrich, Heine, & Norenzayan, 2010). Students are more likely to hold liberal and egalitarian beliefs, and have a progressive worldview that is grounded through socialization with like-minded individuals (Sidanius et al., 2010). In fact, post-secondary students generally have more favourable perceptions of racial diversity. They are more supportive of racial heterogeneity, and are more motivated to mask their negative attitudes about out-group members than the general population (Henry, 2008). That is, university students might have different implicit leadership theories than members of the non-student adult population, as university students are less likely to make implicit associations between being White and being a leader (Cundiff, 2005; Ubaka et al., 2020). The use of a student sample might have resulted in an overestimation of the Warmth and Competence expectations of all leadership profiles compared to members of a non-student sample. These findings do, however, represent the expectations and stereotypes of individuals who are preparing to enter the labour market in the near future. Thus, using a student population in this study is important, not only to provide a better understanding of the implicit leadership theory of the future labour force, but to also reiterate the flexible and constantly changing nature of stereotypes over time (Eagly et al., 2019).

Study 1 Data Cleaning Process – Outliers

A significant number of cases were removed during the data cleaning process for Study 1. A total of 257 responses were collected in Study 1 initially, but only 143 were retained in the final analyses. That is, a total of 114 cases were removed for Study 1. While the majority of the cases were removed as a result of standard data cleaning procedure, such as removing cases with no response across the entire study, duplicated response from same respondents, or failing

response check items, it is noted that Study 1 had significant drop off due to outliers at *n*= 66 cases or about 25.6% of the initial data.

Although Study 1 followed Steven's (2009) recommendations in removing items with z-score higher than |3| case wise, removing large number of outliers could artificially produce significant effects for ANOVA or t-tests (Pollet & van der Meij, 2017). The large number of outliers may due to survey fatigue. Study 1 included three types of measures: 1) a 12-item questionnaire exploring stereotype content, 2) an 8-item measure assessing the affective responses, and 3) a 12-item measure investigating behavioural responses to the stereotypes. These three measures were repeated nine times to assess the stereotype content, and the associated affective and behavioural responses across for nine different target groups. This resulted in a total of 27 questionnaires, totalling to 288 items that are structured similarly, with differences only on the referent groups across the 9 sets of leadership profiles. The design of Study 1 had anticipated the fatigue effect. The 27 questionnaires were organized into 9 sets of measures in alignment with the 9 leadership profiles. Participants were randomly assigned to the random ordering of the 9 sets of measures, with counterbalance in place to ensure all orders have equal number of participants. Nevertheless, the study resulted in a large number of outliers using the cut off of z-score at |3|. Future studies should consider between-subject design to reduce the number of similar items per participant, in order to further reduce the fatigue effect that had potentially led to the high number of cases being removed due to outliers.

Study 2 Sampling Method – Amazon Mechanical Turk

The second study also faced some limitations in its sampling approach with the use of an online data crowd-sourcing platform, Amazon Mechanical Turk (MTurk), for sample recruitment and data collection. First, research suggests that participants on data-crowd sourcing platforms

are becoming well-versed in survey participation (Chandler et al., 2013; Peer et al., 2017). Most participants likely have extensive experience completing multiple surveys that are related to the topic of stereotyping, prejudice and discrimination, and therefore may have been able to mask their true intention in their responses. Relatedly, other authors suggest respondents recruited from crowd-sourcing platforms generate poor quality responses as they are likely to be less attentive to the survey items, as they rush through the survey to generate the most monetary rewards possible within the least amount of time (Ford, 2017; Paolacci et al., 2010; Smith et al., 2016).

The second study utilized MTurk for data collection as the platform provides fast, reliable, and inexpensive access to a large number of demographically diverse research participants (Berinsky et al., 2012; Buhrmester et al., 2011). Several measures were taken to mitigate the problems associated with the use of online data crowd-sourcing platforms in this study. For example, concerns relating to the non-naïveté of MTurk participants were addressed by advertising the study only to inexperienced research participants using the criteria function provided on the platform. Robinson and colleagues (2019) found that inexperienced research participants on MTurk produced similar data in comparison to experienced participants. Concerns relating to inattentiveness were addressed by scattering several item-checks in the survey itself. Participants who failed any one of the item-checks were removed prior to the main analyses. Additionally, the second study also included a social media recruitment and snowball sampling approach to introduce additional recruitment methods to offset any biases that may have been incurred due to only using MTurk as the recruitment platform. Comparisons of participants recruited between MTurk, social media recruitment and snowball sampling found no significant differences among the three methods.

While online surveys provide researchers the platform to access a larger pool of participants at a relatively lower cost, future studies should consider exploring additional research methodologies to study the impact of demographic characteristics on leadership stereotypes and evaluation of perceived leadership effectiveness. For example, while online surveys using vignettes are able to simulate behavioural observations, they are limited in their ability to fully capture the elements and nuances that are observed directly in reality (Hughes & Huby, 2004). Future studies can incorporate in-person experiments, where participants are put in direct interactions with research confederates of multiple backgrounds acting as leaders, followed by leadership evaluation.

Social Desirability

Social desirability – the tendency for participants to respond in a way that is perceived as socially more acceptable or appropriate than their true intention (Edwards, 1957) – is another possible limitation of this project. Considerable debate exists in the stereotyping literature regarding social desirability. Some authors suggest that social desirability is a significant issue in stereotyping research. Participants tend to suppress their negative preconceptions associated with specific groups in favour of more positive evaluations to appear more progressive in their beliefs (e.g., Bergsieker et al., 2012; Fiske et al., 2002; Thorndike, 1977). Other authors argue that social desirability is not a major concern in stereotyping, given that participants are aware of anonymity of research participation, and that studies typically do not directly request personal beliefs, but rather request responses based on the general stereotypes of the society (Devine & Elliot, 1995; Madon et al., 2001).

The first study mitigated possible social desirability effects by following Fiske and colleagues' (2002) wording of the Stereotype Content Model measure. Specifically, participants

in study one were prompted with the instruction: “We are not interested in your personal beliefs/emotional response/behavioural response, but in how you think they are viewed by others in Canada.” The wording of this instruction is designed to eliminate social desirability concerns as it requests participants not to report their personal beliefs, but to report how specific groups are perceived by others generally through cultural stereotypes.

The second study, however, did not prompt the participants with similar instructions. This difference in design was intentional. The second study did not request evaluations of cultural stereotypes, but evaluations of leadership effectiveness across multiple conditions manipulated based on leadership demographic characteristics and leadership behaviours. That is, the second study was designed to elicit responses related to participants’ personal evaluations of leadership effectiveness, not on cultural stereotypes or personal beliefs associated with each specific demographic group in leadership roles. Although the measure itself should not create socially desirable responses, the context in which the survey was distributed may have raised some concerns to social desirability.

Data for study two were collected from February to June of 2021. The time in which the survey took place may have elicited socially desirable responses as the debate regarding cultural identities was at the forefront across multiple media outlets and platforms. For example, the death of George Floyd in May 2020 sparked and reignited the Black Lives Matter movement across North America. The case lasted and was scrutinized in the public eye for almost one year after the incident (Deliso, 2021). The George Floyd case also sparked conversations around racism and discrimination, which led to the debate on Critical Race Theory among politicians and educators in the United States in the spring of 2021 (Sawchuk, 2021). In Canada, topics surrounding racism and discrimination became more salient following a national outcry with the

discovery of the unmarked graves of 215 Indigenous children at a former residential school in British Columbia in May 2021 (Dickson & Watson, 2021). The discovery of the unmarked graves of Indigenous children in British Columbia has pushed the nation to face the dark history of Canada, and led to the discovery of more unmarked graves of Indigenous children at former residential schools across the country (BBC News, 2021). All these tragic and unfortunate incidents have created conversations surrounding stereotyping, prejudice and discrimination in the public space. Participants in study two, therefore, may have masked their true assessments and evaluations of leadership effectiveness and provided a more favourable assessment of leaders of all demographic profiles in order to appear more progressive in their beliefs. This may have led to an overestimation of the effectiveness of all leadership groups in study two. Future studies should consider including mitigating measures, such as including instructions to assess leadership effectiveness based on expectations of the general society rather than personal evaluation.

Confound Variables

A few potential confound variables were not included in study two, including organizational uncertainty and demographic similarities. Findings of study two are consistent with leadership studies (e.g., Babcock-Roberson & Strickland, 2010; Bass & Bass, 2008; Cicero & Pierro, 2007; Judge & Piccolo, 2004; Michel et al., 2013), but are in contrast to the Role Congruity Theory studies conducted by Eagly and Karau (2002). These studies indicated that individuals receive more positive evaluations when their stereotypes are aligned with role expectations (Eagly, Karau, & Makhijani, 1995). According to this theory, women and individuals of ethnic minority groups are stereotypically not viewed as effective leaders, and are regarded as more suitable in non-leadership positions (Diekman & Hirnisey, 2007; Garcia-

Retamero & López-Zafra, 2006; Grappendorf et al., 2011; Hoyt & Burnette, 2013; Ritter & Yoder, 2004); thus, women and ethnic minority individuals should be evaluated as more effective when using either country club management or task-centred management styles. However, other studies found that female and ethnic minority leaders who behave in non-stereotypical fashion, but demonstrate behaviours that are congruent with effective leadership, are rated as more effective when the organization displays uncertainty (e.g., organizations going through structural changes) (de Moura et al., 2018; Rast et al., 2012). It is therefore possible that the lack of contextual information provided in the present study was interpreted as organizational uncertainty. Future studies would benefit from introducing different scenarios, such as including organizational uncertainty as a moderating variable in leadership evaluations of various Warmth and Competence behaviours.

Demographic similarities – or dissimilarities – between participants' and the leaders' demographic characteristics in the vignette may also have influenced the responses collected in study two, to the extent that demographic similarities have an impact on individuals' attitudes and perceptions in the workplace (Riordan & Shore, 1997). In the context of leadership evaluation, studies found that demographic similarity between leaders and followers is associated with higher organizational effectiveness and group cohesion, while dissimilarity is associated with role ambiguity, turnover and perceived discrimination (Avery et al., 2008; Tsui & O'Reilly, 1989; Tsui et al., 2002). Shared demographic attributes also lead to more favourable evaluations in trustworthiness for leaders in organizational context (Lau et al., 2008). Future studies would benefit from analyzing differences in leadership evaluation based on similarity and dissimilarity of demographic characteristics between participants and leadership profiles. As every individual is characterized and associated with multiple demographic categories – such as gender, ethnicity,

age, and indigeneity – future studies should also consider the importance of intersectionality in evaluating the perceived leadership effectiveness based on relational demography.

Implications

The results of this project highlight the importance of organizations introducing intervening measures to combat the stereotypes that disadvantage women and members of ethnic minority groups in attaining leadership roles. Specifically, this project found the possibility of cultural stereotypes playing a gatekeeping role and preventing otherwise potentially effective leaders from attaining leadership roles within organizations, due to biases in expectations stemming from demographic characteristics.

Studies have reported the advantage of having diverse and inclusive leadership structure in organizations, such as increased innovation (Qi et al., 2019) and organizational performance (Martins, 2020). In the Canadian context, where diversity is viewed as a national pride and serves as one of its cultural foundations (Cochrane et al., 2017; Kalman, 2010), inclusion at the leadership level becomes more important across all organizational functions and processes. Setting the tone at the top, specifically by having equitable representation at the leadership level, signals commitment for a diverse and inclusive workforce. A diverse and inclusive leadership team helps to broaden the talent pool by attracting and retaining diverse talent (Choi, 2009; Elias, 2020; McKay et al., 2007). It also increases employee satisfaction, consequently leading to improved organizational productivity and has direct implications for organizational financial performance (Armstrong et al., 2010; King, 2018).

To mitigate the impact of stereotypes during the leadership recruitment and selection process, several measures should be considered in order to create equitable representation in leadership roles. For example, provide unconscious bias training to members of search and

selection committees, as well as those with decision-making power, to mitigate the biases that inevitably manifest during the process (Consul et al., 2021). In addition, use objective and clearly defined criteria that is informed by job analysis, and introduce standardized scoring rubrics to analyze candidates during the selection process. Having objective criteria and a standardized scoring approach can mitigate biases further, by reducing subjective perceptions of candidate potential as effective leaders (Player et al., 2019). Another effective strategy is to increase the representation of diverse candidates in the pipeline; in other words, increase the outreach effort to actively include diverse individuals during the search (Consul et al., 2021). This can be accomplished both externally and internally. At the external front, partner with organizations or associations that are actively advocating for the equity and inclusion of various marginalized communities, and post job listings through these organizations to reach to wider and more diverse candidates. At the internal front, organizations should provide formal networks of diverse role models and mentorship programs across all departments. Having these formal channels can help diverse employees with access to appropriate resources and mentorship, as informal networks tend to disadvantage women and diverse employees during the leadership search and selection process. Furthermore, formal networks with diverse role models can also encourage employees to aspire to leadership roles through exposure of diverse representation across various levels and departments within the organization (Kilian et al., 2005; Leicht et al., 2014).

Furthermore, this project found that while gender and ethnic minority leaders may generate different expectations of Warmth and Competence compared to effective and White male leaders (Study 1), these expectations were not reflected in the evaluations of perceived leadership effectiveness based on behavioural observations as found in Study 2. This further asserts the possibility that stereotypes – or expectations – do not matter in determining the

perception of leadership effectiveness. Rather, these expectations create barriers for and prevent women and ethnic minority individuals from pursuing leadership roles. To address this gap between expectations and actual performance, Erkal, Gangadharan and Xiao (2021) suggested that all organizations should provide equitable opportunity for women and ethnic minority to leadership roles by assuming *everyone* is aspiring to become a leader. Specifically, as opposed to many organizations that only provide leadership training to specific individuals who have voiced their leadership aspirations, Erkal and colleagues (2021) found that organizations that assume *everyone* – regardless of demographic characteristics – aspires to become a leader are more likely to provide appropriate training to everyone, which creates a more equitable outcome in leadership representation. That is, organizations should provide leadership training, as well as networking and mentorship opportunities to everyone, under the assumption that every employee in the organization aspires to become a leader, regardless of gender or ethnicity.

Although this project found biases mainly manifesting during the early stages of the organizational hiring and promotion process (e.g., selection process), it remains imperative for organizations to have appropriate initiatives and programs to sustain diversity in leadership roles. Research pointed to the pervasiveness of stereotypes, which can be internalized and have negatively impacted the performance of women and other diverse individuals in the organizational context (Brown et al., 2000; Heilman et al., 1990; Leslie et al., 2014). Therefore, to sustain equitable representation while ensuring that the performance of women and diverse leaders are not impacted by stereotypes, organizations should create an environment that is welcoming and inclusive of all individuals, through both formal approaches such as policies (Mor Barak, 2015), and informal approaches such as organizational culture (Kartolo & Kwantes, 2019).

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APPENDIX A: Measure of Stereotype Content, Study One (Fiske et al., 2002)

This questionnaire assesses how effective leaders and leaders from the following eight demographic groups (i.e., effective leaders, White men, White women, Asian men, Asian women, Black men, Black women, Indigenous men, Indigenous women) are viewed by most Canadians. We are not interested in your personal beliefs, but in how you think these leaders are viewed by others in Canada. Please rate each statement on a 5-point Likert-type scale, with 1 = not at all to 5 = extremely.

Effective Leaders

Measure of Competence

1. As viewed by most Canadians, effective leaders are competent.
2. As viewed by most Canadians, effective leaders are confident.
3. As viewed by most Canadians, effective leaders are capable.
4. As viewed by most Canadians, effective leaders are efficient.
5. As viewed by most Canadians, effective leaders are intelligent.
6. As viewed by most Canadians, effective leaders are skillful.

Measure of Warmth

1. As viewed by the Canadian society, effective leaders are friendly.
2. As viewed by the Canadian society, effective leaders are well intentioned.
3. As viewed by the Canadian society, effective leaders are trustworthy.
4. As viewed by the Canadian society, effective leaders are warm.
5. As viewed by the Canadian society, effective leaders are good-natured.
6. As viewed by the Canadian society, effective leaders are sincere.

White men/ White women; Asian men/ Asian women; Black men/ Black women; Indigenous men/ Indigenous women

Measure of Competence

1. As viewed by most Canadians, how competent are ___ men/women in leadership roles?
2. As viewed by most Canadians, how confident are ___ men/women in leadership roles?
3. As viewed by most Canadians, how capable are ___ men/women in leadership roles?
4. As viewed by most Canadians, how efficient are ___ men/women in leadership roles?
5. As viewed by most Canadians, how intelligent are ___ men/women in leadership roles?
6. As viewed by most Canadians, how skillful are ___ men/women in leadership roles?

Measure of Warmth

1. As viewed by most Canadians, how friendly are ___ men/women in leadership roles?
2. As viewed by most Canadians, how well intentioned are ___ men/women in leadership roles?
3. As viewed by most Canadians, how trustworthy are ___ men/women in leadership roles?
4. As viewed by most Canadians, how warm are ___ men/women in leadership roles?
5. As viewed by most Canadians, how good-natured are ___ men/women in leadership roles?
6. As viewed by most Canadians, how sincere are ___ men/women in leadership roles?

APPENDIX B: Measure of Affective Responses (Fiske et al., 2002)

The following items examine the ways people in Canada generally behave towards effective leaders and the following 8 demographic groups in leadership positions: effective leaders, White men, White women, Asian men, Asian women, Black men, Black women, Indigenous men, and Indigenous women. We are not interested in your personal emotional response, but in how you think most Canadians would tend to feel about the listed groups. Please rate each statement on a 5-point Likert-type scale, with 1 = not at all to 5 = extremely.

Effective leaders; White male leader; White female leader; Asian male leader; Asian female leader; Black male leader; Black female leader; Indigenous male leader; Indigenous female leader.

[High Warmth x High Competence, ADMIRATION]

1. Most Canadians tend to feel admiration toward ___.
2. Most Canadians tend to feel proud toward ___.

[Low Warmth x Low Competence, CONTEMPT]

3. Most Canadians tend to feel contempt toward ___.
4. Most Canadians tend to feel disgust toward ___.

[Low Warmth x High Competence, ENVY]

5. Most Canadians tend to feel envious toward ___.
6. Most Canadians tend to feel jealous toward ___.

[High Warmth x Low Competence, PITY]

7. Most Canadians tend to feel pity toward ___.
8. Most Canadians tend to feel sympathy toward ___.

APPENDIX C: Measure of the BIAS map (Cuddy et al., 2007)

The following items examine the ways people in Canada generally behave towards effective leaders and the following 8 demographic groups in leadership positions: effective leaders, White men, White women, Asian men, Asian women, Black men, Black women, Indigenous men, and Indigenous women. We are not interested in your personal behaviour, but in how you think leaders are approached by others in Canada. Please rate each statement on a 5-point Likert-type scale, with 1 = not at all to 5 = extremely.

Effective leaders; White male leader; White female leader; Asian male leader; Asian female leader; Black male leader; Black female leader; Indigenous male leader; Indigenous female leader.

[Active facilitation]

1. Most Canadians tend to assist ___.
2. Most Canadians tend to help ___.
3. Most Canadians tend to protect ___.

[Active harm]

1. Most Canadians tend to attack ___.
2. Most Canadians tend to fight ___.
3. Most Canadians tend to harass ___.

[Passive facilitation]

1. Most Canadians tend to associate with ___.
2. Most Canadians tend to cooperate with ___.
3. Most Canadians tend to unite with ___.

[Passive harm]

1. Most Canadians tend to exclude ___.
2. Most Canadians tend to ignore ___.
3. Most Canadians tend to neglect ___.

APPENDIX D: Vignettes

Please read the following description carefully. You will be responding to two questionnaires following the short text to provide your beliefs and evaluations about the person described below.

DEMOGRAPHIC MEMBERSHIP: White man, White woman, Asian man, Asian woman, Black man, Black woman, Indigenous man, Indigenous woman.

High Warmth x High Competence.

LT has held a managerial position for NOVA Company for the past 7 years. LT identifies as a ___[demographic membership]___. He/she is a great leader who has the respect of his/her subordinates. LT often provides valuable insights and technical guidance to his/her subordinates in order to facilitate the process and to meet the demands and the strategic vision of the NOVA Company. Additionally, LT is not afraid to communicate his/her demands, while collaboratively establishing attainable goals with each of his/her subordinate every month.

LT attends to the welfare and mental well-being of his/her subordinates. LT has an open-door policy, where his/her subordinates are welcome to visit at any time to discuss the opportunities or concerns that they have. He/she also understands the importance of work-life balance, and often encourages his/her subordinates to take some time off after a busy season to avoid burnout.

High Warmth x Low Competence.

AJ has held a leadership position for SEM Company for the past 6 years. AJ identifies as a ___[demographic membership]___. His/her subordinates often refer to him/her as a friend. AJ cares for the welfare of his/her subordinates, and always makes sure that they are doing fine at work. AJ empathizes with his/her subordinates, and his/her subordinates often go to him/her for

personal advice. AJ cares about his/her image and likability at work, as he/she cares about the friendships he/she established with his/her subordinates. AJ avoids discussing work related topics, as he/she is afraid of losing his/her likability from his/her subordinates.

As a leader, AJ is very hands-off as he/she trusts his/her subordinates' ability to carry out good work. But at the same time, AJ avoids giving work related advice since he/she does not have confidence in his/her own skills and abilities. AJ is also known to be clumsy at work. AJ usually doesn't double-check his/her own work, so his/her subordinates often have to amend those mistakes. He/she often jokes about how he/she is able to stay at this role by luck and advises his/her subordinates to "fake it 'til you make it!"

Low Warmth x High Competence.

CB has been a project manager at Company CORR for 7 years. CB identifies as a ___[demographic membership]___. CB is extremely competent in his/her role. He/she is able to manage multiple projects, and deliver good results in a timely manner. CB always has new ideas to tweak the process and work flow to meet the organizational goals efficiently. CB is not afraid of conflicts, and is not afraid to step on other people's toes to get the job done.

CB expects a lot from his/her subordinates. CB always tries to get his/her subordinates to do more; he/she believes that his/her subordinates can reach their true potential if they are pushed to their limits. Often times, this leads to many mental and physical health problems for his/her subordinates due to working long and unrealistic hours. However, CB never thinks of these health problems as serious issues, and firmly believes work-life balance is a myth for the weak-minded. CB is also very private about his/her personal life. He/she rarely talks about things or experiences that are unrelated to work.

APPENDIX E: Measure of Stereotype Content, Study Two (Fiske et al., 2002)

This questionnaire assesses the beliefs you think most Canadians would have regarding __[name matching the vignette]__ as a leader along the warmth and competence dimensions. Based on the information provided in the vignette, please rate each statement on a 5-point Likert-type scale, with 1 = not at all to 5 = extremely.

[LT, AJ, CB]

1. How competent is [___]?
2. How confident is [___]?
3. How capable is [___]?
4. How efficient is [___]?
5. How intelligent is [___]?
6. How skillful is [___]?
7. How friendly is [___]?
8. How well intentioned is [___]?
9. How trustworthy is [___]?
10. How warm is [___]?
11. How good-natured is [___]?
12. How sincere is [___]?

APPENDIX F: Leadership Effectiveness Scale (Day & Sin, 2011; Lutz et al., 2018)

This questionnaire evaluates the effectiveness of [name matching the vignette] as a leader. Imagine you're working with [____] as you read through each statement. Please rate each statement on a 5-point (1 = *Strongly disagree*, 2 = *Disagree*, 3 = *Neither agree nor disagree*, 4 = *Agree*, 5 = *Strongly agree*).

[LT, AJ, CB]

1. I expect [___] would be a good team leader.
2. I expect [___] would set the direction of the team in meeting project goals.
3. I expect [___] would support team members in meeting project goals.
4. I expect [___] would connect individual contributions with team project goals.
5. I expect [___] would help the team learn.
6. I would be satisfied with [___] as my leader.
7. I would be committed to work with [___] as my leader.
8. I would like to work with [___] as my leader.
9. I would trust [___] as my leader.

APPENDIX G: Demographic Questionnaire

1. Your age: ____
2. Your gender: ____
3. Your ethnicity:
    a. Caucasian
    b. Asian
    c. Black
    d. Indigenous
    e. Hispanic
    f. Other: ___
4. Your current employment status: ___ Unemployed ___ Full Time ___ Part Time

5. Were you born in Canada? Yes ___ No ___

    5a. If not, how many years have you lived in Canada?

        a. Less than 1 year
        b. 1-5 years
        c. 6-10 years
        d. 10+ years

VITA AUCTORIS

Arief Kartolo was born in 1989 in Jakarta, Indonesia. He moved to Taiwan at the age of 8, then immigrated to Canada at the age of 14. He graduated from Streetsville Secondary School in Mississauga, Ontario in 2007. From there he went to the University of Waterloo where he majored in Mathematics for the first two years of undergraduate career. He then found passion in Psychology after taking the Introduction to Psychology course, which lead him to switch his degree and eventually obtained a B.A. in Psychology in 2013. He received his Master's degree in Applied Social Psychology at the University of Windsor in 2016. He is currently a PhD candidate in the Applied Social Psychology program at the University of Windsor, and expects to graduate in the Spring of 2022.