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The role of immigrants' country of origin in reactions to their employment success and  
evaluation of their job qualifications:  
Do intergroup threat and intergroup emotions matter?

A thesis submitted to  
the Faculty of Graduate Studies and Research  
in Partial Fulfillment of the requirements for the degree of  
Masters of Arts

by

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## Abstract

The present investigation assessed whether non-immigrant Canadians' ( $n = 119$ ) prejudice toward immigrants and the discounting of their skills depended on immigrants' economic success, cultural similarity, and the skill level of the job an immigrant aspired to. In an experimental paradigm, participants were exposed to simulated media article portraying the success or failure (vs. a control) of immigrants in the Canadian job market, after which they were asked to evaluate the skills of potential applicants for either a high skilled or low skilled job. The applicants' nation of origin varied (Canada, Australia vs. Philippines). A series of ANOVAs indicated that regardless of job skill required, the perceived job fit and language skills of applicants from a dissimilar culture were more discounted when immigrants were portrayed as either successful or non-successful. Further, for the low skilled job, participants recommended a lower salary for the applicant from a similar culture, and applicants from either a similar and dissimilar cultures were ranked lower in hiring priority than the Canadian applicants. The results were discussed in terms of the threat immigrants pose in employment contexts.

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Considerable social psychological research has focused on prejudice and discrimination against immigrants. Despite the fact that Canada tries to attract skilled immigrants, the expression of negative attitudes toward them may undermine immigrants' ability to contribute to their fullest (Dovidio & Esses, 2001; Stephan, Renfro, Esses, Stephan, & Martin, 2005). These negative attitudes may be rooted in fear and perceived threat, as skilled immigrants may be seen as competing with members of the host society for economic and other resources (Esses, Jackson, & Armstrong, 1998; Stephan, Ybarra, Martinez, Schwarzwald, & Tur-Kaspa, 1998). However, economically unsuccessful immigrants may also pose a threat to the host society, as it might be argued that they are a drain in the social system (Esses, Dovidio, & Jackson, 2001). However, it is unclear whether the threat posed by skilled immigrants is greater when they succeed or fail, and whether these threats are expressed in the same manner. Furthermore, skilled immigrants from dissimilar cultures may not be perceived as sharing common values, and so these immigrants pose yet a further threat to the host society (Zarate, Garcia, Garza, & Hitlan, 2004). As different threat appraisals may be related to different emotional reactions, leading to different intergroup behaviours (Mackie, Devos, & Smith, 2000), it was of interest in the present investigation to assess whether the threats posed by various immigrant groups elicited different appraisals, emotional reactions, and hence different forms of discriminatory behaviour from members of the host society (Canadians).

Certainly situational factors might influence the extent of perceived threat. In particular, there is evidence that discrimination at hiring can be different depending on whether the job requirements are low-skilled or high-skilled (Galarneau & Morissette, 2004). However, there has been a lack of experimental research evaluating the basis for

this difference. Thus, the present study also examined the differences between perceptions of immigrants from cultures that were similar or distinct from mainstream Canadian culture as a function of the employment context in which they were being evaluated.

### *The Role of Skilled Immigrants in the Canadian Economy*

Foreign-trained specialists are an essential part of the Canadian economy, and the main source of labour force growth in Canada. According to Statistics Canada, immigrants account for over 70% of labour force growth, and now constitute about 20% of the country's labour force (Statistics Canada, 2003). Often, host countries attempt to attract highly-skilled immigrants to enhance growth in a knowledge-based economy. Indeed, in 2000, the Canadian government changed its immigration quotas to favour skilled class immigrants, which refers to those immigrants who have advanced education and foreign work experience (Picot, Hou & Coulombe, 2007). As a result, many immigrants sought Canadian opportunities to use their skills and education in order to achieve higher economic standards of living (Picot et al., 2007).

The increasing flow of skilled workers to Canada has two sides. On the one side, the Canadian government demonstrates keen interest in attracting skilled immigrants to boost the Canadian economy. It is expected that immigrant professionals will successfully establish themselves in Canada, and will contribute to Canada's economy soon after arrival (Citizenship and Immigration Canada, 1999). On the other side, in spite of expectations that economic immigrants will soon become contributing citizens to the benefit of Canadian society, they are consistently overrepresented among the poor (Kazemipur & Halli, 2001).

In this regard, university-educated immigrants are more strongly represented in the

low income bracket of Canadian society, even more so than high school educated Canadians (Picot et al., 2007), and surprisingly, skilled economic immigrants were more likely to be in the low income bracket than their family class counterparts (i.e. those who come here to join their families). In 2004, the chances of recent immigrants being included in the low income category were 3.2 times higher than their Canadian-born counterparts (Picot et al., 2007). Indeed, if skilled immigrants do successfully find employment that matches their qualifications, they are often underpaid compared to native-born Canadians (Dovidio & Esses, 2001; Ruddick, 2000). Taking into account the importance of immigrants to the overall economic health of the Canadian labour market, the finding of poor economic outcomes for recent immigrants raises serious concerns. Many factors may contribute to immigrants' economic outcomes, such as the overall economic situation, the country's current unemployment rate, the immigrant's occupation and many others. However, there is also evidence that several social and psychological factors may operate to result in discrimination by the host society that might also contribute to immigrants' welfare.

#### *The Discounting of Immigrant Skills*

One of the reasons for the deterioration of immigrants' employment and economic outcomes is the difficulty of receiving appropriate recognition for their foreign acquired credentials. Immigrants' previous foreign education and work experience tends to be viewed as less valuable compared to those experiences obtained locally, a phenomenon referred to as *skill discounting* (Esses, Dietz, & Bhardwaj, 2006). Some have gone so far as to suggest that, in Canada, the current labour-market value of immigrants' foreign work experience is virtually zero (Aydemir & Skuterud, 2005; Esses et al., 2006). For

instance, recent immigrants with a foreign-acquired university degree were twice as likely to hold a job requiring no more than a high-school diploma, compared with Canadian-borns (52% vs. 28%, respectively) (Li, Gervais & Duval, 2006). Moreover, even for the low-skilled jobs that they were often forced into, despite being over-qualified, immigrants were systematically underpaid compared to their Canadian-born counterparts (Galarneau & Morissette, 2004).

It might be that foreign skill discounting is due to their true lower quality. However, an evaluation of foreign credentials by the World Education Services (WES), the authorized credential evaluation agency of the Government of Ontario, indicates that "over 75% of foreign credentials in the engineering, health care and IT fields... are equivalent to or exceed Canadian standards" (Owen, 2002, as quoted in Esses et al., 2006). As Esses and colleagues (2006) have suggested, factors other than the true value of foreign skills are likely responsible for discounting of immigrants' skills. Of particular relevance are the social psychological factors that bias employers against foreign training and experience, including prejudice and negative stereotypes of immigrants (Dovidio & Esses, 2001; Stephan et al., 2005). Such prejudice and negative stereotypes might translate into discriminatory behaviours against immigrants at any stage of the employment seeking process - during the selection, appraisal, promotion, or training- but have also been implicated in the discounting of immigrants' skills (Dipboye & Colella, 2005).

Although prejudice might be expressed blatantly, more subtle forms of prejudice also exist, and can have equally detrimental effects on the targeted individuals or groups (Dovidio & Gaertner, 1998; McConahay, 1986). Subtle prejudice is more insidious,

primarily because its translation into discrimination is typically justified or rationalized by non-prejudicial arguments (i.e., factors other than race, gender, etc.) (Dovidio & Gaertner, 1998; McConahay, 1986). Indeed, this form of 'modern racism' is defined by a denial of the existence of discrimination against minorities, and given the lack of discrimination, there exists an antagonism toward group members' demands for equality, and resentment about 'special favours' for them (Sears, 1988). Interestingly, the justification for the expression of discriminatory behaviour can be remarkably subtle in itself. For example, justification might be presented in the form of a legitimate authority who indicates a preference for white (in-group) applicants. The presence of such a legitimizing authority was found to result in those who were high on a measure of modern racism to select fewer black applicants and evaluate them more negatively than those who scored low on modern racism, even though such a difference was not apparent in the absence of the legitimizing authority (Brief, Dietz, Cohen, Pugh, & Vaslow, 2000). Other factors that appear to legitimate discrimination among those who express modern racism include perceptions of a business justification (Petersen & Dietz, 2005), or some perceived ambiguity in the nature of the minority group members' qualifications, that resulted in the benefit of the doubt for non-minority individuals (Dovidio, Gaertner, Kawakami, & Hodson, 2002). In this sense, foreign-based skills might introduce ambiguity, and thus result in skill discounting among those who endorse modern (subtle) racist views (Esses et al., 2006).

#### *The Role of Intergroup Threats in Prejudice and Skill Discounting*

As out-group members (i.e., those who are perceived as distinct or different from one's own group in a given context), immigrants may evoke feelings of uncertainty,

threat and fear among members of the host society (i.e., in-group) (Stephan & Stephan, 1996). Originally, Integrated Threat Theory (ITT; Stephan & Stephan, 1996) focused on intergroup threat as a major predictor of prejudice. ITT emphasizes the importance of subjectively perceived threats posed by the out-group, in that it is not the objective threat, but the individual's perception of a threat that leads to prejudice (Stephan, Ybarra, & Bachman, 1999). The nature of these perceived threats might vary, in that they may be based on realistic (tangible) competitive factors or on symbolic differences. In addition, these threats might be perceived as impacting one's group as a whole, or as impacting one's self as an individual (Stephan & Renfro, 2002).

*Realistic threats.* Realistic group threats are defined as any threat to the welfare of the group, including, but not limited to, threats to the in-group's political or economic power, namely those threats that present a perception of the possibility of tangible harm caused by the out-group. Thus, competition for jobs or other resources is an example of a realistic group threat. Realistic individual threats might include actual physical or material harm to the individual, such as threat of pain, death, or economic loss, scarce resources, and threats related to health or personal security, that again, are perceived to be caused by an out-group or out-group member.

Immigrants may be perceived as posing a realistic threat to Canadian society when they are economically successful, as in this instance, they may be seen as competitors for the limited resources with the members of the host society (Esses et al., 1998). In this case, perceived group competition is typically in the form of zero-sum beliefs, that is, beliefs that the out-group's gains must be at the cost of the in-group (Esses et al., 2001). However, for the out-group to be perceived as potentially competitive, it must be perceived

as similar to the in-group on the relevant dimensions (Esses et al., 1998). For instance, out-group members might be perceived to be interested in the same jobs as the in-group members, and to have comparable job skills. Because Canadian immigration policy emphasizes attracting highly skilled immigrants, these immigrants may be perceived as most similar to non-immigrants on job-related dimensions, such as skills and education. Moreover, not surprisingly, skilled immigrants usually look for jobs that match their qualifications, and thus, may be seen by Canadians as competing for a limited number of skilled job openings, and as stealing those jobs from Canadians. Indeed, comparatively large proportions of Canadians and Americans believe that immigrants get more jobs than they create and as a result decrease the number of job openings for the host country's residents (Jackson & Esses, 2000). This perceived 'realistic threat' is then likely to result in out-group derogation, discrimination, and avoidance (Esses et al., 2001).

Perceptions of immigrants when they do not successfully adapt have scarcely been explored. Although such immigrants are unlikely to be regarded as successfully competing on the job market, immigrants who do not do well economically may be seen as a burden for the country's social services, such as welfare and unemployment insurance (Esses et al., 2001), and hence pose a different kind of threat (Esses et al., 2001; Johnson, Farrell, & Guinn, 1997). It is possible that in order to maintain in-group dominance and immigrants' lower competitiveness on the job market, established residents may refuse the provision of services that may empower immigrants and remove barriers to their success, and instead, support direct assistance strategies, such as social welfare or subsidized housing (Jackson & Esses, 2000). However, such services also represent a cost to the system that is supported by tax payer dollars. Without further research, the

perceived threat presented by immigrants who fail, and how these translate into the behaviours of host country citizens, is unclear.

*Symbolic threats.* Symbolic group threats are threats to the symbol system of the group, such as language, religion, cultural values, belief systems, ideology, and differing worldviews. Symbolic group threats reflect challenges to the features that constitute the basis for a group identity. Symbolic threats might also be directed toward the individual in the form of, for example, loss of face or honour, or any other actions on the part of an out-group that undermine the individual's self-identity or esteem (Stephan & Renfro, 2002).

Demographic characteristics may form a visible basis for eliciting symbolic threat. People who share similar cultural, ethnic or religious backgrounds, or are similar in physical appearance, may provoke less uncertainty and threat while interacting within same-group settings (Riordan, Shaffer, & Stewart, 2005). In this sense, race and country of origin may be the most relevant demographic characteristics that translate into symbolic threats in the employment context. As a result, skilled immigrants from countries considered similar in cultural background and educational system (e.g., United Kingdom, France, Australia) may be perceived by Canadians as members of a common in-group, and hence less likely to represent a threat to Canadians. In contrast, skilled immigrants from more distinct cultures (China, India, Philippines, Central African and Middle-East countries) may not be perceived as sharing common values, morals, and norms, which leads to perceived symbolic threat. The greater the perceived differences between the host and immigrant culture, the greater symbolic threat may be felt by the host country residents and the more prejudice they may express to the immigrant group (Zarate et al., 2004).

Indeed, the highest proportion of the overqualified recent immigrants to Canada comes from Asian countries, whereas immigrants from North America, Northern or Western Europe and Oceania are less likely to hold low-education jobs (Galarneau & Morisette, 2004).

During the hiring process of immigrants, perceived symbolic threat may result in "noise" which hides an applicant's real ability to perform a job, and such threat may be expressed in terms of concerns about a "lack of fit" with the organizational environment (Esses et al., 2006). The person-organization fit may include communication and leadership skills, and knowledge of the organizational structure and environment. Immigrants from more distinct cultures may be seen as lacking those skills, and hence be less behaviourally predictable as potential employees. As a result, they may be perceived as unable to work effectively with the team, and their skills will be discounted (Esses et al., 2006). Indeed, skilled immigrants from distinct cultures experience lower chances to get a job, despite their comparable education and job-related skills (Coates & Carr, 2005; Ward & Masgoret, 2007).

#### *Threat Antecedents*

According to the ITT, the perception of out-group threat is influenced by four domains of antecedents, including relations between groups, individual differences, cultural differences, and situational factors (Stephan & Renfro, 2002). Of these, the most relevant to the present study are the situational factors, although individual differences

and cultural differences might also play a role in relation to symbolic threat, as noted earlier.

*Situational factors.* Discrimination at hiring may differ for low-skill and high-skill jobs. There is some evidence that the skills of immigrants with foreign-acquired master's and doctoral degrees were discounted less than were the skills of those holding only a bachelor degree. For instance, in 2001, 31% of men and 44% of women immigrants with bachelor degrees held a mismatching job, compared to 18% for men and 25% for women with master's degree and 7% and 11%, respectively, for doctorate holders. Thus, higher education may serve as a protective factor against falling into low-education jobs (Galarnau & Morissette, 2004), perhaps because it diminishes symbolic threat.

However, it is also possible that highly trained immigrants are regarded as a highly specialized group of individuals, and hence also represent less of a realistic threat to the majority of the population. In this regard, the number of bachelor graduates exceeds by almost five times the number of graduate degree holders (Statistics Canada, 2005). Thus, there is a large number of the Canadian-born undergraduates entering a job competition in search for a matching job every year. Comparably trained immigrants may pose a realistic threat to these Canadians, which may lead to the discounting of their skills (i.e., education) and forcing them to accept unskilled positions that require at most a high school diploma.

#### *The Role of Intergroup Emotions in Prejudice*

Prejudice and discrimination may depend not only on appraisals of situation as threatening, but also on the specific emotions induced by that appraisal. Threat appraisals

are thought to elicit particular emotions, which, in turn, influence action tendencies (Ellsworth & Smith, 1988). Intergroup Emotion Theory (IET) proposes that when people categorize themselves as group members, they may experience emotions on behalf of their group, particularly when they highly identify with the group (Mackie et al., 2000; Smith, 1993, 1999). Furthermore, different intergroup emotions lead to different intergroup behaviours (Mackie et al., 2000). For instance, as already suggested, as out-group members, immigrants may pose a realistic threat when they compete for high-skilled positions. If one's own group is perceived as strong, such threat might result in greater anger towards the out-group and inclination to act against it (Mackie et al., 2000); if one's own group is weak, however, fear might be elicited, potentially resulting in avoidant or denial behaviours (Yzerbyt et al., 2003).

Although skilled immigrants who succeed might elicit realistic threat and anger or fear, it is possible that when immigrants do not succeed, they might be viewed as a threat (because they are expected to rely on social assistance), but also they will be viewed as weak compared to the in-group. It is possible that under these circumstances, some host country group members may regard their in-group as having been unsupportive of the immigrants on their arrival to Canada, and hence, as the cause of immigrants' failure, in which case, they might experience collective guilt or shame (Wohl & Branscombe, 2005). Finally, it was suggested that immigrants from distinct cultures might elicit greater symbolic threat, which might give rise to feelings of mistrust and out-group derogation (Voci, 2006). Thus, it may be that the nature of the threat might interact with individual difference characteristics to elicit different appraisals, emotions, and hence action tendencies.

## The Present Study

Following from the combination of ITT, social identity theory, and intergroup emotions theory, it was the goal of the present investigation to examine prejudice toward immigrants and the discounting of their skills as a function of (a) the success of immigrants in the Canadian context (successful, unsuccessful, vs. control) (b) similarity of the country of job applicants' origin to Canada (Australia vs. Philippines); (c) skill level of the proposed job (low skilled vs. high skilled); (d) mediating effects of emotions in the relation between the extent to which skilled and unskilled immigrants represented a threat and the discounting of their skills.

To address these issues, non-immigrant Canadians were exposed to simulated written media coverage regarding the success or failure (vs. a control) of immigrants in the job market in Canada. Participants' reactions to these situational cues were assessed in terms of their threat appraisals and emotional responses. Behavioural reactions (skill discounting) to these cues were evaluated in terms of how participants subsequently responded to an employment selection task for either a high status (scientist) or low status (research assistant) position. Participants evaluated the suitability of each of a set of applicants and their skills for one of the two positions. Although the applicants' skills were, in fact, equivalent, their nation of origin varied (Canada, Australia vs. Philippines) in order to provide a basis for comparing performance evaluations.

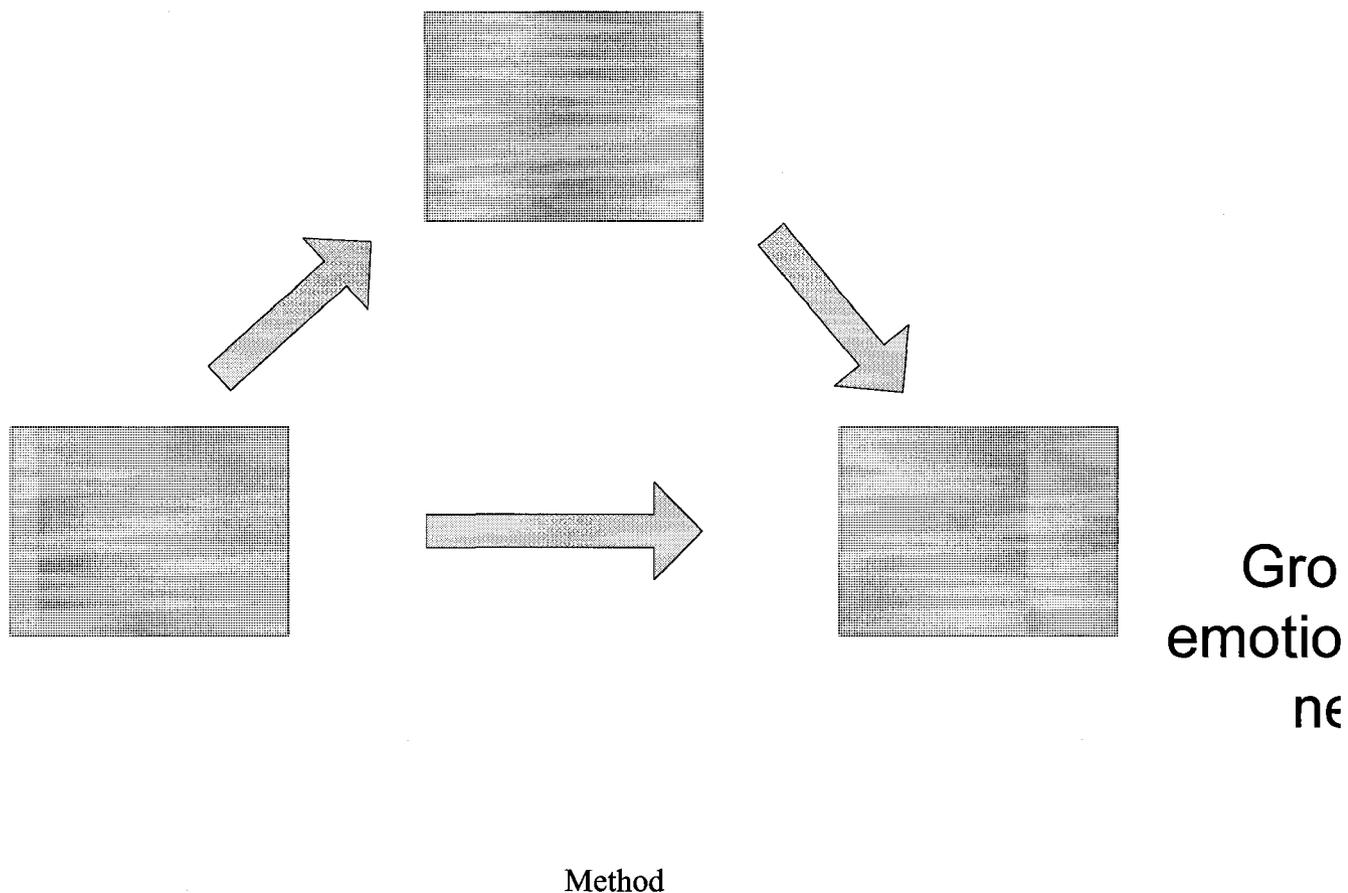
It was hypothesized that:

1. there would be a main effect for the portrayed success of the immigrants on threat appraisals. Specifically, both immigrants' economic success and non-success would

elicit greater appraisals of realistic threat compared to the control situation; only a lack of success would evoke greater symbolic threat.

2. there would be a main effect for the portrayed success of the immigrants on emotional reactions. Specifically, both immigrants' economic success and non-success would elicit greater negative and less positive emotions, compared to the control condition.
3. there would be a 3-way interaction between portrayed economic success of immigrants, job level and applicants' cultural background. Specifically, only when skilled immigrants were described as economically successful, and they were applying for low skill job, would the skills of immigrant candidates from a dissimilar culture (i.e., Philippines) be more discounted, relative to Canadian candidates and immigrants from similar culture (Australia). This effect was not expected to be evident in the non-success and control conditions, nor would it be evident when candidates were applying for the high status job.
4. perceived threat and group-based emotions following the media manipulation would be related to the skill discounting of the culturally different applicant (from Philippines), but not the culturally similar (from Australia). Specifically, greater threat and more negative and less positive emotions would be associated with greater skill discounting of the culturally different applicant.
5. group-based emotions would mediate the relations between perceived realistic and symbolic threat and the discounting of the skills of the culturally different applicant, as seen in Fig.1.

Figure 1.

*Perceived Threat and Skills Assessment: Mediated model**Participants*

Canadian-born first year Introductory Psychology students ( $N = 119$ ) who completed a pre-measure were invited through the online sign-up system to take part in a laboratory study looking at the perceptions of various aspects of the Canadian labour force. Participants ranged in age from 17 to 54 years, ( $M = 20.64$ ,  $SD = 5.92$ ) and 65.5% ( $n = 78$ ) of the participants were female. The majority of students identified their ethnic background as White (83.2%,  $n = 99$ ), whereas the remainder identified their ethnic

**Perceived threat  
(realistic, symbolic)**

lineage as Chinese (4.2%,  $n = 5$ ), Black (2.5%,  $n = 3$ ), South Asian (1.7%,  $n = 2$ ), South East Asian (0.8%,  $n = 1$ ), Latin American (0.8%,  $n = 1$ ), Aboriginal (0.8%,  $n = 1$ ), other (4.2%,  $n = 5$ ), or did not specify (0.8%,  $n = 1$ ).

### *Procedure*

Background information regarding participants' country of birth and citizenship status was assessed during mass-testing of Introductory Psychology students in the fall, 2007 (Appendix A). Students who completed this measure were invited to participate in a laboratory session, in which they were tested in groups of 1 to 7. Participants were told they would read and evaluate three short articles describing various aspects of Canadian labour force, and would then evaluate potential job candidates applying for a position in research institutions in Ottawa, and answer a number of questionnaires regarding their mood and beliefs. They then completed the informed consent form (Appendix B), along with another questionnaire assessing personal and background information (Appendix C).

At this point, participants were randomly assigned to one of three success conditions (immigrants were successful, not successful, control). All participants read three fabricated articles (Appendix D) and answered questions after each of them. Two of the articles were fillers (one about new Human Resources and Social Development Canada's program and the other about women's participation in Canadian labour force) in order to reduce possible demand characteristics. The third article, concerning immigration to Canada, served as the experimental manipulation (description of articles to follow). After reading the third article, participants completed a questionnaire assessing their understanding of the article, perceived realistic and symbolic threat, and group-based emotions (Appendix E).

Participants were then asked to imagine that they were the Director of a Molecular Biology lab, selecting from potential job applicants for a job in the lab. Participants were randomly assigned to read and select for one of the two job descriptions (scientist or research assistant; job descriptions in Appendix F) and answer manipulation check questions regarding the skills required for the described job (see Appendix G). They were then provided the resumes of five potential candidates to assess their qualifications (Appendix H; description of the development of the resumes to follow). The order of resumes given to each participant was counterbalanced. After reviewing all resumes, participants provided an assessment of the skills and suitability of each applicant (Appendix I). Finally, participants completed measures of the perceived cultural similarity of various groups, attitudes toward immigrants and immigration, and modern racism (Appendix J).

Upon completion of the measures, participants completed a short suspicion measure to determine what they thought the study was really about (Appendix K). Finally, full debriefing occurred (Appendix L). As this study involved deception, all participants were asked to sign another Informed Consent to use their data once debriefing had occurred (Appendix M).

*Immigrants' success manipulation articles.* Three versions of a fictitious article about immigrants served to manipulate the perceived success of immigrants in the Canadian job market. All of the articles were similar in terms of appearance, were about the same length, and were similarly structured. They were all written in a journalistic “opinions-and-supporting statistics” style. The information given was on Canadian job

market and trends in immigration. The author left readers to draw their own conclusions, but his own opinion was quite obvious.

The articles varied in how they portrayed the success of immigrants at securing employment. For example, in the *successful* condition, immigrants were described as such: “Recently, immigrants have been able to compete in our labour market and take part in the many economic opportunities that Canada has to offer. In fact, they seem to be beating out Canadian-born workers for many of the current job openings”. In the *non-successful* condition, the persistent problems that skilled immigrants faced after arrival in Canada (low income, unemployment) were highlighted, in that “Immigrants to Canada usually see our country as a land of opportunity and success. Is our nation really a land of opportunity for immigrants? Recent trends over the last decade would suggest it is not so. This is evident in the sharp decrease in both the number of immigrants who have jobs and the status of the jobs held by immigrants”. Finally, in the control condition, Canada was described as a safe country, and friendly to immigrants: “Recently, immigrants have made Canada the destination of choice and there is a strong desire to live in the security Canada has to offer. In fact, security is often the first thing mentioned by many current applicants”. In this condition, no reference was made regarding the success or failure of immigrants in the job market.

*Low versus high status job position descriptions.* Research assistant and scientist were chosen as the positions of interest as neither required any additional examinations and/or licensing process in Canada. Secondly, both jobs were within the same content domain (i.e., biology research), but varied in terms of skill requirements (with one requiring a BA, and the other requiring a more advanced degree).

The job description for lower-status *research assistant* included such responsibilities as data entry, literature reviews, help in preparing research reports, and a bachelor's degree in biology or related field and a minimum of one year of experience as a research assistant as job requirements. The *scientist's* higher-status job description included advising team members on issues related to DNA sequencing and extraction, analyzing data and reporting findings, manuscript writing and submission, supervision of several staff members, and as requiring a Ph.D. in molecular biology and expertise in DNA sequencing, extraction and electrophoresis as a job requirements. Both positions also required candidates to be fluent in oral and written English.

*Resumes.* Job candidates varied in terms of their country of origin (Canadian vs. immigrant from a similar (Australia) vs. culturally distinct country (Philippines)). The Philippines was chosen on the basis of Citizenship and Immigration Canada and Statistics Canada reports, showing that after China and India, the Philippines was the third largest source country in terms of number of immigrants to Canada (Citizenship and Immigration Canada, 2006). In addition, as was noted before, skilled immigrants from the Philippines were among the most discriminated on the Canadian job market. Two sets of five resumes were created; one set for the scientist position, and one set for the research assistant position. Within each set, all five resumes were similar in terms of candidates' length of work experience, positions held, job responsibilities performed, level of education and awards held. All resumes were designed to meet the job requirements, including English fluency. The main difference between resumes was candidates' country of origin (Canada, Australia, or Philippines), which of course meant that they also differed in educational institutions attended by candidates and places of their previous

employment. Although there was only one candidate each from Australia and the Philippines, three resumes indicating Canada as a country of origin were created, to make the assessment process closer to a “real- life” situation.

### *Measures*

*Perceptions of articles.* After each of the three media articles, participants provided a short summary of the article in their own words, and then answered questions regarding the article’s readability, believability, and how well-informed the author was, on 5-point scales, ranging from “certainly no” (1) to “certainly yes” (5). Following the manipulation article, a manipulation check item was also included (“Immigrants are competitive on the job market compared with Canadians”).

*Emotions.* Mood adjectives were selected from the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988) to assess the effect of the manipulation of immigrants’ success on emotional reactions. In addition, adjectives that were thought to fit with study hypotheses were added to the list. The selected adjectives included a range of five positive (e.g., confident, sympathetic, secure) and nineteen negative emotions (e.g., angry, guilty, distressed, worried). Participants rated how much they experienced each of the emotions listed “at the present moment” on scale ranging from “not at all” (1) to “extremely” (7).

A principal components analysis with varimax rotation was conducted on the 24 emotions items in order to reduce their number. Based on a scree test and eigenvalues greater than 1 (Stevens, 2002), five components were identified, explaining 62.2% of the variance. Based on factor loadings of .45 or higher, the first factor reflected *anger*, including angry, annoyed, disdain, frustrated, suspicious, and upset (Cronbach’s  $\alpha = .85$ ).

The second factor represented *shame*, including ashamed, embarrassed, guilty, and humiliated (Cronbach's  $\alpha = .87$ ). The third factor comprised *anxiety*, namely anxious, distressed, helpless, nervous, and worried (Cronbach's  $\alpha = .78$ ). The fourth reflected *empathy*, including compassionate, empathetic, and sympathetic (Cronbach's  $\alpha = .83$ ). The last factor comprised feelings of *security*, including confident, responsible, and secure (Cronbach's  $\alpha = .64$ ).

*Perceived threats.* Imbedded in a 19-item measure (including filler items that reflected social equality issues related to women and elderly to reduce demand characteristics) were items assessing perceived realistic and symbolic threats (Stephan, Ybarra, & Bachman, 1999). Four items tapped into perceptions of *realistic threat*, including the perceived economic costs for health, education, and welfare from immigration. Sample items included 'Immigrants get more from this country than they contribute' (Cronbach's  $\alpha = .74$ ). *Symbolic threats* posed by perceived cultural differences were measured with three items, such as "The values and beliefs of immigrants regarding work are basically quite similar to those of most Canadians" (reversed scored) (Cronbach's  $\alpha = .76$ ). Responses were measured on 10-point Likert scales ranging from "strongly disagree" (1) to "strongly agree" (10). Mean scores, with items reverse-scored where necessary, represented the extent of perceived threat, with higher scores reflecting greater realistic or symbolic threat.

*Job perceptions.* This measure served as a manipulation check to determine whether the scientist job was regarded as more skilled than that of a research assistant. On 7-point scales ranging from "not at all" (1) to "extremely" (7), participants rated the importance of a set of five skills for the successful performance of the job described. The list of skills

included an advanced knowledge of molecular biology, knowledge of research methodology, leadership, communication and organizational skills. Responses were averaged to create a single score (Cronbach's  $\alpha = .54$ ). Although the item-total reliability was relatively low, a single score was nonetheless computed, as the primary purpose of this measure was to evaluate whether the skill requirements of the positions on the whole differed.

*Evaluation of job candidates.* For each job candidate, participants indicated country of birth, as well as where he/she got education and work experience, and whether the candidate met the minimum work experience and education requirements for the position on a yes/no scale. In addition, participants evaluated their willingness to hire the candidate on a 4-point scale from "definitely yes" (1) to "no" (4), and to indicate an appropriate salary for each candidate should they be successfully selected.

A person-job fit scale (Esses et al., 2006- modified) was completed to assess the suitability of each job candidate's skills with the job requirements, including their education, work experience, and communication skills, measured on a series of 7-point scales, with 1 reflecting a lack of suitability and 7 reflecting high suitability. Mean scores were calculated, with higher numbers representing better perceived job fit (Cronbach's  $\alpha$ 's ranged from .84 to .86 across the five candidates). Scores for each of the dimensions were collapsed across all three evaluations of Canadian candidates for the purposes of comparison to the Philippine and Australian applicants.

Following the evaluation of all five candidates, participants rank-ordered them and explained why they put the first candidate as a first and last as a last. Previous

research demonstrated that ranking job candidates is sensitive at detecting selection bias and reduces social desirability (Coates & Carr, 2005). Rankings were reverse-coded, so that lower scores reflected lower ratings. Scores were collapsed across all three evaluations of Canadian candidates.

*Perceived cultural similarity.* Connectedness among Nations Scale (Matheson & Branscombe, 2007) was used to assess perceptions of the cultural similarity. Participants were asked to rate the extent to which they perceived Canadians to have common values with 14 national groups (e.g., Australians, Iraqis, Philippines, North Koreans, etc.) using a 7-point Likert scale, ranging from “nothing at all in common” (1) to “a lot in common” (7). Out of this list, scores for two national groups- Australians and Philippines- were used in a further analysis, with higher numbers reflecting more perceived cultural similarity.

*Attitudes toward immigrants and immigration.* To measure general attitudes towards immigrants and immigration to Canada, the Attitudes towards Immigrants and Immigration scale (Esses et al., 2001) was utilized. Participants rated their answers on four questions (e.g., "How positive or negative do you feel toward immigrants") using a 9-point scale ranging from “extremely negative” (-4) to “extremely positive” (+4). Mean scores for attitudes toward immigrants and immigration were calculated, with higher numbers indicating more favourable attitudes (Cronbach’s  $\alpha = .91$ ).

A 6-item Modern Racism Scale (McConahay, 1986) was used to measure subtle prejudice toward immigrants (e.g., " Over the past few years, immigrants have gotten more economically than they deserve"), with responses ranging from “strongly disagree”

(1) to “strongly agree” (5). An overall mean score, with items reverse-scored where necessary, represents greater subtle prejudice toward immigrants (Cronbach’s  $\alpha = .62$ ).

## Results

Preliminary diagnostics were conducted to identify outliers, and to evaluate assumptions for univariate analyses. For multiple comparisons, Bonferroni adjustments were used to maintain familywise error at  $\alpha = .05$ . Huynh- Feldt correction of criterion degrees of freedom was used to evaluate degrees of freedom of the repeated measures factor (country of applicant’s origin) that violated the assumption of sphericity.

Five outliers were found in this sample, with the value of studentized deleted residual exceeding 3 standard deviations from the means of key dependent variables (person-job fit, recommended salary, attitudes toward immigrants, modern racism). All outliers were deemed influential, based on their centered leverage, Cook’s distance, and DfBeta values, which were out of acceptable limits. Accordingly, all five cases were deleted from further analyses.

### *Manipulation Checks*

*Media manipulation.* To ensure that the media manipulation had the intended effect on the perceived competitiveness in the job market, a 3 (media: immigrants successful vs. non-successful vs. control) one-way analysis of variance (ANOVA) was conducted on the ratings of perceived competitiveness of immigrants. Comparisons between the articles revealed a significant difference,  $F(2, 116) = 21.21, p < .001, \eta^2 = .268$ . Specifically, when skilled immigrants were described as economically successful,

they were perceived as more competitive on the job market ( $M=4.10$ ,  $SD = 1.01$ ), compared to non-successful immigrants ( $M=2.50$ ,  $SD = 1.18$ ),  $t(116) = 6.15$ ,  $p < .001$ , and to the control ( $M=2.80$ ,  $SD = 1.25$ ) condition,  $t(116) = 5.01$ ,  $p < .001$ . There was no difference between non-successful and control conditions. Thus, the manipulation that conveyed immigrants as successful was effective in increasing perceptions of their employment competitiveness. However, the lack of a difference between perceptions of non-successful and the control group suggests that either this manipulation was not strong enough, or that perceptions that immigrants are not successful were the norm for this sample.

*Job skills.* To assess whether the skills required for the scientist and research assistant jobs were perceived differently, an independent-sample t-test was conducted on averaged ratings of the skills required for each position. As expected, the scientist position was perceived as requiring greater skill ( $M= 6.17$ ,  $SD = 0.71$ ) than the research assistant, ( $M= 5.68$ ,  $SD = 0.71$ ),  $t(117) = 3.80$ ,  $p < .001$ .

*Cultural differences.* The differences between the applicants' countries of origin (Canada, Australia, Philippines) were evaluated using a series of t-tests on Cultural Similarity Scale scores. Two one-sample t-tests were conducted to assess the perceived similarity between a comparison group (i.e., Canadians) and two other nations (Australians and Philippines); the scale value used for these comparisons was 7, indicating a lot in common with Canadians. The t-tests revealed significant perceived cultural differences between Australians ( $M = 5.56$ ,  $SD = 1.05$ ) and Canadians,  $t(118) = -14.98$ ,  $p < .001$ , as well as between Philippines ( $M = 3.28$ ,  $SD = 1.24$ ) and Canadians,  $t(118) = -32.71$ ,  $p < .001$ . However, as expected, this latter perceived difference from

Canadians was even greater, in that the perceived similarity between Australians and Philippines was also significant,  $t(118) = 19.53, p < .001$ .

#### *Effects of Portrayed Immigrant Success*

*Perceived threat.* In order to test the effects of immigrant success on perceived threat, two one-way (media depiction; immigrants successful vs. non-successful vs. control) ANOVAs were conducted on ratings of realistic and symbolic threat, neither of which was found to be significant,  $F_s < 1$ . Thus, contrary to hypotheses, all conditions were perceived by participants as equally non-threatening, in that mean perceptions tended to be below the midpoint (5) of the rating scale (see Table 1).

Table 1

*Descriptive Statistics (Mean, Standard Deviations, F values, and  $\eta^2$ ) for Realistic and Symbolic threat*

Perceived Threat	Portrayed Success Condition			<i>F</i>	$\eta^2$
	Economic Success	Non-success	Control		
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>		
Realistic Threat	3.96 (1.85)	3.82 (1.57)	3.62 (1.59)	<1	.007
Symbolic Threat	4.02 (2.01)	3.77 (2.40)	3.85 (2.01)	<1	.003

*Emotions.* In order to test the effects of immigrants' portrayed economic success on emotional reactions of the Canadian-born participants, one-way ANOVAs were conducted on group-based emotions factors. As seen in Table 2, consistent with expectations, follow-up comparisons indicated that more negative emotions (i.e., shame) were expressed when immigrants were portrayed as unsuccessful, relative to the control

group. However, contrary to expectations, these negative emotions were not more evident when immigrants were portrayed as successful. Moreover, a positive emotion, empathy, was greater following exposure to the media conveying immigrants as unsuccessful. No effect of portrayed success on anxiety or security was revealed (see Table 2).

Table 2

*Descriptive Statistics (Mean, Standard Deviations, F values, and  $\eta^2$ ) for Emotions*

Group-based Emotions	Portrayed success condition			<i>F</i>	$\eta^2$
	Economic success <i>M (SD)</i>	Non-success <i>M (SD)</i>	Control <i>M (SD)</i>		
Anger	1.86 (.91)	2.13 (1.22)	1.61 (.79)	2.75	.045
Shame	1.16 (.42) <sub>a</sub>	1.71 (1.08) <sub>b</sub>	1.15 (.52) <sub>a</sub>	7.55***	.115
Anxiety	1.51 (.56)	1.71 (.93)	1.51 (.97)	<1	.013
Empathy	2.27 (1.28) <sub>ab</sub>	2.97 (1.46) <sub>b</sub>	2.24 (1.26) <sub>a</sub>	3.79*	.061
Security	3.16 (1.52)	3.12 (1.36)	3.28 (1.23)	<1	.003

*Note.* Means in the same row that do not share sub-scripts differ at  $p < .05$  using

Bonferroni adjustment.

\* $p < .05$ ; \*\*\* $p < .001$

#### *Correlations among Measured Variables*

Pearson zero-order correlations were examined in order to assess the relationships between the outcome variables following the media manipulation. As seen in Table 3, realistic and symbolic threat were significantly positively correlated, meaning that higher appraisals of realistic threat were related to higher appraisals of symbolic threat. In

addition, not surprisingly, both realistic and symbolic threats were negatively associated with empathy, such as higher levels of threat were related to lower levels of empathy after reading manipulation articles. Greater realistic threat was also associated with lower feelings of shame. Perceived threat was not related to any of the other emotional reactions.

Not surprisingly, all negative emotions (i.e., anger, shame, and anxiety) were highly positively related. Interestingly, empathy was also positively associated with all three negative emotions and security, although these associations were somewhat weaker than associations among negative emotions (see Table 3)

Table 3

*Correlations among Measured Variables*

	1	2	3	4	5	6	7
1. Realistic Threat		.68***					
2. Symbolic Threat			-.14	-.18*	-.09	-.30***	-.03
3. Anger				-.06	-.09	-.24**	.11
4. Shame					.55***	.59***	.31***
5. Anxiety						.48***	.37***
6. Empathy							.30***
7. Security							
							.32***

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

*Effects of Economic Success, Job Level, and Applicants' Cultural Background*

*Perceived job fit.* To test the effect of portrayed economic success of immigrants, job level and applicants' cultural background on perceived job fit, a 3 (media portrayal) ×

2 (job level: low skilled vs. high skilled)  $\times$  3 (applicant country of origin: Canada (averaged across all three Canadian applicants), Australia, Philippines; within subjects) mixed measures ANOVA was conducted. The main effect of country of origin was significant,  $F(2, 226) = 8.97, p < .001, \eta^2 = .074$ , but was qualified by significant 2-way interaction between the country of origin and portrayed immigrants' success,  $F(4, 226) = 2.54, p < .05, \eta^2 = .043$ .

Simple effects analysis was performed on repeated-measures factor (country of origin) at each level of portrayed economic success. As seen in Table 4, when immigrants were portrayed as economically successful, applicants from the Philippines were perceived as fitting the job less, compared to Canadian applicants. In non-success condition, both Australian and Philippines applicants were evaluated as fitting the job less than Canadian applicants (see Table 4). No differences in perceived job fit were found in control condition.

Neither the main effects of portrayed success,  $F(2, 113) = 2.63, ns, \eta^2 = .044$ , or job level,  $F(1, 113) = 1.65, ns, \eta^2 = .014$  was significant, nor was the 2-way interaction between country of origin and job level,  $F(2, 226) = 1.99, ns, \eta^2 = .016$ , or the 3-way interaction,  $F(4, 226) = 1.05, ns, \eta^2 = .018$ .

Table 4

*Descriptive Statistics (Mean, Standard Deviations, F values, and  $\eta^2$ ) for Perceived Job Fit*

Portrayed Success Condition	Country of Applicants' Origin			F	$\eta^2$
	Australia M (SD)	Philippines M (SD)	Canada M (SD)		
Economic Success	6.37 (.57) <sub>ab</sub>	6.20 (.74) <sub>b</sub>	6.42 (.48) <sub>a</sub>	5.70**	.133
Non-success	6.04 (.76) <sub>b</sub>	6.04 (.66) <sub>b</sub>	6.25 (.65) <sub>a</sub>	5.43**	.122
Control	6.40 (.55)	6.36 (.59)	6.40 (.50)	<1	.010

*Note.* Means in the same row that do not share subscripts differ at  $p < .05$  in the Bonferroni adjustment.

\*\*  $p < .01$

*Perceived language fluency.* A 3 (media portrayal)  $\times$  2 (job level)  $\times$  3 (country of origin; within subjects) mixed measures ANOVA was conducted on perceived English language fluency. Once again, a main effect of country of origin,  $F(2, 226) = 70.415, p < .001, \eta^2 = .384$  was found, that was further qualified by a significant 2-way interaction between country of origin and portrayed immigrant success,  $F(4, 226) = 2.58, p = .051, \eta^2 = .044$ .

Simple effects analysis was performed on the repeated-measures factor (country of origin) at each level of portrayed immigrant success. In all conditions, follow-up multiple comparisons revealed perceptions of applicants from Canada and Australia as more fluent in English, compared to applicants from the Philippines; however, this effect

appeared to be strongest in the conditions that made immigrant success or lack of success salient. No differences were found between Australians and Canadians across conditions (see Table 5).

Neither the main effects of portrayed success,  $F(2, 113) = 2.43$ ,  $ns$ ,  $\eta^2 = .041$ , and job level,  $F < 1$ ,  $\eta^2 = .005$  was significant, nor was the 2-way interaction between country of origin and job level,  $F < 1$ ,  $\eta^2 = .006$ , or the 3-way interaction,  $F(4, 226) = 1.51$ ,  $ns$ ,  $\eta^2 = .026$ .

Table 5

*Descriptive Statistics (Mean, Standard Deviations, F values, and  $\eta^2$ ) for Perceived Language Fluency*

Portrayed success condition	Country of Applicants' Origin			F	$\eta^2$
	Australia	Philippines	Canada		
	M (SD)	M (SD)	M (SD)		
Economic success	6.43 (.62) <sub>a</sub>	5.78 (.88) <sub>b</sub>	6.54 (.59) <sub>a</sub>	25.54***	.408
Non-success	6.49 (.58) <sub>a</sub>	5.82 (.69) <sub>b</sub>	6.48 (.57) <sub>a</sub>	25.71***	.397
Control	6.60 (.51) <sub>a</sub>	6.22 (.58) <sub>b</sub>	6.59 (.54) <sub>a</sub>	19.64***	.329

*Note.* Means in the same row that do not share subscripts differ at  $p < .05$  in the Bonferroni adjustment.

\*\*\* $p < .001$

*Recommended salary.* A mixed measures ANOVA indicated that the main effect of job level was strongly significant,  $F(2, 113) = 3266.96$ ,  $p < .001$ ,  $\eta^2 = .967$ . This effect

was not surprising, because the gap in salary for high-skilled and low-skilled jobs was part of experimental manipulation.

However, this effect was moderated by country of origin of the applicant,  $F(2, 113) = 5.06, p < .05, \eta^2 = .043$ . The simple effects of country of origin on the recommended salary for high-skilled (scientist) and low-skilled (research assistant) indicated no significant differences in recommended salary as a function of country of applicants' origin for the high-skilled job,  $F < 1, \eta^2 = .009$ . However, an effect of country of origin was evident for the low-skilled job,  $F(2, 114) = 5.49, p < .01, \eta^2 = .088$ , in that, contrary to expectations, the recommended salary for the applicant from a dissimilar culture (Philippines;  $M = \$27,922.41, SD = 3,607.74$ ) was not significantly lower than salary recommended for the immigrant from a similar culture (Australian;  $M = \$27,706.90, SD = 3,646.72$ ). However, the averaged recommended salary for the Canadian applicants ( $M = \$28,634.77, SD = 3,958.33$ ) was significantly higher than the salary recommended for the Australian applicant.

Neither the main effects of the portrayed success,  $F(2, 113) = 1.68, ns, \eta^2 = .029$  or country of origin,  $F(2, 114) = 1.99, ns, \eta^2 = .017$  was significant. Likewise, neither the 2-way interaction of country of origin and portrayed immigrants' success, nor the 3-way interaction between portrayed success, job level, and country of applicants' origin were significant,  $F_s < 1$ .

*Rankings.* An ANOVA conducted on applicants' rankings indicated that, once again, a main effect of country of origin,  $F(2, 220) = 7.16, p < .001, \eta^2 = .061$  was evident, but this was further qualified by a significant 2-way interaction between country of origin and job level,  $F(2, 220) = 4.62, p < .01, \eta^2 = .040$ .

The simple effects of country of origin on the rankings of the applicants indicated no significant differences in rankings as a function of country of applicants' origin for the high-skilled job,  $F(2, 112) = 2.61$ , *ns*,  $\eta^2 = .043$ . However, an effect of country of origin was evident for low-skilled job, in that, the applicants from Australia ( $M = 2.33$ ,  $SD = 1.21$ ) and Philippines ( $M = 2.66$ ,  $SD = 1.48$ ) were ranked significantly lower than Canadians ( $M = 3.37$ ,  $SD = .70$ ). No differences were found between rankings of Australians and Philippines.

Neither the main effects of the portrayed success,  $F(2, 110) = 1.07$ , *ns*,  $\eta^2 = .019$  or job level,  $F(1, 110) = 2.63$ , *ns*,  $\eta^2 = .023$  was significant. Likewise, neither the 2-way interaction of country of origin and portrayed immigrants' success, nor the 3-way interaction between portrayed success, job level, and country of applicants' origin were significant,  $F_s < 1$ .

Thus, as expected, when the job was low in skill level, the applicant from the Philippines was rated lower than the Canadian applicant. What was not expected, however, was that the applicant for the low-skilled position from Australia was also ranked lower than Canadian applicants.

*Summary.* Despite the fact that all resumes were created to be similar, the portrayed economic success of immigrants influenced participants' evaluations of the fit and language fluency of the applicants. Specifically, when immigrants were described as economically successful, applicants from the dissimilar culture were evaluated as fitting the job less and as less fluent in English than applicants from the similar culture and Canadian applicants. A similar pattern emerged in a non-successful condition, although in this instance, the job fit of immigrants from a similar culture was also discounted. In

the control condition, the job fit of immigrants did not differ from the perceived fit of the Canadian applicants, but the language skills of the Philippine applicants continued to be discounted.

Although the economic success of immigrants did not influence selection choice (ranked) and salary recommendations, the job skills required did moderate participants' recommendations of the various applicants. Although there were no differences in recommendations for the highly skilled job position, for the low-skilled job (i.e., research assistant), the recommended salary of the applicant from a similar culture was lower than the salary of the Canadian applicants, and applicants from both the dissimilar and similar cultures were ranked lower for selection than the Canadian applicants.

*Effects of Economic Success and Job Level on Attitudes toward Immigrants and Immigration and Modern Racism Scores*

*Attitudes toward immigrants and immigration.* A 3 (media portrayal)  $\times$  2 (job level) ANOVA conducted on attitudes toward immigrants scores revealed an interaction between economic success and job level,  $F(2, 113) = 3.93, p < .05, \eta^2 = .065$ . As seen in Table 6, simple effects analyses revealed that when participants evaluated applicants for the high-skilled (i.e., scientist) position, attitudes toward immigrants were more favourable if immigrants were described as economically successful, as opposed to non-successful. No other differences were found in the high-skilled condition. When participants evaluated applicants for a low-skilled position (i.e., research assistant), no significant differences in attitudes toward immigrants were revealed as a function of immigrants' portrayed success.

*Modern racism.* An ANOVA conducted on modern racism scores also revealed an interaction between economic success and job level,  $F(2, 113) = 5.51, p < .01, \eta^2 = .089$ . In this instance, simple effects analyses indicated no differences between the immigrant success conditions if participants evaluated applicants for a high-skilled position, whereas if participants evaluated applicants for a low-skilled position, modern racist attitudes were higher when immigrants were described as economically successful, as opposed to non-successful or following the control media. No differences were found between non-success and control conditions (see Table 6).

In sum, consistent with hypothesis, more favourable attitudes were found if immigrants were portrayed as economically successful, but only when participants evaluated applicants for high-skilled position. In contrast, when immigrants were portrayed as economically successful, more modern racist attitudes were expressed when participants evaluated applicants for the low-skilled position.

Table 6

*Descriptive Statistics (Mean, Standard Deviations, F values, and  $\eta^2$ ) for Attitudes toward Immigrants and Modern Racism Scores*

	Economic Success <i>M (SD)</i>	Non-success <i>M (SD)</i>	Control <i>M (SD)</i>	<i>F</i>	$\eta^2$
<b>Attitudes toward Immigrants</b>					
Scientist	2.57 (.96) <sub>a</sub>	1.29 (1.93) <sub>b</sub>	1.85 (1.46) <sub>ab</sub>	3.78*	.110
Research Assistant	.97 (1.66) <sub>a</sub>	1.40 (1.38) <sub>a</sub>	1.72 (1.17) <sub>a</sub>	1.37	.047
<b>Modern Racism</b>					
Scientist	2.05 (.49) <sub>a</sub>	2.27 (.65) <sub>a</sub>	2.12 (.52) <sub>a</sub>	0.77	.026
Research Assistant	2.55 (.53) <sub>a</sub>	1.97 (.45) <sub>b</sub>	2.07 (.53) <sub>b</sub>	6.75**	.197

*Note.* Means in the same row that do not share sub-scripts differ at  $p < .05$  in the Bonferroni comparison.

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

#### *Correlations among Measures Following Selection Task*

As seen in Table 7, perceived job fit and perceived language fluency were significantly positively related, in that higher perceptions of applicants' job fit were related to higher perceived language fluency. Both perceived job fit and language fluency were unrelated to applicants' recommended salary. Interestingly, recommended salaries for all applicants were extremely highly positively related, meaning that they were almost

the same. Not surprisingly, rankings of Australian and Philippine applicants were negatively associated with Canadian rankings, in that the higher participants ranked Canadian applicants, the lower they ranked both immigrant applicants. Finally, more favourable attitudes toward immigrants were related to lower modern racism attitudes.

Table 7

*Correlations among the Main Dependent Variables (A - Australia, P - Philippines, C - Canada)*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Job Fit (A)		.79***	.86***	.47***	.32***	.48***	.19*	.19*	.18*	-.24**	.00	.17	.26**	-.15
2. Job Fit (P)			.71***	.46***	.57***	.36***	.15	.18*	.15	-.11	-.32***	.28**	.34***	-.28**
3. Job Fit (C)				.48***	.36***	.57***	.08	.09	.09	-.08	.11	-.01	.24**	-.14
4. Language (A)					.55***	.71***	.15	.15	.15	-.14	.06	.09	.17	-.20*
5. Language (P)						.36***	.00	.03	.00	.05	-.23*	.13	.20*	-.25**
6. Language (C)							.09	.08	.10	-.03	.23*	-.09	.09	-.06
7. Salary (A)								.99***	.99***	-.33***	.02	.22*	.19*	-.05
8. Salary (P)									.99***	-.31***	-.01	.23*	.21*	-.06
9. Salary (C)										-.29**	.05	.18*	.18*	-.04
10. Ranks (A)											.17	-.69***	-.03	.07
11. Ranks (P)												-.78***	-.11	.13
12. Ranks (C)													.09	-.11
13. Attitudes														-.59***
14. Modern Racism														

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

*Relations between Perceived Realistic and Symbolic Threat and Applicants' Skills**Assessment*

To assess the relation between realistic and symbolic threats and person-job fit, three sets of multiple regression analyses were conducted, in which both realistic and symbolic threats were regressed onto each applicant's job fit scores, language fluency, and recommended salary, depending on the job level. As these analyses formed the basis for testing the subsequent mediation models, they were conducted separately for the conditions in which participants evaluated applications for the high-skilled versus the low-skilled jobs.

*Job fit.* For high-skilled position, threats were significantly associated with job fit of the Australian and Philippine applicants; the association was not significant for Canadian applicants (see Table 8). Regression coefficients indicated that only realistic threat was associated with lower perceived job fit for the Philippine applicant (see Table 8). Surprisingly, the zero-order correlations indicated that higher levels of symbolic or realistic threat were associated with perceptions of the Australian applicant as fitting the job less, but these threat dimensions were redundant in the predictive utility.

For the low-skilled position, threats were significantly associated with job fit of the Philippine applicant, but not the Australian and Canadian applicants. Once again, the regression coefficient indicated that only realistic threat was associated with lower perceived fit of the Philippine applicant (see Table 8).

Table 8

*Regression Analyses Predicting Job Fit and Perceived Language Fluency from Realistic and Symbolic Threats*

Country of Origin	Job Fit			Language Fluency		
	<i>r</i>	$\beta$	$R^2$	<i>r</i>	$\beta$	$R^2$
Scientist ( <i>n</i> = 61)						
Australia			.098*			.019
Realistic threat	-.30**	-.25		-.10	-.17	
Symbolic threat	-.24*	-.09		.01	.12	
Philippines			.127*			.130*
Realistic threat	-.35**	-.39*		-.27*	-.45**	
Symbolic threat	-.17	.07		.02	.30*	
Canada			.076			.053
Realistic threat	-.28*	-.27		-.17	-.29	
Symbolic threat	-.17	-.01		.02	.19	
Research Assistant ( <i>n</i> = 58)						
Australia			.052			.081
Realistic threat	-.21*	-.31		-.28*	-.30	
Symbolic threat	-.11	.13		.02	.13	
Philippines			.189**			.213***
Realistic threat	-.43***	-.44*		-.46***	-.53**	

Symbolic threat	-.33**	.01	-.32**	.09
Canada			.070	.016
Realistic threat	-.26*	-.32	-.06	-.20
Symbolic threat	-.17	.07	.18	.07

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\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

*Language fluency.* Upon regressing realistic and symbolic threats onto perceptions of applicants' English language fluency, for each of the high and low-skilled positions, an association was revealed only for the applicant from the Philippines. For high-skilled position, the regression coefficients for both realistic and symbolic threats were significant, although the latter appeared to simply reflect a suppression effect given the non-significant zero-order correlation. Indeed, for low-skilled position only the realistic threat coefficient was significant (see Table 8). Thus, as expected, higher realistic threat levels were associated with perceptions of the Philippine applicant as less fluent in English.

*Recommended salary.* Regression analyses assessing the relation between perceived threat and the recommended salary of the high-skilled job applicants indicated that threats were significantly associated with the applicant's recommended salary only in case of Philippine applicant. As seen in Table 9, both realistic and symbolic threat were related to proposing a lower salary, although in this instance these threat dimensions appeared to be redundant predictors. Interestingly, for low-skilled position, threats were significantly associated with applicant's recommended salary only in case of Canadian applicants. Surprisingly, in this instance, the regression coefficient for realistic threat was

positive and significant, meaning that higher levels of realistic threat were associated with higher recommended salary (see Table 9).

Table 9

*Regression Analyses Predicting Applicants' Recommended Salary and Rankings from Realistic and Symbolic Threats*

Country of Origin	Recommended Salary			Rankings		
	<i>r</i>	$\beta$	$R^2$	<i>R</i>	$\beta$	$R^2$
		Scientist ( <i>n</i> = 61)				
Australia			.166			.019
Realistic threat	-.12	-.03		.08	.17	
Symbolic threat	-.16	-.15		-.04	-.15	
Philippines			.116*			.016
Realistic threat	-.28**	-.14		.03	-.07	
Symbolic threat	-.32**	-.24		.12	.17	
Canada			.067			.006
Realistic threat	-.22*	-.11		-.07	-.06	
Symbolic threat	-.24	-.18		-.06	-.03	
		Research Assistant ( <i>n</i> = 58)				
Australia			.256			.034
Realistic threat	.21	.39		.11	.29	
Symbolic threat	.07	-.23		.00	-.23	

Philippines			.028		.142*
Realistic threat	.03	.23	-.36**	-.20	
Symbolic threat	-.08	-.26	-.35**	-.20	
Canada			.125*		.065
Realistic threat	.34**	.46*	.20	.00	
Symbolic threat	.20	-.15	.25	.25	

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\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

*Rankings.* In all instances, for high-skilled position, threats were not associated with applicants' rankings. Not surprisingly, once again, for low-skilled position, threats were significantly associated with the ranking of the Philippine applicant, such that higher realistic and symbolic threats were related to lower rankings of the applicant, but served as redundant predictors (See Table 9).

*Summary.* In sum, higher realistic threat predicted lower job fit and lower perceived language fluency for applicants for high and low-skilled positions from a dissimilar culture; either type of threat predicted lower recommended salary for the dissimilar applicant to the high-skilled position, and the lower ranking of this candidate for selection to the lower status position. At the same time, realistic threat was also associated with a higher recommended salary for Canadian applicants for low-skilled position. When applicants were from a similar culture, symbolic or realistic threat only predicted perceptions of lower fit for the high-skilled job.

#### *Relations between Emotions and Applicants' Skill Assessment*

The relations between emotions and applicants' skill assessment were assessed using three sets of multiple regression analysis, in which five emotions were regressed

onto each applicant's job fit, language fluency, recommended salary, and rankings. Once again, these analyses were conducted separately for the high- and low-skilled job applicants.

*Job fit.* The overall association between emotions and applicants' job fit was non-significant for all applicants (see Table 10).

*Language fluency.* The association between emotions and applicants' perceived language fluency was also non-significant for all applicants. This said, although shame appeared to be associated with the perceived language fluency of the Philippine applicant to the high-skilled position, this only occurred with the suppressive effect of anger (see Table 11).

*Recommended salary.* The association between emotions and applicants' recommended salary was significant for the applicant for a low-skilled position from Australia. In particular, higher anger was related to higher proposed salary for this applicant. Although zero-order correlations were significant in case of the Philippine applicant for the low-skilled position, as a set, they were redundant and non-significant predictors of the proposed salary (see Table 12).

*Rankings.* The overall association between emotions and applicants' rankings was non-significant for all applicants. Although zero-order correlations were significant in case of the Philippine and Canadian applicants for the low-skilled position, as a set, they were redundant and non-significant predictors of the rankings (see Table 13).

*Summary.* The hypothesis regarding the association between emotions and job fit was not supported, as in no instance, were emotions as a set predictive of the indices of job fit. Given this, emotions could not serve as viable mediators in the relation between

threat perceptions and participants' tendency to discount the skills of the immigrant applicants.

Table 10

*Regression Analyses Predicting Applicants' Job Fit from Emotions*

	Scientist ( $n = 61$ )			Research Assistant ( $n = 58$ )		
	$r$	$\beta$	$R^2$	$r$	$\beta$	$R^2$
Australia						
Anger	.02	.13	.029	.01	.13	.047
Shame	-.08	-.14		.00	-.03	
Anxiety	-.04	-.07		-.08	-.24	
Empathy	.05	.04		.12	.19	
Security	.09	.11		.08	.14	
Philippines						
Anger	.02	.24	.081	.05	-.11	.032
Shame	-.20	-.30*		.15	.16	
Anxiety	-.12	-.12		.11	.08	
Empathy	.00	.04		.12	.04	
Security	.01	.05		.03	.05	
Canada						
Anger	-.02	-.05	.014	.02	.18	.091
Shame	.03	.04		.08	.03	
Anxiety	.01	-.01		-.11	-.35	
Empathy	.09	.07		.14	.25	
Security	.09	.07		-.06	-.13	

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

Table 11

*Regression Analyses Predicting Applicants' Perceived Language Fluency from Emotions*

Emotions	Scientist ( $n = 61$ )			Research Assistant ( $n = 58$ )		
	$r$	$\beta$	$R^2$	$r$	$\beta$	$R^2$
Australia						
Anger	.02	.02	.030	.02	.02	.031
Shame	-	-.10		.22	.22	
Anxiety	.09	.09		-.12	-.12	
Empathy	.11	.09		-.09	-.09	
Security	.11	.08		.02	.02	
Philippines						
Anger	.10	.24	.093	-.19	-.38	.099
Shame	-.13	-.33*		-.01	.04	
Anxiety	.08	.07		-.03	.12	
Empathy	.10	.09		.14	.20	
Security	.09	.09		.05	.02	
Canada						
Anger	.04	.03	.021	.05	.13	.023
Shame	.03	.03		.07	.05	
Anxiety	.09	.07		-.03	-.17	
Empathy	.07	.03		.04	.07	
Security	.12	.11		-.06	-.07	

\* $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

Table 12

*Regression Analyses Predicting Applicants' Recommended Salary from Emotions*

Emotions	Scientist ( $n = 61$ )			Research Assistant ( $n = 58$ )		
	$r$	$\beta$	$R^2$	$r$	$\beta$	$R^2$
Australia						
Anger	.11	.08	.075	.26*	.46*	.108
Shame	-.05	-.19		.05	-.13	
Anxiety	.15	.20		.06	-.23	
Empathy	.02	.07		.11	.11	
Security	-.15	-.17		.07	-.02	
Philippines						
Anger	.16	.15	.090	.28*	.20	.088
Shame	-.02	-.20		.23*	.13	
Anxiety	.14	.14		.22	.01	
Empathy	.10	.15		.14	-.01	
Security	-.15	-.18		.05	.05	
Canada						
Anger	.11	-.01	.056	.14	.32	.054
Shame	.10	.02		-.02	-.11	
Anxiety	.15	.14		-.01	-.20	
Empathy	.08	.11		.05	.07	
Security	-.14	-.19		.08	.02	

\* $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

Table 13

*Regression Analyses Predicting Applicants' Rankings from Emotions*

Emotions	Scientist ( $n = 61$ )			Research Assistant ( $n = 58$ )		
	$r$	$\beta$	$R^2$	$r$	$\beta$	$R^2$
Australia						
Anger	-.22*	-.19	.149	.04	.03	.023
Shame	-.14	-.06		-.04	-.06	
Anxiety	-.23*	-.17		.07	.13	
Empathy	.19	.32*		-.07	-.13	
Security	.05	-.05		.03	.04	
Philippines						
Anger	.07	-.16	.064	-.01	.39	.143
Shame	.14	.25		-.26*	-.33	
Anxiety	-.01	-.03		-.21	-.30	
Empathy	.00	-.07		-.14	.00	
Security	.14	.13		.05	-.04	
Canada						
Anger	.19	.24	.094	.01	-.29	.101
Shame	-.01	-.15		.23*	.25	
Anxiety	.15	.13		.15	.17	
Empathy	-.13	-.15		.17	.10	
Security	-.13	-.06		-.07	-.03	

\* $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

## Discussion

The present investigation examined prejudice toward immigrants and the discounting of their skills. Previous research (Dovidio & Esses, 2001; Esses et al., 1998; Stephan et al., 1998; Stephan et al., 2005) suggested that social psychological factors may play a role in promoting biases against immigrants in the employment context. In particular, it was suggested that when immigrants are successful, they may be perceived as constituting a realistic threat to members of the host society, as they might be viewed as taking jobs, rather than contributing to the economy. However, it was also possible that if immigrants were not successful, they would also be regarded as a drain to the economic system. The results of the present study, however, did not provide support for either of these expectations. Specifically, whether immigrants were economically successful or unsuccessful, there was no difference in perceptions of the extent to which they represented a realistic or symbolic threat, relative to a control condition.

The absence of differences in realistic threat as a function of immigrants' success in Canada may be explained by the nature of the manipulated media coverage depicting their success. Specifically, although the control condition focused on the safety of Canada as a country to immigrate to, the article also mentioned increasing number of immigrants choosing Canada as a country of destination. Thus, for those born in Canada, the increasing number of immigrants might have been perceived as a potential threat to Canadian economy and culture. However, if this was the case, threat levels ought to have been high in all conditions. Instead, in all conditions, immigrants were perceived as equally non-threatening.

Another possibility was that the articles describing the success or failure of immigrants referred to immigrants in general, without a reference to any particular ethnic group. Indeed, in previous research documenting evidence of symbolic threat, a specific ethnic group (e.g., Cubans, Mexicans, Asians- Stephan et al., 1999; Rwandans – Stephan et al., 2005) was depicted. It is unclear which group comes to mind as the ‘prototypical’ immigrant when no specific group is referred to. It is possible that the images that came to mind for the participants in the present study reflected a range of factors, including their own experiences, individual difference variables such as level of education, exposure to various immigrant groups, and so on. As a result, variations of threat perceptions may have been less evident as a function of the media manipulation itself.

Finally, although the manipulation check confirmed that immigrants were indeed seen as competitive on a job market when they succeeded, it remains possible that the article was not strong enough to make participants worry about the competition. Indeed, because participants were first-year undergraduates, they might not perceive immigrants as representing a current threat to their careers, as the university context is not one in which international or immigrant students are a direct source of competition, and participants’ longer term employment goals may not be especially salient yet.

Although participants in the present investigation did not report feeling threatened by immigrants to Canada, they did express more negative emotions toward immigrants who were having difficulty succeeding. It had been hypothesized that immigrants would elicit more negative and less positive emotions, irrespective of their success. Specifically, based on previous findings, it was expected that when immigrants were portrayed as successful in finding appropriate employment soon after arriving to Canada, this would

elicit anger due to the direct intergroup competition this might represent (Mackie et al., 2000). When immigrants were unsuccessful, they might be viewed as 'weak' compared to Canadians, and hence may elicit in in-group members collective guilt or shame because of having been unsupportive of the immigrants on their arrival to Canada (Wohl & Branscombe, 2005).

Although presentation of immigrants as successful did not appear to elicit either more positive or negative emotions (relative to the control group), when immigrants were portrayed as unsuccessful, participants indeed expressed higher levels of shame. Previous research has distinguished between shame and guilt (Leigh & Baumeister, 1998; Tangney & Dearing, 2002; Tangney, Stuewig, & Mashek, 2007). They argue that guilt is related to appraisals of the action's wrongness, and leads to such behaviours as perspective-taking and apology, whereas shame is related to appraisals of one's self as bad, and leads to distress, social avoidance or angry behaviour. In the present study, participants clearly did not distinguish between guilt and shame, as they loaded onto the same factor, which included the emotions of ashamed, embarrassed, guilty, and humiliated. Moreover, shame was related to feelings of anger and anxiety, as well as empathy (which was also found by Tangney & Dearing, 2002). This pattern of relations raises questions as to whether these emotions were targeted at immigrants, or whether instead they were targeted toward the immigrants' difficult situation. Indeed, some participants may have regarded their own host society group as having been unsupportive of skilled immigrants, and hence as part of the cause of immigrants' failure (Wohl & Branscombe, 2005). Thus, rather than feeling threatened by the situation of immigrants encountering difficulties in

Canada, participants in the present study may have been expressing concern regarding their plight.

### *Skill Discounting*

It was expected that only when immigrants were described as economically successful, and they were applying for low skill job, the skills of immigrant candidates from a dissimilar culture (i.e., Philippines) would be more discounted, relative to Canadian candidates and immigrants from similar culture (Australia). This effect was not expected to be evident in the presumably less threatening conditions in which immigrants were portrayed as unsuccessful (or in the control condition), nor would it be evident when candidates were applying for the high skilled job that was likely still well beyond the reach of the participants in the present study. Such a conclusion would be consistent with the Instrumental Model of Group Conflict (Esses et al., 1998), which suggests that in order for the out-group to be perceived as competitive, it must be perceived as similar to the in-group on the relevant dimensions.

In line with expectations, when immigrants were described as successful in the employment context, the dissimilar Philippine applicant was seen as less fit for the job, but this occurred irrespective of the skill level required for the job. These results support previous findings that the skills of culturally different applicants, born and trained abroad (in India), were evaluated as less fit for the job and the organization, relative to skills of those born and trained in Canada and United Kingdom (Esses et al., 2006). Similarly, as predicted, the Philippine applicants for either the high or low-skilled position were evaluated as less fluent in English, despite the fact that they had indicated in their application that they were fluent.

Importantly, it was not merely belonging to a culturally different group that resulted in the skill discounting of the Philippine applicants, but also the portrayed ability of immigrants to successfully compete within the Canadian employment market exacerbated the tendency to discount their skills, as did self-reported feelings of greater realistic threat. This suggests that, under threat conditions, the discounting of the skills of the Philippine applicants reflected a subtle form of discrimination, because it primarily occurred in the presence of a justification that could be viewed as non-prejudicial (Dovidio & Gaertner, 1998; McConahay, 1986).

Indeed, participants' justifications for their evaluations did not directly mention the different culture of the Philippine applicants. Instead, their ability to suggest ambiguity in the nature of the Philippine applicants' qualifications appeared to serve as a safe justification to diminish their access to the labour market competition (Dovidio, et al., 2002; Esses et al., 2006). For example, anecdotal comments regarding the education and experience obtained in Philippines included statements such as "unfortunately, I looked at academic credentials and therefore the U of Philippines is likely a less reputable institution", "in Canadian society, experience or education outside of Canada is insufficient", "he may not have the same experience as a Canadian would have- they may have different standards in the Philippines. Philippines may not have as similar expectations as Canada does in science". As was mentioned before, the absence of Canadian experience often serves as a reason for not hiring a qualified candidate who is educated and trained abroad.

Language fluency and communication skills are closely related to the perceptions of the job fit. Not surprisingly, the majority of participants directly mentioned in their

comments that the Philippine applicants would not fit into the organization because of not being able to communicate well with their colleagues, and speak English fluently, e.g., “since English wouldn't be this candidate's 1st language it would be more difficult for them to understand/ communicate in an English environment”, “it does say he/she is fluent on the application (in English), but one must wonder just how fluent it really means, with growing up speaking another language with a strong accent”, “has the requirements, but he/she lacks the necessary communication skills”.

Thus, particularly under conditions in which immigrants were perceived to be successfully competing in the employment market, the mere fact of belonging to a different culture and thus not being able to fit the job and communicate well might serve as a safe justification for discounting the skills of some immigrants. This is especially worrying, because such skill discounting happened despite the fact that there was no concrete evidence to justify this behaviour, such as objective proof of poorer educational quality in the Philippines. Likewise, in all resumes oral and written English fluency was explicitly stated, and no objective evidence of applicants' language skills, diminished or otherwise, was provided.

Contrary to expectations, the discounting of skills of Philippine applicants for both high and low-skilled positions also emerged when immigrants were described as unsuccessful in the Canadian employment context, although to a lesser degree compared to when they were successful. In this case, perceived differences in education, work experience, communication styles, and the idea of non-fluency in English attributed to immigrants from a distinct culture may be seen as a good explanation of *why* skilled immigrants do not find a matching job. Perhaps this was why Australian applicants were

also seen as fitting the job less when immigrants were portrayed as generally unsuccessful. As noted earlier, both Australians and Philippines were seen as culturally different from Canadians, although this difference was greater for the Philippines. Thus, cultural differences may have played a role even in evaluating the Australian applicants when participants were primed to believe that immigrants were not adapting well to the Canadian context.

*Low versus high skilled job.* Interestingly, applicants' recommended salary and rankings were not influenced by immigrants' success, but rather depended on the skill level required by the job and country of origin. The gap in the recommended salaries between the low-skilled and high-skilled jobs could largely be accounted for by the fact that salary range was a part of the manipulation of the skill level of the jobs. Although no differences were expected (or found) in the recommended salaries of applicants for the highly skilled job, contrary to expectations, in case of the low-skilled job, the recommended salary for the Australian applicant was lower than the average salary recommended for the Canadian applicants, whereas the recommended salary of the Philippine applicant was not. These findings might be explained by the participants' unwillingness to blatantly discriminate against the Philippine applicant; however, they might feel safer to discriminate against the Australian applicant. The safe justification used associated with the ambiguity of factors contributing to job fit and language fluency, might not be so available to recommend a lower salary, because the difference in salary may be seen as an obvious indicator of discrimination.

As another index of bias and discounting of immigrant skills, participants were asked to rank the applicants in order of their appropriateness for the job. This forced

ranking approach is also a strategy for reducing social desirability biases (Coates & Carr, 2005). Interestingly, when faced with a direct request to perform this task, some participants simply refused to rank the applicants, arguing that all resumes were the same. Likewise, some participants evaluated the Philippine applicant as the most preferable for the position, explaining their choice by his bilingualism. However, despite these exceptions, the general tendency was to rank both Australian and the Philippine applicants lower than Canadians, particularly in reference to the low skilled job. Indeed, participants reporting higher levels of threat were more inclined to rank the Philippine applicant lower, and to recommend a higher salary for the Canadian applicants. All these findings suggest that participants were indeed inclined to discriminate against immigrants in favour of their own in-group, when they could no longer provide a socially desirable answer.

Social desirability factors might very well have played a part in some of the responses of participants in the present study. At the end of the study (but before debriefing), participants were asked what they thought the true purpose of the study was. The majority indicated that it was about prejudice and/or discrimination toward immigrants, expressing such statements as “that there is a negative bias toward immigrants in native Canadians that result in discrimination in employing newcomers in non-Me jobs”. Many participants indicated that both the article about immigration and the applicant selection task made them come to this decision. Thus, if participants wanted to avoid looking as though they were prejudiced, this certainly would have affected their responses to any of the measures that could be construed accordingly, and this should be taken into account in the interpretation of the results.

### *Limitations, Future Directions, and Conclusion*

The present study has a number of limitations. First, the sample was relatively homogenous, comprising mostly first-year undergraduate students. Hence, it is not possible to conclude that their reactions are representative of Canadian-born population as a whole. For instance, due to the relatively young age, participants might not appraise skilled immigrants as relevant competitors on a job market, because they themselves would not have been able to perform the skilled job. Indeed, even the less skilled job included educational and skill competencies that first year students would not yet have acquired. For this reason, immigrants in the Canadian employment context may have been appraised as relatively non-threatening, making conclusions regarding relationships between portrayed success, realistic and symbolic threat appraisals, and applicants' skills assessment speculative. It is possible that the perceived threat might have been greater among upper-year undergraduates who were joining the skilled job market.

The second limitation is that a laboratory paradigm was used in the present study. Although an effort was made to present the media articles in a believable format (i.e., a published article), threat appraisals, emotions and discrimination tendencies following real-life situations may differ. Participants know that their behaviour and reactions were being evaluated in a lab situation. In addition, as noted earlier, the majority of participants understood what the study was about. As a result, they may have been more self-conscious about their behaviour and how it could be interpreted, and responded in a more socially desirable way. The fact that the researcher administering the study was not born and raised in Canada and her first language was not English, might have

exacerbated this response, as participants might have wanted to demonstrate that they were not prejudiced against immigrants.

Many individual difference and cultural variables were not considered in the present investigation. For instance, Integrated Threat Theory proposed threat antecedents as factors that may predispose certain individuals to perceive greater threat, and thus express more negative attitudes and greater discrimination. In this regard, individuals with high social dominance orientation (SDO) tend to support group hierarchies and unequal distribution of resources among groups (Esses et al., 2001; Sidanius, Levin, & Pratto, 1996; Sidanius & Pratto, 1999). In addition, SDO increases individuals' threat sensitivity in relation to out-groups, which in turn, promotes more prejudicial attitudes. Therefore, it would be beneficial to investigate whether participants high in SDO would be more inclined to discount the skills of culturally dissimilar immigrants. Individual's strength of social identity has also been shown to be a significant predictor of intergroup threat (Corenblum & Stephan, 2001), and moderated the effects of group threat on intergroup attitudes and prejudice (Bizman & Yinon, 2001; Branscombe & Wann, 1994). Thus, it might be also of interest to see if participants with stronger Canadian identity would be more inclined to discount the skills of immigrants.

*Conclusions.* The present study examined social psychological factors that may play a role in prejudice toward immigrants and the discounting of their skills. In particular, it was demonstrated that not only the salience of immigrants' economic success, but also applicants' country of origin and skill level of the job they are applying for might influence the extent to which their skills are discounted. When immigrants' economic presence in the employment market was made salient (whether successful or

not), regardless of the job level, lower perceived job fit and language fluency of the culturally dissimilar applicants were justified by implying that they had poorer education, work experience, and language skills. These perceptions were associated with perceptions that immigrants were a threat to Canadians, and with the negative stereotypes applied to groups from a dissimilar culture. Although there was no evidence of blatant discrimination against the culturally dissimilar applicant, when participants had an opportunity to justify their behaviour along socially acceptable dimensions (e.g., language fluency), or they were forced to rank job candidates, such discriminatory biases were seen. The results of this study provide information that could be considered by employers during the hiring process. In particular, understanding of processes related to skill discounting of qualified culturally distinct immigrant applicants by employers may result in increasing chances for these applicants to find a job that they are qualified for, and for Canada to benefit from the placement of qualified immigrants.

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**Appendix A: Mass testing questionnaire**

Name: \_\_\_\_\_  
Student ID: \_\_\_\_\_  
Phone: \_\_\_\_\_  
e-mail: \_\_\_\_\_

**Background Information**

Age: \_\_\_\_\_

Academic Major: \_\_\_\_\_

Year in program: \_\_\_\_\_

What is your first language? \_\_\_\_\_

What is your country of birth?

\_\_\_\_\_ Canada

\_\_\_\_\_ Other (please specify) \_\_\_\_\_

What is your ethnic background? (Please check one below)

\_\_\_\_\_ Asian

\_\_\_\_\_ Black (e.g., African, Haitian, Jamaican, Somali)

\_\_\_\_\_ Latin American

\_\_\_\_\_ Aboriginal

\_\_\_\_\_ White

\_\_\_\_\_ Other (Please indicate: \_\_\_\_\_)

## Appendix B: Informed Consent

*The purpose of an informed consent is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent has to provide sufficient information such that you have the opportunity to determine whether you wish to participate in the study.*

Study Title: Labour force perceptions

Study Personnel: Natalia Lapshina (Researcher, 520-2600 ext. 2692)

Dr. Kim Matheson (Faculty Investigator, 520-3570)

Dr. Michael Wohl (Faculty Investigator, 520-2600, ext. 2908)

**If you have any ethical concerns about how this study was conducted, you are encouraged to contact:**

Dr. A. Parush, Chair of the Carleton University Ethics Committee for Psychological Research,  
(613) 520-2600, ext. 6026

**If you have any other concerns about how this study was conducted, contact:**

Dr. A. Bowker, Chair, Dept. of Psychology, Carleton University, (613) 520-2648

**Purpose and Task Requirements:** The purpose of this study is to assess your reactions and your opinion regarding the Canadian labour force and labour qualifications. We will start by asking about your reactions to three short articles describing various aspects of Canadian labour force. You will evaluate the articles in terms of clarity and your perceptions of the authors' viewpoints. Following this, we will ask you to evaluate potential job candidates applying for a position in research institutions in Ottawa. After that, you will be asked to fill out a number of questionnaires regarding your general impressions of candidate (such as candidate's job fit, proposed salary, and your reactions to the candidate). This study will take about 60 min, and you will be given 1% toward your final grade in Introductory Psychology.

**Potential Risk and Discomfort:** There are no physical risks in this study.

**Anonymity/Confidentiality:** The data collected in this study will be kept confidential. Your informed consent form will be separated from your questionnaire and kept in a separate and secured file by the research investigator who will keep this information confidential.

**Right to Withdraw:** Your participation in this study is entirely voluntary. At any point during the study you have the right to not complete certain questions or to withdraw with no penalty whatsoever.

*I have read the above description of the study concerning labour force perceptions. The data collected will be used in research publications and/or for teaching purposes. My signature indicates that I agree to participate in the study, and this in no way constitutes a waiver of my rights.*

Full Name (please print): \_\_\_\_\_

Participant Signature: \_\_\_\_\_

Date : \_\_\_\_\_

Researcher Signature : \_\_\_\_\_

Date : \_\_\_\_\_

## Appendix C: Background information

### BACKGROUND INFORMATION

Age \_\_\_\_\_

Sex \_\_\_\_\_

Academic Major: \_\_\_\_\_

Year in program: \_\_\_\_\_

What is your first language? \_\_\_\_\_

What is your ethnic background? (Please check one below)

Chinese

South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan)

Black (e.g., African, Haitian, Jamaican, Somali)

Arab/West Asian (e.g., Egyptian, Iranian, Lebanese, Saudi, Turkish, Moroccan)

Filipino

South East Asian (e.g., Cambodian, Indonesian, Laotian)

Latin American

Japanese

Korean

Aboriginal

White

Other (Please indicate: \_\_\_\_\_)

What is your citizenship status?

Canadian citizen

Landed immigrant Since what year? \_\_\_\_\_ Country of origin \_\_\_\_\_

Temporary visa Since what year? \_\_\_\_\_ Country of origin \_\_\_\_\_

What is your religion, if any?

Buddhist \_\_\_\_\_

Catholic \_\_\_\_\_

Hindu \_\_\_\_\_

Jewish \_\_\_\_\_

Muslim \_\_\_\_\_

Protestant \_\_\_\_\_

None \_\_\_\_\_

Other (please specify) \_\_\_\_\_

## **Appendix D: Articles**

### **Instructions:**

Today, we would like you to carefully read three recently published articles about the Canadian labour force, and answer several questions regarding the author and article's content. In addition, we included a general feelings scale and at the end of the section a general beliefs scale related to various social issues.

Now you can proceed with reading the articles.

If you have any questions, please raise your hand and ask the experimenter.

## ARTICLE 1

Monday, September 10, 2007

<http://www.canada.com/ottawacitizen/news/story.html?id=6838>

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## A new Labour Program at HRSDC

As part of providing services to Canadians, Human Resources and Social Development Canada (HRSDC) is charged with the development and implementation of programs aimed at assisting Canadians move through a myriad of life's transitions. These programs are tailored to suit the interests of various stakeholders, whether those entering the job market fresh out of school or those seeking new employment opportunities or career change.

One of the recently developed programs is HRSDC's Labour Program promoting a healthy and safe and productive work environment for the benefit of the workforce. The foremost objective of the program is to help foster favourable working conditions and collaborative labour-management relations in organizations throughout Canada.

The program is deemed particularly useful for young Canadians who are just joining the workforce – it will certainly help them to adjust and ultimately thrive in today's fast-paced and ever-changing work environment. To further improve the Canadian workplace environment, HRSDC develops, administers and enforces workplace legislation and regulations, such as the *Canada Labour Code*, a legislative tool for the regulation of industrial relations, as well as health and safety and employment standards.

For more information on HRSDC programs, please refer to a local HRSDC office or HRSDC web site at <http://www.hrsdc.gc.ca/>.

**Lisa Campbell**

## ARTICLE 2

<http://www.cbc.ca/canada/story/2007/09/12/census-labour.html>

**CBC news**

**CANADA**

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## Women drove growth in the labour force in most provinces

Last Updated: Wednesday, September 12, 2007 | 1:16 PM ET

### CBC News

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*Women drove the growth in the labour force within most provinces, according to census information released Wednesday by Canadian Census.*

Women drove the growth in the labour force within most provinces during 6-year period between 2000 and 2006, according to the census.

During the last several decades, the participation of women in the labour force has undergone dramatic growth. Most of this growth took place in the 1970s and 1980s. Over the 1990s, their labour force participation rate increased at a much slower pace.

Among men, however, the story was quite different. Their participation rates have been on the decline over the last three decades, due largely to earlier retirement.

As a result of these shifts, women comprised 46.7% of the national labour force, in 2001, up from 45.0% in 1991. Their share was highest in Prince Edward Island at 47.9% and in Ontario and Nova Scotia at 47.2%. However, in Alberta, their share was the lowest at 45.8%.

George Smith, **CBC News**

ARTICLE 3  
Economic success condition article

EDITORIAL

1

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## Today's immigrants

*"Recently, immigrants have been able to successfully compete in our labour market and take part in the many economic opportunities that Canada has to offer."*

Immigrants to Canada usually see our country as a land of opportunity and success. Is our nation really a land of opportunity for immigrants? Recent trends over the last decade would suggest so. The success of immigrants is evident in the sharp increase in both the number of immigrants who have jobs and the status of the jobs held by immigrants. Amanda Moffat, an immigration advisor, stated that, "Recently, immigrants have been able to compete in our labour market and take part in the many economic opportunities that Canada has to offer. In fact, they seem to be beating out Canadian-born workers for many of the current job openings." This seems especially true for many professional positions in Canada. Today, immigrants in this country are finding it rather easy to find positions that reflect their job qualifications. It seems that Canada is a land where immigrants need not fear the job market. Instead, our immigration policies have ensured that newcomers find jobs and are remarkably successful upon arrival.

According to recent trends, Canada's immigrant population is increasing. Today, one in five of Canada's population is born overseas – in Toronto and Vancouver, the figure is one in three. In response, Jim Thorpe, a national economist has cautioned, "a country such as Canada should take between 1 percent and 1.5 percent of its population in migrants every year, however our present intake of immigrants far exceeds this range." Last year alone, the increase in Canada's population from migration was at least 335,000. This figure far exceeded the Government's projected annual target. According to leading business correspondents, migration figures will further increase in the years to come. On the basis of this information, we must decide about the future of immigration in Canada.

Daniel Lewis

August 2007 Science Voice

## Non-success condition article

## EDITORIAL

2

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## Today's immigrants

*"Recently, immigrants have found it difficult to successfully compete in our labour market and take part in the many economic opportunities that Canada has to offer."*

Immigrants to Canada usually see our country as a land of opportunity and success. Is our nation really a land of opportunity for immigrants? Recent trends over the last decade would suggest it is not so. This is evident in the sharp decrease in both the number of immigrants who have jobs and the status of the jobs held by immigrants. Amanda Moffat, an immigration advisor, stated that, "Recently, immigrants have found it difficult to compete in our labour market and take part in the many economic opportunities that Canada has to offer. In fact, they do not seem to be beating out Canadian-born workers for many of the current job openings." This seems especially true for many professional positions in Canada, even though they may have held such positions in their home country. Today, immigrants in this country are finding it rather difficult to find positions that reflect their job qualifications. It seems that Canada is a land where immigrants need to fear the job market. Instead, our immigration policies have ensured that newcomers find it difficult to secure jobs and are remarkably unsuccessful upon arrival.

According to recent trends, Canada's immigrant population is increasing. Today, one in five of Canada's population is born overseas – in Toronto and Vancouver, the figure is one in three. In response, Jim Thorpe, a prominent national economist suggested, "a country such as Canada should take between 1 percent and 1.5 percent of its population in migrants every year, however, our present intake of immigrants far exceeds this range. Last year alone, the increase in Canada's population from migration was at least 335,000. This figure far exceeded the Government's projected annual target. According to leading business correspondents, migration figures will further increase in the years to come. On the basis of this information, we must decide about the future of immigration in Canada.

Daniel Lewis August 2007 Science Voice

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## Today's immigrants

*"Recently, immigrants have made Canada the destination of choice."*

Immigrants to Canada usually see our country as a peaceful place to relocate. Is our nation really a land of safety and peace for immigrants? Recent trends over the last decade would suggest so. This is evident in the sharp increase in the number of immigrants emigrating to Canada. Amanda Moffat, an immigration advisor, stated that, "Recently, immigrants have made Canada the destination of choice and there is a strong desire to live in the security Canada has to offer. In fact, security is often the first thing mentioned by many current applicants." This seems especially true for many newcomers who have joined their families in Canada. Today, immigrants in this country are finding it a wonderful place to live. It seems that Canada is a land where immigrants need not fear instability. Instead, our immigration policies have ensured that newcomers feel secure upon arrival.

According to recent trends, Canada's immigrant population is increasing. Today, one in five of Canada's population is born overseas – in Toronto and Vancouver, the figure is one in three. In response, Jim Thorpe, a prominent national economist suggested, "a country such as Canada should take between 1 percent and 1.5 percent of its population in migrants every year, however, our present intake of immigrants far exceeds this range. Last year alone, the increase in Canada's population from migration was at least 335,000. This figure far exceeded the Government's projected annual target. According to leading business correspondents, migration figures will further increase in the years to come. On the basis of this information, we must conclude that Canada is a land of safety and security.

**Daniel Lewis**

August 2007 Science Voice

## Appendix E: Article questionnaires

### Filler Article Questionnaire

1. Please, briefly describe what this article was about (1-2 sentences).

We would like to ask you several questions about the article that you just read. As you know, sometimes journalists may misrepresent the facts. What do you think about this article? (Please, circle your answer)

	1	2	3	4	5
1. Is the article easily readable?	Certainly no	Probably no	Not sure	Probably yes	Certainly yes
2. Is the author well-informed?	Certainly no	Probably no	Not sure	Probably yes	Certainly yes
3. Is the author fluent in English?	Certainly no	Probably no	Not sure	Probably yes	Certainly yes
4. Are the facts presented in the article true?	Certainly no	Probably no	Not sure	Probably yes	Certainly yes

### Your current feelings

Using the rating scale beside each item, please indicate how much each adjective describes **how you feel at the moment**. There are no right or wrong answers, we just want you to be as honest as possible in indicating how you're feeling right now after having read the article you just read.

Angry.....	Not at all	0	1	2	3	4	5	6	Extremely
Anxious.....	Not at all	0	1	2	3	4	5	6	Extremely
Ashamed.....	Not at all	0	1	2	3	4	5	6	Extremely
Contempt.....	Not at all	0	1	2	3	4	5	6	Extremely
Distressed.....	Not at all	0	1	2	3	4	5	6	Extremely
Guilty.....	Not at all	0	1	2	3	4	5	6	Extremely
Sympathetic.....	Not at all	0	1	2	3	4	5	6	Extremely
Suspicious.....	Not at all	0	1	2	3	4	5	6	Extremely

## Manipulation Article Questionnaire

We would like to make sure that you understood the published article. In your opinion, what was this article about? Please provide a brief explanation (1-2 sentences).

### Article Questionnaire

**Please answer the following questions about the article and its author (Please, circle your answer)**

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1. Is the article easily readable?	Certainly no	Probably no	Not sure	Probably yes	Certainly yes
2. Is the author well-informed?	Certainly no	Probably no	Not sure	Probably yes	Certainly yes
3. Are the facts presented in the article true?	Certainly no	Probably no	Not sure	Probably yes	Certainly yes
4. The article depicts the immigrants negatively	Certainly no	Probably no	Not sure	Probably yes	Certainly yes
5. The article depicts the immigrants positively	Certainly no	Probably no	Not sure	Probably yes	Certainly yes
6. Was the author's position neutral?	Certainly no	Probably no	Not sure	Probably yes	Certainly yes

**Now, what do you think the author tried to express in the article? (Please, circle your answer)**

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
7. The situation on the job market is worsening	Certainly no	Probably no	Not sure	Probably yes	Certainly yes
8. The situation on the job market is improving	Certainly no	Probably no	Not sure	Probably yes	Certainly yes
9. Immigrants are competitive on the job market comparing with Canadians	Certainly no	Probably no	Not sure	Probably yes	Certainly yes
10. Immigrants are undermining Canadians on the job market	Certainly no	Probably no	Not sure	Probably yes	Certainly yes

### PANAS

Again, using the rating scale beside each item, please indicate how much each adjective describes **how you feel at the moment**. There are no right or wrong answers, we just want you to be as honest as possible in indicating how you're feeling right now after having read the article you just read.

Angry	Not at all	1	2	3	4	5	6	7	Extremely
Annoyed	Not at all	1	2	3	4	5	6	7	Extremely
Anxious	Not at all	1	2	3	4	5	6	7	Extremely
Ashamed	Not at all	1	2	3	4	5	6	7	Extremely
Compassionate	Not at all	1	2	3	4	5	6	7	Extremely
Confident	Not at all	1	2	3	4	5	6	7	Extremely
Contempt	Not at all	1	2	3	4	5	6	7	Extremely
Disdain	Not at all	1	2	3	4	5	6	7	Extremely
Distressed	Not at all	1	2	3	4	5	6	7	Extremely
Embarrassed	Not at all	1	2	3	4	5	6	7	Extremely
Empathetic	Not at all	1	2	3	4	5	6	7	Extremely
Frustrated	Not at all	1	2	3	4	5	6	7	Extremely
Guilty	Not at all	1	2	3	4	5	6	7	Extremely
Helpless	Not at all	1	2	3	4	5	6	7	Extremely
Humiliated	Not at all	1	2	3	4	5	6	7	Extremely
Indifferent	Not at all	1	2	3	4	5	6	7	Extremely
Nervous	Not at all	1	2	3	4	5	6	7	Extremely
Responsible	Not at all	1	2	3	4	5	6	7	Extremely
Regretful	Not at all	1	2	3	4	5	6	7	Extremely
Secure	Not at all	1	2	3	4	5	6	7	Extremely
Sympathetic	Not at all	1	2	3	4	5	6	7	Extremely

<b>Suspicious</b>	<b>Not at all</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>Extremely</b>
<b>Upset</b>	<b>Not at all</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>Extremely</b>
<b>Worried</b>	<b>Not at all</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>Extremely</b>

### Realistic and Symbolic Threat

Please use the following scale to indicate to what extent you agree or disagree with each statement

1. Women are getting too demanding about their rights nowadays.

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
----------------------	---	---	---	---	---	---	---	---	---	----	-------------------

2. Elderly people should retire even if they still can contribute to the country's economy.

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
----------------------	---	---	---	---	---	---	---	---	---	----	-------------------

3. Immigrants should learn to conform to the rules and norms of Canadian society as soon as possible after they arrive.

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
----------------------	---	---	---	---	---	---	---	---	---	----	-------------------

4. Immigrants get more from this country than they contribute.

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
----------------------	---	---	---	---	---	---	---	---	---	----	-------------------

5. Women should be given equal opportunity with men for apprenticeship in the various trades.

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
----------------------	---	---	---	---	---	---	---	---	---	----	-------------------

6. Immigration is undermining Canadian culture.

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
----------------------	---	---	---	---	---	---	---	---	---	----	-------------------

7. A woman should not expect to go exactly the same places or have quite the same freedom of action as a man.

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
----------------------	---	---	---	---	---	---	---	---	---	----	-------------------

8. The values and beliefs of immigrants regarding work are basically quite similar to those of most Canadians.

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
-------------------	---	---	---	---	---	---	---	---	---	----	----------------

9. Older people are not appreciated in Canadian culture.

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
-------------------	---	---	---	---	---	---	---	---	---	----	----------------

10. Immigration has increased the tax burden on Canadians.

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
-------------------	---	---	---	---	---	---	---	---	---	----	----------------

11. The values and beliefs of immigrants regarding moral and religious issues are *not* compatible with the beliefs and values of most Canadians.

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
-------------------	---	---	---	---	---	---	---	---	---	----	----------------

12. Immigrants are *not* displacing Canadian workers from their jobs.

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
-------------------	---	---	---	---	---	---	---	---	---	----	----------------

13. Women's values and beliefs regarding family issues and socializing children are basically quite similar to those of men.

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
-------------------	---	---	---	---	---	---	---	---	---	----	----------------

14. Immigrants should be eligible for the same health-care benefits received by Canadians.

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
-------------------	---	---	---	---	---	---	---	---	---	----	----------------

15. Pensions and benefits for the elderly should correspond with their input in the social security system when they were younger.

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
-------------------	---	---	---	---	---	---	---	---	---	----	----------------

16. There are many jobs in which men should be given preference over women in being hired or promoted.

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
----------------------	---	---	---	---	---	---	---	---	---	----	-------------------

17. The quality of social services available to Canadians has remained the same, despite of immigration.

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
----------------------	---	---	---	---	---	---	---	---	---	----	-------------------

18. Elderly people should have equal opportunities for employment with younger people.

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
----------------------	---	---	---	---	---	---	---	---	---	----	-------------------

19. Women should have the same rights in business and other professions as do men.

Strongly Disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
----------------------	---	---	---	---	---	---	---	---	---	----	-------------------

## **Appendix F: Instructions and Scenario**

### **Instructions**

Thank you for completing the first part of the study. In the second part, you will be evaluation potential candidates for a position in a research institution in Ottawa.

To start with, please carefully read the Scenario that follows.

If you have any questions, please raise your hand and ask the experimenter.

### **Scenario- Scientist**

We would like you to imagine that you are Director of a Molecular Biology Lab at the Ottawa Institute of Biology (OIB). You are in the process of hiring potential job applicants for the position of Scientist. A job description and five resumes of potential applicants will be provided below. Many candidates have applied for this job, but these 5 candidates are the ones that have made the “short list”. This means that their academic background and work experience look very similar. We realize that this might be difficult, but your role is to evaluate each candidate and determine who, in your opinion, is the best person for the job, based on the job requirements and information provided in the resume. Please note, this position doesn't require potential candidates to pass any examinations and/or licensing process in Canada.

Please read the job description and complete the questionnaire that follows.

If you have any questions, please raise your hand and ask the experimenter.

### **Scenario- Research Assistant**

We would like you to imagine that you are Director of a Molecular Biology Lab at the Ottawa Institute of Biology (OIB). You are in the process of hiring potential job applicants for the position of Research Assistant. A job description and five resumes of

potential applicants will be provided below. Many candidates have applied for this job, but these 5 candidates are the ones that have made the “short list”. This means that their academic background and work experience look very similar. We realize that this might be difficult, but your role is to evaluate each candidate and determine who, in your opinion, is the best person for the job, based on the job requirements and information provided in the resume. Please note, this position doesn’t require potential candidates to pass any examinations and/or licensing process in Canada.

Please read the job description and complete the questionnaire that follows.

If you have any questions, please raise your hand and ask the experimenter.

## **Job description- Scientist**

**Title:** Scientist (Molecular Biology)

**Req Number:** 00003053

**Organization:** OIB

**Location(s):** Ottawa, ON

**FT/PT:** Full Time

**Work Shift:** M-F

**Salary:** \$56.000-\$70.000

SCIENTIST, at the Ottawa Institute of Biology, to work with a team studying new methods and procedures to be used in molecular biology and related disciplines. Main duties:

- Advise team members on issues related to DNA sequencing and extraction;
- Cooperate with the team director and coordinators;
- Analyze data and report findings to team members;
- Manuscript writing and submission;
- May supervise several staff members.

### **REQUIREMENTS:**

- Ph.D. in molecular biology and one year of research experience;
- Expertise in DNA sequencing, extraction, electrophoresis;
- Ability to communicate effectively with other team members;

Language: English, fluent oral and written.

## **Job description- Research Assistant**

**Title:** Research Assistant

**Req. Number:** 00003718

**Department:** OIB

**Location(s):** Ottawa, ON

**FT/PT:** Full Time

**Salary:** \$21.000- \$35.000

RESEARCH ASSISTANT, at the Ottawa Institute of Biology (OIB), to work as a team member in a molecular biology laboratory. Main responsibilities:

- Data entry
- Conduct literature reviews
- Contribute to preparing research reports and manuscripts
- Collaborate with other lab members

### **REQUIREMENTS:**

- Bachelor's degree in biology or related field and a minimum of one year of experience as a research assistant.
- Must possess a high level of initiative and the ability to work with very little supervision.
- Knowledge of data entry programs (SPSS).
- Language- English, fluent oral and written.

### Appendix G: Job evaluation questions

**Based on the job description, how important are the following skills for the successful performance as a Research Assistant (Scientist):**

1. Advanced knowledge of molecular biology

1	2	3	4	5	6	7
Not at all						Extremely

2. Knowledge of research methodology

1	2	3	4	5	6	7
Not at all						Extremely

3. Leadership skills

1	2	3	4	5	6	7
Not at all						Extremely

4. Communication skills

1	2	3	4	5	6	7
Not at all						Extremely

5. Organizational skills

1	2	3	4	5	6	7
Not at all						Extremely

## **Appendix H: Instructions and resumes**

### Instructions

Please raise your hand and ask the experimenter for the job applicants' resumes.  
Please read ALL of them carefully first, and then proceed to the rest of the questionnaire.  
You can change the order of the resumes in the folder and make notes, etc. on the resumes.

Once you are done with this section of the study, please return the resumes to the experimenter.

If you have any questions, please ask the experimenter.

**Resumes- Scientist*****Brian Edward, Ph.D.***

745 Rue Sherbrooke Ouest,  
Montreal, QC, H3A 7B8  
Tel. (514) 828-3842  
*Email: [b\\_edward@gmail.com](mailto:b_edward@gmail.com)*

**EDUCATION:**

- 2005- Ph.D., Molecular Biology, Dept. of Biology, Concordia University, Montreal, QC
- 2001- Master of Science, Molecular Biology, Dept. of Biology, Concordia University, Montreal, QC
- 1999- Bachelor of Science, Biology, Dept. of Biology, Concordia University, Montreal, QC

**RESEARCH AND PROFESSIONAL EXPERIENCE:**

- 2005 (Sept.)- present – Scientist, Division of Molecular & Developmental Biology, Mount Sinai Hospital, Montreal, QC (DNA sequencing, extraction, electrophoresis, southern blot, etc.)
- 2001 (Sept.)- 2005 (Aug.) – Graduate Research Assistant, Dept. of Biology, Molecular Biology Lab, Concordia University, Montreal, QC

**SOCIETY MEMBERSHIPS:**

- Canadian Society of Biochemistry and Molecular Biology
- International Society for Molecular Biology

**RESEARCH GRANTS:**

- 2002- 2005 – Canadian Institutes of Health Research (CIHR)
- 2006- present– Natural Sciences and Engineering Research Council of Canada (NSERC)

**LANGUAGES:** English, fluent

**REFERENCES** available upon request

# Michael Nelson, B.Sc., M.Sc., Ph.D.

1525 Main St .W., London, ON, L8S 2G6 Tel. (905) 535-9168 Email:  
[mnels@yahoo.ca](mailto:mnels@yahoo.ca)

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## **Professional Experience:**

- September, 2005- present: Scientist, The Institute for Molecular Biology and Biotechnology – MOBIX, University of Western Ontario, London, ON (research in molecular biology- DNA sequencing, extraction, southern blot, electrophoresis, other techniques)
- September, 2001- August, 2005- Graduate Research Assistant, Department of Biology, University of Western Ontario, London, ON

## **Education:**

- September, 2001- August, 2005- PhD in Molecular Biology, Department of Biology, University of Western Ontario, London, ON
- September, 1999- August, 2001- Master of Science in Molecular Biology, Department of Biology, University of Alberta, Edmonton, AB
- September, 1995- June, 1999 – Bachelor of Science in Biology, Department of Biology, University of Alberta, Edmonton, AB

## **Research Funding:**

- 2006- present- Grant: Natural Sciences and Engineering Research Council of Canada (NSERC)
- 2002 –2005-Grant: Canadian Institutes of Health Research (CIHR)

## **Professional Societies:**

- International Society of Molecular Biology
- Canadian Society of Biochemistry and Molecular Biology

## **Languages:**

English –Fluent spoken and written

References available upon request

## Dioli Payo, PhD

99 Charles St,  
Ottawa, ON, K1N 2S7  
Tel. (613) 524- 1862  
Email: [opayo@yahoo.com](mailto:opayo@yahoo.com)

### Postdoctoral Training & Positions Held

Sep. 2005- Dec. 2007: Scientist, Institute of Molecular Biology and Biotechnology,  
College of Science, University of the Philippines, Quezon City (DNA  
extraction, electrophoresis, sequencing, southern blot, etc.)

Sep. 2001- Aug. 2005: Graduate Research Assistant: Department of Biology,  
University of the Philippines, Quezon City, Philippines

### Education

2001-2005: PhD in Molecular Biology: Dept. of Biology, University of the Philippines,  
Quezon City, Philippines

1999-2001: Master of Science (Molecular Biology): Dept. of Biology, University of the  
Philippines, Visayas, Philippines

1995-1999: Bachelor of Science (Biology): Dept. of Biology, University of the  
Philippines, Visayas, Philippines

### Research Funding

2002-2005: Grant: South Asian Health Research Fund

2006- present: Grant: Natural Sciences Research Fund of Philippines (NSRFP)

### Professional Memberships

Filipino Society for Molecular Biology, Inc. (PSM)

International Society for Molecular Biology

**Languages:** English –Fluent spoken and written, Filipino – Fluent spoken and written

**References** available upon request

## **David Pawson, Ph.D.**

*125 Dundas St.W.,  
Toronto, ON, M5W1E9  
Tel. (416) 546- 2512  
Email: [d\\_pawson@gmail.com](mailto:d_pawson@gmail.com)*

### **Professional Experience**

Sep. 2005- present: Scientist, Molecular Biological and Cell Biological Lab, Samuel Lunenfeld Research Institute, Toronto, Canada (conducting molecular biology research, using DNA sequencing, extraction, electrophoresis, southern blot, and other techniques)

Sep. 2001- Sep. 2005: Graduate Research Assistant, Department of Biology, Brock University

### **Education**

2001-2005- PhD (Molecular Biology), Department of Biology, Brock University, St.Catharines, ON

1999- 2001- Master of Science, (Molecular Biology), Department of Biology, University of Guelph, Guelph, ON

1995-1999- Bachelor of Science, (Biology), Department of Biology, Brock University, St.Catharines, ON

### **Research Funding**

2006- present- Grant: Natural Sciences and Engineering Research Council of Canada (NSERC)

2002 -2005: Grant: Canadian Institutes of Health Research (CIHR)

### **Membership**

International Society for Molecular Biology

Canadian Society of Biochemistry and Molecular Biology

### **Languages**

English –Fluent spoken and written

References available upon request

## George Moore, Ph. D. (Molecular Biology)

*6 River Lane  
Ottawa, ON, K1R1T9  
Tel. (613) 728- 3274  
Email: [moore@hotmail.com](mailto:moore@hotmail.com)*

### **Employment Experience**

- Sept. 2005- Dec. 2007: Scientist: Institute of Molecular Biology, Canberra, Australia  
(conducting molecular biology research- DNA sequencing and extraction,  
southern blot, electrophoresis, etc)
- Sept. 2001- Aug. 2005: Graduate Research Assistant: Department of Biology, University  
of Canberra, Canberra, Australia.

### **Education**

- 2001-2005: PhD in Molecular Biology, Department of Biology, University of Canberra,  
Australia
- 1999-2001: Master of Science (Molecular Biology), Department of Biology, University  
of Melbourne, Melbourne, Australia
- 1995-1999: Bachelor of Science (Biology), Department of Biology, University of  
Melbourne, Melbourne, Australia

### **Research Funding**

- 2002-2005: Grant: Australian Health Research Council
- 2006- present: Grant: Natural Sciences Research Council of Australia (NSRCA)

### **Membership**

Australian Society for Biochemistry and Molecular Biology  
International Society for Molecular Biology

### **Languages**

English –Fluent spoken and written

**References** available upon request

**Resumes- Research Assistant****John Smith**

250 Charlotte St, apt.15  
Ottawa, ON, K1N6J9  
Tel. (613) 236-2828  
Email: [j.smith@yahoo.com](mailto:j.smith@yahoo.com)

**Education**

2002- 2006                      Bachelor of Science in Biology, Dept. of Biology, University of Canberra, Canberra, Australia

**Research Experience**

Sept. 2006- Dec.2007              Research Assistant, Department of Biology, University of Canberra, Canberra, Australia

**Research skills:**                      Data entry (SPSS), literature search and reviews, writing research reports

**Awards**

2005                                      Department of Biology Award, University of Canberra

2004-2006                              Scholarship for Excellence, University of Canberra

**Languages:** English, fluent spoken and written

**References:** Available upon request

# Mordecai Ogada

69 Nelson St, apt.27, Ottawa, ON, K1N 4H7

Tel. (613) 485-3298

Email: [m.ogad@hotmail.com](mailto:m.ogad@hotmail.com)

---

## **Education:**

2002- 2006: Bachelor of Science (Biology), Dept. of Biology, University of Philippines, Leyte, Philippines

## **Research Experience:**

Sept. 2006- Dec.2007 Research Assistant, Department of Biology, University of Philippines, Leyte, Philippines

**Research skills:** Writing research reports, data entry (using SPSS), literature search and reviews

## **Awards:**

2005 Department of Biology Award, University of Philippines

2004-2006 Scholarship for Excellence, University of Philippines

## **Languages:**

English –Fluent spoken and written

Filipino – Fluent spoken and written

**References:** Available upon request.

## Scott M. Jones

453 Second Ave., apt. 56  
Ottawa, ON, K1R 7S8  
*Tel. (613) 442-1863*  
Email: [jones@gmail.com](mailto:jones@gmail.com)

### Education

2002- 2006: Bachelor of Science in Biology, Department of Biology, University of Alberta, Edmonton, AB

### Research Experience

September 2006- present: Research Assistant, Biology Department, University of Ottawa, Canada

**Responsibilities:** Literature search and reviews, data entry (in SPSS), writing research reports

### Scholarships

2005: Department of Biology Award, University of Alberta

2004-2006: Scholarship for Excellence, University of Alberta

### Languages

Fluent in English (written, spoken)

**References** available upon request

# Michael MacDonald

*525 Norfolk St.,  
Guelph, ON, N1H 2G6  
Tel. (905) 535-9168  
Email: [michmc@yahoo.ca](mailto:michmc@yahoo.ca)*

## Professional Experience:

September, 2006- present - Research Assistant, Department of Biology,  
University of Guelph

Main Responsibilities: Data entry (using SPSS), literature search and  
reviews, writing research reports

## Education:

2002- 2006- Bachelor of Science (Biology) Department of Biology,  
University of Guelph

## Awards

2005- Department of Biology Award, University of Guelph

2004-2006 Scholarship for Excellence, University of Guelph

Languages English, fluent spoken / written

References available upon request

# Ryan Webster

125 Dundas St.W.,  
Toronto, ON, M5W1E9  
Tel. (416) 546- 2512  
Email: [rwebster@gmail.com](mailto:rwebster@gmail.com)

## Professional Experience

Sep. 2006- present: Research Assistant, Dept. of Biology, York University

*Responsibilities:* Conducting literature searches and reviews, writing research reports, data entry using SPSS

## Education

2002-2006: Bachelor of Science in Biology, Dept. of Biology, York University, Toronto, ON

## Awards

2005- Dept. of Biology Award, York University

2004-2006 Scholarship for Excellence, York University

## Languages

Fluent in English (written / spoken)

References available upon request.

**Appendix I: Job applicants' evaluation questions**

**Applicant's name** \_\_\_\_\_

**Job Applicant 1 Evaluation**

**Now, please answer the following questions regarding job applicant 1:**

- 1. What is the candidate's country of origin? (please circle your answer)**  
1- Canada  
2- Other (please specify) \_\_\_\_\_
- 2. In what country did the candidate get his or her education?**  
1- Canada  
2- Other (please specify) \_\_\_\_\_
- 3. Does candidate have the minimum educational requirements?**  
1- Yes  
2- No
- 4. In what country did the candidate get his or her work experience?**  
1- Canada  
2- Other (please specify) \_\_\_\_\_
- 5. Does the candidate have the minimum experience?**  
1- Yes  
2- No
- 6. Would you hire this candidate?**  
1- Definitely yes  
2- Yes, acceptable  
3- If no other is available  
4- No
- 7. Based on the salary range provided in the job description (\$21,000-\$35,000), what salary would be appropriate for this candidate, if he or she is hired (please provide an exact amount)?**  
  
\_\_\_\_\_

**Applicant's name** \_\_\_\_\_

**Applicant 1 Job Fit**

**Please indicate the extent to which applicant 1 is suitable for the position on each of the following characteristics:**

1. Education

1	2	3	4	5	6	7
Unsuitable						Very suitable

2. Work experience

1	2	3	4	5	6	7
Unsuitable						Very suitable

3. Communication skills

1	2	3	4	5	6	7
Unsuitable						Very suitable

4. Would be a good fit for the job

1	2	3	4	5	6	7
Strongly disagree						Strongly agree

5. Would demonstrate strong job performance

1	2	3	4	5	6	7
Strongly disagree						Strongly agree

6. In your opinion, what level of *oral* English fluency does the applicant have?

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

7. In your opinion, what level of *written* English fluency does the applicant have?

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

### **Job Applicants Ranking**

1. Please, indicate who you think will be the most preferable candidate for this position. (Please write the applicant's name in the space provided)

---

2. Who do you think will be the second preferable candidate? (Please write the applicant's name in the space provided)

---

3. Who do you think will be the third preferable candidate? (Please write the applicant's name in the space provided)

---

4. Who do you think will be the fourth preferable candidate? (Please write the applicant's name in the space provided)

---

5. Who do you think will be the least preferable candidate? (Please write the applicant's name in the space provided)

---

**Now, please briefly describe what factors lead you to determine who the *most* preferable candidate was?**

---

---

---

---

---

---

**Similarly, what factors lead you to determine who the *least* preferable candidate was?**

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## **Appendix J: Instructions and questionnaires**

### **Instructions**

Thanks for completing the second part of the study. We're almost done! In the final part, you will fill out several questionnaires related to your beliefs and provide us a feedback about the study.

If you have any questions, please ask the experimenter.



## Beliefs Scale

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

1. What is your overall attitude toward immigrants to Canada?

-4	-3	-2	-1	0	1	2	3	4
Extremely Unfavorable								Extremely Favorable

2. How positive or negative do you feel toward immigrants to Canada?

-4	-3	-2	-1	0	1	2	3	4
Extremely Negative								Extremely Positive

3. Do you agree or disagree that immigration to Canada should be encouraged?

-4	-3	-2	-1	0	1	2	3	4
Strongly Disagree								Strongly Agree

4. If it were your job to plan Canadian immigration policy, would you:

-4	-3	-2	-1	0	1	2	3	4
Decrease the level of Immigration a lot								Increase the level of Immigration a lot

## MRS

1. Over the past few years, the government and news media have shown more respect for immigrants than they deserve.

1                      2                      3                      4                      5  
 Strongly                                                                                                          Strongly  
 disagree                                                                                                          agree

2. Over the past few years, immigrants have gotten more economically than they deserve

1                      2                      3                      4                      5  
 Strongly                                                                                                          Strongly  
 disagree                                                                                                          agree

3. It is easy to understand the anger of immigrants in Canada

1                      2                      3                      4                      5  
 Strongly                                                                                                          Strongly  
 disagree                                                                                                          agree

4. How many immigrants in Ontario and British Columbia do you think miss out on jobs or promotions because of discrimination (circle one number)?

1- many  
 2- some  
 3- only a few  
 4- none

5. How many immigrants in Ontario and British Columbia do you think miss out on good housing because Canadian owners won't rent or sell to them (circle one number)?

1- many  
 2- some  
 3- only a few  
 4- none

6. Immigrants are getting too demanding on their push for equal rights.

1                      2                      3                      4                      5  
 Strongly                                                                                                          Strongly  
 disagree                                                                                                          agree



## Appendix L: Debriefing

Meeting the needs of the Canadian workforce depends heavily on skilled immigrants. However, despite the fact that 75% of skilled immigrants in Canada have foreign educational credentials and work experience that match Canadian ones, potential employers substantially undervalue their professionalism. As a result, highly experienced immigrants can be found working in such unskilled occupations, as cab driving and toilet cleaning. One of the hypotheses why that happens is that immigrants are seen as outsiders, who can pose a threat to Canadian economy or culture, and who compete for limited economic and social resources. Even if immigrants don't do well economically after arrival, they may be seen as a burden for Canadian welfare, and again pose a threat to Canadians. To reduce this threat, people try to limit the access of outsiders to these valuable resources.

One of the goals of the present study was to examine Canadians' attitudes toward immigrants from different cultures. As you can see, we did not tell you about our interest in immigrants at the beginning of the study. Sometimes we don't tell people the real purpose of the experiment right away, because it may result in showing desired behaviours by participants instead of naturally occurring reactions. This way, we would never know people's reactions in everyday life. Thus, we have to hide the true purpose of the study at the beginning to get more clear and natural outcomes.

To help us understand people's reactions to immigrants, participants in this study read three fabricated articles. These articles were not really published, and the articles you read were partially made-up. Included in this set of articles was one of particular interest for this study, as it contained information regarding immigrants' participation in Canadian workforce. This article varied across participants. Some of you read an article describing immigrants' success in the job market. Another read an article describing the difficulties encountered by immigrants. Finally, some participants read an article about immigrants that did not make reference to how successful or not they were in the Canadian workforce. Your reactions to the other two articles in the package- about new labour program and women's participation in Canadian workforce were not of interest in the present study, but instead served as 'filler' tasks, which means a task that would make our true interest less obvious to you.

After reading the articles, participants evaluated a potential job applicant for a described position. Because we had resumes of "job applicants" from different cultures, we also asked about cultural similarity, general attitudes and prejudice toward a potential applicant. We are interested in whether the general job context of immigrants would influence how participants evaluated specific individuals, and whether these evaluations would depend on where the immigrant came from and the nature of the job applied for.

We appreciate the time you spent answering this study's questionnaires. It is our hope that your answers will help us to get a good idea of Canadians' perceptions of skilled immigrants, and to get a better feel for the factors that influence these perceptions. Results of this study may provide important information that can be considered in formulation of policy initiatives that may improve the labour market outcomes of future immigrants.

### **Appendix M: Informed Consent to the Use of Data**

Study Title: Labour force perceptions

Study Personnel: Natalia Lapshina, (Researcher, 520-2600 ext. 2692,  
 nlapshin@connect.carleton.ca)  
 Dr. Kim Matheson (Faculty Investigator, 520-3570)  
 Dr. Michael Wohl (Faculty Investigator, 520-2600 ext. 2908)

The purpose of an informed consent is to ensure that you now understand the true purpose of the study and that you agree to allow your data to be used for research and teaching purposes.

Purpose: The true purpose of this study is to assess students' emotional and behavioural reactions to intergroup threat. This research is attempting to look at how people appraise and react to the intergroup threat, and how the experience of this threat influences their attitudes towards skilled immigrants.

Anonymity/Confidentiality: The data collected in this study are kept anonymous and confidential. The consent forms are kept separate from your responses.

Right to withdraw data: You have the right to indicate that you do not wish your data to be used in this study. If you indicate this is your choice, then all measures you have provided will be destroyed.

Signatures: I have read the above description of the study concerning students' responses to intergroup threat. The data in the study will be used in research publications or for teaching purposes. My signature indicates that I agree to allow the data I have provided to be used for these purposes.

Full Name (Print): \_\_\_\_\_

Participant Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Researcher Signature: \_\_\_\_\_

Date: \_\_\_\_\_