

# **The Dark Side of Indirect Cross-Group Contact: Implications for Collective Action**

by

**Lisa M. Bitacola**

M.A. (Psychology), Simon Fraser University, 2013

B.A. (Hons.), King's University College at the University of Western Ontario, 2010

Research Thesis Submitted In Partial Fulfillment of the  
Requirements for the Degree of  
Master of Arts

in the  
Department of Psychology  
Faculty of Arts and Social Sciences

**© Lisa M. Bitacola 2013**

**SIMON FRASER UNIVERSITY**

**Summer 2013**

All rights reserved.

However, in accordance with the *Copyright Act of Canada*, this work may be reproduced, without authorization, under the conditions for "Fair Dealing." Therefore, limited reproduction of this work for the purposes of private study, research, criticism, review and news reporting is likely to be in accordance with the law, particularly if cited appropriately.

# Approval

**Name:** Lisa M. Bitacola

**Degree:** Master of Arts (Psychology)

**Title of Thesis:** *The Dark Side of Indirect Cross-Group Contact:  
Implications for Collective Action*

**Examining Committee:** Chair: Ralph Mistlberger  
Professor

**Stephen C. Wright**  
Senior Supervisor  
Professor

---

**Kim Bartholomew**  
Supervisor  
Professor

---

**Janelle Jones**  
Supervisor  
Assistant Professor

---

**John Dixon**  
External Examiner  
Professor  
Department of Psychology  
Open University

---

**Date Defended/Approved:** June 17, 2013

## Partial Copyright Licence



The author, whose copyright is declared on the title page of this work, has granted to Simon Fraser University the right to lend this thesis, project or extended essay to users of the Simon Fraser University Library, and to make partial or single copies only for such users or in response to a request from the library of any other university, or other educational institution, on its own behalf or for one of its users.

The author has further granted permission to Simon Fraser University to keep or make a digital copy for use in its circulating collection (currently available to the public at the "Institutional Repository" link of the SFU Library website ([www.lib.sfu.ca](http://www.lib.sfu.ca)) at <http://summit/sfu.ca> and, without changing the content, to translate the thesis/project or extended essays, if technically possible, to any medium or format for the purpose of preservation of the digital work.

The author has further agreed that permission for multiple copying of this work for scholarly purposes may be granted by either the author or the Dean of Graduate Studies.

It is understood that copying or publication of this work for financial gain shall not be allowed without the author's written permission.

Permission for public performance, or limited permission for private scholarly use, of any multimedia materials forming part of this work, may have been granted by the author. This information may be found on the separately catalogued multimedia material and in the signed Partial Copyright Licence.

While licensing SFU to permit the above uses, the author retains copyright in the thesis, project or extended essays, including the right to change the work for subsequent purposes, including editing and publishing the work in whole or in part, and licensing other parties, as the author may desire.

The original Partial Copyright Licence attesting to these terms, and signed by this author, may be found in the original bound copy of this work, retained in the Simon Fraser University Archive.

Simon Fraser University Library  
Burnaby, British Columbia, Canada

revised Fall 2011

## Ethics Statement



The author, whose name appears on the title page of this work, has obtained, for the research described in this work, either:

- a. human research ethics approval from the Simon Fraser University Office of Research Ethics,

or

- b. advance approval of the animal care protocol from the University Animal Care Committee of Simon Fraser University;

or has conducted the research

- c. as a co-investigator, collaborator or research assistant in a research project approved in advance,

or

- d. as a member of a course approved in advance for minimal risk human research, by the Office of Research Ethics.

A copy of the approval letter has been filed at the Theses Office of the University Library at the time of submission of this thesis or project.

The original application for approval and letter of approval are filed with the relevant offices. Inquiries may be directed to those authorities.

Simon Fraser University Library  
Burnaby, British Columbia, Canada

update Spring 2010

## **Abstract**

Although engaging in direct cross-group contact can improve intergroup attitudes, recent research has shown that these interactions may have unintended consequences for low-status group members' collective action intentions (e.g., Wright & Baray, 2012). However, research has shown that indirect forms of contact can also improve intergroup attitudes, but to date no research has examined the impact of indirect contact on collective action orientation for both high-and low-status group members. Findings of the current research suggest that for both high-and low-status group members there is an indirect negative impact of observing a high-quality cross-group interaction on collective action, which is partially mediated by group-based anger. The lack of a direct effect suggests that there are one or more variables that served to suppress this effect, raising the possibility that indirect cross-group contact may have both empowering and disempowering effects on collective action.

**Keywords:** cross-group contact; collective action; intergroup inequality; prejudice reduction; intergroup attitudes

*Dedicated to my mom, Sue*

## **Acknowledgements**

First and foremost I would like to thank Dr. Stephen Wright for being an incredible advisor and teacher. In the past two years I have learned so much about research, writing and social justice. Many thanks to Dr. Kim Bartholomew and Dr. Janelle Jones for providing insight through all stages of my thesis and for challenging me to approach my research from different perspectives. Thanks also to Dr. John Dixon for serving as my external examiner and offering helpful insights for future research. I would also like to recognize four incredible research assistants – Ali Aljimali, Evelyn Chen, Melissa Koay and Raman Samra. Without your dedication and passion this research would have never been possible.

Thanks to my labmates and SFU friends for your support throughout this Masters thesis. Thanks to my café buddies (Donna Tafreshi, Antonia Dangaltcheva and Greg Boese) for making the writing process feasible, my cohort labmate (Genevieve Lorenzo) for sharing in the process, Lisa Droogendyk for helping/reminding me to keep nourished throughout the writing process and Odilia Dys-Steenbergen for making the lab a welcoming place to work and enjoy time with friends.

Thanks to my amazing family – Mom, Dad, Brian, Donny, Lindsay, Alex, Braedyn and Luca. Your continual support throughout my undergraduate and graduate education has made this all possible. Lastly, thanks to my incredible friends back home – Heidi Elliott and Lisa MacKinnon. Your supportive texts and Skype talks made this thesis process easier.

# Table of Contents

|                                                                                                                                                                       |           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Approval.....                                                                                                                                                         | ii        |
| Partial Copyright Licence .....                                                                                                                                       | iii       |
| Abstract.....                                                                                                                                                         | iv        |
| Acknowledgements.....                                                                                                                                                 | vi        |
| Table of Contents.....                                                                                                                                                | vii       |
| List of Tables.....                                                                                                                                                   | ix        |
| List of Figures .....                                                                                                                                                 | ix        |
| <br>                                                                                                                                                                  |           |
| <b>Introduction .....</b>                                                                                                                                             | <b>1</b>  |
| Strategies for Social Change .....                                                                                                                                    | 3         |
| Direct Cross-Group Contact.....                                                                                                                                       | 3         |
| Indirect Cross-Group Contact .....                                                                                                                                    | 4         |
| Collective Action .....                                                                                                                                               | 5         |
| Cross-Group Contact versus Collective Action.....                                                                                                                     | 7         |
| Applying the Cross-Group Contact/Collective Action Conflict to Indirect Cross-<br>Group Contact.....                                                                  | 10        |
| <br>                                                                                                                                                                  |           |
| <b>Overview of Research .....</b>                                                                                                                                     | <b>13</b> |
| Current Research.....                                                                                                                                                 | 13        |
| Hypotheses .....                                                                                                                                                      | 14        |
| Main Effects .....                                                                                                                                                    | 14        |
| Mediation .....                                                                                                                                                       | 15        |
| <br>                                                                                                                                                                  |           |
| <b>Method .....</b>                                                                                                                                                   | <b>15</b> |
| Participants .....                                                                                                                                                    | 15        |
| Procedure .....                                                                                                                                                       | 16        |
| Independent Variables .....                                                                                                                                           | 17        |
| Dependent Variables .....                                                                                                                                             | 18        |
| Mediating Variables .....                                                                                                                                             | 19        |
| Other Measures .....                                                                                                                                                  | 20        |
| Manipulation Checks.....                                                                                                                                              | 20        |
| Demographic Information.....                                                                                                                                          | 21        |
| <br>                                                                                                                                                                  |           |
| <b>Results .....</b>                                                                                                                                                  | <b>21</b> |
| Preliminary Analyses .....                                                                                                                                            | 21        |
| Tests of Hypotheses.....                                                                                                                                              | 23        |
| Hypothesis A: Tests of the Quality of Indirect Contact on Attitudes towards<br>the Outgroup .....                                                                     | 24        |
| Hypotheses B-D: Tests of Effects of Group Status (Hyp. B), Quality of<br>Indirect Contact (Hyp. C) and Local Rules/Expectations (Hyp. D) on<br>Collective Action..... | 25        |
| Hypotheses E-G: Indirect Tests of the Quality of Indirect Contact on<br>Collective Action Intentions .....                                                            | 27        |



|                                                                                     |               |
|-------------------------------------------------------------------------------------|---------------|
| <b>Discussion</b> .....                                                             | <b>29</b>     |
| Summary of Findings, Contributions and Future Directions .....                      | 30            |
| Effects of quality of indirect contact on intergroup attitudes.....                 | 30            |
| Effects of local interaction rules/expectations .....                               | 31            |
| Effects of quality of interaction on collective action intentions .....             | 32            |
| Effects of status on collective action intentions.....                              | 34            |
| <br><b>Conclusion</b> .....                                                         | <br><b>35</b> |
| <br><b>References</b> .....                                                         | <br><b>37</b> |
| <br><b>Appendices</b> .....                                                         | <br><b>44</b> |
| Appendix A: Group Status Manipulation .....                                         | 45            |
| Appendix B: Quality of Indirect Contact Manipulation (High-Quality Condition) ..... | 46            |
| Appendix C: Quality of Indirect Contact Manipulation (Low-Quality Condition).....   | 47            |
| Appendix D: Attitudes towards the Outgroup Scale.....                               | 48            |
| Appendix E: Collective Action Intentions Scale .....                                | 49            |
| Appendix F: Collective Action Behavioural Measure .....                             | 50            |
| Appendix G: Anger.....                                                              | 51            |
| Appendix H: Group Efficacy Scale.....                                               | 52            |
| Appendix I: Perceived Quality of Interaction Scale .....                            | 53            |
| Appendix J: Correlation Matrix of all Relevant Variables .....                      | 54            |

## List of Tables

|          |                                                                                                                                                            |    |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Table 1. | Excerpt from the online discussion for the low-and high-quality conditions .....                                                                           | 18 |
| Table 2. | Frequency for local interaction rules/expectations manipulation check .....                                                                                | 23 |
| Table 3. | Means for perceived quality of interaction and attitudes towards the outgroup for both the high-and low-quality of indirect contact conditions .....       | 25 |
| Table 4. | Three-way ANOVA on Collective Action Intentions .....                                                                                                      | 26 |
| Table 5. | Means for all independent variables on both collective action measures .....                                                                               | 26 |
| Table 6. | Three-way ANOVA on Collective Action Behavioural Measure .....                                                                                             | 27 |
| Table 7. | Means for perceived quality of interaction, anger, and collective action intentions for both the low-and high-quality of indirect contact conditions ..... | 28 |

## List of Figures

|           |                                                                                                                                                    |    |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Figure 1. | Proposed model of intervening effects between quality of indirect contact and collective action .....                                              | 24 |
| Figure 2. | Perceived quality of interaction as a mechanism between quality of indirect contact and attitudes towards the outgroup .....                       | 25 |
| Figure 3. | Proposed model of intervening effects between quality of indirect contact and collective action (including perceived quality of interaction) ..... | 28 |
| Figure 4. | Perceived quality of interaction and anger as serial mediating variables between quality of indirect contact and collective action intentions..... | 29 |

# Introduction

Canada's racial and linguistic diversity has significantly changed as the rate of immigration from non-European countries has increased. It has been projected that by 2017 visible minorities will comprise over 20% of the Canadian population and large metropolitan cities will likely be a plurality with no group representing a clear majority (Reitz & Banerjee, 2007). This increasingly diverse society offers many exciting possibilities for Canada, but brings with it the challenge of ensuring positive harmonious relations while also ensuring that all groups have equal access to the opportunities and resources offered by the country. Increasing contact across groups brings the opportunity for learning and growth, but also the potential for more direct experiences with discrimination. For example, 35% of visible minorities in Canada report experiencing discrimination based on their ethnicity and/or culture (Statistics Canada, 2009a) and police-reported hate crimes towards Arabs and West Asians doubled in Canada from 2008 to 2009 (Statistics Canada, 2009b). Discrimination is not limited to race and ethnicity. The proportion of gays, lesbians and bisexuals reporting victimization is 3 times higher than heterosexuals (Canadian Centre for Justice Statistics, 2004) and more than 10% of young women in Canada reported being sexually harassed at work in the past year (Johnson, 1994).

In addition to individual acts of discrimination, some groups also experience disadvantages such as structural inequalities, where resources are distributed unequally across groups. For example, although Canada is one of the wealthiest countries in the world, income inequality has increased over the past 20 years. Women, seniors, Aboriginal people, people with disabilities, and recent immigrants are at the highest risk of experiencing poverty (Standing Committee on Human Resources, Skills and Social Development and the Status of Persons with Disabilities, 2010). Many of these same groups also face health inequalities. For example, the poorest 20% of Canadians are twice as likely to be diagnosed with chronic conditions such as heart disease and diabetes, compared to the richest 20% (Public Health Agency of Canada, 2011).

Given the presence of discrimination and intergroup inequality in society it is not surprising that there has been a strong focus in social psychological research to improve intergroup relations (Wright, 2010). Since the 1950's many social psychologists have focused their research on ways of reducing prejudice (Oskamp, 2000). This research has provided a number of successful strategies for reducing prejudice and creating more positive social interactions between members of different social groups (Aronson & Patnoe, 1997; Paluck & Green, 2009; Pettigrew & Tropp, 2008). In particular, Gordon Allport's (1954) Intergroup Contact Theory has received much attention in the social sciences as a strategy to improve intergroup relations (see Pettigrew, 1998; Pettigrew & Tropp, 2006). It involves the idea that creating opportunities for direct contact (e.g., in classroom settings, cross-group friendships) between groups, under certain conditions, can lead to improvements in intergroup attitudes and behaviour (Pettigrew & Tropp, 2006; Wright et al., 1997). More recently, there has been evidence that indirect forms of contact can also improve intergroup attitudes. For example, knowledge of an ingroup member who has a close relationship with an outgroup member (extended contact – Wright, Aron, McLaughlin-Volpe, & Ropp, 1997), or observing a series of positive social interactions between an ingroup and outgroup member (vicarious contact – Mazziotta, Mummendey & Wright, 2011) can lead to improved attitudes towards the outgroup. Research on direct and indirect cross-group contact as a way to improve intergroup attitudes has proven to be quite successful (Dovidio, Eller & Hewstone, 2011; Pettigrew & Tropp, 2008). However, recently some social psychologists have questioned whether these changes in individual attitudes and cross-group contact are necessarily the only, or even the best way to reduce the broader structural inequalities between groups (see Dixon et al., 2013; Wright & Baray, 2012).

An alternative avenue to social change is through collective action, where members of a group engage in actions intended to reduce intergroup inequality. A number of researchers have recently shown that the collective action strategy does not compliment prejudice reduction strategies. Rather, these two alternatives for creating change may be to some degree at odds with each other. Wright and Baray (2012), for example, describe how direct cross-group contact can sometimes undermine disadvantaged group members' motivation to engage in collective action. If people are

not motivated to engage in collective action to reduce intergroup inequality, this can have detrimental effects on the potential for meaningful social change.

The growing empirical evidence for the negative effects of direct contact on collective action intentions (Dixon et al., 2013; Wright & Baray, 2012), suggests that an important next step is to determine whether indirect contact, which has been argued to be “critically important, both practically and theoretically” (Dovidio, Eller & Hewstone, pp. 148) also has an undermining effect on collective action. The current research was designed to provide an initial investigation of this question - will collective action intentions be reduced when participants observe a more positive cross-group interaction compared to observing a less positive cross-group interaction?

I will first provide a more detailed account of the two key social psychological strategies that are thought to bring about social change (i.e., direct and indirect cross-group contact and collective action). Next, I will review Wright and Lubensky’s (2009) discussion of the conflicts between these two strategies and why prejudice reduction strategies such as direct cross-group contact may lead to a reduction in collective action intentions. I will then consider whether these explanations can be applied to indirect cross-group contact and introduce a theoretical framework that suggests indirect cross-group contact may also undermine collective action.

## **Strategies for Social Change**

### ***Direct Cross-Group Contact***

A basic premise of the Intergroup Contact Theory (a form of direct contact) is that bringing members of different groups together is not sufficient to bring about positive changes in attitudes. According to Allport, four conditions must be present in order for intergroup contact to reduce prejudice. (a) The individuals that are interacting within the current situation must be given equal status and therefore the current situation must be structured in a way to make clear that equal status between the group members is expected and required. (b) The situation must be structured so both individuals are working together towards a common goal. For example, a basketball team has to work together to win the game and therefore the goal of winning is common to all members of

the team. (c) Cooperation, not competition, must be present. For example, the jigsaw classroom (a direct cross-group contact strategy) provides each student in the group with a task they must finish in order for the group to reach their goal. Therefore, reaching the goal requires all members of the group to interact cooperatively. (d) The final condition requires the authorities, such as teachers and the law, to be supportive of the cross-group contact. The result of this support is the creation of norms that support contact across groups and are recognizable by members of both groups (Paluck & Green, 2009; Pettigrew, 1998).

A meta-analysis of over 500 studies of direct contact (Pettigrew & Tropp, 2006) reveals consistent moderate support for the effectiveness of cross-group contact. It also shows that any or all of Allport's proposed conditions do not have to be met for attitudes to change, but the benefits of cross-group contact are greatest when these conditions are present. Thus, it appears that the contact hypothesis rightly deserves to be considered the most successful prejudice reduction strategy offered by psychology (Dovidio, Gaertner & Kawakami, 2003). In addition, its success has led researchers to examine extensions of direct cross-group contact that focus on more distal forms of contact.

### ***Indirect Cross-Group Contact***

The general concept of indirect cross-group contact was first introduced by Wright, Aron, McLaughlin-Volpe and Ropp (1997), with their articulation of the extended contact hypothesis. The idea is that merely being aware that an ingroup member has a close friendship with an outgroup member can result in improved attitudes towards the outgroup as a whole. Testing of the extended contact hypothesis found more positive attitudes towards the outgroup among both high-status and low-status group members who knew of close cross-ethnic friendships (Wright et al., 1997). Initial research on the extended contact hypothesis also led to investigations of other forms of indirect cross-group contact that are even more distal. For example, vicarious contact involves simply observing a positive cross-group interaction and recent research has shown that this form of positive indirect cross-group contact can lead to increased interest in engaging in future direct cross-group contact as well as decreased prejudice towards the outgroup (Mazziotta, et al., 2011).

Research has shown that indirect cross-group contact can be successful in a variety of intergroup contexts, including improving attitudes towards immigrants (Paolini, Hewstone, Cairns & Voci, 2004), improving children's attitudes towards people with disabilities (Cameron & Rutland, 2006), and improving attitudes of South Asian and White people in the United Kingdom (Turner, Hewstone & Voci, 2007). Social psychologists have noted that indirect cross-group contact offers a valuable practical application of the contact hypothesis because reductions in prejudice can occur without having to bring people together to engage in direct contact (Wright et al., 1997; Turner et al., 2010).

### ***Collective Action***

Another area of research and theorizing in the social psychology of social change has focused on direct action that demands redress of status inequality. This is the study of collective action. Social psychologists (see Wright, 2010) define collective action as any action that is intended to improve the status or conditions of one's ingroup. Such actions can be taken by a group of people working in concert, such as a protest or political movement, or by individuals acting alone, such as confronting a person engaging in a discriminatory act (Becker, 2012).

Despite the prevalence of intergroup inequality, low-status group members often do not engage in collective action to reduce this inequality. This can be understood by examining the four psychological prerequisites to collective action proposed by Tajfel and Turner's (1979) Social Identity Theory. In order for collective action to emerge: (a) individuals must have a strong and meaningful identification with the group that is experiencing the intergroup inequality; (b) the boundaries between the high-and low-status groups must be seen as closed, thus making movement from the low-status group to the high-status group appear to be impossible; (c) the individual must perceive the intergroup inequality as illegitimate and therefore unfair; and (d) the individual must believe the intergroup inequality can be ameliorated. A combination of a strong collective identification, impermeable boundaries between groups, perceived illegitimacy, and a belief that the intergroup inequality can change leads to collective action orientation (Wright, 2010). A strong collective action orientation indicates an increased willingness or desire to engage in collective action on behalf of one's group.

In addition, van Zomeren, Spears, Fischer and Leach (2004) have proposed that there are two complimentary, but distinct pathways that lead low-status group members to take collective action – group-based anger and group efficacy. The perception that the intergroup inequality is unfair leads to group-based anger, which in turn increases collective action intentions. Similarly, increased feelings of support for social action strengthens perceptions of group efficacy – the belief that group members can effectively bring about change – which in turn increases interest in collective action. It is also interesting to note that research on high-status group members' willingness to engage in direct social action on behalf of the low-status group has shown that anger is also an important predictor (Mallett et al., 2008).

Collective action does not always have to be taken solely by low-status group members. There are many real-world examples where high-status group members support and participate in direct actions for social change on behalf of low-status groups. For example, white people were part of the civil rights movement, men are engaging in the fight to reduce gender inequality, and heterosexuals take action as members of gay-straight alliances (Mallett, Huntsinger, Sinclair & Swim, 2008). Collaboration between high-status and low-status group members can have important implications for bringing about social change. High-status group members usually have more power and resources than members of the low-status group (Sidanius & Pratto, 1999) and their actions can at times be more persuasive to third parties who observe direct social actions, because high-status group members are not seen as self-interested (Czopp & Monteith, 2003).

Although research on collective action has gained momentum in the social psychological study of social change, prejudice reduction is clearly the dominant focus (Wright, 2010). It may appear that reducing prejudice and promoting collective action are both good ideas and thus could be thought of as complimentary. However, a number of researchers have begun to explore the possibility that there may be inconsistencies and even contradictions between these two strategies (see Dixon et al., 2012; Wright, 2001).



## **Cross-Group Contact versus Collective Action**

Recent research on direct cross-group contact (note that none of this research has been conducted using indirect cross-group contact) has shown that this means of reducing prejudice may have unintended consequences for low-status group members' willingness to engage in collective action (Dixon, Tropp, Durrheim & Tredoux, 2010; Wright & Baray, 2012; Wright & Lubensky, 2009). For example, Saguy, Tausch, Dovidio and Pratto (2009) showed that following positive cross-group contact, Israeli Jews' (a high-status majority) attitudes towards Israeli Arabs (a low-status minority) were improved, but the intergroup inequality was less obvious to the Israeli Arabs and therefore they interpreted the need for social change as less important. Similarly, Dixon, Durrheim and Tredoux, (2007), asked South African residents about their level and type of contact with White and Black people, and their opinion of race related policies on employment, education and land. The results showed that for Black South Africans positive contact with Whites reduced their support for race related policies; that is, contact decreased their support for policies designed to produce social change. Similar effects have been shown experimentally. Becker, Wright, Lubensky and Zhou (2012) arranged for low-status group members to have a friendly and positive interaction with a high-status group member who then expressed varying views about the legitimacy of their group's advantaged status. In all cases, friendly contact resulted in the low-status group member reporting more positive attitudes towards the high-status group (a positive contact effect). However, it was only when the high-status group member explicitly indicated that they thought the intergroup inequality was illegitimate that members of the low-status group did not show a reduction in collective action orientation. Friendly interactions with a high-status group member who appeared to see the inequality as legitimate or who did not indicate his or her position on the legitimacy of the inequality reduced the willingness of low-status group members to take collective action to improve the status of their group.

In all of these examples of direct cross-group contact the primary goal of a prejudice reduction approach appears to have been met, but there may also be costs in terms of collective action intentions (Wright & Lubensky, 2009). In order to understand why cross-group contact might undermine collective action we need to consider the

psychological antecedents to both cross-group contact and collective action (Sturmer & Simon, 2004; Tajfel & Turner, 1979; Wright, 2010). Traditionally, cross-group contact approaches targeted high-status group members, whereas collective action approaches targeted low-status group members. However, cross-group contact and collective action researchers have also focussed their investigation on the other targets. That is, cross-group contact researchers have examined the impact of contact on low-status group members' attitudes towards high-status group members, showing similar although somewhat weaker positive effects on intergroup attitudes (Tropp & Pettigrew, 2005). Additionally, collective action researchers have investigated high-status group members' willingness to engage in action on behalf of low-status groups (Iyer, Leach & Crosby, 2003; Mallett, Huntsinger & Sinclair, 2008). Since cross-group contact involve both high- and low-status group members it is important to assess how these interactions impact both groups.

A closer look shows that many of the antecedents necessary for low-status groups to take part in collective action are the exact opposite to those necessary for cross-group contact approaches to be effective. Wright and Lubensky (2009) have noted four examples. The first is collective identity. Collective identification is, for the most part, not encouraged during cross-group contact, several contact approaches advocate for reductions in the salience of the ingroup/outgroup distinction and a focus on personal or common identities (Gaertner & Dovidio, 2000; Pettigrew & Tropp, 2006). However, a keen awareness of and strong identification with the ingroup is a necessary prerequisite to collective action. For example, a longitudinal study by Stürmer and Simon (2004b) showed that a measure of collective identification with a gay rights movement predicted gay men's participation in collective action one year later. In contrast, Greenaway, Quinn and Louis (2011) found that Indigenous Australians showed reduced levels of support for collective action when they were encouraged to think in terms of their common identity with all humans, compared to when they were encouraged to think in terms of their Indigenous Australian identity.

In addition, the collective action approach calls for the low-status group to characterize the outgroup as a villain or oppressor in order to increase identification with the ingroup and to develop a target for collective action (Wright & Lubensky, 2009). In order for this characterization to occur, perceived or real conflict between the groups is

necessary. Cross-group contact has, by definition, the goal of improving attitudes and liking between groups. Thus, perceptions of harmony, and not conflict, between groups is seen as critical in the cross-group contact approach, while conflict and competition are hallmarks of collective action (Dixon et al., 2010).

A study by Wright and Lubensky (2009) illustrates the importance of both collective identification and seeing the high-status group as an oppressor in promoting collective action among low-status groups. Among a sample of African American and Latino(a) students in the United States, more contact with White students was associated with lower identification with their ethnic ingroup and reduced blaming of Whites. These perceptions, in turn, were associated with less prejudice towards Whites, but also lower willingness to take part in collective action on behalf of their ethnic ingroup. Thus, although a prejudice reduction approach (i.e., direct cross-group contact) improved intergroup attitudes by reducing ingroup identification and reducing the degree to which the outgroup was seen as the villain, both of these processes also served to undermine interest in collective action.

A third key difference between the psychologies of collective action and prejudice reduction discussed involves perceptions of boundary permeability (Wright & Lubensky, 2009). Collective action requires that the boundaries between the high-status and low-status groups be seen as impermeable. This perception of impermeability strengthens identification with the ingroup and feelings of collective injustice, which then serve as strong motivators for change. Research by Reynolds, Oakes, Haslam, Nolan and Dolnik (2000) and by Wright, Taylor and Moghaddam (1990) show that collective protest is highest when participants are placed in a low-status group with no option for moving into a higher status group. When it is possible for low-status group members to move individually into the high-status group, collective protest is reduced and individual actions or acceptance of their position in the low-status group increase. However, prejudice reduction approaches often encourage a blurring of group boundaries.

Finally, in order for collective action to occur low-status group members must recognize the inequality between the two groups and recognize that inequality as unjust (Wright & Lubensky, 2009). However, Saguy and Chernyak-Hai (2012) showed that when participants were placed in a contact situation where they were encouraged to

focus on the commonalities between the groups they were more likely to see the status differences as legitimate and were less likely to recognize instances of discrimination. Dixon et al. (2012) also add that the recognition of intergroup inequality can create negative emotions, such as anger, which then encourage group members to come together to fight for a more just society. This is in contrast to the psychology of prejudice reduction, which encourages a reduction in the salience of the inequality between the groups. Many of the most prominent prejudice reduction approaches call for the creation of equality between groups during the interaction (e.g., Allport, 1954; Aronson & Patnoe, 1997).

In summary, the underlying psychologies of these cross-group contact and collective action approaches are not complimentary, but rather are at odds with one another. Therefore, it is not surprising that prejudice reduction approaches such as direct cross-group contact undercut collective action intentions. This is troubling, as many of the important historical “wins” for low-status groups have come about through the collective action and continued dedication by these groups to reducing intergroup inequality. For example, civil rights for African Americans in the United States were largely brought about by movements led by people like Martin Luther King, Rosa Parks, and Malcolm X and by the pervasive collective action of African Americans across the country (see Dixon, Levine, Reicher & Durrheim, 2012). Reicher (2007) claims that at many times in history contact between high-status and low-status groups has been discouraged in early stages of collective action in order for the low-status group to gain group-sufficiency. For example, the African National Congress, a political party in South Africa, did not allow White people to be involved for over 60 years, in part so their political party could create discussions with policy makers without having high-status group members take over.

## **Applying the Cross-Group Contact/Collective Action Conflict to Indirect Cross-Group Contact**

Given the unintended negative consequences of direct cross-group contact on collective action, one wonders whether these negative effects might also occur during *indirect* cross-group contact. Perhaps, similar psychological processes that undermine

collective action in the case of direct cross-group contact (e.g., a reduction in ingroup identification, negative emotions, and group efficacy) would also apply to indirect cross-group contact. Additionally, Ridgeway and colleagues' (2006) Status Construction Theory suggests/provides additional theoretical reasons for why indirect cross-group contact, such as when a low-status group member observes an interaction between an ingroup and an outgroup member can undermine collective action.

The Status Construction Theory (Ridgeway, 2006) provides a compelling explanation for how status beliefs emerge, are spread and, consequently maintain intergroup inequality. Status beliefs are cultural beliefs that are widely known and often accepted by both high-and low-status group members. For example, both men and women tend to hold similar stereotypes that support men's higher standing compared to women. These widely shared beliefs are essential to the maintenance of intergroup inequality (Ridgeway, 2006; Ridgeway & Correll, 2006). Status beliefs are perpetuated and strengthened over time through direct and indirect interactions between members of the two groups, because during interactions group members perform repeated small behaviours that subtly reinforce the inequality between the two groups. Repeated participation in, and observation of, cross-group interactions that include these subtle demonstrations of status strengthen and reify the perception that one's group is deserving of a lower place in the social hierarchy. As individuals rarely scrutinize these subtle interpersonal behaviours, the status hierarchies can be maintained without members of either group recognizing the origin or the reasons for their continuation.

For the purpose of the current analysis, I am most interested in contexts where the positions of the groups are established, and thus what is most relevant is how the theory explains the inadvertent perpetuation of existing status beliefs. According to Ridgeway and her colleagues (2006), it is not only participants in these interactions (direct cross-group contact) that are affected. Simply observing a positive cross-group interaction (indirect cross-group contact) between members of both the high-status and low-status group also has the potential to perpetuate beliefs that support status inequality. When a cross-group interaction is positive, but at the same time provides subtle cues that demonstrate the status inequality between the two groups, it may appear to the observer that members of both groups agree about the legitimacy of the relative status of the two groups. Consequently, the observer also comes to accept the

status differences as valid and legitimate. This acceptance will likely lead the observer to spread these beliefs by altering their own behaviours accordingly in future encounters (Ridgeway, 2001b).

Status Construction Theory (Ridgeway, 2006) also has important implications for the cross-group contact hypothesis (Allport, 1954). One of the key conditions essential for cross-group contact to reduce prejudice is that interactions must be structured so that all participants, regardless of group membership, have equal status. Status Construction Theory would hold that even when cross-group contact is structured in this manner, the implicit knowledge of the existing status differences cannot be completely eliminated. Thus, even implicit recognition of societally meaningful group characteristics (e.g., gender, race) will produce subtle behaviours consistent with the groups' high-and low-status positions. For example, Correll and Ridgeway (2003) explain that when individuals come together to accomplish a collective goal, people will feel compelled to decide who will take the lead and who will follow. When deciding this, one cue will be existing status characteristics (e.g., gender, race). Thus, because of existing status characteristics that imply that a particular person will contribute more, the group will give that person more attention and increased chances to participate, thus affirming their higher status. Clear structures that communicate that all participants are equal may reduce, but cannot eliminate, this process. Thus, where subtle behaviours communicate the superiority of members of one group over the other, even when there are clear structures in place to ensure equality, the legitimacy of group status differences may still be strongly conveyed (Wright & Baray, 2012).

Research that measures both intergroup attitudes and collective action orientation has begun to show that direct cross-group contact may in fact result in both reductions in prejudice and lowered interest in collective action (see Wright & Baray, 2012). To my knowledge, no research has directly tested whether this same negative effect on collective action can result from indirect forms of cross-group contact. However, given the presumed parallel between direct and indirect cross-group contact and the theoretical support provided by the Status Construction Theory (Ridgeway et al., 2006), a direct investigation of this possibility seems important.

# Overview of Research

The current study represents the first social psychological investigation of whether observation of a positive cross-group interaction (a form of indirect cross-group contact) can simultaneously improve intergroup attitudes while undermining collective action intentions. In addition, to my knowledge, there is no research directly examining whether positive indirect cross-group contact also have an undermining effect on high-status group member's motivation to engage in action on behalf of the low-status outgroup. The first goal of this research is to replicate previous indirect contact research by showing that the current manipulation of the quality of indirect cross-group contact would in fact influence intergroup attitudes. The next goal is to test whether this manipulation of quality of indirect cross-group contact also influences interest in direct actions designed to reduce intergroup inequality. Finally, the research examines some of the underlying psychology thought to produce the undermining effect of cross-group contact on collective action orientation. Ingroup identification, group-based anger and group efficacy have been described in past research as explanations for why people are motivated to engage in collective action (Dixon et al., 2012; van Zomeren, 2004; Wright & Lubensky, 2009). Therefore, these three motivators will be measured to see if they can account for any relationship between the quality of the indirect cross-group contact and collective action intentions.

## Current Research<sup>1</sup>

The current study was a 2x2x2 between-subject design. First, I manipulated group status by having participants read an article that put them in either a high-status or a low status condition. Next, I manipulated the quality of indirect contact, where participants read an online discussion between an ingroup and an outgroup member. Both discussions were positive, but one was of higher quality, in terms of friendliness,

<sup>1</sup> A pilot study was conducted prior to the current research with a similar method and research question. The results of the previous study were used as a basis for reorganizing and rethinking the research paradigm and in the inclusion of additional mediators and some stronger measures of the dependent variables.

getting along and equality, than the other. Lastly, I manipulated the rules/expectations that guided the local interaction by including a statement at the beginning of the discussion that encouraged a respectful and equal interaction or an open discussion where any behaviour was acceptable. In addition to these three manipulations, three key components of the Status Construction Theory (Ridgeway et al., 2006) were maintained in all conditions of the current study. (a) There was clear evidence of existing inequality between two groups; (b) the subsequent observed cross-group interaction was generally positive; and (c) the interaction included cues of intergroup inequality.

## Hypotheses

### *Main Effects*<sup>2</sup>

**Hypothesis A:** I predicted a main effect of quality of indirect contact on attitudes towards the outgroup, whereby those who observed the high-quality interaction would have more positive attitudes towards the outgroup compared to those who observed the low-quality interaction.

**Hypothesis B:** I predicted a main effect of group status, whereby low-status group members would be more willing to endorse collective action compared to those in the high-status group.

**Hypothesis C:** I predicted a main effect of the quality of indirect contact on collective action, whereby those who observed the high-quality interaction would be less willing to engage in collective action compared to those who observed the low-quality interaction.

**Hypothesis D:** I predicted a main effect of local rules/expectations on collective action, whereby those exposed to the respect and equal opportunity expectation would

<sup>2</sup> There is no theoretical basis to determine whether there will be an interaction between status and quality of indirect contact, therefore no interaction effects were expected.



be less willing to engage in collective action compared to those exposed to the open discussion expectation.

## ***Mediation***

**Hypothesis E:** I predicted that ingroup identification would mediate the relationship between the quality of indirect contact and collective action, such that, compared to observing a low-quality interaction, observation of the high-quality interaction would lead to lower ingroup identification for low-status group members and higher ingroup identification for high-status group members, which in turn would lead to lower support for collective action.

**Hypothesis F:** I predicted that anger in response to the cross-group contact would mediate the relationship between the quality of indirect contact and collective action, such that, compared to observing a low-quality interaction, observation of the high-quality interaction would lead to lower anger about the interaction, which in turn would lead to lower support for collective action.

**Hypothesis G:** I predicted that group efficacy would mediate the relationship between the quality of indirect contact and collective action, such that, compared to observing a low-quality interaction, observation of the high-quality interaction would lead to lower belief that group members can effectively bring about change, which in turn would lead to lower support for collective action.

## **Method**

### **Participants**

Participants were 238 psychology students from Simon Fraser University. Participants were recruited from a psychology website or recruitment flyers and received either two course credits or \$7. The sample contained 78 men (*Mean age* = 20.49 years, *SD* = 4.04 years) and 160 women (*Mean age* = 19.39 years, *SD* = 1.93 years).

Participants' self-reported ethnicities were 85 White/Caucasian, 75 East Asian, 45 South Asian, 5 Hispanic/Latino(a), 14 multi-ethnic (e.g., Hispanic/South Asian, Caucasian/Black) and 14 other (e.g., Egyptian, African).

## Procedure

Participants completed all tasks on a computer in individual cubicles. As indicated, participants were exposed to three different manipulations (see "Independent Variables," below for a detailed description of the manipulations). First, *group status* was manipulated by having participants read one of two mock magazine articles that described clear status inequality between the higher education system of Ontario and British Columbia. All participants were British Columbia students. In one version of the article, Ontario had the higher status and in the other British Columbia had the higher status. Therefore, group status was manipulated so that participants were either members of the high or low-status group.

Second, participants were instructed to read an ostensibly real online discussion. The content of this discussion was used to manipulate the other two experimental variables. Although the depicted cross-group contact was always positive and both included evidence of the group based status inequality in the content of the statements made by both the high-status and low-status group member, the *quality of the indirect contact* (in terms of friendliness, getting along, and equality) was manipulated to create a high and a low quality indirect contact condition. In one condition the interaction was more friendly and equal, and gave more evidence that they liked each other compared to the other condition.

Third, *local rules/expectations* of equality between interaction partners were manipulated by providing one of two interaction expectations as the ostensible guidelines for interactions on the online discussion forum. The statement was placed before the online discussion. In one case, participants in the discussion forum were instructed to show respect and provide everyone with equal opportunities to speak. In the other, the forum was described as an open discussion where all forms of the interaction were acceptable

Following an online discussion, all participants completed dependent measures designed to assess their attitudes towards the outgroup (Ontario students) and their willingness to take part in collective action, as well as measures assessing the three proposed mediating variables: ingroup identification, anger and group efficacy.

Lastly, the researcher offered participants the opportunity to take and distribute flyers that discussed the intergroup inequality in the article. The number was recorded as a measure of collective action behaviours. Participants were fully debriefed and thanked for their participation.

## **Independent Variables**

**Group status:** Two versions of the mock magazine article were created to manipulate participants' group status. The content of the two versions were identical and contrasted the Ontario and British Columbia higher education systems. The only difference was that in the *high-status* condition British Columbia universities were said to rank highest in Canada and Ontario universities were said to be lagging behind. In the *low-status* condition the position of the universities in each province were reversed. The article discussed disparities in public funding to the universities, tuition fees and research grants. See Appendix A for mock article.

**Quality of indirect contact:** The article was followed by one of two versions of a bogus online discussion between an Ontario and British Columbia university student. Both discussions were generally positive and both included reminders of intergroup inequality, but they differed slightly in tone and content so that one evidenced greater friendliness, getting along, and equality than the other. See Table 1 for an example excerpt from the *low-quality* and the *high-quality* conditions and Appendices B and C for the full version of the online discussion.

**Table 1. Excerpt from the online discussion for the low-and high-quality conditions**

| Condition    | Excerpt                                                                                                                                                                                                                                  |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Low-quality  | I hear what you are saying, but I think you are missing the mark on this. You probably don't know a lot about how funding works. So, if there are higher quality students and researchers in Ontario then Ontario would get more grants. |
| High-quality | I hear what you are saying. But if you want, I can tell you a little more about how funding works. Grants are given based on which universities have the strongest students and researchers.                                             |

**Local Interaction Rules/Expectations:** In order to assess whether structuring an interaction so that there was an expectation of respect and equal opportunities would have an impact on peoples' attitudes and collective action intentions, the heading placed at the top of the discussion was manipulated. In the *respect and equality* condition, the statement read, "**Keep it respectful:** All commenters must be respectful and treat all other commenters with dignity. Each individual must be given equal opportunity to share his or her opinion." In the *open discussion* condition, the statement read, "**Tell it like it is:** All commenter's are encouraged to provide his or her honest opinion without holding back. It is OK to take other commenters on and express your opinions as directly as you like."

## Dependent Variables

One measure of attitudes towards the outgroup (Ontario students) and two measures of collective action were used as dependent variables. When British Columbia students were the low-status group, the collective action measures focussed on collective action on behalf of the ingroup. When Ontario students were the low-status group, these measures focussed on direct action on behalf of the outgroup.

**Attitudes towards the Outgroup.** Six items measured the participant's attitude towards Ontario students (e.g., "In general, how do you feel towards Ontario university students?") ( $\alpha=.85$ ). Items were rated on a 7-point likert scale ranging from -3 (e.g., cold) to +3 (e.g., warm). See Appendix D for the complete scale.

**Collective Action Intentions.** Fifteen items, based on Becker et al.'s (2011) Collective Action Intention Measure, assessed the level of intention to participate in collective action on behalf of the low-status ingroup or outgroup (depending on participant's group status condition) ( $\alpha = .92$ ). Items ranged from minor actions (e.g., "If approached by someone, I would sign a petition against British Columbia (Ontario) universities being disadvantaged compared to Ontario (British Columbia) universities") to more extreme actions (e.g., "Join a campus activist group that shows their dissatisfaction with this inequality by refusing to pay their tuition"). Items were rated on a 7-point likert scale from 1 (extremely unlikely) to 7 (extremely likely). See Appendix E for the complete scale.

**Collective Action: Behavioural Measure.** Flyers describing the intergroup inequality discussed in the article were created for the purpose of this study. The researcher held up the flyer and participants were asked to indicate how many flyers they would like to take with them to distribute to family and friends. See Appendix F for an image of the flyer.

## Mediating Variables

Unless otherwise noted all scales used a 7-point likert scale from 1 (extremely unlikely/disagree) to 7 (extremely likely/agree).

**Ingroup Identification**<sup>3</sup>. Sixteen items measured the participant's level of identification with British Columbia students. The Three-Factor Model of Social Identity questionnaire (Cameron, 2004) was modified for use in this study ( $\alpha = .83$ ). Example items included "In general, being a BC student is an important part of my self-image" and "I feel strong ties to other BC students."

**Anger.** A 3-item scale assessing participant's feelings of anger in response to the observed cross-group contact ( $\alpha = .71$ ) was included within a larger scale that

3 Analyses assessing the three components of this scale separately showed no significant differences and therefore the scale combining all three components was utilized in all analyses.

measured ten additional emotions, both positive and negative (these were included as fillers). Items were rated on a 7-point Likert scale from 1 (not at all) to 7 (very much). See Appendix G for the complete scale.

**Group Efficacy.** Two items assessed how much the participant believed that BC students could help decrease inequality between BC and Ontario university students, (e.g., “I think together BC students are able to encourage the government to reduce the discrepancy in funding between BC and Ontario universities”) ( $r = .75$ ). See Appendix H for the complete scale.

## Other Measures

### Manipulation Checks

**Group Status.** Participants answered a 5-item semantic differential type scale assessing their understanding of the group status differences presented in the article ( $\alpha = .94$ ). The question read, “In the article, Ontario students were portrayed as...” Ratings were provided on a 7-point likert scale that ranged from -3 to +3 with end points including: unprivileged/privileged; low-status/high-status; powerless/powerful, submissive/dominant; weak/strong.

**Perceived Quality of Interaction.** Three items assessed the participant’s perception of the quality of the indirect interaction (i.e., friendliness, getting along and equality) ( $\alpha = .71$ ). Items were rated on a 7-point likert scale ranging from 1 (e.g., not at all friendly) to 7 (e.g., extremely friendly). See Appendix I for the complete scale.

**Local Interaction Rules/Expectations.** One question assessed whether participants’ understanding of the local interaction expectation (i.e., “What were the expectations/rule for interacting in the online discussion?”). Participants chose from four options including, “There was no rule,” “The commenters must treat each other with respect and all individuals must have equal opportunities to comment,” “The commenters are asked to give their honest opinion and tell it like it is,” and “I don’t remember.”

## Demographic Information

Finally, participants indicated their age, sex, ethnicity, religious affiliation (or non-religious orientation), international/visiting student status and whether they had previously lived in Ontario<sup>4</sup>.

# Results

## Preliminary Analyses

**Manipulation check: Article/Group status.** An independent samples *t* test was conducted to evaluate whether there were differences on the manipulation check questions assessing perceptions of how the outgroup was portrayed in the magazine article. The independent variable, group status, included two levels: low-status and high-status. The dependent variable was the level of perceived status (i.e., privilege, power, dominance, strength and status) of the outgroup. The *t* test was significant,  $t(238) = 24.35, p < .001, r = .84$ . Therefore, participants in the low-status condition ( $M = 5.72$ ), where Ontario was the high-status group, perceived Ontario students to be more privileged, powerful, dominant, strong and of higher status compared to participants in the high-status condition ( $M = 3.02$ ), where Ontario was the low-status group.

A one-sample *t*-test was conducted on the group status manipulation check for each condition (high-status and low-status) separately to evaluate whether their mean was significantly different from the midpoint. Participants in the low-status condition had a sample mean which was significantly above the midpoint,  $t(121) = 21.88, p < .001, r = .89$ . Participants in the high-status condition had a sample mean which was significantly below the midpoint,  $t(117) = -12.53, p < .001, r = .76$ .

4 Due to the nature of the manipulation, analyses including and excluding people who previously lived in Ontario and international/visiting students were assessed. Since they did not differ substantially the full sample was used in all data represented here.

The results from the two t-tests support the conclusion that participants in the high-status condition perceived Ontario students as significantly lower than the midpoint on indicators of status and participants in the low-status condition perceived Ontario students as significantly higher than the midpoint on indicators of status.

**Manipulation checks: Quality of Indirect Contact.** An independent samples t test assessing the effect of the manipulation of *quality of indirect contact* (low quality vs. high-quality) on the measure of *perceived quality of interaction* was significant,  $t(238) = -4.49, p < .001, r = .28$ , indicating that participants in the low quality condition ( $M = 4.81, SD = 1.30$ ) perceived the indirect contact as lower in quality compared to participants in the high-quality condition ( $M = 5.54, SD = 1.22$ ).

A one-sample t-test was conducted on the *perceived quality of interaction* separately for each level of the *quality of indirect contact* manipulation (high-quality and low-quality), to evaluate whether their mean was significantly different from the midpoint. The midpoint was chosen as a comparison point in order to determine whether participants in both *quality of indirect contact* conditions perceived the interaction as positive (a requirement of a successful indirect contact situation). Participants in the low quality condition had a sample mean which was significantly above the midpoint,  $t(122) = 6.93, p < .001, r = .53$ . Participants in the high-quality condition had a sample mean which was significantly above the midpoint,  $t(116) = 13.61, p < .001, r = .78$ . These results support the conclusion that participants in both conditions perceived the interaction as generally positive.

**Manipulation checks: Local interaction rules/expectations.** Since participants were able to choose more than one option, the four original options were recoded to fit one of four possibilities: respect and equality, open discussion, both (participants selected both rules), and not sure (those selecting either “no rule” or “I don’t remember”). Chi-square statistics were calculated separately for participants in the *respect and equality* condition and those in the *open discussion*. The chi-square test for participants in the *respect and equality* condition was statistically significant,  $\chi^2(3, n = 125) = 208.79, p < .001$ , suggesting that participants were much more likely to choose only the respect and equality rule as guiding the online discussion. As shown in Table 2, 100 of the 125 participants in this condition selected the correct rule. The chi-square



test for participants in the *open discussion* condition was not statistically significant,  $\chi^2(3, n = 114) = 5.44, p = .142$ . These results suggest that participants in the *open discussion* condition chose randomly from the possible rules/expectations guiding the online discussion (see Table 2) and therefore manipulation of the local interaction expectation was not successful. However, I retained all participants in the sample because there was not enough power in each cell to assess only the participants that answered the manipulation check question correctly.

**Table 2.** *Frequency for local interaction rules/expectations manipulation check*

| Condition            | Answer Options       |                 |      |          |
|----------------------|----------------------|-----------------|------|----------|
|                      | Respect and equality | Open discussion | Both | Not sure |
| Respect and equality | 101                  | 3               | 11   | 10       |
| Open discussion      | 32                   | 30              | 34   | 18       |

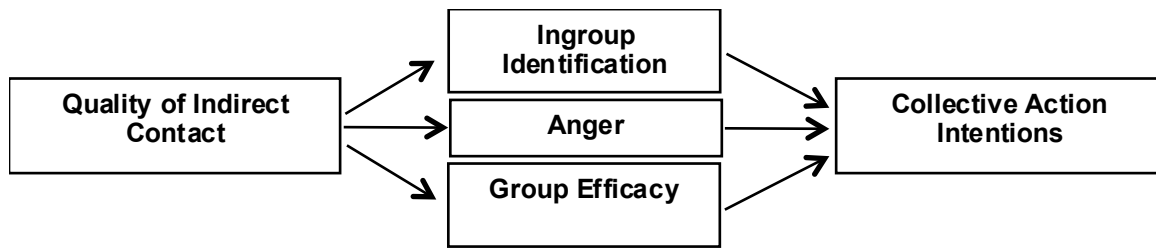
Note. Numbers represent the amount of people who chose the answer option pertaining to that column

## Tests of Hypotheses

Hypothesis A predicted an impact of the *quality of indirect contact* manipulation on attitudes towards the outgroup. Hypotheses B through D predicted main effects of the three independent variables (i.e., *group status*, *quality of indirect contact* and *local rules/expectations*) on both collective action measures (i.e., collective action intentions and collective action behavioural measure). Figure 1 provides a visual representation of the model proposed by the combination of hypotheses E through G which predicted a model of intervening effects<sup>5</sup> assessing the impact of the *quality of indirect contact* on one's collective action intentions via three parallel mechanisms (i.e., ingroup identification, anger and group efficacy). All analyses used confidence intervals set to 90% to reflect my one-sided hypotheses (Hayes, n.d.). See Appendix J for a correlation matrix of all relevant variables.

5 Intervening effects is an assessment of any one or more mechanisms that describes a relationship between an independent and a dependent variable (Mathieu & Taylor, 2006)

**Figure 1. Proposed model of intervening effects between quality of indirect contact and collective action**



### **Hypothesis A: Tests of the Quality of Indirect Contact on Attitudes towards the Outgroup**

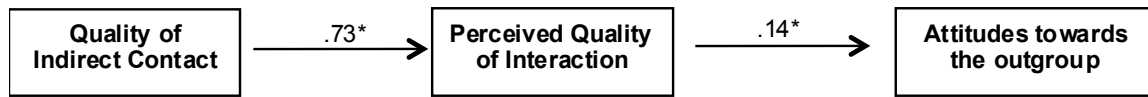
The first goal of this research was to replicate the well-established effect of quality of indirect contact on intergroup attitudes. It was hypothesised that those who observed the high-quality interaction would have more positive attitudes towards the outgroup compared to those who observed the low-quality interaction. Inconsistent with past research, an independent samples t-test comparing participants in the high-quality and low-quality contact conditions on attitudes towards the outgroup, was not significant,  $t(238) = -1.21, p = .23, r = .08$ .

Given the lack of a direct effect of *quality of indirect contact* on attitudes towards the outgroup bootstrapping analysis was utilized to assess for indirect effects<sup>6</sup> (Preacher & Hayes, 2008). *Perceived quality of interaction* was entered into the model to determine whether the manipulation of *quality of indirect contact* had the planned effect on participants' understanding of the observed interaction. The effects were computed from unstandardized-regression weights with 1,000 bootstrap resamples, using bias-corrected and accelerated 90% confidence intervals. Analyses revealed a significant indirect effect via *perceived quality of interaction*, (Indirect Effect (IE) = .11, SE = .049, 90% CIs [.04, .20]). Observing a high-quality interaction was associated with more positive attitudes towards the outgroup compared to those who observed a low-quality

6 An indirect effect is a type of intervening effect where there is no direct effect between the independent and dependent variables, but these variables are linked to each other through their significant relationship with one or more mechanisms (Hayes & Preacher, 2010).

interaction and this was explained by greater perceived quality of the interaction. See Figure 2 for a representation of the model and Table 3 for all relevant means.

**Figure 2.** *Perceived quality of interaction as a mechanism between quality of indirect contact and attitudes towards the outgroup*



**Table 3.** *Means for perceived quality of interaction and attitudes towards the outgroup for both the high-and low-quality of indirect contact conditions*

| IV                                          |           | Mechanism                        | DV                             |
|---------------------------------------------|-----------|----------------------------------|--------------------------------|
|                                             | Condition | Perceived quality of interaction | Attitudes towards the outgroup |
| Manipulation of Quality of Indirect Contact | Low       | 4.81                             | 4.82                           |
|                                             | High      | 5.54                             | 4.98                           |

Note. All numbers are means from a 7-point likert scale

These bootstrapping analyses were rerun for high-status and low-status conditions separately. The same general indirect model was found for both groups.

***Hypotheses B-D: Tests of Effects of Group Status (Hyp. B), Quality of Indirect Contact (Hyp. C) and Local Rules/Expectations (Hyp. D) on Collective Action***

**Three-Way ANOVA on Collective Action Intentions.** In order to test the impact of the three independent variables on collective action intentions a 2 (group status: high vs. low) x 2 (quality of indirect contact: high vs. low) x 2 (local interaction rules/expectations: respect and equality vs. open discussion) ANOVA was used. This analysis revealed a significant group status main effect,  $F(1, 238) = 16.52, p < .01, \eta^2 = .06$ , indicating that people in the low-status condition ( $M = 3.31, SD = 1.06$ ) were more willing to engage in collective action than those in the high-status condition ( $M = 2.74,$

$SD = 1.07$ ). The analysis revealed no other main or interaction effects. Therefore, the hypotheses that the quality of indirect contact and the local interaction rules/expectations would have a direct impact on collective action intentions were not supported. See Table 4 for all results of the 3-way ANOVA and Table 5 for all relevant means.

**Table 4. Three-way ANOVA on Collective Action Intentions**

| IV                                          | F     | p    | $\eta^2$ |
|---------------------------------------------|-------|------|----------|
| Group Status (Status)                       | 16.52 | <.00 | .06      |
| Quality of Indirect Contact (Quality)       | .02   | .90  | <.00     |
| Local Interaction Expectation (Expectation) | .01   | .92  | <.00     |
| Status * Quality                            | .69   | .41  | <.00     |
| Status * Expectation                        | .66   | .42  | <.00     |
| Quality * Expectation                       | .22   | .64  | <.00     |
| Status * Quality * Expectation              | .16   | .68  | <.00     |

**Table 5. Means for all independent variables on both collective action measures**

| IV                            |                      | DV                                        |                                                    |
|-------------------------------|----------------------|-------------------------------------------|----------------------------------------------------|
| Manipulations                 | Condition            | Collective Action Intentions <sup>a</sup> | Collective Action Behavioural Measure <sup>b</sup> |
| Group Status                  | Low                  | 3.31                                      | 4.87                                               |
|                               | High                 | 2.74                                      | 4.93                                               |
| Quality of Indirect Contact   | Low                  | 3.03                                      | 4.82                                               |
|                               | High                 | 3.03                                      | 4.98                                               |
| Local Interaction Expectation | Respect and equality | 3.05                                      | 4.72                                               |
|                               | Open discussion      | 3.02                                      | 5.10                                               |

Notes. <sup>a</sup> Numbers represent the means from a 7-point likert scale

<sup>b</sup> Numbers represent the means for how many flyers the participant requested

**Three-Way ANOVA on Collective Action Behavioural Measure.** In order to test the impact of the 3 independent variables on the collective action behavioural measure (how many flyers the participant requested) a 2 (group status: high vs. low) x 2

(quality of indirect contact: high vs. low) x 2 (local interaction rules/expectations: respect and equality vs. open discussion) ANOVA was used. This analysis revealed no significant main effects or interaction effects. Therefore, the hypotheses that group status, the quality of indirect contact and the local interaction rules/expectations would have a direct impact on how many flyers the participant requested was not supported. Since there were no significant effects of the independent variables on the collective action behavioural measure, this measure was eliminated from all subsequent analyses. See Table 6 for all results of the 3-way ANOVA and Table 5 for all relevant means.

**Table 6. Three-way ANOVA on Collective Action Behavioural Measure**

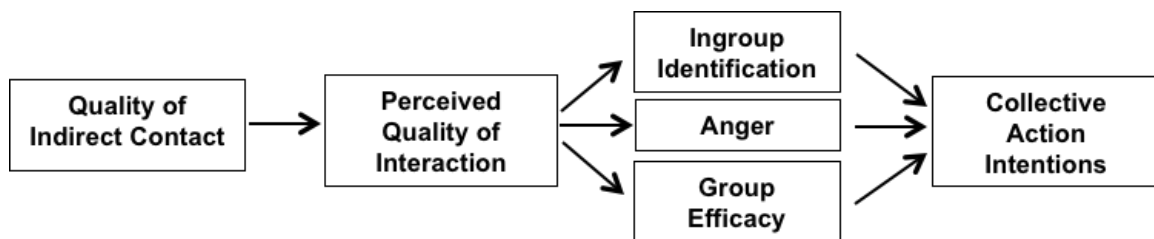
|                                             | <b>IV</b> | <b>F</b> | <b>p</b> | <b><math>\eta^2</math></b> |
|---------------------------------------------|-----------|----------|----------|----------------------------|
| Group Status (Status)                       |           | .00      | .95      | <.00                       |
| Quality of Interaction (Quality)            |           | 1.01     | .31      | <.00                       |
| Local Interaction Expectation (Expectation) |           | 1.13     | .29      | <.00                       |
| Status * Quality                            |           | .18      | .67      | <.00                       |
| Status * Expectation                        |           | .24      | .63      | <.00                       |
| Quality * Expectation                       |           | 3.42     | .07      | <.00                       |
| Status * Quality * Expectation              |           | .02      | .89      | <.00                       |

### ***Hypotheses E-G: Indirect Tests of the Quality of Indirect Contact on Collective Action Intentions***

It was predicted that the direct effect of *quality of indirect contact* on collective action intentions would be mediated by ingroup identification, anger and group efficacy. Since there was no direct effect found in the previous ANOVAs, I assessed the data in two different ways. First, bootstrapping analyses were conducted to assess the indirect effects of *quality of indirect contact* on collective action intentions via the three proposed mechanisms (i.e., ingroup identification, anger, group efficacy). Second, it was determined that it was not the current manipulation of *quality of indirect contact* that had an impact on collective action, but rather how the participant perceived the quality of the indirect contact (i.e., friendliness, getting along, equal). Therefore, *perceived quality of interaction* was entered into the assessed model (see Figure 3). The indirect effects were computed from unstandardized-regression weights with 1,000 bootstrap

resamples, using bias-corrected and accelerated 90% confidence intervals. All relevant means can be found in Table 7.

**Figure 3.** *Proposed model of intervening effects between quality of indirect contact and collective action (including perceived quality of interaction)*



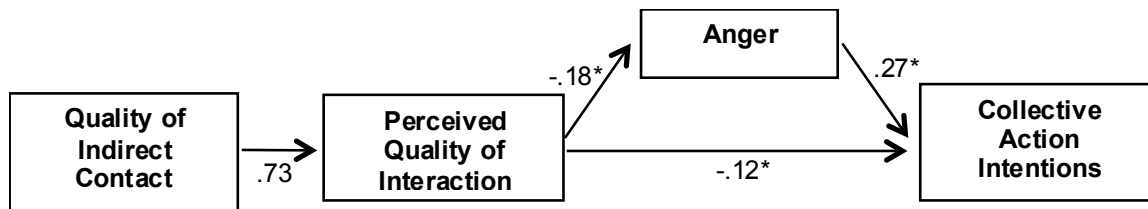
**Table 7.** *Means for perceived quality of interaction, anger, and collective action intentions for both the low-and high-quality of indirect contact conditions*

| IV                                          |      | Mechanisms                       |       | DV                           |
|---------------------------------------------|------|----------------------------------|-------|------------------------------|
| Condition                                   |      | Perceived quality of interaction | Anger | Collective Action intentions |
| Manipulation of Quality of Indirect Contact | Low  | 4.81                             | 2.37  | 3.03                         |
|                                             | High | 5.54                             | 2.28  | 3.03                         |

Note. All numbers above are means from a 7-point likert scale

The entire model was tested and what emerged were two pathways between *quality of indirect contact* and collective action intentions. First, ingroup identification and group efficacy, although associated with collective action were not significant mechanisms in the effect of quality of interaction on collective action and were therefore not included in the final model (see Figure 4). The first significant effect showed that the manipulation of *quality of indirect contact* did produce the expected psychological effect, whereby participants who observed the high-quality interaction showed less willingness to engage in collective action than those who observed a low-quality interaction, and this was explained by their relatively greater *perceived quality of interaction* (IE = -.09, SE = .047, 90% CIs [-.19, -.02]).

**Figure 4.** *Perceived quality of interaction and anger as serial mediating variables between quality of indirect contact and collective action intentions*



The second significant effect of *quality of indirect contact* on collective action intentions was via both *perceived quality of interaction* and anger (IE =  $-.04$ , SE =  $.02$ , 90% CIs [ $-.07$ ,  $-.02$ ]). Participants who observed the high quality interaction perceived the interaction to be of higher quality, which led to lower feelings of anger, and less willingness to engage in collective action (see Figure 4).

This bootstrapping analysis was then run again with the high-status and low-status conditions separately<sup>7</sup>. The model was slightly different for the two conditions. Although the model shown in Figure 4 held for the high-status condition, the effect of the *quality of indirect contact* on collective action intentions via *perceived quality of interaction* failed to reach significance in the low-status condition. However, the effect via both *perceived quality of interaction* and anger remained significant for those in the low-status condition.

## Discussion

Strategies to improve high-status groups' attitudes towards low-status groups with the intention that this will lead to positive intergroup relations has been a primary research focus in the social psychology of intergroup relations for the past 60 years

<sup>7</sup> Although analyses for high and low status conditions were conducted separately and showed slight differences between the indirect effects, bootstrapping analyses cannot determine whether these differences were significant.

(Oskamp, 2000). In particular, intergroup contact has been acknowledged as “one of psychology’s most promising and effective strategies for improving intergroup relations and reducing bias and conflict” (Dovidio, Allier & Hewstone, 2011, p. 149). Given the substantial research supporting the positive impact of intergroup contact, this strategy has been utilized in a variety of different settings such as the education system, workplace environment and community (Aboud & Levy, 2000; Paluck, 2006; Maoz, 2004). However, recent research by Wright and colleagues (Wright & Baray, 2012; Wright & Lubensky, 2009) and others (see Dixon et al., 2012) has revealed unintended consequences of direct cross-group contact for low-status group members. Low-status group members who engage in positive cross-group contact can show reduced interest in collective action to address intergroup inequality.

Indirect cross-group contact has also been recognized by social psychologists as a successful and somewhat more practical approach to reducing prejudice than direct cross-group contact (Turner et al., 2010; Wright et al., 1997). Among the forms of indirect contact described in the literature, some (e.g., vicarious and extended contact) involve, at least in part, the observation of positive social interactions between members of high-status and low-status groups. The current research is a first attempt to assess whether an individual’s interest in taking part in action to reduce intergroup inequality can also be reduced by observing high-quality cross-group interactions. In addition, the research considered the possibility that observing high-quality cross-group interactions might not only influence the collective action of low-status group members, but might also impact the degree to which high-status group members support actions designed to improve the status of the outgroup.

## **Summary of Findings, Contributions and Future Directions**

### ***Effects of quality of indirect contact on intergroup attitudes***

Past research on indirect cross-group contact shows that being aware that an in-group member has a close friendship with an outgroup member (e.g., Wright et al., 1997), or simply observing positive cross-group interactions (Mazziotta et al., 2011) can result in improved attitudes towards the entire outgroup. However, the current study



showed that the manipulation of the quality of the indirect contact had no significant direct impact on attitudes towards the outgroup; that is, participants were not more likely to have higher attitudes towards the outgroup when they observed a high-quality interaction compared to a low quality interaction. However, there was an indirect impact of the quality of the indirect contact on attitudes via perceived quality of the interaction. Participants who observed the high-quality indirect contact perceived the interaction to be of higher quality (more friendly, getting along and equal) than did those observing a low-quality interaction, which then led to them reporting more positive attitudes towards the outgroup.

Therefore, the current results are somewhat consistent with previous indirect cross-group contact research that shows that this type of contact improves one's attitudes towards the outgroup (Mazziotta et al., 2011; Wright et al., 1997). It appears that the impact on attitudes towards the outgroup, although not impacted directly by the manipulation, was impacted by how the cross-group contact was perceived in terms of the quality of the interaction.

### ***Effects of local interaction rules/expectations***

Ridgeway and colleagues' (2006) Status Construction Theory posits that structures or rules implemented to encourage positive interactions could actually 'backfire' and serve to affirm and legitimize intergroup inequality. Research has shown that the salience of intergroup inequality and a feeling of injustice are needed to encourage people to engage in collective action (Wright & Lubensky, 2009). Based on this, it was expected that the rules designed to ensure that interactions were respectful and called for equal opportunities would lead to less willingness to engage in collective action, compared to an open discussion that allowed for any type of behaviour (positive or negative). However, there were no significant differences on collective action intentions depending on the rules/expectation structured into the current interaction context. This may be due to the difficulty in manipulating interaction rules/expectations. Manipulation checks indicated that participants in the *open discussion* condition chose equally between the *respect and equality*, *open discussion* or both as their recollection of the rules for the interaction. Although there is no known research in this area, perhaps the norm on online discussion forums is that any type of behaviour (positive or negative)

is accepted and therefore the participants imagined that there must be some other additional rule when attempting to recall, hence the apparent randomness of their chosen response. The majority of participants in the *respect and equality* condition chose the correct response for the manipulation check. Therefore, this expectation likely stood out more to participants than the *open discussion* condition. Future research could perhaps make the rules/expectations more salient or utilize a different interaction context that would allow for an easier and more effective manipulation of the local interaction expectation.

### ***Effects of quality of interaction on collective action intentions***

The primary contribution of this research was to investigate the impact of the quality of indirect contact on collective action intentions. Results showed that while there was no direct effect of the quality of indirect contact on collective action intentions, there were two significant indirect effects that may help to expose the underlying psychological mechanisms. Compared to those who observed lower quality indirect contact, participants who observed high-quality indirect contact showed less willingness to engage in collective action, which was explained by the degree to which they actually perceived the interaction between the low-status and high-status members as in fact higher in quality.

The one psychological mechanism underlying the indirect effect of quality of the indirect contact on collective action was feelings of anger about the cross-group contact. Participants who perceived the observed cross-group interaction to be of higher quality reported lower feelings of anger than those who perceived the interaction as lower in quality. Higher reported anger was in turn associated with less interest in collective action. Prejudice reduction approaches encourage harmony and liking between groups (Dixon et al., 2010; Wright & Baray, 2012). Yet, there is substantial empirical support for the role of anger as a motivator of action to reduce intergroup inequality among both high-and low-status group members (Dixon et al., 2012; Grant & Brown, 1995; Iyer, et al., 2003; Mallet et al, 2008; van Zomeren, Spears, Fischer, & Leach, 2004). Thus, if observation of high-quality indirect contact is associated with less anger, it is not surprising that it leads to less willingness to engage in collective action.

Since there was no direct effect of my manipulation of quality of indirect contact on collective action, it appears that there are one or more unknown psychological mechanisms, above and beyond perceived quality of the interaction (i.e., friendliness, getting along and equality), that were also influenced by the content of the manipulation and which may be suppressing this direct negative effect. That is, the manipulation of quality of indirect contact may also have influenced some other variables, which had a positive influence on collective action. Perhaps there are unique features of the interaction in the present study that could produce these empowering effects. One possibility is that both of conditions in my manipulation depicted discussions about the inequality between the two groups (British Columbia and Ontario students). The two students in the online discussion talked about why there are provincial differences in the higher education system. Research by Saguy, Dovidio and Pratto (2008) showed that during cross-group contact low-status group members are more interested in discussing power differences, whereas high-status group members are more interested in discussing commonalities between the two groups. Perhaps in the current research participants who observed the high-quality interaction believed that both the ingroup and outgroup members were engaging in a more critical and open conversation about the group power differences compared to those in the low quality interaction condition. Therefore, the critical discussion of power differences may have empowered low-status group members in the high-quality interaction to engage in collective action. High-status participants who observed the high-quality interaction may have also seen this discussion of inequality as more genuine and were thus led to recognize some illegitimacy in the advantages held by their group, therefore increasing their motivation to support action on behalf of the low-status group.

Previous research supports the importance of legitimacy in determining whether people will engage in collective action. Both low-status and high-status group members are motivated to promote or participate in actions to create social change when they perceive the inequality to be illegitimate (Doosje, Ellemers & Spears, 1999; Iyer, Leach & Crosby, 2003). As stated above, perhaps both high-and low-status group members recognized the illegitimacy of the intergroup inequality more when observing the high-quality cross-group interaction (compared to the low quality interaction), but only when this interaction involved a direct discussion of the group-based inequality. Thus, the

particular conversations used in this study might have contained content that made illegitimacy more salient in the high-quality interaction and thus this high-quality indirect contact could also indirectly empower collective action, thus providing a suppressor effect. Future research might involve a context where the cross-group contact does not involve discussions of intergroup inequality.

Another explanation for why the negative direct effect of quality of indirect contact on collective action may have been suppressed involves the belief that the inequality could change. The current research did measure perceived group efficacy and found no significant effects, but this measure assessed only part of the equation that determines whether the current inequality can change. According to McCarthy and Zald's (1977) Resource Mobilization Theory, individuals and groups must consider the resources (e.g., people, money) available to the group and how those resources can be mobilized to create change. Although observing a high-quality cross-group interaction may not lead to changes in the perceived efficacy of the low-status group itself, it might lead to the belief that at least some members of the high-status group may be willing to throw some of their resources behind the effort for social change. This belief that outgroup members may serve as allies to the cause could increase one's motivation to engage in collective action. Thus, future research should examine whether perceiving outgroup members as a resource could serve as a positive mediator between the quality of indirect contact and collective action intentions.

### ***Effects of status on collective action intentions***

The current research also examined whether the quality of indirect contact influenced not only low-status group members' collective action intentions, but whether it might also impact high-status group members. Although others have speculated that direct cross-group contact could lead high-status group members to be less likely to notice structural inequality (see Dixon et al, 2013; Wright & Baray, 2012), to my knowledge, there is no previous research directly testing this effect and it is even less likely that there is research examining the effects of indirect contact on high-status group member support for action on behalf of the outgroup. Therefore, this study provides an important extension of the current literature.

It was predicted that participants in the condition in which the British Columbia student was in a low-status position would be more interested in engaging in collective action compared to those in the condition in which the British Columbia student ingroup was the high-status group. The primary results provide evidence of this predicted effect of group status. However, there were no interaction effects between group status and quality of the indirect contact. Additionally, the model testing the indirect effects of the quality of indirect contact on collective action showed that the same set of psychological mechanisms accounted for the indirect undermining effects on collective action for both high-and low-status group members. Generally, high-quality indirect contact may lead to improvements in intergroup attitudes (the goal of the prejudice reduction approach), but it appears that the level of intergroup inequality is unlikely to change if these more positive attitudes come at the expense of high-status group members' motivation to take action to reduce it.

## **Conclusion**

As a first test of the impact of the quality of indirect cross-group contact on collective action intentions for both high-and low-status groups, the present study offers several important results. First, an indirect effect indicated that observing a high-quality interaction led to improved attitudes towards the outgroup (the prejudice reduction goal). Secondly, overall, the current findings suggest that there is an indirect negative impact of observing a higher quality cross-group interaction on a person's collective action intentions and this effect was found for both high-and low-status group members. The lack of a direct negative effect of the quality of indirect contact on collective action suggests that there are one or more variables that were not measured in the current study that serve to suppress this direct effect. Additional variables that might account for how high-quality indirect contact might simultaneously increase collective action intentions could include the importance of observing critical discussions of power differences (compared to observing an interaction with no references to the issue of intergroup inequality), perceptions of illegitimacy, and the belief that the inequality can change.

The results of the current research provide valuable insights to the growing debate concerning the relationship between prejudice reduction and collective action participation (e.g., Dixon et al., 2012; Wright & Bitacola, 2012). They raise the possibility that high-quality indirect cross-group contact may have both empowering and undermining effects on collective action. A clearer understanding of this relationship is needed if we are to find ways to bring the prejudice reduction and collective action perspectives together so that we can develop interventions that achieve both the goal of reducing prejudice while at the same time not undermining participation in collective action for social change.

## References

- Aboud, F. E., & Levy, S. R. (2000). Interventions to reduce prejudice and discrimination in children and adolescents. In S. Oskamp (Ed.), *Reducing prejudice and discrimination. The Claremont Symposium on Applied Social Psychology* (pp. 269-294). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- Allport, G. W. (1954). *The nature of prejudice*. Reading, MA: Addison-Wesley.
- Aronson, E., & Patnoe, S. (1997). *The jigsaw classroom: Building cooperation in the classroom* (2nd ed.). New York, NY: Longman.
- Becker, J. C. (2012). Virtual special issue on theory and research on collective action in the European Journal of Social Psychology. *European Journal of Social Psychology, 42*, 19-23. doi: 10.1002/ejsp.1839
- Becker, J. C., Wright, S. C., Lubensky, M.E., & Zhou, S. (2012). Friend or ally: Whether cross-group contact undermines collective action depends on what advantaged group members say (or don't say). *Personality and Social Psychology Bulletin, 39*, 442-455. doi: 10.1177/0146167213477155
- Bliuc, A., McGarty, C., Reynolds, K., & Muntele, D. (2007). Opinion-based group membership as a predictor of commitment to political action. *European Journal of Social Psychology, 37*, 19-32. doi: 10.1002/ejsp.334
- Cameron, J. E. (2004). A three-factor model of social identity. *Self and Identity, 3*, 239-262. doi:10.1080/13576500444000047
- Cameron, L., & Rutland, A. (2006). Extended contact through story reading in school: Reducing children's prejudice toward the disabled. *Journal of Social Issues, 62*, 469-488. doi: 10.1111/j.1540-4560.2006.00469.x
- Canada, Parliament, House of Commons, Standing Committee on Human Resources, Skills and Social Development and the Status of Persons with Disabilities (2010). Federal poverty reduction plan: Working in partnership towards reducing poverty in Canada. 40<sup>th</sup> Parl., 3<sup>rd</sup> sess. Retrieved from <http://www.parl.gc.ca/HousePublications/Publication.aspx?DocId=4770921&Language=E>
- Canadian Centre for Justice Statistics, Statistics Canada (2004). Sexual orientation and Victimization. Retrieved from <http://www.statcan.gc.ca/pub/85f0033m/85f0033m2008016-eng.htm>

- Correll, S. J., & Ridgeway, C. L. (2003). Expectation states theory. In J. Delamater (Ed.), *Handbook of Social Psychology*. New York, NY: Kluwer Academic/Plenum Publishers.
- Czopp, A. M., & Monteith, M. J. (2003). Confronting prejudice (literally): Reactions to confrontations of racial and gender bias. *Personality and Social Psychology Bulletin*, *29*, 532-544. doi: 10.1177/0146167202250923
- Debbane, A., & Keil, R. (2004). Multiple disconnections: Environmental justice and urban water in Canada and South Africa. *Space Policy*, *8*, 209-225. doi:10.1080/1356257042000273968
- Dixon, J., Durrheim, K., & Tredoux, C. (2007). Intergroup contact and attitudes towards the principle and practice of racial equality. *Psychological Science*, *18*: 867-872. doi: 10.1111/j.1467-9280.2007.01993.x
- Dixon, J., Durrheim, K., Tredoux, C., Tropp, L., Clack, B., & Eaton, L. (2010). A paradox of integration? Interracial contact, prejudice reduction, and perceptions of racial discrimination. *Journal of Social Issues*, *66*, 401-416. doi: 10.1111/j.1540-4560.2010.01652.x
- Dixon, J., Levine, M., Reicher, S. & Durrheim, K. (2012). Beyond prejudice: Are negative evaluations the problem and is getting us to like one another more the solution? *Behavioral and Brain Sciences*, *35*, 411-425. doi: 10.1017/S0140525X12001161
- Dixon, J., Tropp, L. R., Durrheim, K., & Tredoux, C. (2010). "Let them eat harmony": Prejudice-reduction strategies and attitudes of historically disadvantaged groups. *Psychological Science*, *19*, 76-80. doi: 10.1177/0963721410363366
- Doosje, B., Ellemers, N., & Spears, R. (1999). Commitment and intergroup behaviour. In N. Ellemers, R. Spears, & B. Doosje (Eds.), *Social identity: Context, commitment and content* (pp. 84-106). Oxford, UK: Basil Blackwell.
- Dovidio, J. F., Eller, A., & Hewstone, M. (2011). Improving intergroup relations through direct, extended and other forms of indirect contact. *Group Processes and Intergroup Relations*, *14*, 147-160. doi: 10.1177/1368430210390555
- Dovidio, J. F., Gaertner, S. L., & Kawakami, K. (2003). Intergroup Contact: The past, present, and the future. *Group Processes & Intergroup Relations*, *6*, 5-21. doi: 10.1177/1368430203006001009
- Drury, J., & Reicher, S. (2005). Explaining enduring empowerment: A comparative study of collective action and psychological outcomes. *European Journal of Social Psychology*, *35*, 35-58. doi: 10.1002/ejsp.231
- Gaertner, S. L., & Dovidio, J. F. (2000). *Reducing intergroup bias: The common ingroup identity model*. Philadelphia, PA: Psychology Press.



- Glick, P., Fiske, S. T., Mladinic, A., Saiz, J. L., Abrams, D., Masser, B. . . . López, W. (2000). Beyond prejudice as simple antipathy: Hostile and benevolent sexism across cultures. *Journal of Personality and Social Psychology*, *79*, 763-775. doi: 10.1037/0022-3514.79.5.763
- Grant, P.R., & Brown, R. (1995). From ethnocentrism to collective protest: Responses to relative deprivation and threats to social identity. *Social Psychology Quarterly*, *58*, 195-211.
- Greenaway, K. H., Quinn, E. A., & Louis, W. R. (2011). Appealing to common humanity increases forgiveness but reduces collective action among victims of historical atrocities. *European Journal of Social Psychology*, *41*, 569-573. doi: 10.1002/ejsp.802
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, *76*, 408-420. doi:10.1080/03637750903310360
- Hayes, A. F. (2013). Model Templates for PROCESS for SPSS and SAS. Retrieved from <http://www.afhayes.com/public/templates.pdf>
- Hayes, A. F. (n.d.). SPSS, SAS, and Mplus macros and codes: Some Frequently Asked Questions. Retrieved from <http://www.afhayes.com/macrolfaq.html>
- Hogg, A. F. (2006). Social Identity Theory. In P.J. Burke (Ed.), *Contemporary Social Psychological Theories* (pp. 88-110). Stanford, USA: Stanford University Press.
- Hogg, M. & Turner, J. (1987). Intergroup behaviour, self- stereotyping and the salience of social categories. *British Journal of Social Psychology*, *26*, 325–340. doi: 10.1111/j.2044- 8309.1987.tb00795.x
- Iyer, A., Leach, C.W., & Crosby, F.J. (2003). White guilt and racial compensation: The benefits and limits of self-focus. *Personality and Social Psychology Bulletin*, *29*, 117-129. doi: 10.1177/0146167202238377
- Johnson, H. (1994). Work-related sexual harassment. *Perspectives on Labour and Income*, *6(4)*, Article No. 1. Retrieved from <http://www.statcan.gc.ca/studies-etudes/75-001/archive/e-pdf/1561-eng.pdf>
- Lalonde, R. N. & Cameron, J. E. (1993). An intergroup perspective on immigrant acculturation with a focus on collective strategies. *International Journal of Psychology*, *28*, 57-74. doi:10.1080/00207599308246918
- Mallett, R. K., Huntsinger, J. R., Sinclair, S., & Swim, J. K. (2008). Seeing through their eyes: When majority group members take collective action on behalf of an outgroup. *Group Processes and Intergroup Relations*, *11*, 451-470. doi: 10.1177/1368430208095400

- Maoz, I. (2004). Coexistence is in the eye of the beholder: Evaluating intergroup encounter interventions between Jews and Arabs in Israel. *Journal of Social Issues, 60*, 437-452. doi: 10.1111/j.0022-4537.2004.00119.x
- Mathieu, J. E. & Taylor, S. R. (2006). Clarifying conditions and decision points for mediational type inferences in Organizational Behavior. *Journal of Organizational Behavior, 27*, 1031–1056. doi: 10.1002/job.406
- Mazziotta, A., Mummendey, A., & Wright, S. C. (2011). Vicarious intergroup contact effects: Applying social-cognitive theory to intergroup contact research. *Group Processes and Intergroup Relations, 14*, 255-274. doi: 10.1177/1368430210390533
- McCarthy, J.D., & Zald, M.N. (1977). Resource mobilization and social movements: A partial theory. *American Journal of Sociology, 82*, 1212-1241.
- Oskamp, S. (2000). Multiple pathways to reducing prejudice and discrimination. In S. Oskamp (Ed.), *Reducing prejudice and discrimination* (pp. 1-22). Mahwah, New Jersey: Lawrence Erlbaum Associates, Inc.
- Paluck, E. L. (2006). Diversity training and intergroup contact: A call to research. *Journal of Social Issues, 62*, 577-595. doi: 10.1111/j.1540-4560.2006.00474.x
- Paolini, S., Hewstone, M., Cairns, E., & Voci, A. (2004). Effects of direct and indirect cross-group friendships on judgments of Catholics and Protestants in Northern Ireland: The mediating role of an anxiety-reduction mechanism. *Personality and Social Psychology Bulletin, 30*, 770-786. doi: 10.1177/0146167203262848
- Paluck, E. L., & Green, D. P. (2009). Prejudice reduction: What works? A review and assessment of research and practice. *Annual Review of Psychology, 60*, 339-367. doi: 10.1146
- Pettigrew, T. F. (1997). Generalized intergroup contact effects on prejudice. *Personality and Social Psychology Bulletin, 23*, 173-185. doi: 10.1177/0146167297232006
- Pettigrew, T. F. (1998). Intergroup contact theory. *Annual Reviews of Psychology, 49*, 65-85. doi: 10.1146
- Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology, 90*, 751-783. doi: 10.1037/0022-3514.90.5.751
- Pettigrew, T. F., & Tropp, L. R. (2008). How does intergroup contact reduce prejudice? Meta-analytic tests of three mediators. *European Journal of Social Psychology, 38*, 922-934. doi: 10.1002
- Public Health Agency of Canada. (2011). Reducing health inequalities: A challenge for our times. Retrieved from [http://publications.gc.ca/collections/collection\\_2012/aspc-phac/HP35-22-2011-eng.pdf](http://publications.gc.ca/collections/collection_2012/aspc-phac/HP35-22-2011-eng.pdf)

- Reicher, S. (2007). Rethinking the paradigm of prejudice. *South African Journal of Psychology*, 37, 820-834. doi: 10.1177/008124630703700410
- Reitz, J. G. & Banerjee, R. (2007). Racial inequality, social cohesion and policy issues in Canada." In K. Banting, T. J. Courchene and F. L. Seidle (Eds), *Belonging?: Diversity, recognition, and shared citizenship in Canada* (1-57). Montreal, QC: Institute for Research on Public Policy.
- Reynolds, K. J., Oakes, P. J., Haslam, A., Nolan, M. A., & Dolnik, L. (2000). Responses to powerlessness: Stereotyping as an instrument of social conflict. *Group dynamics: Theory, Research, and Practice*, 4, 275-290. doi: 10.1037/1089-2699.4.4.275
- Ridgeway, C. L. (2001a). Gender, status, and leadership. *Journal of Social Issues*, 57, 637-655. doi: 10.1111/0022-4537.00233
- Ridgeway, C. L. (2001b). The emergence of status beliefs: From structural inequality to legitimizing ideology. In J. T. Jost & B. Major (Eds.), *The psychology of legitimacy: Emerging perspectives on ideology, justice, and intergroup relations* (pp. 257-277). New York, NY: Cambridge University Press.
- Ridgeway, C. L. (2006). Status construction theory. In P. Burke (Ed.), *Contemporary social psychological theories* (pp. 301-323). Palo Alto, CA: Stanford University Press.
- Ridgeway, C. L., & Correll, S. J. (2006). Consensus and the creation of status beliefs. *Social Forces*, 85, 431-453. doi: 10.1353/sof.2006.0139
- Ridgeway, C. L., Heger Boyle, E., Kuipers, K. J., & Robinson, D. T. (1998). How do status beliefs develop? The role of resources and interactional experience. *American Sociological Review*, 63, 331-350.
- Saguy, T., & Chernyak-Hai, L. (2012). Intergroup contact can undermine disadvantaged group members' attributions to discrimination. *Journal of Experimental Social Psychology*, 48, 714-720.
- Saguy, T., Dovidio, J. F., & Pratto, F. (2008). Beyond contact: Intergroup contact in the context of power relations. *Personality and Social Psychology Bulletin*, 34, 432-445. doi: 10.1177/0146167207311200
- Saguy, T., Tausch, N., Dovidio, J., & Pratto, F. (2009). The irony of harmony: Intergroup contact can produce false expectations for equality. *Psychological Science*, 20: 114-121. doi: 10.1111/j.1467-9280.2008.02261.x
- Sidanius, J., & Pratto, F. (1999). *Social dominance: An intergroup theory of social hierarchy and oppression*. Cambridge, UK: Cambridge University Press.
- Smith, H.J., & Kessler, T. (2004). Group-based emotions and intergroup behaviour: The case of relative deprivation. In L.Z. Tiedens & C.W. Leach (Eds.), *The social life of emotions* (pp. 292-313). New York, NY: Cambridge University Press.

- Statistics Canada (2009a). General Social Survey - Canadians aged 15 and over who reported experiencing discrimination or unfair treatment in Canada in last five years, 2005 to 2009. Retrieved from <http://www.statcan.gc.ca/pub/89-503-x/2010001/article/11527/tbl/tbl016-eng.htm>
- Statistics Canada (2009b). *Police-reported hate crimes*. Retrieved from <http://www.statcan.gc.ca/daily-quotidien/110607/dq110607a-eng.htm>
- Stürmer, S. & Simon, B. (2004a). Collective action: Towards a dual-pathway model. *European Review of Social Psychology*, *15*, 59-99.
- Stürmer, S. & Simon, B. (2004b). The role of collective identification in social movement participation: A panel study in the context of the German gay movement. *Personality and Social Psychology Bulletin*, *30*, 263-277. doi: 10.1177/0146167203256690
- Tajfel, H. & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W.G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33-48). Monterey, CA: Brooks/Cole.
- Turner, R. N., Hewstone, M., & Voci, A. (2007). Reducing explicit and implicit outgroup prejudice via direct and extended contact: The mediating role of self-disclosure and intergroup anxiety. *Journal of Personality and Social Psychology*, *93*, 369-388. doi: 10.1037/0022-3514.93.3.369
- van Zomeren, M., Spears, R., Fishcer, A., & Leach, C. W. (2004). Put your money where your mouth is! Explaining collective action tendencies through group-based anger and group efficacy. *Journal of Personality and Social Psychology*, *87*, 649-664.
- Wright, S.C. (2001). Strategic collective action: social psychology and social change. In R. Brown and S.L. Gaertner (Eds.), *Intergroup Processes: Blackwell Handbook of Social Psychology (Vol. 4)* (pp. 409-430). Oxford, UK: Blackwell.
- Wright, S. C. (2010). Collective action and social change. In J. F. Dovidio, M. Hewstone, P. Glick, & V. M. Esses (Eds.), *Handbook of prejudice, stereotyping, and discrimination* (pp. 577–595). Thousand Oaks, CA: Sage.
- Wright, S. C., Aron, A., McLaughlin-Volpe, T., & Ropp, S. A. (1997). The extended contact effect: Knowledge of cross-group friendships and prejudice. *Journal of Personality and Social Psychology*, *73*, 73-90. doi: 10.1037/0022-3514.73.1.73
- Wright, S. C., & Lubensky, M. E. (2009). The struggle for social equality: Collective action versus prejudice reduction. In S. Demoulin, J. P. Leyens, & J. F. Dovidio (Eds.), *Intergroup misunderstandings: Impact of divergent social realities* (pp. 291–310). Philadelphia, PA: Psychology Press.

- Wright, S.C. & Baray, G. (2012). Models of social change in social psychology: Collective action or prejudice reduction, conflict or harmony? In J. Dixon & M. Levine (Eds). *Beyond prejudice: Extending the social psychology of intergroup conflict, inequality and social change* (pp. 225-247). Cambridge, UK: Cambridge University Press.
- Wright, S. C., & Bitacola, L. M. (2012). *Echoing the call to move "Beyond Prejudice" in search of intergroup equality* [Peer commentary on the journal article "Beyond prejudice: Are negative evaluations the problem? Is getting us to like one another more the solution?"]. *Behavioral and Brain Sciences*, 35, 450-451. doi: 10.1017/S0140525X1200132X
- Wright, S.C., Taylor, D.M. & Moghaddam, F.M. (1990). Responding to membership in a disadvantaged group: from acceptance to collective protest. *Journal of Personality and Social Psychology*, 58, 994–1,003. doi: 10.1037/0022-3514.58.6.994

## **Appendices**

## Appendix A: Group Status Manipulation<sup>8</sup>

MACLEANS.CA  
**on campus**

HOME | CAMPUS NEWS | CAMPUS LIFE | CAMPUS TECH | CAMPUS MONEY | CAMPUS JOBS | SCHOLARSHIP FINDER

HOT TOPICS: Politics | First Year | 21st Annual Maclean's University Rankings | Health | International

Home > Campus News > Why Ontario's higher education system ranks above British Columbia's  
**Why Ontario's higher education system ranks above British Columbia's**  
By Jason Edwards | November 18th, 2011 | 12:36 pm

Ontario ranks well above British Columbia when it comes to higher education. The education systems of these two provinces can easily be contrasted because the provinces are comparable in many areas. Both Ontario and British Columbia are located in Canada, have large populations with cosmopolitan cities and similar youth demographics. History has shown that these two provinces have been known as "have" provinces and have approximately the same level of government resources. Despite these similarities Ontario is more successful in meeting the needs of its students, provides more funding, and excels in research compared to British Columbia.









*Ontario students at a well known university*

Here are five reasons British Columbia ought to pay closer attention to Ontario's higher education system.

- 1. Public funding of Ontario post-secondary institutions is steadily increasing.** Since 2003, Ontario has increased funding for post-secondary education on a per-capita basis by about 32%, whereas British Columbia has only increased funding by 16%. As Ontario funding increases more than British Columbia, universities in British Columbia are finding it increasingly difficult to recruit and retain good teachers and researchers. In addition, British Columbia universities are increasingly hard pressed to maintain their existing facilities and meet the demand for new equipment and technology-based services.
- 2. Tuition fees are lower in Ontario compared to British Columbia.** With lower tuition fees student debt in Ontario has, on average, decreased by over \$5,000 per student, whereas debt for students in British Columbia is steadily increasing. Not only is student debt in Ontario decreasing, so is the number of students and families who have to rely on the student aid system to pursue a post-secondary education. The increasing reliance on tuition fees in British Columbia is eroding quality and accessibility of post-secondary education.
- 3. Ontario remains a leader in research.** Ontario universities have some of the best researchers in the country. On a per-capita basis, Ontario holds 47% of the Canada Excellence Research Chairs. Each of these come with up to \$10-million in grant money. By comparison, British Columbia holds only 19% of these Excellence Chairs. Ontario also has 31% of the prestigious Vanier Scholarships, whereas British Columbia has only 8%.
- 4. On average, there are a growing number of high quality universities in Ontario.** Although British Columbia has attempted to increase the number of universities, based on the Macleans University Rankings for 2011, they continue to fall short.
- 5. Ontario is better than British Columbia at recruiting the best high school students.** Ontario universities have developed a wide range of ways to recruit students from high schools across the country. Our polls show that on average guidance counselors recommend Ontario universities 65% more often than they recommend a university in British Columbia. Since Ontario and British Columbia are similar in so many areas it would be natural to assume that their higher education systems would be comparable, but this is not the case. It is a lot easier to be a student in Ontario than it is in British Columbia. Ontario students benefit from increased funding and decreased debt. They have high quality professors and state of the art research facilities. These are luxuries that British Columbia students do not benefit from.

<sup>8</sup> There are two versions of this article. They are identical except the province that ranks higher is manipulated. This is the low-status version (i.e., Ontario ranks above British Columbia).


## Appendix B: Quality of Indirect Contact Manipulation (High-Quality Condition)<sup>9</sup>

|                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <p><b>British Columbia Student (TheShrimp)</b> says:<br/> <b>November 18<sup>th</sup> 2011, 12:40 pm</b><br/>           Reading this article really makes me upset. I can't believe we live in the same country, but BC students receive less funding than Ontario students. Allocation of funds should be equal.</p>                                                                                                                                                                                                                      |
|    | <p><b>Ontario Student (SuperSmart)</b> says:<br/> <b>November 18<sup>th</sup> 2011, 12:55 pm</b><br/>           Good point, but perhaps there is more to this story than meets the eye. More conversation will help us see the entire picture. Are you saying the system is unfair? The article doesn't seem to indicate that, but I wonder if anything could be changed. It seems that Ontario, as a province is more dedicated to its students. Perhaps it is an issue of provincial budgets and what the province's priorities are.</p> |
|    | <p><b>British Columbia Student (TheShrimp)</b> says:<br/> <b>November 18<sup>th</sup> 2011, 1:15 pm</b><br/>           I appreciate the opportunity to take time to discuss this. I think there should be petitioning from all students across Canada. It's not just the funding, why are more grants going to Ontario? I'd like to hear your thoughts on this, so I can get a better understanding of these issues.</p>                                                                                                                   |
|    | <p><b>Ontario Student (SuperSmart)</b> says:<br/> <b>November 18<sup>th</sup> 2011, 1:28 pm</b><br/>           I hear what you are saying. But if you want, I can tell you a little more about how funding works. Grants are given based on which universities have the strongest students and researchers. So, if there are higher quality students in Ontario then Ontario would get more grants. So I guess students in BC need to continue to try and improve the system there so that you can be competitive.</p>                     |
|  | <p><b>British Columbia Student (TheShrimp)</b> says:<br/> <b>November 18<sup>th</sup> 2011, 1:55 pm</b><br/>           It's good to know how grants work, but can't there still be some regulation of funds. Do you think people would be willing to join in on this cause to help make funding more equal? Maybe sign a petition?</p>                                                                                                                                                                                                     |
|  | <p><b>Ontario Student (SuperSmart)</b> says:<br/> <b>November 18<sup>th</sup> 2011, 2:09 pm</b><br/>           Interesting idea! I respect your passion for this. But, I'm not really sure that I agree with your arguments about things having to be equal. Do you think that it could be that sometimes the differences are real? I'm not sure that a lot of people would support the cause.</p>                                                                                                                                         |
|  | <p><b>British Columbia Student (TheShrimp)</b> says:<br/> <b>November 18<sup>th</sup> 2011, 2:20 pm</b><br/>           Well, it was good having this conversation with you. It's really nice to think about these issues with someone from Ontario. It looks like your province has responded to these concerns. There is a lot more left we can learn about this.</p>                                                                                                                                                                     |

<sup>9</sup> There are two versions of this discussion. This is the low-status version (i.e., Ontario ranks above British Columbia). The content of the discussions are identical except that in the high-status condition the roles of the discussants are reversed.



## Appendix C: Quality of Indirect Contact Manipulation (Low-Quality Condition)<sup>10</sup>

|                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <p><b>British Columbia Student (TheShrimp)</b> says:<br/> November 18<sup>th</sup> 2011, 12:40 pm</p> <p>Reading this article really makes me upset. I can't believe we live in the same country, but British Columbia students receive less funding than Ontario students. Allocation of funds should be equal.</p>                                                                                                                                                                                                                                |
|    | <p><b>Ontario Student (SuperSmart)</b> says:<br/> November 18<sup>th</sup> 2011, 12:55 pm</p> <p>Good point, but there is more to this story than meets the eye. I don't think you are seeing the entire picture. Are you saying the system is unfair? The article doesn't seem to indicate that. What do you think should be changed?</p>                                                                                                                                                                                                          |
|    | <p><b>Ontario Student (SuperSmart)</b> says:<br/> November 18<sup>th</sup> 2011, 12:56 pm</p> <p>On second thought, I wonder if anything can be changed. The reality is that Ontario as a province is more dedicated to its students. This is lousy for you in BC, but it really is an issue of provincial budgets and what the province's priorities are.</p>                                                                                                                                                                                      |
|    | <p><b>British Columbia Student (TheShrimp)</b> says:<br/> November 18<sup>th</sup> 2011, 1:15 pm</p> <p>I appreciate you taking the time to respond. Thank you! I think there should be petitioning from all students across Canada. It's not just the funding, why are more grants going to Ontario? I'd like to hear your thoughts on this because you have thought more about this than I have.</p>                                                                                                                                              |
|   | <p><b>Ontario Student (SuperSmart)</b> says:<br/> November 18<sup>th</sup> 2011, 1:28 pm</p> <p>I hear what you are saying, but I think you are missing the mark on this. You probably don't know a lot about how funding works. Grants are given based on which universities have the strongest students and researchers. So, if there are higher quality students in Ontario then Ontario would get more grants. What you need to do is to get students in BC to continue to try and improve the system there so that you can be competitive.</p> |
|  | <p><b>British Columbia Student (TheShrimp)</b> says:<br/> November 18<sup>th</sup> 2011, 1:55 pm</p> <p>Oh, I didn't realize how grants work, but can't there still be some regulation of funds? Do you think people would be willing to join in on this cause to help make funding more equal? Maybe sign a petition?</p>                                                                                                                                                                                                                          |
|  | <p><b>Ontario Student (SuperSmart)</b> says:<br/> November 18<sup>th</sup> 2011, 2:09 pm</p> <p>I can see you are trying hard here and I respect the passion you have for this, but I can't say I agree with your arguments about things having to be equal. Sometimes the differences are real. So I doubt many people would support the cause. I guess you could try, though you might be wasting your time.</p>                                                                                                                                  |
|  | <p><b>British Columbia Student (TheShrimp)</b> says:<br/> November 18<sup>th</sup> 2011, 2:20 pm</p> <p>Well, thanks for having this conversation with me! It's really nice of you to think about this issue even though you are from Ontario. You guys seem to have been able to get your province to listen to your concerns. Perhaps we in BC could learn from you.</p>                                                                                                                                                                          |

<sup>10</sup> There are two versions of this discussion. This is the low-status version (i.e., Ontario ranks above British Columbia). The content of the discussions are identical except that in the high-status condition the roles of the discussants are reversed.

## Appendix D: Attitudes towards the Outgroup Scale

1. In general, how do you feel towards Ontario university students?

|           |    |    |   |   |   |           |
|-----------|----|----|---|---|---|-----------|
| -3        | -2 | -1 | 0 | 1 | 2 | 3         |
| Very cold |    |    |   |   |   | Very warm |

2. In general, how would you evaluate Ontario university students?

|                 |    |    |   |   |   |                 |
|-----------------|----|----|---|---|---|-----------------|
| -3              | -2 | -1 | 0 | 1 | 2 | 3               |
| Very negatively |    |    |   |   |   | Very positively |

3. In general, how likeable are Ontario university students?

|                 |    |    |   |   |   |               |
|-----------------|----|----|---|---|---|---------------|
| -3              | -2 | -1 | 0 | 1 | 2 | 3             |
| Very unlikeable |    |    |   |   |   | Very likeable |

4. In general, how successful are Ontario university students?

|                   |    |    |   |   |   |                 |
|-------------------|----|----|---|---|---|-----------------|
| -3                | -2 | -1 | 0 | 1 | 2 | 3               |
| Very unsuccessful |    |    |   |   |   | Very successful |

5. In general, how similar are Ontario university students to you?

|           |    |    |   |   |   |         |
|-----------|----|----|---|---|---|---------|
| -3        | -2 | -1 | 0 | 1 | 2 | 3       |
| Unlike me |    |    |   |   |   | Like me |

6. In general, how open-minded are Ontario university students?

|              |    |    |   |   |   |             |
|--------------|----|----|---|---|---|-------------|
| -3           | -2 | -1 | 0 | 1 | 2 | 3           |
| Close-minded |    |    |   |   |   | Open-minded |

## Appendix E: Collective Action Intentions Scale<sup>11</sup>

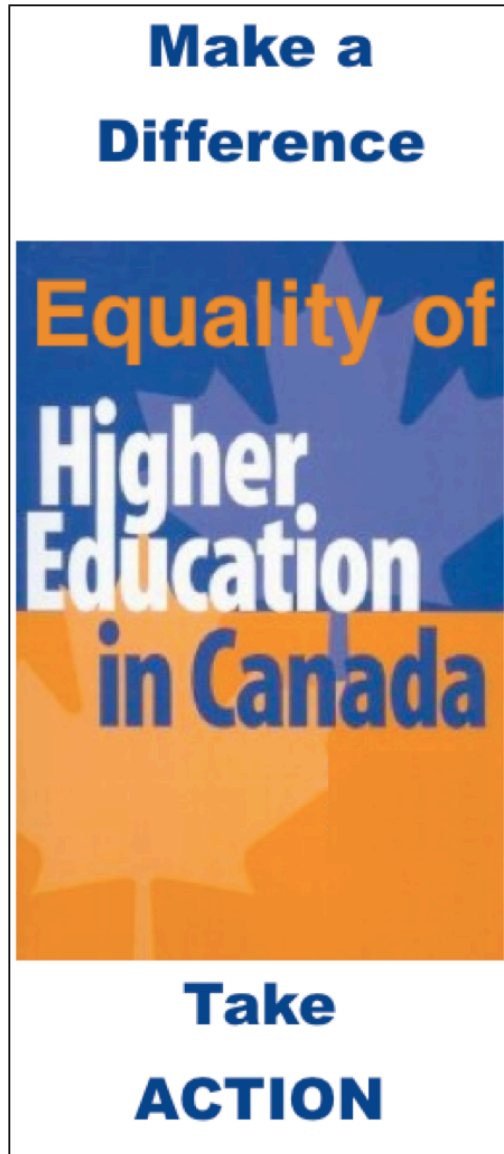
Using the scale provided please rate how likely or unlikely you would be willing to participate in the following actions.

|                       |   |   |   |   |   |                     |
|-----------------------|---|---|---|---|---|---------------------|
| 1                     | 2 | 3 | 4 | 5 | 6 | 7                   |
| Extremely<br>unlikely |   |   |   |   |   | Extremely<br>likely |

1. If approached by someone I would sign a petition against British Columbia universities being disadvantaged compared to Ontario universities.
2. Participate in a rally encouraging Ontario to share some of the money that actually belongs to British Columbia universities.
3. Vote for a political candidate who makes promoting equal funding between British Columbia and Ontario universities one of their serious concerns.
4. Barricade the university administration office with other students to show our position on this issue of inequality.
5. Contact my local Member of Parliament about supporting legislation that calls for equal distribution of funding between British Columbia and Ontario universities.
6. If someone sent me a request I would join a Facebook group that promotes equal distribution of funding between British Columbia and Ontario universities.
7. I would try to raise more awareness about this issue by talking to my family and friends about what I learned in the article.
8. Join a community group or organization that promotes equal distribution of funding between British Columbia and Ontario universities.
9. Encourage others to join organizations that promote equal distribution of funding between British Columbia and Ontario universities.
10. Join a campus activist group that shows their dissatisfaction with this inequality by refusing to pay their tuition.
11. Hand out fliers or put up posters at public locations calling for a reduction in the funding disparity between British Columbia and Ontario universities.
12. Actively lobby the federal government to reduce the funding disparity between British Columbia and Ontario universities.
13. Write in public forums about British Columbia universities being underfunded compared to Ontario universities (e.g., newspapers, blogs, facebook, etc.).
14. Speak publicly about British Columbia universities being underfunded compared to Ontario.
15. Educate myself more on this issue of inequality (e.g., read news articles, read blogs).

<sup>11</sup> This is the scale for the low-status version. In the high-status version all provincial labels were reversed.

## Appendix F: Collective Action Behavioural Measure<sup>12</sup>



<sup>12</sup> This is the front of the flyer that was shown to participants.

## Appendix G: Anger<sup>13</sup>

Next you will be presented with some emotional reactions that you may have had when reading the discussion. Please rate the level to which you did or did not experience them.

|            |   |   |   |   |   |              |
|------------|---|---|---|---|---|--------------|
| 1          | 2 | 3 | 4 | 5 | 6 | 7            |
| Not at all |   |   |   |   |   | Very<br>much |

1. Angry
2. Happy
3. Irritated
4. Furious
5. Displeased
6. Ashamed
7. Proud
8. Self-conscious
9. Guilty
10. Confident
11. Anxious
12. Confused
13. Interested
14. Uncomfortable

<sup>13</sup> The highlighted items are those used in the anger scale. All others were filler items.

## Appendix H: Group Efficacy Scale

Please use the scale provided to rate the degree to which you agree or disagree with the following statements.

|                      |   |   |   |   |   |                   |
|----------------------|---|---|---|---|---|-------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                 |
| Strongly<br>disagree |   |   |   |   |   | Strongly<br>agree |

1. I think together BC students are able to change this inequality.
2. I think together BC students are able to encourage the government to reduce the discrepancy in funding between BC and Ontario universities.

## Appendix I: Perceived Quality of Interaction Scale

1. How friendly were the BC and Ontario student with each other during the online discussion?

|                     |   |   |   |   |   |                    |
|---------------------|---|---|---|---|---|--------------------|
| 1                   | 2 | 3 | 4 | 5 | 6 | 7                  |
| Not at all friendly |   |   |   |   |   | Extremely friendly |

2. How well did the BC and Ontario student get along during the online discussion?

|                        |   |   |   |   |   |                     |
|------------------------|---|---|---|---|---|---------------------|
| 1                      | 2 | 3 | 4 | 5 | 6 | 7                   |
| Did not get along well |   |   |   |   |   | Got along very well |

3. What was the level of equality between the BC and Ontario student during the online discussion?

|                 |   |   |   |   |   |                   |
|-----------------|---|---|---|---|---|-------------------|
| 1               | 2 | 3 | 4 | 5 | 6 | 7                 |
| Extremely equal |   |   |   |   |   | Extremely unequal |

## Appendix J: Correlation Matrix of all Relevant Variables

|                                       | Group Status | Quality of Indirect Contact | Rules/ Expectations | Perceived quality of interaction | Attitudes towards the outgroup | Collective Action Intentions | Collective Action Behavioural Measure | Ingroup ID | Anger  | Group Efficacy |
|---------------------------------------|--------------|-----------------------------|---------------------|----------------------------------|--------------------------------|------------------------------|---------------------------------------|------------|--------|----------------|
| Group Status                          | 1            | -.01                        | .02                 | -.01                             | .03                            | -.26**                       | .01                                   | .02        | -.48** | -.12*          |
| Quality of Indirect Contact           | -.01         | 1                           | -.02                | .28**                            | .08                            | -.01                         | -.07                                  | -.11*      | -.04   | .00            |
| Local Rules/ Expectations             | .02          | -.02                        | 1                   | .09                              | .19**                          | -.01                         | .07                                   | .04        | .02    | .08            |
| Perceived quality of interaction      | -.01         | .28**                       | .09                 | 1                                | .19**                          | -.18**                       | -.08                                  | -.10       | -.18*  | -.01           |
| Attitudes towards the outgroup        | .03          | .08                         | .19**               | .19**                            | 1                              | .19**                        | .09                                   | .12*       | -.12*  | .18*           |
| Collective Action Intentions          | -.26**       | -.01                        | -.01                | -.18**                           | .19**                          | 1                            | .27**                                 | .16**      | .33**  | .39**          |
| Collective Action Behavioural Measure | .01          | -.07                        | .07                 | -.08                             | .09                            | .27**                        | 1                                     | .07        | .04    | .22**          |
| Ingroup Identification                | .02          | -.11*                       | .04                 | -.10                             | .12*                           | .16**                        | .07                                   | 1          | .00    | .23**          |
| Anger                                 | -.48**       | -.04                        | .02                 | -.18*                            | -.12*                          | .33**                        | .04                                   | .00        | 1      | -.01           |
| Group Efficacy                        | -.12*        | .00                         | .08                 | -.01                             | .18**                          | .39**                        | .22**                                 | .23**      | -.01   | 1              |

Note. \* Correlation is significant at the .05 level (1-tailed)  
 \*\* Correlation is significant at the .01 level (1-tailed)