

COVID discrimination experience: Chinese Canadians' social identities moderate the effect of personal and group discrimination on well-being

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Abstract

Objectives: The COVID-19 pandemic has amplified pre-existing racism and xenophobia. In this study, we investigated (a) whether perceived personal and group discrimination make distinct contributions to Chinese Canadians' negative affect and concern that the heightened discrimination they experienced during the pandemic will continue after the pandemic; (b) whether Canadian and Chinese identities and social support moderate the effect of discrimination on this concern, and (c) whether race-based rejection sensitivity explains why each type of discrimination predicts negative affect and expectation of future discrimination. **Method:** A sample of Chinese Canadian adults across Canadian provinces ($N = 516$; $M_{age} = 42.74$, 53.3% females) completed a questionnaire assessing personal and group discrimination, Chinese and Canadian identity, a short form of race-based rejection sensitivity, negative affect, and expectation of future discrimination. **Results:** Personal and group discrimination were intercorrelated and positively associated with negative emotion and expectation of future discrimination. Chinese Canadians who identified more strongly as Chinese experienced a less adverse impact related to group discrimination. However, those who identified more (vs. less) strongly as Canadians were more likely to be impacted by personal discrimination. Finally, path analysis revealed that both personal and group discrimination were positively associated with rejection sensitivity, which in turn predicted an expectation that long-lasting racism would continue after the pandemic. **Conclusion:** Group and personal discrimination play different roles in Chinese Canadians' experiences during and expectations after the pandemic. Maintaining Chinese identity can be beneficial to Chinese Canadians, particularly in mitigating the negative effect of group discrimination during the pandemic.

Keywords: Discrimination, ethnic identity, rejection sensitivity, negative affect, COVID-19

Public Significance Statements: Discrimination during the COVID-19 pandemic has heightened Chinese Canadians' negative emotional experiences, worry about interethnic interaction, and future discrimination expectations. The experiences of discrimination, if not addressed, may lead to long-term consequences on Chinese Canadians' mental health and social functioning. One protective factor is their heritage identity, which functions as a buffer against the negative impact of group discrimination during the COVID-19 pandemic.

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“[I] was at local Loblaws and was in queue to pay and the person behind me got too close. Requested that he back up to allow for social distancing and then he states ‘shut up and go back to where you came from’.”

“I was at the grocery store and a lady and her husband harassed me saying I should go back where I came from and that I was the part of the reason why we have the virus here, even though I have been in Canada for 8 years”

-- Participants in this study

While the COVID-19 pandemic has created challenges in many people's lives, it has also given rise to xenophobia and racism. Many recent government documents and public polls have shown disconcerting increases in anti-Asian sentiment and harassment cases in Canada (Statistics Canada, 2020, June) and in the US (Tessler et al., 2020). For example, a survey showed that 59.6% of Chinese Canadians reported having experienced discrimination during the pandemic (Statistics Canada, 2020), which poses a severe risk to their well-being (Wu et al., 2021; see Cheah et al., 2021 for the context of Asian Americans). If not addressed, these stressful experiences of discrimination can lead to long-term consequences on one's health and social functioning (Berger & Sarnyai, 2015; Chou et al., 2020; Gee et al., 2007). Therefore, it is important to understand potential protective factors for Chinese Canadians' mental health in the face of discrimination during the COVID-19 pandemic.

Previous literature has shown that social support and identities are important protective factors for ethnic minorities' mental health (Cobb et al., 2019; Odafe et al., 2017). Social support, defined as an accessible resource in one's social network and interpersonal contacts, enables individuals to reduce negative feelings that arise from difficulties (Kocalevent et al., 2018; Museus et al., 2015; Odafe et al., 2017). Strong ethnic identities may also help ethnic

minorities to deal with prejudice and discrimination (Tajfel, 1982; Phinney, 1996). For this study, we refer to identities in terms of identification as members of certain cultural groups, differentiating the identification with other Chinese people (i.e., heritage identity or Chinese identity) to identification with other Canadians (i.e., Canadian identity). A strong ethnic identity refers to a sense of belonging and importance of the group, as well as a positive feeling about being a group member (Cameron, 2004; Cokley, 2007; see review by Rivas-Drake et al., 2014).

To further understand the potential long-term consequences of discrimination during the COVID-19 pandemic, we examined whether discrimination experiences were associated with race-based rejection sensitivity (RS) – a psychological tendency to anxiously expect prejudice in social interactions because of one’s race/ethnicity (Chan & Mendoza-Denton, 2008). RS is often developed through increased experiences in discrimination and social stigma and is related to minorities’ well-being (Mendoza-Denton et al., 2002; Sjøstad et al., 2020). RS also affects how ethnic minority members feel and act in intergroup situations by increasing intergroup anxiety and avoidant tendency to future intergroup interactions (Chan & Mendoza-Denton, 2008; Lou & Noels, 2019). With the increasing reports of anti-Chinese sentiment (Darling-Hammond et al., 2020), Chinese Canadians may also experience a high level of RS (Tessler et al., 2020). Understanding how Chinese Canadians would expect discrimination during the pandemic is important because a heightened RS can have deleterious consequences for one’s mental health and may give rise to their concern about the persistence of discrimination after the pandemic.

Perceived Personal and Group Discrimination

Ethnic minority members’ discrimination experiences are a long-standing social and public health concern because they are associated with diverse adverse social and health outcomes (Schmitt et al., 2014; Paradies et al., 2015; Carter et al., 2017; Benner et al., 2018).

Research focusing on Asian groups further provides clear evidence that personal experience of discrimination is associated with psychological distress (Gee et al., 2007; Juang et al., 2018; Lee & Ahn, 2011; Woo et al., 2020). But even those people who have not experienced personal racism may believe their group is nonetheless the object of discriminatory actions. In fact, people tend to report higher levels of perceived group discrimination than personal discrimination – a robust phenomenon called the “personal/group discrimination discrepancy” (Taylor et al., 1990; Dion, 2002). Considering a surging media coverage of anti-Asian hate crimes during the COVID-19 pandemic (e.g., Croucher et al., 2020), understanding how group discrimination, in addition to personal discrimination, can impact Chinese Canadians is particularly warranted.

It is arguable that beliefs about the pervasiveness of discrimination against one’s group (i.e., perceived group discrimination) could also be associated with psychological distress (Branscombe et al., 1999; Hagiwara et al., 2016; Stevens & Thijs, 2018). However, research has shown that personal discrimination is more detrimental than perceived group discrimination (Bourguignon et al., 2006; Schmitt et al., 2014). Such results have been found among Latinx Americans (Armenta & Hunt, 2009; Molina et al., 2019) and Black Americans (Hagiwara et al., 2016). Less is known, however, about whether perceived personal discrimination and group discrimination have different emotional burdens for Chinese or Asian Canadians, despite the widely documented perceived group discrimination also found among Asians, even before the COVID-19 pandemic (Lee, 2005; Ong et al., 2017; Park et al., 2013).

Apart from its possible association with psychological distress, perceived group discrimination can nonetheless serve as an index of the intergroup climate that points to the potential for future racist interactions. Based on anecdotes from other members of the ethnic group, news reports of racist events, messages in the linguistic landscape (e.g., graffiti, signage,

etc.), mediated artifacts such as film and advertising, institutional policies, and a myriad of other sources (Bourhis et al., 2019; Clément & Norton, 2020), group members acquire an understanding of how their group is perceived within society and for some this includes a sense of their group as a stigmatized minority. Such beliefs about the relative status of one's group and the intergroup climate provide a basis for setting expectations about the likelihood of encountering discrimination in future encounters, even when one has had limited personal experience to date.

Identities and Social Support Moderate the Impact of Discrimination

Social connection with others and identification with a group may moderate how perceived discrimination is associated with psychological distress (Sturmer & Simon, 2004; Lee, 2005). While social support enables people to cope with different types of stressors, including discrimination (Kocalevent et al., 2018; Nurullah, 2012; Odafe et al., 2017), heritage and mainstream identities provide particularly important protective mechanisms to ethnic minorities in the face of discrimination (Outten & Schmitt, 2015; Yip et al., 2019; Phinney, 1996). Similarly, in research on multiculturalism and acculturation, heritage and mainstream ethnic identities are often viewed as adaptive acculturation outcomes for ethnic minorities and people with an immigrant background (Berry & Hou, 2020; Cobb et al., 2017; Hong et al., 2016).

Canadian Ethnic Identity

A few studies have directly examined whether mainstream ethnic identity moderates the effect of discrimination; these studies suggest that mainstream ethnic identity exacerbates the effect of racial discrimination on psychological distress (O'Brien et al., 2012; Schaafsma, 2011). Some research indirectly supports this notion by showing that discrimination was positively associated with depressive symptoms for those who report high connection with the mainstream

culture, but not for those with low connection with the mainstream culture (Umana-Taylor & Updegraff, 2007). Discrimination has a stronger impact on psychological distress when a person identifies with a group of people who are also expressing prejudice towards their ethnicity, possibly due to the experience of dissonance between their expectations (e.g., “I am Canadian”) and experiences (e.g., “Other Canadian discriminate against me and deny my identity”; O’Brien et al., 2012; Schaafsma, 2011). In other words, for those who strongly identify as Canadian, personal discrimination by other Canadians may exert more negative consequences because the others’ appraisal invalidates or denies their Canadianness (Noels et al., 2010). Research shows that Asian Americans who experience identity denial also report more negative emotions, such as anger (Cheryan & Monin, 2005; Wang et al., 2011). Therefore, although identification with the mainstream ethnic group is posed as an adaptive acculturation outcome, we expect that the more Chinese Canadians identify as Canadian, the greater the distress from experiences of personal discrimination by other Canadians.

Heritage Ethnic Identity

For many ethnic minority persons, heritage ethnic identity is a central part of their self and social identity (Phinney, 1996). Heritage ethnic identity helps ethnic minority persons establish belonging and provide a collective view about the virtues of their group, increasing feelings of belonging and lessening the effects of discrimination (Outten & Schmitt, 2015; Yoo & Lee, 2008; see review by Rivas-Drake et al., 2014). As such, group-related events (e.g., group discrimination) may give rise to one’s engagement socially (e.g., connect with group members) and cognitively (e.g., think positively about their group) when they have a strong sense of belonging (Yoo & Lee, 2005). Consistent with this view, research shows that a strong commitment to heritage identity is a psychological resource that provides ethnic minority

members with self-acceptance and a sense of connection with a collective group, which protects their well-being and personal adjustment (e.g., Phinney et al., 1997; Smith & Silva, 2011; Thibeault et al., 2018). In contrast, minority group members with a weak heritage identity may experience more adverse effects of discrimination because they lack a sense of belongingness and acceptance of their own ethnicity.

Although the buffering role of heritage identity against negative affect and distress has been widely acknowledged, some studies have shown that stronger heritage ethnic identity exacerbates the impact of discrimination among Asians in the US (e.g., Park et al., 2013; Yoo & Lee, 2008; Yip et al., 2008). To understand these discrepancies, a meta-analytical study has shown that it may depend on the type of identity measure, such that *identity exploration* exacerbates, whereas *identity commitment* buffers the effect of discrimination on psychological distress (Yip et al., 2019). That is, discrimination can be even more damaging for ethnic minority persons who are still exploring and constructing their identity (i.e., identity exploration). Given that this study conceptualizes strong ethnic identity as group ties, positive affect, and a sense of importance of the ethnic group (which is more closely related to commitment than exploration), we expect that for Chinese Canadians who are proud of their heritage identity and have a strong sense of self as an ethnic group member, heritage identity can buffer the negative effects of discrimination. However, there is little understanding of whether the advantage of heritage identity is different depending on how individuals experience discrimination at the personal or group level. Therefore, we explore whether, how, and which ethnic identities moderated the effect of both personal and group discrimination on well-being.

Rejection Sensitivity Model

The rejection sensitivity model by Mendoza-Denton and colleagues (2002) may also explain how ethnic identity may sometimes intensify the effect of discrimination. For minority persons who have a strong heritage identity, the more they perceive discrimination against their heritage group, the more likely they develop a higher level of RS – anxiety about potential prejudice because of the group identity (e.g., worry others may reject you because you are Chinese; Chan & Mendoza-Denton, 2008). In contrast, for those who do not strongly attach to their heritage identity, they are less likely to develop rejection sensitivity. The expectation of rejection can lead one to pay more attention to potentially racialized experiences and more readily react to those situations (Chan & Mendoza-Denton, 2008). As a result, people with a high level of RS experience more negative emotions in their everyday life, leading to higher rates of psychological distress (Chan & Mendoza-Denton, 2008). That is, discrimination experience can lead to negative emotions by creating expectations of social rejection due to their identified group membership (Sjåstad et al., 2020). These findings are consistent with minority stress theory (Meyer, 2015), which suggests that minority stress arises when one's identity is associated with social stigma (see also Franco & O'Brien, 2018). When a person strongly identifies as being part of a minority group that is being stigmatized, the identification can be related to hypersensitive stress responses when interacting with others, to protect themselves and to avoid stigma.

RS Mediates the Link between Discrimination and Outcomes

The RS models suggest that personal discrimination may contribute to Chinese Canadians' negative affect by heightening their RS (e.g., Wu et al., 2015). However, little is known about whether group discrimination also contributes to RS beyond personal experiences of discrimination. Because ethnic minority members often reported that their group experienced

discrimination more so than themselves personally experience discrimination (Taylor et al., 1990; Dion, 2002), it is possible that even if people did not personally experience discrimination, they might still develop RS by reflecting on how their group is being treated (Mendoza-Denton et al., 2002). As Chinese Canadians are likely aware of the increase in anti-Chinese hate crimes and harassment reported in the news and social media (Darling-Hammond et al., 2020), we expect that this perception of group-level discrimination, in addition to personal experiences of discrimination, will also contribute to negative affect by increasing their RS.

In addition to negative affect, minorities who have high RS also reported they would avoid future intergroup interaction because they are concerned about future discrimination (Chan & Mendoza-Denton, 2008; Lou & Noels, 2019). That is, ethnic minority persons who developed a higher RS are not only concerned about potential racialized experiences at the moment, but they may also become more concerned about the continuation of discrimination (Sjåstad et al., 2020). Understanding this is particularly important as Chinese Canadians may fear that anti-Chinese sentiment will persist and that their ethnic community will continue to be the target of racism after the pandemic. The RS model may help with understanding the association between discrimination and negative affect, as well as the association between discrimination and concern about future discrimination.

The Present Study

The increase of anti-Chinese sentiment during the pandemic may persist and reinforce the pre-existing anti-Asian racism. Despite research showing discrimination against Chinese is prevalent during the COVID-19 pandemic (Tessler et al., 2020), little research has examined the psychological consequences and buffering factors of discrimination, and even less for Canada specifically. According to the rejection sensitivity model (Mendoza-Denton et al., 2002), it is

conceivable that Chinese Canadians can develop negative expectations about interacting with other Canadians, and worry that discrimination will persist after the pandemic. To understand this psychological process, the current study examines three research questions:

RQ1. Are Chinese Canadians' perceived personal and perceived group experiences of discrimination associated with negative affect during the COVID-19 pandemic, RS and concern about future racism?

RQ2. Are these associations in RQ1 moderated by Chinese identity, Canadian identity, and social support?

RQ3. Does RS mediate the associations between discrimination and outcomes (i.e., negative affect during the COVID-19 pandemic and concern about future racism)?

Method

Participants and Procedure

This study was conducted as part of a Canada-wide online survey, in partnership with the Angus Reid Institute. All the participants are from an online panel recruited via the polling company (see <https://angusreid.org/how-we-poll-ari/> for method and validity). To avoid spam or negligent participants, only eligible participants who agreed to participate received an e-mail invitation to complete the online survey by logging in with a password. The participants received a consent form that informed them the purpose was to learn more about Canadians' experiences during the COVID-19 pandemic. The participants received a small monetary incentive for completing the survey. We recruited 516 Chinese Canadian adults ($M_{age} = 42.74$, $SD = 14.43$; 275 females and 239 males) in between June 15 to 18, 2020. The study was approved by the University of Alberta's ethics board. In the sample, 231 (44.8%) participants were born in Canada, and 285 (55.2%) were born outside of Canada, including Mainland China (22%), Hong

Kong (22%), Taiwan (3%), and other places (9%). Among those born outside of Canada, most had lived in Canada for more than 20 years ($n = 167$).

Measures

Internal consistency and descriptive statistics for each measure are reported in Table 1. The full items are presented in the Online Supplemental Material.

Perceived Personal and Group Discrimination

The measure was adapted from the Everyday Discrimination Scale (Williams et al. 1997) and the perceived discrimination questionnaire (Berry et al., 2006). Participants indicated whether they have *personally* experienced instances of discrimination during COVID-19 on a scale from 1 (not at all/never) to 6 (always). The measure included six items (e.g., “been called names or insulted”).¹ The same six items were also used to measure the participants’ perceptions about the extent to which Chinese Canadians experienced discrimination during COVID-19. An exploratory factor analysis (EFA) supported a two-factor solution for personal (Eigenvalue = 2.04; factor loading $\geq .68$) group discrimination (Eigenvalue = 6.75; factor loading $\geq .79$).

Race-based Rejection Sensitivity (RS)

Participants were presented with hypothetical scenarios where they might experience anxiety about being rejected due to their ethnic background. Due to the brevity of the survey, only one scenario was developed, based on Mendoza-Denton and colleagues’ instrument (2002). Previous studies showed that the RS scale with one scenario is also reliable (e.g., Feinstein et al., 2019). In this study, the scenario focused on a grocery store interaction because, despite lockdowns and stay-at-home recommendations, most people still visited grocery stores, where

¹ Participants who indicated they have personally been threatened or intimidated during the COVID-19 pandemic were asked to describe the incidents. Some quotes from participants are presented in the beginning of the article.

they might interact with strangers.² Specifically, participants imagined themselves being “in a grocery store during COVID-19, and someone walks down the aisle.” The participants first rated (a) their perceived likelihood of being rejected because of their ethnicity from 1 = very unlikely to 6 = very likely. The participants then rated (b) their anxiety/ concern regarding possible rejection from 1 = very unconcerned to 6 = very concerned. Because a high level of rejection sensitivity is operationalized as an *interaction* of high expectations and high anxiety, the rejection sensitivity quotient for each scenario was calculated by multiplying (a) the score for the expected likelihood of rejection and (b) and the score for anxiety/concern (Mendoza-Denton et al., 2002). Statistically significant correlation between RS and negative emotions and perceived discrimination were in the expected direction (i.e., positive correlations; Table 1) according to previous studies (Chan & Mendoza-Denton, 2008), which provide evidence for external validity.

Chinese and Canadian Identities

We adapted Cameron’s (2004) measure of social identity in this study. Participants rated their agreement with five items on a scale from 1 (strongly disagree) to 6 (strongly agree). The items reflect three aspects of social identity, including centrality (e.g., “My Chinese ethnicity is an important part of my identity”); in-group affect (e.g., “I love my Chinese heritage and what it stands”); and group ties/belonging (e.g., “I feel a sense of connection with other Chinese Canadians”). The same items were also adapted for Canadian identity. The result of an EFA supported a one-factor solution for both Chinese identity (Eigenvalue = 2.76; factor loading > .65) and Canadian identity (Eigenvalue = 2.42; factor loading \geq .57).

Social Support

² Multiple incidents of racial harassment had been reported in stores (CBC, 2020 April; June; see also quotes at the beginning of the paper). Moreover, a discussion with a group of six students of Chinese heritage supported the ecological validity of this scenario as a situation that elicited rejection sensitivity.

Two items from the Oslo Social Support Scale (Kocalevent et al., 2018) were adapted for this study. Participants reported on a four-point scale (a) how many people they can count on during this COVID-19 pandemic, and (b) how much interest and concern people show them. The two items were moderately correlated ($r = .42, p < .001$).

Negative Affect

We adapted items from the PANAS (Watson & Clark, 1999) to measure participants' negative feelings during the COVID-19 pandemic on a six-point scale (1 = "not at all" to 6 = "very much so"). The items include seven negative words (e.g., sad, bored, grief, angry, lonely, worried, and lack concentration). An EFA supported a one-factor solution (Eigenvalue = 3.60; factor loading $\geq .57$).

Concern about Long-lasting Discrimination

Participants indicated on one item about their concern about future discrimination (e.g., to the extent that COVID-19 has resulted in more prejudice and racism against Canadians of Chinese ethnicity, how long do you think that will last?) on a 3-point scale (1 = "Short lived – things will be back to normal once COVID ends", 2 = "Lasting – it will take longer than the end of COVID for things to get back to normal", and 3 = "Long-lasting – the COVID increase in racism/prejudice will last for a long time after").

Covariates

Demographic information was also collected. Household income is found to be related to discrimination and distress (Clark et al., 1999) and is therefore an important covariate. Given the context of the COVID-19 pandemic, we also included as a covariate the negative impact of COVID on respondents' employment and income (1= no impact or have positive impact; 2 = income down moderately [$< 25\%$]; 3 = income down a lot [$> 25\%$], 4 = lost jobs/income

entirely). As age and nativity status (i.e., immigrants vs. Canadian-born) are found to be related to discrimination and psychological distress (e.g., Juang et al., 2018; Yip et al., 2009), we also included them as covariates.³ Finally, research suggests that women tend to report more psychological distress. Thus, gender (0 = female; 1 = male) is included as a covariate.

Analysis

To test RQ1, we ran a series of regression analyses by entering both group and personal discriminations, as well as the control variables onto negative affect, RS, and concern about lasting discrimination, respectively. To answer RQ2, we ran a series of regression models to examine whether Chinese identity, Canadian identity, and social support significantly interact with either personal or group discrimination on negative affect, RS, and concern about lasting discrimination, respectively. Finally, to address RQ3, we ran a path analysis to examine whether RS mediated the association between perceived discrimination and two related outcomes.

Results

Preliminary Analysis

First, we examined whether demographics were associated with key variables (see Supplemental Material). Missing data is 0.6% and is handled using listwise deletion in the regression models and full information maximum likelihood (FIML) in the path model.

Table 1

Descriptive Analysis and Bivariate Correlations among Variables (N = 516).

	1	2	3	4	5	6	7	8	9	10	11	12
1.Canadian identity		.19***	.22***	-.21***	-.41***	-.21***	-.19***	-.25***	.06	.16***	-.06	.14**
2.Chinese identity		--	.12**	.01	-.10	-.06	-.09	-.04	.10	.06	.00	-.13**

³ Age is significantly correlated with Canadian identity, rejection sensitivity, and negative affect. Moreover, we explored the effects of the three-way interactions among age, discrimination (personal or group), and identity (Chinese or Canadian) on negative affect and rejection sensitivity. We did not observe any significant two-way or three-way interaction effects with age. Therefore, age is included as a covariate and not a moderator in the main analysis.

3.Social support	--	.00	-04	-03	-05	-02	.18**	-03	-.14**	.09		
4.Group discrimination	--	.52**	.44***	.24***	.37***	-.03	-.10	.10	.12**			
5.Personal discrimination	--	.53***	.35***	.34***	-.01	-.10	.13**	-.03				
6.Rejection sensitivity	--	.33**	.32***	.05	-.15***	.02	.07					
7.Negative affect	--	.20***	-.14**	-.21***	.25***	.01						
8.Concern about lasting discrimination	--	-.07	-.04	.16**	.01							
9.Household income	--	.00	-.24**	.05								
10.Age	--	.00	-.14**									
11.COVID impact on income	--											
12.Canadian-born (yes=1, no =0)	--											
α	.77	.73	NA	.92	.91	NA	.84	NA	NA	NA	NA	
Range	1-6	1-6	1-4	1-6	1-6	1-36	1-6	1-3	1-6	18-82	1-4	0/1
M	4.69	4.23	2.39	3.56	2.20	11.05	3.38	2.03	3.38	42.74	1.89	.45
SD	0.92	0.94	0.72	1.12	1.16	9.44	1.03	0.69	1.20	14.44	1.10	.50
<i>Skewness</i>	-.65	-.30	.08	-.25	.96	.99	-.03	-.04	.23	.30	.84	.21
<i>Kurtosis</i>	.32	.23	-.45	-.31	.24	.24	-.39	-.90	-.16	-.83	-.76	-1.96

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

The Role of Personal and Group Discrimination on Negative Affect, RS, and Concern about Future Racism (RQ1)

As shown in Table 2, negative affect was positively associated with younger age and lower income due to the COVID-19 pandemic. Notably, personal discrimination is the stronger predictor of negative affect, whereas group discrimination no longer significantly predicted negative affect when the effect of personal discrimination is accounted for. Both personal and group discrimination predicted RS, even after controlling for age, gender, household income, the impact of COVID on income, and whether the participants were Canadian-born. Notably, personal discrimination played a stronger role in RS than group discrimination. Regarding the concern about lasting discrimination, we also found that both group and personal discrimination were significant predictors.

In summary, Chinese Canadians who experienced more *personal discrimination* reported more negative affect, higher RS, and more concern about lasting discrimination, over and beyond demographics and financial impact. Those who perceived more *group discrimination* also reported higher RS and more concern about lasting racism.

Table 2

Regression of Discrimination on Negative Affect, Concern about Lasting Discrimination, and Rejection Sensitivity

	<i>R</i> ²	<i>b</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	95% CI
Negative affect	.22***						
Group discrimination		0.06	0.05	.07	1.24	.215	-0.038 , 0.167
Personal discrimination		0.26	0.05	.32	5.51***	<.001	0.168 , 0.353
Canadian-born		-0.14	0.10	-.07	-1.43	.153	-0.34 , 0.054
Gender		-0.04	0.10	-.02	-.42	.678	-0.235 , 0.153
Household income		-0.03	0.04	-.04	-.75	.456	-0.118 , 0.053
Age		-0.01	0.00	-.11	-2.26*	.024	-0.017 , -0.001
COVID impact on income		0.17	0.05	.19	3.80***	<.001	0.084 , 0.265
Concern about lasting discrimination	.19***						
Group discrimination		0.17	0.04	.26	4.40***	<.001	0.094 , 0.246
Personal discrimination		0.11	0.03	.19	3.19**	.002	0.041 , 0.173
Canadian-born		-0.02	0.07	-.01	-.23	.816	-0.159 , 0.126
Gender		-0.03	0.07	-.02	-.35	.728	-0.164 , 0.115
Household income		-0.01	0.03	-.02	-.32	.751	-0.072 , 0.052
Age		0.00	0.00	.06	1.20	.230	-0.002 , 0.009
COVID impact on income		0.09	0.03	.14	2.63**	.009	0.022 , 0.152
Rejection sensitivity	.36***						
Group discrimination		1.02	0.45	.12	2.28*	.023	0.142 , 1.905
Personal discrimination		4.00	0.40	.51	9.87***	<.001	3.200 , 4.793
Canadian-born		1.64	0.86	.08	1.90	.058	-0.056 , 3.327
Gender		-0.26	0.84	-.01	-0.31	.754	-1.924 , 1.395
Household income		0.81	0.37	.10	2.15*	.032	0.070 , 1.54
Age		-0.04	0.04	-.05	-1.11	.268	-0.109 , 0.03
COVID impact on income		-0.13	0.35	-.02	-0.37	.713	-0.813 , 0.556

Note. *** *p* < .001, ** *p* < .01, * *p* < .05. No multicollinearity was detected (VIFs ≤ 1.69).

Do Identities and Social Support Buffer the Effect of Discrimination? (RQ2)

The association between personal discrimination and negative affect was moderated by Canadian identity, but not Chinese identity or social support (see Table 3). Simple slope analysis (see Figure 1a) demonstrated that the strength of the association between personal discrimination and negative affect is stronger for those with stronger Canadian identity (+1SD; *b* = 0.40, *SE* = .05, *t* = 6.38, *p* < .001) compared to those with weaker Canadian identity (-1SD; *b* = 0.19, *SE* = .05, *t* = 3.65, *p* = .003).

The association between group discrimination and negative affect was moderated by Chinese identity, but not Canadian identity or social support (see Table 3). Figure 1b shows that Chinese identity buffers the negative effect of perceived group discrimination on negative affect.

The impact of group discrimination on negative affect is significant for people with lower Chinese identity (-1SD; $b = 0.31$, $SE = .06$, $t = 5.64$, $p = <.001$), but it was not significant for those with higher Chinese identity (+1SD; $b = 0.08$, $SE = .05$, $t = 1.51$, $p = .130$).

In summary, the negative impact of personal discrimination experiences was exacerbated for those who identified more strongly as Canadian as compared to those who identified less as Canadian. Conversely, the negative impact of being aware of anti-Chinese discrimination was attenuated for those who identified more strongly as Chinese as compared to those who identified less as Chinese. However, social support did not interact with discrimination on any variables, and neither identities nor social support significantly moderated the effect of discrimination on (a) RS or (b) concern about long-lasting racism.

Table 3
Multiple Regression of Discrimination, Identities, Social Support, and Their Interaction on Negative Affect, Rejection sensitivity, and Concern about Lasting Discrimination.

	R^2	b	SE	β	t	p	95% CI
Negative affect	.23***						
Personal discrimination		.29	.04	.35	6.40***	<.001	0.198 , 0.373
Canadian identity		-.06	.06	-.05	-.98	.329	-0.177 , 0.059
Chinese identity		-.04	.06	-.04	-.68	.494	-0.148 , 0.072
Social support		-.02	.07	-.01	-.22	.823	-0.152 , 0.121
Personal discrimination × Canadian identity		.11	.05	.11	2.22*	.027	0.012 , 0.199
Personal discrimination × Chinese identity		-.08	.05	-.09	-1.66	.098	-0.183 , 0.016
Personal discrimination × Social support		.03	.05	.02	.50	.620	-0.079 , 0.133
Negative affect	.19***						
Group discrimination		.22	.05	.24	4.57***	<.001	0.124 , 0.310
Canadian identity		-.15	.06	-.14	-2.58	.010	-0.262 , -0.035
Chinese identity		-.04	.06	-.03	-.66	.512	-0.146 , 0.073
Social support		-.03	.07	-.02	-.37	.715	-0.165 , 0.113
Group discrimination × Canadian identity		.06	.05	.07	1.28	.203	-0.032 , 0.152
Group discrimination × Chinese identity		-.13	.05	-.14	-2.61**	.009	-0.22 , -0.031
Group discrimination × Social support		.00	.06	.00	.03	.974	-0.114 , 0.118
Rejection sensitivity	.37***						
Personal discrimination		4.78	0.38	0.61	12.43***	<.001	4.021 , 5.532
Canadian identity		0.31	0.52	0.03	0.61	.544	-0.705 , 1.335
Chinese identity		-0.02	0.48	0.00	-0.04	.972	-0.969 , 0.935
Social support		0.08	0.60	0.01	0.14	.891	-1.091 , 1.254
Personal discrimination × Canadian identity		0.31	0.41	0.04	0.77	.444	-0.494 , 1.124
Personal discrimination × Chinese identity		0.76	0.44	0.08	1.74	.083	-0.1 , 1.614
Personal discrimination × Social support		0.61	0.47	0.06	1.32	.188	-0.302 , 1.528
Rejection sensitivity	.20***						
Group discrimination		3.25	0.45	0.38	7.27***	<.001	2.372 , 4.133
Canadian identity		-1.26	0.54	-0.12	-2.33*	.021	-2.33 , -0.195
Chinese identity		-0.52	0.52	-0.05	-1.00	.320	-1.551 , 0.508

Social support	0.19	0.67	0.01	0.29	.775	-1.118 , 1.499
Group discrimination × Canadian identity	0.15	0.44	0.02	0.33	.740	-0.72 , 1.013
Group discrimination × Chinese identity	-0.46	0.45	-0.05	-1.00	.316	-1.348 , 0.437
Group discrimination × Social support	-0.08	0.56	-0.01	-0.15	.881	-1.179 , 1.012
Concern about lasting discrimination	.16***					
Personal discrimination	.15	.03	.26	4.57***	<.001	0.085 , 0.215
Canadian identity	-.10	.04	-.14	-2.32*	.021	0-.192 , -0.016
Chinese identity	.02	.04	.03	.58	.561	-0.057 , 0.106
Social support	.02	.05	.02	.44	.661	-0.079 , 0.124
Personal discrimination × Canadian identity	-.02	.04	-.03	-.46	.647	-0.086 , 0.054
Personal discrimination × Chinese identity	.01	.04	.01	.21	.833	-0.065 , 0.081
Personal discrimination × Social support	.03	.04	.03	.65	.518	-0.053 , 0.105
Concern about lasting discrimination	.20***					
Group discrimination	.21	.03	.32	6.11***	<.001	0.142 , 0.277
Canadian identity	-.15	.04	-.20	-3.72***	<.001	-0.231 , -0.071
Chinese identity	.01	.04	.02	.32	.746	-0.064 , 0.09
Social support	.03	.05	.03	.61	.545	-0.068 , 0.128
Group discrimination × Canadian identity	.06	.03	.09	1.60	.110	-0.013 , 0.124
Group discrimination × Chinese identity	-.02	.03	-.03	-.58	.560	-0.089 , 0.048
Group discrimination × Social support	-.01	.04	-.01	-.15	.879	-0.092 , 0.079

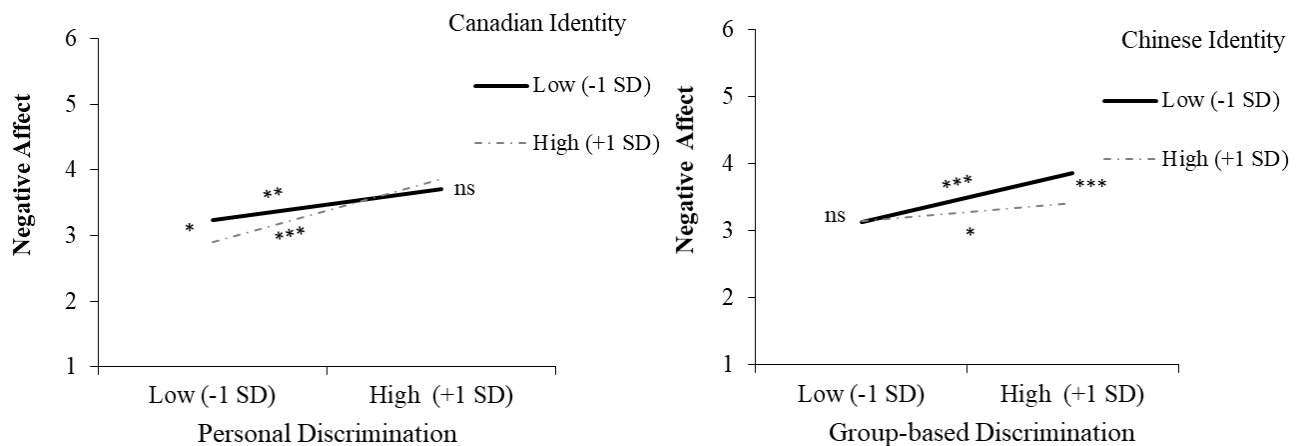
Note 1. *** $p < .001$, ** $p < .01$, * $p < .05$. Each model accounts for significant variance of the outcome variable. Canadian-born (vs. foreign-born), gender, household income, age, and the COVID impact on income were controlled in the analysis; they are not shown in this table to reduce space.

Note 2. No multicollinearity was detected (VIFs ≤ 1.82). Additional analysis showed that generation (i.e., Canadian-born vs. foreign-born) did not moderate the effects. We also did not observe any significant interaction between group discrimination and personal discrimination on any variables.

Note 3. We also ran an additional analysis that included both personal and group-based discrimination, as well as their interactions with Canadian identity, Chinese identity, and social support. The result showed that the combined model accounted for less variance compared to one of the separated models, and only the moderation between personal and Canadian identity was significant (see Supplemental Material Table S3). Therefore, we maintained the two separated models (i.e., personal discrimination model and group discrimination model) in explaining the data. Finally, additional analysis showed three-way interactions between Chinese identity, Canadian identity, and discrimination were not significant. This suggests that the interaction between Chinese and Canadian identities did not moderate the effect of discrimination.

Figure 1

The Interaction Effect Between Discrimination and Identity on Negative Affect



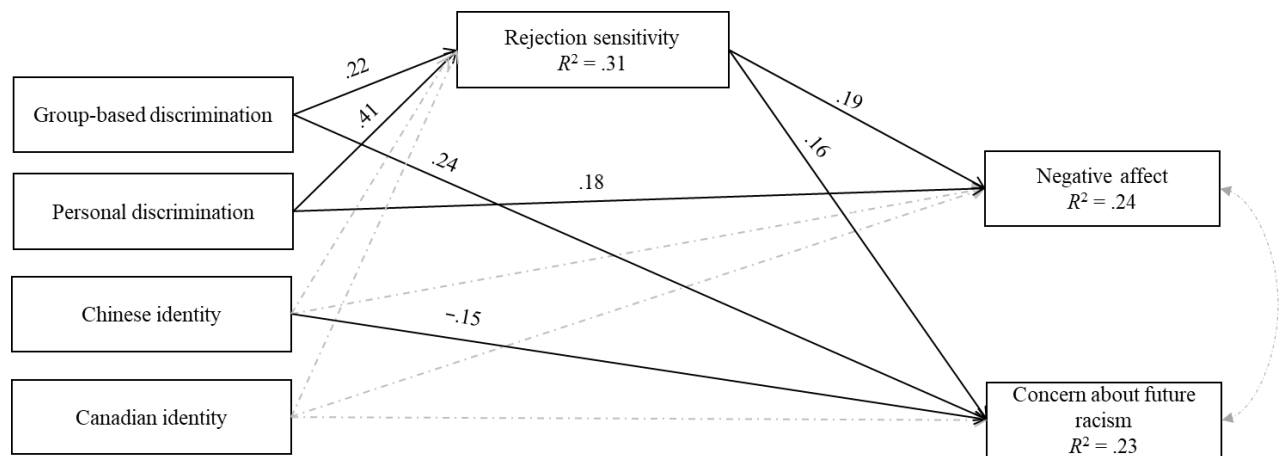
Notes. *** $p < .001$, * $p < .01$, $p < .05$, ns = not significant.

Rejection Sensitivity and Worry about Long-lasting Racism after the Pandemic (RQ3)

Path analysis (Figure 2) showed that group-based and personal discrimination independently predicted RS, which in turn predicted both negative emotions and concern about future racism. We controlled for identities because they are correlated with RS and outcome measures, but not for social support because it is not associated with RS nor outcome measures. Tests of the indirect effect with 5,000 bootstrapping samples showed that all indirect effects were significant (see Supplemental Material). That is, RS significantly mediated the associations between (1) personal and group discrimination and (2) negative emotions and concerns about future racism. In addition to these indirect effects, group discrimination directly predicted concern about future racism, and personal discrimination directly predicted negative emotions.

Figure 2

Path Model of Discrimination on Negative Affect and Concern About Future Racism via Rejection Sensitivity.



Note. The numbers represent standardized coefficients. Solid lines and numbers in dark colour represent significant values ($p < .05$), whereas dash lines and numbers in grey represent non-significant values. This model also controlled for demographics (i.e., gender, income, age, generational status, and COVID impact on income). The full model (with controlled variables) is presented in Figure S1 and unstandardized path coefficients are presented in Table S4.

Discussion

Chinese Canadians are at risk of discrimination during the COVID-19 pandemic, which can lead to a range of adverse outcomes. In this study, we found that Chinese Canadians' personal experience of discrimination and perceptions of discrimination toward Chinese Canadians generally contributed to negative affect and concern about lasting racism. We also found that Chinese Canadians who identified more strongly as Chinese experienced a less adverse impact related to group discrimination, but those who identified more strongly as Canadian were more likely to be impacted by personal discrimination. However, social support did not buffer the negative effect of personal or group discrimination. Finally, path analysis revealed that both personal and group discrimination contribute to Chinese Canadians' sensitivity about rejection, which in turn predicted negative affect and an expectation that long-lasting racism would continue after the pandemic.

Implications

The Importance of Both Personal and group discrimination

Our findings contribute to the understanding of the differential importance of personal and group discrimination on Chinese Canadians' experiences during the COVID-19 pandemic. Many Chinese Canadians experience not only direct, personal discrimination through their daily interactions, but also indirect, group-based racism impacted via the mass media (Croucher et al., 2020). Our findings indicate that Chinese Canadians' negative affect during the COVID-19 pandemic is associated with their personal experiences of discrimination, and less so on whether Chinese Canadians believe their group experiences discrimination (cf. Molina et al., 2019; Schmitt et al., 2014; Shorey et al., 2002; Verkuyten, 1998). In contrast, group discrimination played a more substantial role in predicting Chinese Canadians' concerns about future racism

(see Table 2). Because perceived group discrimination is based on vicarious experiences and normative beliefs regarding their group's position in society (de Ridder & Tripathi, 1992), it is a more proximal and direct predictor for the beliefs about *future racism of their group*. For example, as Chinese Canadians observed increasing anti-Chinese sentiment during the pandemic through news and social media (i.e., group discrimination), they need not personally be the victim of a direct attack (i.e., personal discrimination) to recognize the implications of these trends for anyone of Chinese ancestry (Croucher et al., 2020). Such perceptions of their group's experience in the current social context may translate into concern about future racism toward their group, and by extension, to themselves and those close to them.

Our findings suggest that although personal and group discrimination are interrelated, they have distinct effects on different types of outcomes. As such, focusing only on one type of discrimination may not be able to fully uncover the impact of discrimination that ethnic minority members experience. As both interpersonal and structural racism against Chinese and other Asians in North America are prevalent, researchers and policymakers must consider how they experience both personal and group discrimination when assisting Chinese Canadians who have experienced discrimination.

The Moderating Role of Chinese and Canadian Identities

Our findings partly support the buffering role of heritage ethnic identity (cf. Phinney, 1996; Outten & Schmitt, 2015). Specifically, Chinese identity mitigated the negative effect of perceived group discrimination but not personal discrimination on negative affect. Chinese Canadians who strongly identified with their ethnic group may think more positively about their own group, thus less likely to be impacted by group discrimination. As a result, they experienced less negative affect. It is also possible that Chinese identity, especially because it is related to

values and roles about collectivism, may lead people to engage socially, resulting in a stronger sense of belonging, group acceptance, and mental health outcomes (Operario & Fiske, 2001; Yoo & Lee, 2008). Our finding is consistent with acculturation research that suggests that a strong heritage foundation/attachment is a key factor to a healthy life in a multicultural society (Berry & Hou, 2020; Hong et al., 2016). However, contrary to previous findings (e.g., Yip et al., 2019), Chinese identity did not buffer the negative effect of personal discrimination. Such discrepancy may be explained by ethnic group differences. For example, the buffering effect of heritage identity was less evident among Asian Americans than Latinx Americans (Yip et al., 2019). As Yip et al. (2019) discussed, such group differences may be linked to the socio-historical experiences of these groups, such that the model minority and perpetual foreigner stereotypes that are associated with Asian American identity may not help protect against personal discrimination (Huynh et al., 2011). However, more research is needed to understand why identification with the heritage group plays a more important role in buffering Chinese Canadians' group-level experiences of discrimination than personal-level experiences.

Regarding Canadian identity, we found supporting evidence that it moderated the negative effect of personal discrimination but not perceived group discrimination. Canadian identity exacerbated the role of personal experiences in discrimination on negative affect; Chinese Canadians who identified more strongly as Canadians were more likely to be impacted by the experience of discrimination directed at them because of their ethnic group membership (cf. Schaafsma, 2011). People who identify more strongly as Canadian are also more likely to see themselves as in-group with Canadians. When they received discrimination from other Canadians due to their ethnicity, they may feel their Canadian identity being invalidated (Cheryan & Monin, 2005). Moreover, we found that Chinese Canadians with stronger Canadian

identity were less likely to expect personal rejection/discrimination. Thus, when they received discrimination from other Canadians, they may feel more unexpected in-group rejection.

Although identification with the mainstream ethnic group is encouraged and even desirable, our findings suggest that having a strong Canadian identity may have carrying costs when Chinese Canadians received discrimination because of their heritage group membership.

Rejection Sensitivity Model

Our results also partially supported the rejection sensitivity (RS) theory (Mendoza-Denton et al., 2002). We extended prior research by showing that both personal and group discrimination contribute to RS (Chan & Mendoza-Denton, 2008), although personal discrimination is a stronger predictor than group discrimination. Ethnic minority persons may develop a higher RS not only due to the experience of discrimination, but also by reflecting how their group is being stigmatized in the society (Mendoza-Denton et al., 2002). That is, the spread of anti-Chinese sentiment during the COVID-19 pandemic may contribute to Chinese Canadians' RS. RS also explained the effect of discrimination on negative affect and an expectation of lasting racism. Chinese Canadians who were more sensitive about rejection also experienced more negative emotions during the pandemic, and they were also more pessimistic that racism against the Chinese will persist after the pandemic is over.

However, inconsistent with the RS theory, we did not find any interaction between identities and perceived discrimination on RS. It is possible that, regardless of a person's Chinese and Canadian identities, discrimination experiences during the pandemic are salient and deleterious to the development of RS. Given the high level of anti-Chinese sentiment and blame during the pandemic (Darling-Hammond et al., 2020), it is possible that Chinese Canadians are

well aware of themselves as potential discrimination targets and grow more sensitivity about potential rejection in intergroup interactions, regardless of their identity.

Does social support moderate the effect of discrimination?

Finally, contrary to our expectations, we found that social support did not moderate the effect of discrimination on negative affect. Although social support is an important prerequisite of many adaptive coping (e.g., emotional and instrumental support), this study measured the size of social support networks and did not measure how much participants relied on and used those supports. Prior research suggests that whether social resources buffer the negative impact of discrimination may depend on how much ethnic minority members use approach-type coping (e.g., ask for help from those social networks; Yoo & Lee, 2005). When dealing with discrimination, it is perhaps not just about whether one has social support but also about whether they seek and utilize those supports. Moreover, research has shown that when experiencing psychological distress, Asian Americans (vs. White Americans) are more reluctant to seek social support because they believe that social support is not helpful (Kim & Lee, 2014; Taylor et al., 2007). Due to cultural values (e.g., fear of bothering others and disrupting group harmony) and stigma concerns related to help-seeking (Kim et al., 2006; Kim, 2007), even when participants reported having social support available, they may be less likely to use social support to cope.

Applied Implications

Discrimination experiences can impact people's long-term well-being and intergroup experiences by exacerbating their concerns about social encounters. Indeed, Chinese Canadians who experience more discrimination are more likely to develop a tendency to anxiously expect prejudice in social interactions. Moreover, they were worried about a lasting effect of the COVID-19 pandemic on racism against Chinese people. We found that maintaining a Chinese

identity during the pandemic can be beneficial to Chinese Canadians, particularly in buffering the negative impact of group discrimination. However, Chinese identity may not provide a buffer when they experience more personal, direct discrimination acts. On the other hand, Chinese Canadians who strongly identify as Canadians can be more strongly impacted by personal discrimination. Although age did not moderate the effect of identity and discrimination on mental health (cf. Yip et al., 2019), we found that younger adults experienced more negative emotions during the pandemic (see also Carstensen et al., 2020). It is possible that older adults are more emotionally equipped to cope with COVID-19 related stress. Other research suggested that approach coping strategies, including reappraisal and problem-solving actions (e.g., reporting racism to authorities), can help empower and increase perceived control for the victims, thus reducing the negative impact of personal discrimination on ethnic minority individuals (Yoo & Lee, 2005; Sanchez et al., 2018).

Constraints on Generality and Limitations

Several limitations of the current study should be considered when interpreting the results. First, although using a common vignette during the pandemic (i.e., grocery store situation) for measuring RS has its advantages, we recognized that RS could be activated in other intergroup situations. Second, the current findings, like all other COVID-19 social research, should be interpreted in consideration of the pandemic context. For example, the sensitivity of rejection in the grocery store scenario may not be the same or have similar effects in other times when discrimination toward Chinese is less intense. Third, this study's design does not allow for drawing causal conclusions for the mediation model. For example, it is possible that people's emotional experiences during COVID predict their RS and perceptions of discrimination. Fourth, although participants were recruited from a pre-screened online panel based on eligibility

and invitations to ensure valid responses, we did not utilize attention checks to further investigate the validity of responses. Finally, the effects on negative affect should not be interpreted as severe psychological symptoms, although past research supports the findings that racial discrimination significantly contributed to people's depressive symptoms (Thibeault et al., 2018; Umaña-Taylor & Updegraff, 2007). Moreover, future research should consider the long-term effects of discrimination and identity on mental health over time after the pandemic (Willis & Neblett, 2020).

Conclusions

The COVID-19 pandemic has amplified pre-existing racism and can potentially induce a long-term adverse impact on ethnic minorities' social functioning and mental health, which is a concern of many Chinese Canadians in this study. Our findings contribute to the social-psychological process of ethnic identities when dealing with discrimination. Discrimination during the pandemic does not have ubiquitously strong negative consequences for Chinese Canadians' emotional experiences. Chinese Canadians with a strong Canadian identity are especially prone to experiencing psychological harm upon encountering *personal* discrimination, potentially due to the damaging effects of "othering" and identity denial. In contrast, a strong Chinese identity may serve as an important psychological resource that helps to buffer against the negative affects induced by group discrimination. These findings underscore the importance of understanding the nuance of personal and group discrimination, and that Chinese and Canadian identities play different roles in personal and group discrimination.

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Supplemental Material**For**

The independent effects of personal and group discrimination on Chinese Canadians' well-being during the COVID-19 pandemic: The moderating role of social identities

This document includes:

1. Measure
2. Results of the Descriptive Analysis
3. Table S1 to S5
4. Figure S1.

1. Measure***Perceived personal discrimination.***

Please indicate whether **you personally** have experienced these instances of discrimination during COVID-19. Use the 6-point scale ranging from 1 (not at all/ never) to 6 (always).

Because of my ethnicity, during COVID-19 I have ...

1 – Not at all / never 2 3 4 5 6 – Always

1. Been treated with less respect than other people
2. Been made to feel like I pose a threat to the health and safety of others
3. Been called names or insulted
4. Been personally threatened or intimidated
5. Been exposed to anti-Chinese social media/graffiti/propaganda/jokes, etc.
6. Been physically attacked by strangers

Open-ended question for personal experience.

You've indicated some personal experience of being threatened or intimidated or even attacked during COVID-19 due to your Chinese ethnicity. Would you like to briefly describe the threats or harassment (or worse) you have experienced?

Perceived group discrimination.

Please indicate whether, as far as you know, **people of Chinese ethnicity in general** have experienced these instances of discrimination in Canada during COVID-19. Use the 6-point scale ranging from 1 (not at all/ never) to 6 (always).

During COVID-19, would you say **people of Chinese ethnicity in general** in Canada are...

1 – Not at all / never 2 3 4 5 6 – Always

1. Treated with less respect than other people.
2. Made to feel like they pose a threat to the health and safety of others
3. Called names or insulted
4. Personally threatened or intimidated
5. Exposed to anti-Chinese social media/graffiti/propaganda/jokes, etc.
6. Being physically attacked by strangers

Chinese identity.

Please read each statement carefully, and respond by using the 6-point scale:

1 - Strongly Disagree 2 3 4 5 6 – Strongly Agree

1. My Chinese ethnicity is an important part of my identity
2. I don't feel good about my Chinese ethnicity
3. I feel a sense of connection with other Chinese Canadians
4. I love my Chinese heritage and what it stands for
5. I feel like an outsider among other ethnically Chinese people

Canadian identity.

Please read each statement carefully, and respond by using the 6-point scale:

1 - Strongly Disagree 2 3 4 5 6 – Strongly Agree

1. Being Canadian is an important part of my identity
2. I don't feel good about being Canadian
3. I feel a strong sense of connection with other Canadians
4. I love Canada and what it stands for
5. I feel like an outsider in Canada

Rejection sensitivity (COVID grocery store scenario).

We would like you to imagine yourself in the following situation during the COVID-19 pandemic, and respond to the following items based on the way you would think, act, and/or feel in that situation. There are no right or wrong answers.

Imagine that you are in a grocery store during COVID-19. Someone walks down the aisle, looks at you and walks the other way.

1. How *concerned* would you be that people might avoid walking near you **because of your race/ethnicity?**

1 = Not at all concerned

2

3

4

5

6 = Very concerned

2. In that circumstance, how *likely* is it that people might avoid walking near you **because of your race/ethnicity?**

1 = Very unlikely

2

3

4

5

6 = Very likely

2. Descriptive Analysis

We examined whether demographics were associated with key variables. We found that participants born in Canada (vs. outside of Canada) scored higher on Canadian identity, social support, and group discrimination, and scored lower on Chinese identity (see Table S1). As shown in Table 1, participants reported relatively moderate levels of group and lower levels of personal discrimination, moderate levels of RS and negative affect, and moderately high levels of concern that discrimination would last after the pandemic is over.

Household income was positively associated with social support, and negatively associated with negative affect and the perceived impact of the pandemic on income. Age was positively correlated with Canadian identity and negatively correlated with rejection sensitivity and negative affect. COVID-19's impact on income was positively correlated with negative affect, personal discrimination, concern about future discrimination, and negatively associated with social support. Finally, females scored higher on perceived group discrimination than males (see Table S2). Therefore, these variables are controlled in the analysis below.

3. Tables

Table S1

Mean Comparison between Canadian-born and foreign-born Chinese on Key Variables

Variable	Canadian-born	Foreign-born	<i>t</i>	<i>p</i>	<i>d</i>
	<i>M (SD)</i>	<i>M (SD)</i>			
Canadian identity	4.83(0.83)	4.58(0.98)	-3.10**	.002	0.28
Chinese identity	4.10(0.95)	4.33(0.92)	2.86**	.004	0.25
Social support	2.46(0.70)	2.33(0.74)	-1.96*	.050	0.18
Group discrimination	3.70(1.14)	3.44(1.10)	-2.62**	.009	0.23
Personal discrimination	2.16(1.17)	2.23(1.15)	0.72	.474	0.06
Rejection sensitivity	11.78(9.78)	10.46(9.13)	-1.59	.113	0.14
Negative affect	3.39(1.04)	3.37(1.03)	-0.25	.805	0.02
Concern about future discrimination	2.04(0.66)	2.02(0.72)	-0.30	.761	0.03

Table S2

Gender Mean Comparison on Key Variables

Variable	Female	Male	<i>t</i>	<i>p</i>	<i>d</i>
	<i>M (SD)</i>	<i>M (SD)</i>			
Canadian identity	4.75(0.89)	4.63(0.96)	1.39	.165	0.13
Chinese identity	4.26(0.95)	4.20(0.93)	0.75	.456	0.06
Social support	2.36(0.74)	2.42(0.71)	-0.82	.411	0.08
Group discrimination	3.69(1.12)	3.41(1.12)	2.81**	.005	0.25
Personal discrimination	2.23(1.21)	2.17(1.11)	0.60	.547	0.05
Rejection sensitivity	11.64(9.87)	10.44(8.92)	1.43	.152	0.05
Negative affect	3.45(1.02)	3.30(1.04)	1.67	.095	0.15
Concern about future discrimination	2.07(0.67)	1.98(0.72)	1.42	.156	0.13

Table S3

Multiple Regression of Discrimination, Identities, Social Support, and Their Interaction on Negative Affect

Outcome	Predictors	f^2	R^2	b	SE	β	t	p
Negative affect		.27	.21***					
	Personal discrimination			.257	.049	.295	5.275	<.001
	Group discrimination			.080	.047	.088	1.691	.091
	Canadian identity			-.029	.055	-.026	-.532	.595
	Chinese identity			-.061	.052	-.055	-1.173	.241
	Social support			.007	.063	.005	.109	.914
	Personal discrimination × Canadian identity			.113	.051	.116	2.206	.028
	Personal discrimination × Chinese identity			-.053	.055	-.052	-.962	.337
	Personal discrimination × Social support			-.025	.059	-.022	-.419	.676
	Group discrimination × Canadian identity			.006	.047	.007	.130	.896
	Group discrimination × Chinese identity			-.065	.045	-.075	-1.438	.151
	Group discrimination × Social support			.013	.061	.011	.212	.832

Note. Canadian-born, gender, household income, education, age, and COVID impact on income were controlled in the analysis.

Table S4

Unstandardized Path Coefficients of the Final Path Model

Outcome variable	Predictor	b	SE	t	p	R^2
Rejection sensitivity	Group discrimination	1.88	0.40	4.73	<.001	.31
	Personal discrimination	3.36	0.43	7.91	<.001	
	Canadian identity	0.16	0.50	0.32	0.751	
	Chinese identity	-0.25	0.42	-0.61	0.545	
Concern about future rejection	Rejection Sensitivity	0.01	0.00	3.24	.001	.24
	Group discrimination	0.15	0.03	4.72	<.001	
	Personal discrimination	0.04	0.03	1.13	0.259	
	Canadian identity	-0.12	0.04	-2.84	0.005	
	Chinese identity	0.01	0.03	0.27	0.790	
	Gender	-0.06	0.06	-0.93	0.352	
	Household income	-0.02	0.03	-0.56	0.574	
	Age	0.00	0.00	1.07	0.285	
	Canadian-born	0.00	0.02	-0.03	0.980	
	COVID impact on Income	0.06	0.03	2.06	0.040	
Negative affect	Rejection Sensitivity	0.02	0.01	3.59	<.001	.23
	Group discrimination	0.02	0.05	0.33	0.744	
	Personal discrimination	0.16	0.05	3.23	0.001	
	Canadian identity	-0.03	0.06	-0.52	0.601	
	Chinese identity	-0.04	0.05	-0.83	0.408	
	Gender	-0.02	0.09	-0.20	0.844	
	Household income	-0.08	0.04	-2.01	0.045	
	Age	-0.01	0.00	-3.53	<.001	
	Canadian-born	0.02	0.04	0.55	0.583	
COVID impact on Income	0.19	0.05	3.91	<.001		

Table S5

Indirect Effects for the Path Model: Estimates, Standard Error (SE), and 95% Bias-Corrected Confidence Intervals (CI)

Parameter	Estimate	SE	Lower 2.5% CI	Upper 2.5% CI	Effect Size
Group discrimination → RS → Negative emotion	.04	.01	.019	.070	.04
Group discrimination → RS → Concern about future discrimination	.02	.01	.008	.043	.04
Personal discrimination → RS → Negative emotion	.07	.02	.030	.119	.08
Personal discrimination → RS → Concern about future discrimination	.04	.01	.015	.069	.07

Note. A 95% biased-corrected CI (with 5000 bootstrap samples) not including zero indicates significant indirect effects. The effect sizes are the absolute values of the standardized estimates of the respective path coefficient.

Figure S1.

Path Model of Discrimination on Negative Affect and Concern About Future Racism via Rejection Sensitivity.

