

The protective role of self-determined prejudice regulation in the relationship between intergroup threat and prejudice

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Published online: 24 September 2011
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Abstract Although plenty of evidence supports the link between intergroup threat and prejudice, few intrapersonal moderators of this association have been investigated. One potentially important moderator is the source of motivation underlying prejudice regulation. In Study 1, we examined whether self-determined prejudice regulation reduces the impact of intergroup threat on various outgroup attitude variables (e.g., modern racism, outgroup affect, etc.). Results suggest that being self-determined in one's motivation to regulate prejudice buffers the impact of intergroup threat on prejudice, whereas regulating prejudice primarily for non-self-determined reasons serves to exacerbate the threat-prejudice effect. In Study 2, a cross-sectional corroboration of this interaction was obtained using structural equation modeling, revealing that the threat-prejudice link differed significantly across groups of prejudice regulators. The role of self-determination in reducing the harmful effects of intergroup threat is discussed, and implications for prejudice reduction and diversity education are identified.

Keywords Intergroup threat · Prejudice · Motivation · Self-determination · Self-regulation · Motivation to control prejudice

Introduction

When one group's actions, beliefs, or characteristics challenge the goal attainment or well-being of another group, intergroup threat occurs. The notion that such intergroup threat leads to intergroup prejudice and discrimination is well-documented (e.g., Corenblum and Stephan 2001; Cottrell and Neuberg 2005; Florack et al. 2003; Pettigrew et al. 2007; Stephan and Renfro 2002; or see Riek et al. 2006, for a review). In general, such research shows that when one feels threatened by another cultural or social group, prejudice (e.g., negative affect) toward that group increases. But what happens when one is ideologically motivated to be nonprejudiced, or to regulate outgroup bias? Are the effects of intergroup threat reduced? Recent evidence suggests that the source of one's motivation to be nonprejudiced predicts one's level of prejudice (Legault et al. 2007; Plant and Devine 1998). But, going a step further, how might this motivation influence the reaction to intergroup threat—a root cause of prejudice? In the spirit of offering a much-needed focus on the ways in which intrapersonal and intergroup processes intersect, this work seeks to examine whether self-determined motivation to regulate prejudice can reduce the effect of perceived intergroup threat on prejudiced outgroup attitudes. Because intergroup threat is such an important cause of prejudice, notions of how to curtail its effect *before* prejudice develops may be valuable.

Motivation to regulate prejudice: A self-determination theory framework

Given the harmful effects of prejudice, most people are motivated to control it, at least to some extent (e.g., Crandall et al. 2002; Dunton and Fazio 1997; Legault et al.

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2007). However, people demonstrate differing reasons for the self-control of prejudice. For instance, whereas some people may strive to be egalitarian because they personally value the virtue in such a goal pursuit, others may try to avoid feeling prejudiced due to perceived social standards (e.g., norms of political correctness). In line with this reasoning, recent converging evidence from independent labs suggests that individuals vary in the extent to which their motivation to regulate prejudice is self-determined (i.e., autonomous; Devine et al. 2002; Legault et al. 2007; Legault et al. 2009; Plant and Devine 1998).

Self-Determination Theory (SDT) is a comprehensive and contemporary theory of human motivation, which addresses the degree of autonomy and choice in human action (Deci and Ryan 1985, 2002). Self-determined behavior is performed with volition, and personally (and sincerely) self-endorsed, rather than compelled through internal pressure or social control. Moreover, the degree to which goals and behaviors are initiated and regulated through autonomous choice, as an expression of the self, has a substantive and measurable impact on their experiential, behavioral, and cognitive characteristics. According to SDT, the more internalized or self-determined a goal or value, the more consistent one will be in acting in accordance with it; it will be autonomously self-regulated through time and across situations. The personal endorsement of one's behavior will make its experience authentic, pleasant, and uncomplicated. Plenty of research, in various domains, supports the benefits and usefulness of self-determined motivation over non-self-determined motivation, from increased cognitive flexibility and active information processing (Grolnick and Ryan 1987) to increased physical activity (Wilson et al. 2006).

Applying this basic theoretical perspective to prejudice regulation, recent work attests that those with a *self-determined motivation to regulate prejudice* seek egalitarianism-related goals and values out of personal satisfaction and enjoyment, or to express their personal beliefs and values regarding nonprejudice (Legault et al. 2007). In general, self-determined prejudice regulators place personal significance on striving to be nonprejudiced. That is, egalitarianism is highly important to them as individuals, and they experience a sense of volition and choice in their regulation of prejudice. They autonomously seek to reduce prejudice out of valued internal standards and ideals. In contrast, those with a *non-self-determined motivation to regulate prejudice* are principally concerned with suppressing prejudice to conform to social and external demands, or to avoid social sanctions. Non-self-determined prejudice regulators may avoid prejudice primarily out of a motivation to uphold societal standards of political correctness, or due to controlling internal pressures. Non-self-determined motivation to regulate prejudice may even be

aimless, or amotivated (i.e., demonstrating a lack of perceived contingency between the goal to be nonprejudiced and the outcome of prejudice suppression). For non-self-determined prejudice regulators, motivation to be nonprejudiced feels controlling and requires greater effort and ego-strength relative to those with a self-determined motivation to be nonprejudiced (Legault et al. 2009).

Empirical evidence indicates that self-determined prejudice regulators indeed demonstrate less prejudice than non-self-determined prejudice regulators—regardless of whether prejudice is measured explicitly (e.g., self-reported modern racism and sexism) or implicitly (e.g., racial bias on the Implicit Association Test; Legault et al. 2007). Thus, the current work rests on the previous finding that motivation to regulate prejudice is a key domain-level attribute (cf. trait) that *predicts* prejudice, but is not akin to prejudice (e.g., Devine et al. 2002; Plant and Devine 1998). This notion is further supported by the finding that both self-determined and non-self-determined prejudice regulators demonstrate racial stereotype accessibility and activation (i.e., both groups possess the cognitive groundwork for prejudice), but only self-determined prejudice regulators have been shown to inhibit the application of racial stereotypes (i.e., in making evaluations of an outgroup target; Legault et al. 2009). Given the crucial impact of one's level of self-determined motivation on the expression of prejudice, it follows that such motivational factors may also play into one of the major precursors to prejudice—that is, intergroup threat.

Intergroup threat theories of prejudice: Realistic and symbolic threats

Threat perspectives on prejudice build on the early work of Muzafer Sherif's (1966) Realistic Group Conflict Theory. Its central hypothesis states that real conflict of groups' interests causes intergroup conflict. Within this theory, real conflicts refer to actual, tangible sources of conflict, such as threatened economic power (e.g., money, employment) or threatened political power and dominance. Thus, when two groups compete for scarce resources, the potential goal-attainment of one group threatens the well-being of the other, and negative intergroup attitudes ensue. Strong empirical support has been offered for the intergroup conflict explanation of prejudice (LeVine and Campbell 1972; Sherif 1966; Stephan and Renfro 2002; Riek et al. 2006; Stroebe et al. 1988). For instance, in studies based on data from several different countries, feelings of threatened well-being due to poor economic conditions were positively related to negative attitudes toward primary immigrant groups (McLaren 2003; Quillian 1995); Experimental evidence has revealed that the manipulation of realistic threats posed by immigrants (e.g., telling Canadian citizens

that immigrants are usurping Canadian jobs) increases negative attitudes toward them (Esses et al. 2001).

More recently, a second domain of intergroup threat, symbolic threat, has been proposed to supplement the realistic conflict perspective. Symbolic threat refers to the perception of intergroup conflict in values, attitudes, morals, and beliefs, rather than conflict due to tangible competition and divergent goals. In essence, symbolic threats represent threats to the worldview of the ingroup (Stephan et al. 2005), and also refer to the imagined threat posed by the culture and cultural practices of the outgroup—including the belief that outgroup's values are interfering or undermining the values of the majority culture. Modern theories of prejudice, such as modern, symbolic, and aversive racism (Gaertner and Dovidio 1986; Henry and Sears 2002; McConahay 1986) are based on the symbolic threat perspective. This construal of challenged ideology differs from that of realistic group conflict theory in that the threat arises from a conflict over values rather than a conflict over resources (i.e., competing for jobs). Various correlational and experimental studies have noted that such symbolic threats are positively related to prejudice (e.g., Biernat et al. 1996; Maio et al. 1994).

Realistic and symbolic threat theories are generally considered complementary, rather than competing, theories of prejudice. Indeed, Integrated Threat Theory (Stephan et al. 1998; Stephan and Renfro 2002) classifies intergroup threat as comprising both symbolic and realistic threats, as well as negative stereotypes and intergroup anxiety. Both types of threat are simultaneously expected to be antecedents of prejudice, and each explains unique variance in outgroup prejudice (Stephan and Renfro 2002; Stephan et al. 1998, 2005). Despite promising support for the intergroup threat explanation of prejudice, there is a severe dearth of empirical research on individual differences in the experience of, and reaction to, intergroup threat. Potential moderators of the path from threat to prejudice have only just begun to receive empirical attention, and evidence linking social motivation to intergroup threat is notably absent. For these reasons, the current work seeks to examine the extent to which self-determined motivation to be nonprejudiced modulates the role of perceived intergroup threat in predicting prejudice.

The role of trait self-determination in the threat experience

Research on the link between self-determination and threat has mainly been concerned with trait-level self-determination. Nonetheless, we turn to this research to theorize how domain-specific motivation to regulate prejudice might relate to intergroup threat. Thus, work by Hodgins (2008) suggests that one's reaction to threat is attributable

to one's level of self-determination. Motivational style accounts for how one experiences the social world and approaches (or defends against) novel experiences. Those with a self-determined motivational orientation tune toward aspects of the environment that stimulate interest and autonomous motivation, and that promote growth and well-being. Self-determined individuals seek to perceive other individuals, information and experiences accurately, without distortion or defensiveness (Hodgins and Knee 2002). High self-determination is associated with honesty and flexibility to a wide range of experiences and emotions, which are consonantly integrated into the organismic experience. Thus, self-determined functioning is related to authentic and nondefensive experiencing of the social environment. Compared to non-self-determined individuals, it has been noted that those high in self-determination demonstrate less ego-defensiveness and greater cognitive flexibility, as well as a greater sense of security and higher self-esteem (Deci and Ryan 2002). Even under threat, defensiveness is reduced when motivational orientation is self-determined (Hodgins 2008). Thus, self-determination does not prompt the resistance to threat and negative emotions, but rather facilitates the constructive resolution and assimilation of those experiences.

On the other hand, it has been proposed that increased defensiveness in response to self-esteem threat is a feature of non-self-determined motivational orientation (cf. 'controlled'; Gurland and Grolnick 2005; Hodgins and Knee 2002; Hodgins 2008). A non-self-determined individual is likely to be ego-involved, and is inclined to feelings of defensiveness and hostility when his/her unintegrated and socially-contingent self-worth is threatened or challenged (Hodgins 2008). In addition, experimental research has shown that those primed with non-self-determined motivation (i.e., words denoting pressure and external control) react with greater defensiveness when threatened compared to those primed with self-determined motivation (i.e., words denoting choice and autonomy; Hodgins et al. 2006). Non-self-determined orientation has also been associated with social anxiety and a lack of self-awareness (Deci and Ryan 1985, 2002) and ego-defensive behaviour (Knee and Zuckerman 1998). These factors help to underscore the fragility and vulnerability of non-self-determined ego functioning, making it susceptible to the negative effects of external threats in general. It remains to be seen whether the threat reactivity among non-self-determined individuals will be observed at the intergroup level, and go on to exacerbate prejudice. Similarly, we inquire whether being self-determined to be nonprejudiced might absorb some of the ill-effects of intergroup threat that typically lead to prejudice.

In sum, trait self-determined motivation is associated with less defensiveness to threat than is non-self-determined

motivation (Hodgins 2008). Indeed, those with a self-determined or autonomous disposition have been shown to be open to experience and events, independent of their threatening characteristics (Hodgins and Knee 2002; Majstorovic et al. 2008). In contrast, because non-self-determined motivation does not emanate from the internalization of self-chosen goals and values, this motivational orientation is vulnerable to the ill-effects of threat. Thus, applying SDT to an intergroup threat perspective, we herein argue that differences in the *effect* of intergroup threat may be linked to individual differences in self-determined motivation to regulate intergroup prejudice. In the face of perceived intergroup threat, non-self-determined prejudice regulators should react in a defensive and highly threatened manner, and thus demonstrate a subsequent increase in prejudice. On the other hand, when self-determined prejudice regulators are realistically or symbolically threatened by outgroups, it is theorized that their motivational style will provide a buffer against the threat's negative consequences (i.e., prejudice and discrimination). Thus, we do not propose that self-determined prejudice regulators will be unlikely to perceive the existence of intergroup threat, but that their motivational orientation will attenuate the impact of threat on their intergroup attitudes and beliefs.

The present studies: Hypotheses

The current studies assessed the joint influence of *motivation to regulate prejudice* and *intergroup threat* on various measures of attitudes toward Arab-Muslims. This target group was chosen based upon the contemporary salience and relevance of Arab-Muslim threat and anti-Arab prejudice in North America. In order to incorporate several facets of Arab-Muslim prejudice, we administered various measures—including modern Arab-Muslim racism, negative affect toward Arab-Muslims, interracial anxiety, implicit Arab-Muslim prejudice, and racial discrimination. A main effect of motivation to regulate prejudice was expected on all measures of prejudice, such that non-self-determined prejudice regulators were expected to reveal greater prejudice against Arab-Muslims than those high in self-determined motivation to regulate prejudice. In terms of the interaction of interest, we hypothesized that self-determined motivation to be non-prejudiced would moderate the impact of intergroup threat on all forms of explicit prejudice. Automatic racial bias was also assessed using the Implicit Association Test (IAT; Greenwald et al. 1998). As per previous findings (e.g., Devine et al. 2002; Legault et al. 2009), self-determined prejudice regulators were expected to display less implicit racial bias than non-self-determined prejudice regulators.

Study 1

Method

Participants and design

Undergraduates at the University of Ottawa completed a measure of motivation to be nonprejudiced early in the academic year, and 122 Canadian Caucasian respondents (82 females; 38 males) scoring high and low in self-determined motivation to regulate prejudice (i.e., those scoring in the top and bottom 33 percent) were later invited to complete the lab experiment. Participants' age ranged from 17 to 43 years ($M = 19$; $SD = 2.64$). The experiment was thus a 2 (self-determined vs. non-self-determined) \times 3 (realistic threat vs. symbolic threat vs. no threat control) between-subjects factorial design. Dependent variables related to Arab-Muslim attitudes included modern Arab-Muslim racism, negative affect toward Arab-Muslims, interracial anxiety, implicit Arab-Muslim prejudice, and intentions to behaviorally discriminate against Arab-Muslims.

Procedure

Self-determined and non-self-determined prejudice regulators were pre-selected and randomly assigned to experimental conditions a priori—thus, the experimenter was blind to participants' motivational orientation. In the *threat induction phase*, participants were presented with one of three newspaper articles. One-third of participants were asked to read an article containing a manipulation of *realistic threat*, as conveyed through an ostensible news story about Arab-Muslim immigrants usurping Canadian jobs. The story discussed alleged trends in Arab-Muslim immigration in Canada, noting “*Arab-Muslim immigrants are now occupying a disproportionate percentage of the local job market. While the employment rate for Caucasian Canadians has been steadily decreasing over the last 5 years, employment of Arabic Muslims in Canada continues to increase*”. It then described an exemplar incident wherein a Canadian Caucasian candidate was rejected for employment in favor of a lesser-qualified Arab-Muslim candidate. The article concluded by noting increasing trends in Arab-Muslim immigration.

The second article was designed to manipulate perceived symbolic threat by describing a specific scenario from the recent past in which Canadians' way of life had been thwarted by Arab-Muslim cultural influence. Specifically, the ostensible news story explained how a campus bar at a Canadian university was “*forced to ban the sale of alcohol and stop the playing of music because of a petition made by Arab-Muslim students who complained that the*

presence of the bar on campus undermined their comparatively modest cultural and religious values". The Caucasian Canadian individual interviewed in the article expressed his concern over having to "change a way of life on campus". Again, the article concluded by noting increases in Arab-Muslim immigration trends.

While based on actual recent events, both news stories in the threat conditions were fabricated for the purposes of the experiment. Nonetheless, the news articles were designed, formatted, and printed in the image of actual newspaper columns. This style of threat induction has previously been used and validated (Stephan et al. 2005).

The third article, which designated the control condition, was not intended to incite intergroup threat. The control article, selected from a local newspaper, depicted a local lottery result, and was agreed upon by two independent raters on the basis of its comparatively neutral content. After the threat induction phase, participants were asked to rate the extent to which they felt a sense of realistic and symbolic threat from the target outgroup, based on several items designed to test the tenability of the threat manipulation. Next, participants completed an Arab-Muslim/Caucasian Implicit Association Test (IAT), followed by a battery of self-report measures of prejudice and outgroup attitudes (presented next). At the end of the experiment, participants were questioned regarding the credibility of the newspaper article, and were then debriefed on its fictitious nature.

Main measures

Motivation to be nonprejudiced The Motivation to be Nonprejudiced Scale (MNPS; Legault et al. 2007) assesses respondents' ultimate reasons for controlling or regulating prejudice. Items are based on the continuum of motivation outlined by self-determination theory and, in this research, served to distinguish between self-determined (i.e., intrinsic, integrated, and identified) and non-self-determined (i.e., introjected, external, and amotivated) prejudice regulation. Participants were asked to rate the extent to which items corresponded to their "ultimate reasons for trying to be nonprejudiced" on a 9-point Likert scale (1 = does not correspond at all; 5 = corresponds moderately; 9 = corresponds exactly). Examples from the self-determined dimension (12 items) include: "For the pleasure of being open-minded" (intrinsic); "Because striving to be nonprejudiced is part of who I am" (integrated), and "Because I value nonprejudice" (identified). The 12 items representing non-self-determined prejudice regulation include "Because I would feel bad about myself if I were prejudiced" (introjected); "Because racist people are not well-liked" (external), and; "I'm not sure why. Prejudice reduction is not that important to me" (amotivation). The

factor structure of the MNPS has been validated by means of exploratory and confirmatory factor analyses, and the subscales have demonstrated high internal consistency, as well as construct validity, concurrent validity, and predictive validity (Legault et al.). For the present sample, Cronbach's alpha ranged from .82 to .91. To preselect those with a high and low self-determined motivation to regulate prejudice, global scores on the MNPS were calculated using a standard formula that gives a weight to each dimension according to its position on the self-determination continuum (+3, +2, and +1 for the self-determined forms of intrinsic, integrate, and identified motivation, respectively, and -1, -2, -3 for the non-self-determined forms of external, introjected, and amotivation, respectively), with higher scores simultaneously indicating higher self-determined and lower non-self-determined motivation. This was the main natural group independent variable.

Modern Arab-Muslim prejudice The Subtle Prejudice Scale (Pettigrew and Meertens 1995), which was designed to measure modern prejudice toward Arabic people was adapted and used. Contemporary contextual and political features have caused a shift from overt to subtle expressions of racism and this scale is designed to assess covert negative attitudes toward Arabic people—reflecting more current racist cognitions (e.g., the denial of continued racial discrimination). The 9-item scale echoes McConahay's (1986) well-known Modern Racism Scale, with items such as "There exists a lot of racism against Arab-Muslims in Canada today, which limits their chances to get ahead", and; "Many other groups have come to Canada and overcome prejudice and worked their way up. Arab-Muslims should do the same" (1 = strongly disagree; 9 = strongly agree). The scale has demonstrated good reliability, as well as good construct validity (McConahay 1986; Pettigrew and Meertens 1995). In the current study, internal consistency of the modern Arab-Muslim racism indicators was .80.

Affect toward Arab-Muslims Positive and negative affect toward Arab-Muslims was assessed. Participants were asked to rate their feelings toward Arab-Muslims using 17 adjectives (e.g., "dislike"; "resentment"; "fear"; "anger"; "disgust"; "affection"; "warmth"; "respect"), based on a Likert-type meter from 1 ("none at all") to 9 ("extremely"). Negative and positive adjective ratings (reverse-scored) yielded an internal consistency of $\alpha = .73$.

Interracial anxiety Anxiety regarding interracial interactions (with Arab-Muslims) was assessed. Intergroup anxiety involves feelings of uneasiness and awkwardness in the presence of outgroup members because of uncertainty about how to behave toward them (e.g., Plant and Devine

2003). Intergroup anxiety is an important correlate of outgroup attitudes and bias, and has been noted to be a consequence of intergroup conflict (Stephan and Stephan 2000). Using a Likert-type scale, participants were asked to rate the extent to which they would feel “anxious”, “uncertain”, “apprehensive”, and “worried” during the course of an interaction with an Arab-Muslim person (4 items; 1 = “not at all”; 9 = “extremely”). Internal consistency of the interracial anxiety measure was $\alpha = .87$.

Implicit Arab-Muslim prejudice An Arab-Muslim/Caucasian Name IAT was administered using common Arab-Muslim and Canadian Caucasian male names as priming stimuli (i.e., 6 names per group). Given that the ingroup inclusion criteria for the present sample consisted only of Caucasian Canadians, this relevant name category was chosen instead of the broader “other people” category used by Nosek et al. (2006). Canadian Caucasian names included “John”; “Pierre”; and “Benoit”. Examples of the Arab-Muslim names include “Ashraf”, “Amir”, and “Hassan”. Implicit race bias was measured by assessing people’s tendency to associate positive evaluations with Caucasian Canadians and negative evaluations with Arab-Muslims, and vice versa. In line with recent recommendations by Greenwald et al. (2003), the *D* scoring algorithm was used to calculate IAT scores. This method also uses the built-in error penalty where response latency is recorded (in milli seconds) after the presentation of each stimulus until the correct response is specified. Overall, the IAT has achieved greater reliability than other latency-based implicit measures, with internal consistency ranging from .70 to .90 (Greenwald et al. 2003). Moreover, good construct, convergent, and discriminant validity has been reported (Greenwald et al. 1998, 2003; Nosek et al. 2007; McConnell and Leibold 2001).

Racial discrimination Four indicators of behavioral intention to discriminate against Arab-Muslims were included. Participants were asked to describe the extent to which they would engage in the following behaviors: “...Share my class notes with an Arab-Muslim person”; “...Play on the same sports team as an Arab-Muslim”; “...Eat a meal with an Arabic-Muslim person”; “...Study with an Arab-Muslim student”. In line with work on planned behavior (e.g., Ajzen 1985), such indices of behavioral intention to discriminate are valid immediate determinants of behavioral discrimination (Cronbach’s $\alpha = .89$).

Threat manipulation check measures In order to verify whether the threat induction was successful in increasing perceived intergroup threat, the Realistic and Symbolic Threat Scales (Stephan et al. 1998) were adapted to provide an indication of threat perception following the threat

induction. Six items on a scale from 1 (“Not at all”) to 9 (“Extremely”) pinpoint realistic threat (3 items; e.g., “To what extent are you concerned that Canadians’ jobs may be threatened by increased Arab-Muslim immigration?”), and cultural threat (3 items; e.g., “To what extent are you concerned that Canadian values such as freedom may be jeopardized by increased Arab-Muslim immigration?”).

Results

Preliminary analyses: Threat manipulation check

Corroborative analyses were conducted in order to determine whether the key threat manipulations contained in the news articles produced their intended effect. When asked to rate their level of perceived realistic threat, contrasts revealed that greater perceived realistic threat was reported among those who read the realistic threat article ($M = 4.64$; $SD = 2.58$), compared to those exposed to the symbolic threat article ($M = 2.92$; $SD = 1.80$, $|M_D| = 1.72$, $p < .01$), and those in the no-threat condition ($M = 2.66$; $SD = 1.80$, $|M_D| = 1.98$, $p < .001$). Moreover, the difference in perceived realistic threat between the symbolic and no-threat conditions was not significant. When asked to rate their level of perceived symbolic threat, those who read the symbolic threat article reported greater perceived symbolic threat ($M = 5.05$; $SD = 2.21$), compared to those who read the realistic threat article ($M = 3.81$; $SD = 2.46$, $|M_D| = 1.25$, $p < .04$) and those in the no-threat condition ($M = 3.09$; $SD = 1.84$, $|M_D| = 1.97$, $p < .001$). Again, there was no significant difference in perceived symbolic threat when the realistic and no-threat conditions were compared. Thus, the threat induction exerted the intended effect of increasing intergroup threat; more specifically, those exposed to a realistic threat experienced the greatest amount of perceived realistic threat, whereas those exposed to symbolic threat reported the highest level of symbolic threat. It should also be duly noted that when threatened, both self-determined and non-self-determined prejudice regulators reported similar levels of realistic and symbolic threat ($t_{(34)} = 1.48$, $p = .15$; $t_{(35)} = 1.21$, $p = .07$, respectively), assuring us that any differences in prejudice would be the result of handling the threat rather than merely perceiving it. Finally, at the end of the experiment, participants were questioned about the credibility of the newspaper articles. None of the 122 participants reported awareness that the newspaper article was fictional.

Main analyses: The moderating role of motivation to regulate prejudice in the threat-prejudice link

Analysis of variance A 2×3 factorial analysis of variance was conducted on the six dependent variables

measuring negative outgroup attitudes. These global analyses were intended to shed light on the main effects of motivation, as well as to substantiate the interactions underlying the planned comparisons. Cell means for the motivation \times threat interaction are displayed in Table 1.

In line with expectations, results revealed that all main effects of motivation to regulate prejudice on outgroup attitudes were significant. Thus, compared to those with non-self-determined motivation to regulate prejudice, self-determined prejudice regulators demonstrated less modern Arab-Muslim racism, $F_{(1,116)} = 20.09, p < .001, \eta_p^2 = .15$; less negative affect toward Arab-Muslims, $F_{(1,116)} = 36.50, p < .001, \eta_p^2 = .24$; more positive affect toward Arab-Muslims, $F_{(1,116)} = 10.90, p < .001, \eta_p^2 = .10$; less interracial anxiety, $F_{(1,116)} = 38.04, p < .001, \eta_p^2 = .25$; less implicit racial bias, $F_{(1,116)} = 6.09, p < .01, \eta_p^2 = .05$; and less racial discrimination, $F_{(1,116)} = 39.24, p < .001, \eta_p^2 = .26$.

The motivation \times threat interaction was significant for the dependent measures of modern racism, $F_{(2,116)} = 3.65, p < .05, \eta_p^2 = .06$; negative affect, $F_{(2,116)} = 5.95, p < .01, \eta_p^2 = .10$; positive affect, $F_{(2,116)} = 4.91, p < .01, \eta_p^2 = .08$ and racial discrimination, $F_{(2,116)} = 5.44,$

$p < .01, \eta_p^2 = .09$. Although the effect of threat on interracial anxiety was indeed more pronounced in the non-self-determined group than in the self-determined group, this interaction failed to reach significance, $F_{(2,116)} = 1.52, p = .22, \eta_p^2 = .03$. Finally, intergroup threat did not appear to have an impact on automatic prejudice, for either motivation group, $F_{(2,116)} = 1.25, p = .29, \eta_p^2 = .02$.

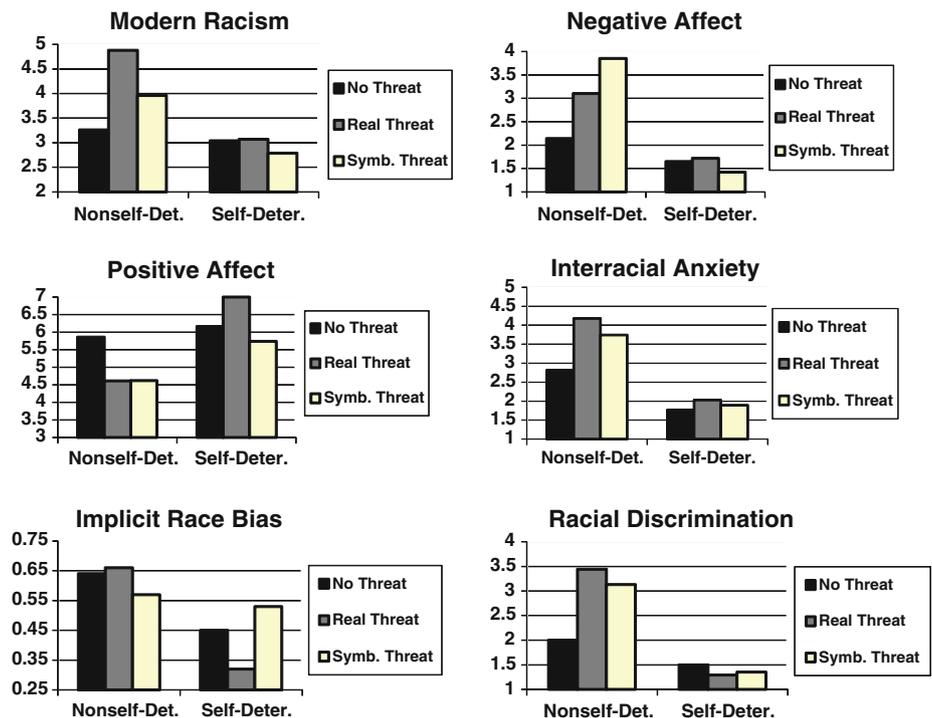
Multiple comparisons The principle objective of the current study was to assess the impact of intergroup threat on outgroup attitudes, at two levels of motivation to be nonprejudiced (self-determined and non-self-determined). Specifically, it was hypothesized that non-self-determined prejudice regulators would experience relatively heightened prejudice when faced with realistic and symbolic threat, compared to when not threatened. In contrast, this effect was expected to be of substantially lesser magnitude among self-determined prejudice regulators. To test these main comparisons, the no threat control group was compared to the realistic and symbolic threat groups at each level of motivation, for each DV. Alpha levels for each analysis were adjusted using a Bonferroni correction to maintain a maximum familywise error rate of 5%. Interactions are displayed pictorially in Fig. 1.

Table 1 Study 1: mean differences in outgroup attitudes per experimental condition

	Non-self-determined			Self-determined		
	No threat (<i>n</i> = 25)	Real. Thr. (<i>n</i> = 20)	Symb. Thr. (<i>n</i> = 21)	No threat (<i>n</i> = 22)	Real. Thr. (<i>n</i> = 17)	Symb. Thr. (<i>n</i> = 17)
<i>Modern racism</i>						
Mean	3.26	4.88	3.96	3.04	3.07	2.79
SD	1.02	2.05	1.17	1.13	1.26	1.15
<i>Negative affect</i>						
Mean	2.14	3.81	3.09	1.65	1.72	1.42
SD	1.19	1.88	1.29	.66	.91	.36
<i>Positive affect</i>						
Mean	5.85	4.61	4.62	6.10	7.00	5.74
SD	1.55	2.17	1.47	1.89	1.28	1.80
<i>Interracial anxiety</i>						
Mean	2.82	4.18	3.74	1.77	2.03	1.89
SD	1.32	2.40	1.87	.83	1.19	1.05
<i>Implicit prejudice</i>						
Mean	.64	.66	.57	.45	.32	.53
SD	.32	.38	.45	.50	.55	.49
<i>Discrimination</i>						
Mean	2.00	3.44	3.13	1.52	1.29	1.35
SD	.83	2.54	1.45	.88	.60	.53

Nonself-determined nonself-determined prejudice regulation, *Self-determined* self-determined prejudice regulation. *Real. Thr.* realistic threat, *Symb. Thr.* symbolic threat. Implicit prejudice values represent overall degree of association between Caucasians and pleasant words, and Arab-Muslims and unpleasant words (IAT D Scores). The theoretical range for all other values is 1–9

Fig. 1 Study 1: moderating effect of self-determined prejudice regulation on the causal link between intergroup threat and prejudice-related outcomes



Firstly, differences in *modern Arab-Muslim racism* were ascertained. In line with expectations, non-self-determined prejudice regulators in the realistic threat condition demonstrated significantly greater modern racism than did those in the no-threat group, $F_{(1,39)} = 10.34$, $p < .005$, $\eta_p^2 = .22$. Non-self-determined prejudice regulators exposed to symbolic threat experienced a similar increase in modern racism, relative to non-threatened controls, $F_{(1,39)} = 4.00$, $p < .04$, $\eta_p^2 = .10$. In contrast, when motivation to regulate prejudice was self-determined, Arab-Muslim racism did not increase when participants were realistically and symbolically threatened, relative to when they were not threatened ($F < 1$ for both contrasts).

Secondly, *affect toward Arab-Muslims* was assessed. Among non-self-determined prejudice regulators, negative affect increased when realistic threat was experienced, relative to when no threat was experienced, $F_{(1,39)} = 11.50$, $p < .005$, $\eta_p^2 = .24$. Similarly, when non-self-determined prejudice regulators were exposed to symbolic threat, negative affect toward Arab-Muslims was significantly greater than when they were not threatened, $F_{(1,39)} = 5.71$, $p < .05$, $\eta_p^2 = .13$. No threat-dependent differences in negative affect were observed for those in the self-determined group ($F < 1$ for both contrasts). In terms of positive affect, non-self-determined prejudice regulators displayed significantly less positive affect toward Arab-Muslims when they were realistically threatened, compared to when they were not threatened,

$F_{(1,39)} = 4.38$, $p < .05$, $\eta_p^2 = .11$. Positive affect also decreased substantially when they were symbolically threatened, $F_{(1,39)} = 6.45$, $p < .01$, $\eta_p^2 = .15$. For self-determined prejudice regulators, no significant differences emerged between threat conditions, although interestingly, this group showed a marginal increase in positive affect when presented with realistic threat, $F_{(1,39)} = 3.62$, $p < .06$, $\eta_p^2 = .08$.

Thirdly, results revealed heightened *interracial anxiety* when those with a non-self-determined prejudice regulation were realistically threatened, compared to when they were not threatened, $F_{(1,39)} = 5.09$, $p < .04$, $\eta_p^2 = .16$. The same trend was noted in the symbolic threat condition, $F_{(1,39)} = 3.23$, $p = .07$, $\eta_p^2 = .08$, although this difference was marginally significant. When those with a self-determined motivation to regulate prejudice were realistically and symbolically threatened, they did not demonstrate increases in interracial anxiety ($F < 1$ for both contrasts).

Fourthly, *implicit prejudice* toward Arab-Muslims was assessed via an Arab-Muslim/Caucasian Canadian IAT. IAT data were prepared according to recent recommendations (Greenwald et al. 2003). That is, the IAT D measure, which divides IAT scores by their standard deviation, was used to adjust for individual differences in cognitive fluency and the non-normality of reaction time data. Neither type of threat induction influenced automatic racial bias for self-determined and non-self-determined prejudice regulators ($F < 1$, for all contrasts).

Lastly, differences in *behavioral intentions to discriminate against Arab-Muslims* were compared. Realistic threat increased discrimination for non-self-determined prejudice regulators, $F_{(1,39)} = 6.36$, $p < .025$, $\eta_p^2 = .15$, as did symbolic threat, $F_{(1,39)} = 9.68$, $p = .025$, $\eta_p^2 = .21$. In contrast, no differences in discrimination were found in the self-determined prejudice regulation group, $F_{(1,44)} = 1.36$, $p = .25$, $\eta_p^2 = .03$ (no threat vs. realistic threat); $F < 1$ (no threat vs. symbolic threat).

Brief discussion

The current study was expected to reveal the extent to which self-determined prejudice regulation diminishes the magnitude of the relationship between perceived intergroup threat and prejudice. That is, non-self-determined motivation to control prejudice was expected to yield a significantly greater effect of threat on prejudice, compared to self-determined motivation to control prejudice. Meaningful support for this hypothesis was obtained. More precisely, the moderating effect of motivation on the relationship between intergroup threat and outgroup attitudes was corroborated using overall ANOVAs and a series of contrasts. For all explicitly-measured indicators of outgroup attitudes (i.e., modern racism, negative affect, interracial anxiety, and racial discrimination), non-self-determined prejudice regulators displayed heightened prejudice when threatened, compared to when not threatened. Moreover, this effect held across both types of intergroup threat: realistic and symbolic. In contrast, neither realistic nor symbolic intergroup threat influenced any type of prejudice for those with self-determined motivation to regulate prejudice. It appears that self-determined prejudice regulation protects against the negative effects of intergroup threat on outgroup attitudes, whereas nonself-determination exacerbates this effect. Although we indeed expected that the effect of threat on prejudice would be greater for non-self-determined prejudice regulators than for self-determined prejudice regulators, it is interesting to note that self-determined motivation to be nonprejudiced fully buffered the impact of threat on all dependent variables. This finding underscores the importance of self-determined motivation in reducing harmful intergroup effects.

Although self-determined prejudice regulators demonstrated significantly less implicit prejudice compared to non-self-determined prejudice regulators, intergroup threat did not influence automatic prejudice for either group. Thus, implicit race bias scores on the IAT were not affected, regardless of whether participants were realistically threatened, symbolically threatened, or not threatened. Indeed, it is unsurprising that a one-time threat

exposure like the one induced in the current study would impact implicit attitudes, which are often the result of entrenched associations and learning, and immediate or novel threats may not be strong enough to alter this embedded pattern of response (Greenwald et al. 2003). Although we do not discount that implicit attitudes are indeed malleable under certain conditions (e.g., Dasgupta and Greenwald 2001), a majority of IAT validation studies suggest that IAT responses are difficult to alter (Greenwald et al. 1998, 2003; Schmidt and Nosek 2010). Nonetheless, it is certainly plausible that dispositional intergroup threat reactivity or prolonged exposure to intergroup threat would indeed lead to increased implicit race bias among non-self-determined prejudice regulators. This query warrants testing in future studies.

Results of Study 1 underscore the unique importance of both realistic and symbolic threat in producing (explicit) prejudice, supporting contemporary integrative theories of threat (e.g., Stephan et al. 1998). However, a novel contribution within the current findings highlights a new motivational moderator in the link between intergroup threat and outgroup attitudes. Thus, intergroup threat indeed predicts prejudice, but only when motivation to regulate prejudice is non-self-determined. An advantage of the current work is its internal validity—experimental control over motivation conditions and reliable manipulations of intergroup threat were employed to influence an array of outgroup attitudes. Nevertheless, in order to increase the external validity of the current findings, Study 2 used a somewhat larger cross-sectional sample in which motivation to regulate prejudice and perceptions of intergroup threat were measured, rather than manipulated.

Study 2

Study 2 was intended to serve as a cross-sectional validation and generalization of findings from Study 1. Thus, we wanted to test the strength of the interaction between motivation and threat by assessing it outside the laboratory, when threat perceptions were unaltered. Specifically, the goal of Study 2 was to examine the naturally-occurring relationships among perceived intergroup threat, prejudice, and intentions to discriminate for two groups of prejudice regulators: self-determined and non-self-determined. Based on results of Study 1, it was expected that the perception of intergroup threat (including realistic and symbolic threat) would be positively related to prejudice, but that this association would be much stronger for non-self-determined prejudice regulators, than for those with a self-determined motivation to regulate prejudice. Model assessment was performed using structural equation modeling (SEM) in EQS 6.1 (Bentler 2007).

Beyond facilitating the generalization of findings from Study 1, the use of structural modeling techniques in the current study also permitted the specification of a slightly more complex sequence of associations among latently-measured variables. Specifically, whereas both prejudice and discrimination were assessed as separate dependent variables in Study 1, the model proposed in Study 2 was able to ascertain the relationship between the dependent variables of prejudice and racial discrimination, in addition to testing the interplay between motivation to regulate prejudice and intergroup threat. Thus, the relationship between prejudice and behavioral intention to discriminate was also assessed, and was expected to be positive for both groups, however, this relationship was also expected to be moderated by self-determination, such that it was anticipated to be stronger for non-self-determined prejudice regulators.

Method

Participants and procedure

Participants were 255 undergraduates from the University of Ottawa who completed one-time questionnaires outside of class time. Using a median-split of motivation to regulate prejudice scores, the sample was divided into self-determined and non-self-determined prejudice regulators, as per the weighting procedure used in Study 1. In the sample of non-self-determined prejudice regulators ($n = 128$), participants' age ranged from 17 to 54 years ($M = 21.22$; $SD = 5.21$), and 69% were female. The vast majority of respondents were Canadian (i.e., 91%) and Caucasian (75%). The sample of self-determined prejudice regulators consisted of 127 participants (78% female) with a mean age of 21.56 ($SD = 4.10$; range = 17–46 years). Again, respondents were mostly Canadian (94%) and Caucasian (74%).

Measures

Motivation to be nonprejudiced The MNPS (Legault et al. 2007) was once again administered. In the present study, internal consistency (Cronbach alpha) ranged from .79 to .89.

Perceived intergroup threat The Realistic and Symbolic Threat Scales (Stephan et al. 1998) were administered to provide measures of intergroup threat posed by Arab-Muslims, including job loss and economic costs (Realistic threat; 4 items; e.g., “Arab immigrants are taking jobs away from Canadians”), as well as threats derived from perceived differences in values and beliefs between Arab-Muslims and Canadians (Symbolic threat; 4 items; e.g., “Our way of life is being modified by Arab-Muslim immigration”). Respondents indicated the extent to which

they felt concerned about the outgroup threat on a scale from 1 to 9 (1 = Strongly Disagree; 9 = Strongly Agree). The psychometric properties of these scales have been shown to be adequate (Stephan et al. 1998). In the present study, realistic and symbolic threats yielded alphas of .90 and .91, respectively.

Arab-Muslim prejudice The Subtle Prejudice Scale (Pettigrew and Meertens 1995), which was designed to measure modern prejudice toward Arabic people was again adapted and used (Cronbach $\alpha = .82$).

Racial discrimination As per Study 1, four indicators of behavioral intention to discriminate against Arabic-Muslims were assessed (Cronbach $\alpha = .90$).

Analyses

Using SEM (EQS 6.1), the hypothesized threat-prejudice model was estimated (via maximum likelihood estimation) for each group of prejudice regulators. The size and statistical significance of estimated path coefficients were assessed and the degree of model fit between the observed and model covariance matrices was ascertained using the following widely and currently recommended criteria (Bentler 2007): the χ^2 likelihood ratio statistic; the comparative fit index (CFI; Bentler 1990); the root mean square error of approximation (RMSEA; Steiger 1989); and the standardized root mean-squared residual (SRMR; Jöreskog and Sörbom 1993). Furthermore, differences in the relationships proposed in the threat-prejudice model were tested across groups using multigroup invariance testing.

Results

Preliminary analyses

Descriptive statistics for each indicator under study are presented in Table 2. Analyses reveal that data were, on average, univariately normal, with the exception of mild positive skewness and kurtosis for some of the prejudice and discrimination variables in the self-determined prejudice regulation group. Given that these items measured racism and, in some cases, blatant intentions to discriminate, it is not unexpected that self-determined prejudice regulators tended to disagree with these items in a rather uniform matter. Nonetheless, item scores demonstrated acceptable variability. Moreover, multivariate kurtosis was low (under 14.0) and an inspection of z-score frequencies demonstrated an absence of univariate outliers. Overall, descriptive statistics revealed a small to moderate amount of perceived threat, Arab-Muslim prejudice, and racial discrimination, for both groups of prejudice regulators.

Table 2 Study 2: summary statistics for observed variables in threat-prejudice model

Variables	Nonself-determined ($n = 128$)		Self-determined ($n = 127$)	
	Mean (SD)	Skewness (Kurtosis)	Mean (SD)	Skewness (Kurtosis)
<i>Intergroup threat</i>				
Realistic	3.22 (1.61)	.69 (.14)	2.41 (1.36)	1.46 (2.45)
Symbolic	3.02 (1.75)	1.19 (1.33)	2.43 (1.37)	1.60 (2.08)
<i>Arab-Muslim prejudice</i>				
Prejudice 1	3.73 (2.05)	.88 (.43)	1.96 (1.12)	1.95 (1.75)
Prejudice 2	4.56 (1.92)	.41 (–.38)	2.53 (1.22)	.93 (1.29)
Prejudice 3	5.66 (1.62)	–.26 (–.27)	4.15 (2.43)	–.25 (–1.03)
<i>Discrimination</i>				
Discrim 1	4.94 (2.88)	.03 (–1.37)	3.48 (2.43)	.93 (–.07)
Discrim 2	2.50 (2.22)	1.68 (1.89)	1.57 (1.24)	3.81 (5.15)

Item scores range theoretically from 1 to 9

Structural equation modeling

Testing the measurement models Before testing the structure among latent variables, the measurement models were assessed from several angles, for each group of prejudice regulators, in order to correct any measurement misspecification. Confirmatory factor analyses (CFA) were performed to determine the extent to which indicators loaded onto their target latent variables.

For the nonself-determined group, factor loadings were of acceptably high magnitude (i.e., over .50), in the expected direction, and statistically significant at $p < .001$. Inspection of fit indices revealed a very good model-fit, $\chi^2(11) = 19.11$, $p = .06$; CFI = .98; RMSEA = .06; SRMR = .04, and assessment of modification indices demonstrated an absence of cross-loadings or correlated error terms. Thus, post-hoc modifications were not required.

For the group of self-determined prejudice regulators, an initial CFA revealed misfit due to the presence of one significant cross-loading (i.e., a prejudice item loaded onto the Discrimination factor). This was not surprising given that prejudice and intentions to discriminate are highly related constructs. After releasing this cross-loading, the final measurement model for the self-determined group demonstrated significantly better fit, $\chi^2(10) = 19.93$, $p < .05$; CFI = .94; RMSEA = .09; SRMR = .07. Thus, despite a borderline RMSEA,¹ fit indices generally suggest the data satisfactorily fits the revised measurement model.

¹ Although the RMSEA for the self-determined group appears to be high by some standards, it has been empirically documented that the traditional cutoff criteria for the RMSEA (and its confidence intervals) are overly conservative for small sample sizes ($n = 100$), nonnormal data, and misspecified models (Chen et al. 2008; Nevitt and Hancock 2000). As previously noted, data for the group of self-determined prejudice regulators ($n = 127$) was both kurtotic and skewed due to its low levels of prejudice and discrimination.

Additionally, factor loadings were of acceptably high magnitude, in the expected direction, and statistically significant at $p < .001$.

With the cross-loading specified for the self-determined group and the measurement models adequately fitted, equivalency of the remaining parameters in the measurement model (i.e., factor-loadings) were tested across groups. This was done to release any additional unequal factor loadings before testing for structural invariance. In line with current recommendations for invariance testing (Cheung and Rensvold 2002), we compared model fit from baseline (i.e., when the two models were estimated together freely) to constrained (i.e., when factor loadings were constrained to be equal). Baseline model fit was acceptable, $\chi^2(21) = 40.81$, $p < .05$; CFI = .96; RMSEA = .09; SRMR = .07, whereas initial specification indicated that the constrained model was slightly-misfit due to two unequal factor loadings (i.e., a threat item and a prejudice item). Leaving these two loadings to be freely estimated, the newly constrained model demonstrated acceptable fit, $\chi^2(23) = 50.54$, $p < .05$; CFI = .95; RMSEA = .09; SRMR = .08 (with a change in CFI equal to or less than $-.01$, suggesting model fit equivalency; Cheung and Rensvold 2002). Although the measurement model can only be said to be partially invariant, it does not preclude us from testing the equivalency of the factor structure between models (Byrne 1994a, b). As long as there exists one invariant loading per factor, noninvariant loadings can be estimated freely, and structural invariance can be tested.

Testing the hypothesized models The hypothesized models were specified according to the revised measurement models, and including the addition of paths between latent variables. For non-self-determined prejudice regulators, the association between threat and prejudice was expected to be positive and substantial. Conversely, it was expected

that this association would be much weaker, and (based on findings from Study 1) perhaps even nonsignificant, for self-determined prejudice regulators. For both models, prejudice was expected to be substantially and positively related to racial discrimination, although to a lesser extent for the self-determined group. We also expected prejudice to mediate the association between threat and discrimination, given that prejudiced attitudes are proximal predictors of intentions to discriminate. Correlations among the latent variables are presented alongside the final models in Fig. 2.

Fit indices for the non-self-determined prejudice regulation model revealed a very well-fitting model, $\chi^2(11) = 19.10, p = .07; CFI = .98; RMSEA = .06, SRMR = .04$. Thus, the restricted (i.e., hypothesized) model covariance was not statistically different from the sample covariance. As can be seen in Fig. 2, parameter estimates were significant at $p < .001$; and the variance explained for each endogenous latent variable was substantial. Thus, the direct effect of intergroup threat on prejudice was strong, as was the direct effect of prejudice on discrimination. The link between threat and discrimination was indirectly accounted for by prejudice.

The model fit for self-determined prejudice regulators was also satisfactory, $\chi^2(10) = 19.93, p < .05; CFI = .94; RMSEA = .08; SRMR = .08$. In line with hypotheses, the direct effect of intergroup threat on prejudice was negligible and the direct effect of prejudice on discrimination was positive and moderate. No post hoc modifications were required for either model.

A test of factorial invariance was conducted to underscore differences in the relationships among threat, prejudice, and discrimination for self-determined and non-self-determined prejudice regulators. After releasing the two noninvariant factor loadings, the proposed latent structure was constrained across groups. Unsurprisingly, when the threat-prejudice link was constrained across groups, it was found to be noninvariant, Lagrange Multiplier (LM) $\chi^2 = 8.99, p < .01$, substantiating the moderating role of motivation in the link between threat and prejudice. Furthermore, the relationship between prejudice and discrimination was also found to be reliably stronger for non-self-determined prejudice regulators, LM $\chi^2 = 4.67, p < .05$.

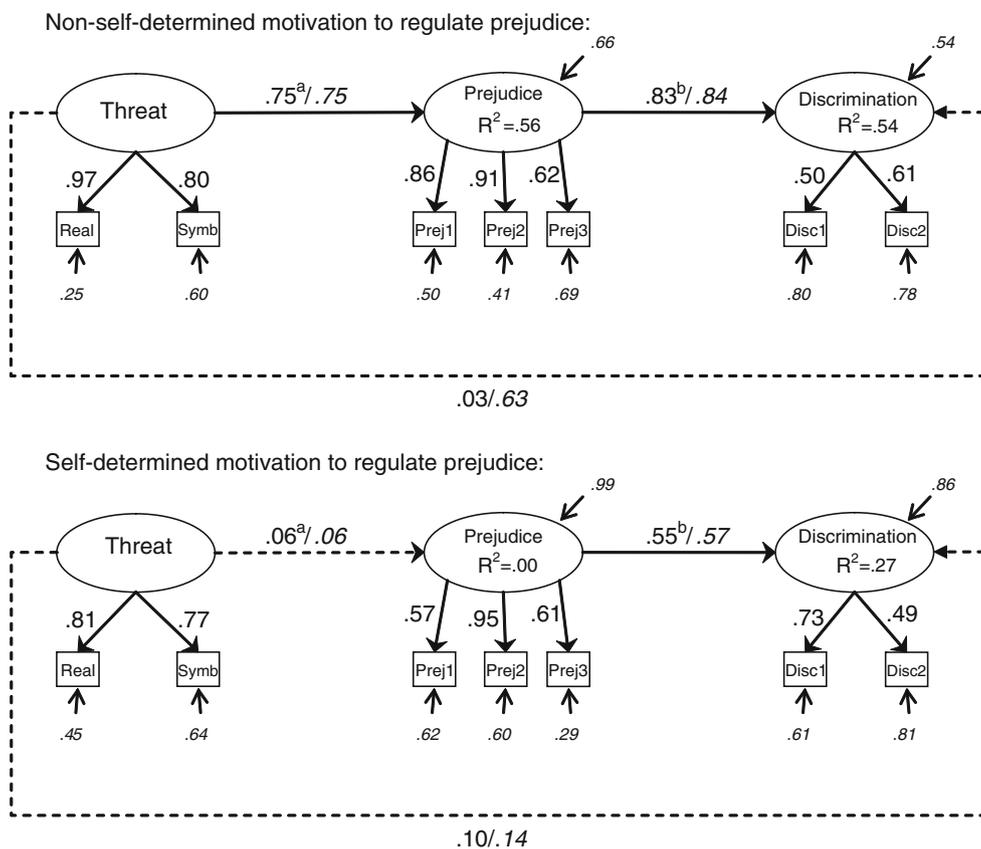


Fig. 2 The moderating role of motivation to regulate prejudice in the links between perceived intergroup threat, prejudice, and discrimination (final models). All loadings are significant at $p < .001$, except where dashed lines represent negligible relationships. Superscripts^(a,b)

indicate the key noninvariant relationships. Correlations are presented in italics, to the right of the slash (/). Standardized error term variances are also presented in italics

Brief discussion

The objective of Study 2 was to extend our findings beyond the situational induction of Study 1. To this end, we compared a cross-sectional threat-prejudice model across two groups of prejudice regulators—those high and low in self-determined motivation to regulate prejudice. Thus, interrelations among intergroup threat, prejudice, and discrimination were assessed for both groups using SEM. It was expected that the perception of intergroup threat would be strongly related to prejudice for those with a non-self-determined motivation to regulate prejudice. In contrast, because self-determined prejudice regulation is expected to act as a buffer against the influence of threat on prejudice, the threat-prejudice association was expected to be significantly weaker for this motivation group. Bearing in mind the partial invariance of the measurement model, results supported our predictions for the structural (i.e., path) differences between the groups of prejudice regulators. That is, a test of structural invariance underscored that the association between intergroup threat and prejudice, as well as the link between prejudice and discrimination, are both significantly stronger for non-self-determined prejudice regulators than for self-determined prejudice regulators.

Results of the current study help to extend the findings of Study 1 beyond the laboratory. Thus, self-determined and non-self-determined prejudice regulators respond differently to both situation-evoked and stable/dispositional perceptions of intergroup threat. Although self-determined prejudice regulators in the current study report comparable levels of perceived threat as their non-self-determined counterparts, it was not related to prejudice.

General discussion

In two studies, we assessed the role of self-determined motivation to be nonprejudiced in moderating the impact of intergroup threat on outgroup attitudes. As hypothesized, non-self-determined prejudice regulators displayed a significant increase in negative outgroup attitudes when faced with intergroup threat, including greater modern racism, negative outgroup affect, interracial anxiety, and racial discrimination. This effect was observed in both realistic and symbolic threat conditions. In contrast, although self-determined prejudice regulators perceived both realistic and symbolic intergroup threat when such threats were presented, neither type of threat influenced any measure of outgroup attitudes among this group of individuals. Results therefore indicate that self-determined prejudice regulation protects against the negative effects of intergroup threat on outgroup attitudes, whereas non-self-determination

exacerbates them. In fact, the protective influence of self-determined motivation to be nonprejudiced in reducing the effects of intergroup threat on explicit outgroup attitudes was even more robust than expected (i.e., the relationship between threat and prejudice was not just reduced, but eliminated). These findings tender various theoretical and applied implications.

Self-determination and threat

The current work offers insight into our understanding of the link between self-determined prejudice regulation and intergroup threat. Although the relationship between self-determination and intergroup processes has been largely neglected in the past, our results suggest that motivation to be nonprejudiced and intergroup threat interact in important ways, such that having self-determined motivation to be nonprejudiced *absorbs* the negative effects of threat, whereas non-self-determined prejudice regulation amplifies the impact of threat on prejudice. Findings align with recent evidence on general motivational style and threat reactivity, which suggests a link between non-self-determined motivation and reaction to ego-threats (e.g., Hodgins et al. 2006; Hodgins and Knee 2002; Majstorovic et al. 2008). It is therefore plausible that the present findings are symptomatic of a fundamental link between self-determination (in general) and susceptibility or reactivity to external threat. It is most interesting to note that self-determined motivation does not provide immunity to the ‘feeling’ of intergroup threat (and, presumably, the “feeling” of threat in general), but rather it absorbs or buffers the negative consequences of feeling threatened (i.e., prejudice). Thus, most people demonstrate concern and sensitivity to challenged or threatened ingroup security and values. After all, these challenges comprise a significant, tangible portion of intergroup relations, and the acknowledgment of threat and challenge undoubtedly serves an adaptive function. However, self-determined prejudice regulators do not translate this threat into negative attitudes, whereas non-self-determined prejudice regulators do. Thus, the individual difference lies in the reaction to (and regulation of) intergroup threat—with non-self-determined prejudice regulators reacting with more hostility. The affective and self-regulatory processes involved in this difference may warrant further investigation in future studies.

The intersection of intrapersonal and intergroup processes

The current findings also add to our psychological understanding of the link between intergroup threat and prejudice by integrating perspectives from individual

differences and intergroup processes research. Firstly, although intergroup threat is a theoretical cause of prejudice, only a few studies have provided more than correlational evidence of their association. Based on the current results, it can be concluded that the introduction of intergroup threat causes an increase in intergroup prejudice—but only for those with non-self-determined motivation to regulate prejudice. This highlights the importance of individual differences in intergroup processes—a findings that warrants greater attention in social psychological research. Although social psychologists often categorize the study of phenomena at a particular level of generality, it is important to note that intrapersonal (i.e., motivational), interpersonal, and intergroup factors influence intergroup attitudes and processes, and vice versa. The current investigation is significant in that it bridges two distinct camps of research—the individual and the intergroup—and explains how they can inform each other to better understand prejudice. Indeed, if we are to grasp the ways in which prejudice can be reduced, there is a need to jointly consider the cultural, social, and psychological spheres in which it occurs.

Whereas intergroup processes researchers might want to consider the role of self-determined attitudes toward outgroups in understanding and reducing intergroup conflict, motivation theory might also be expanded to include intergroup processes. Although motivation researchers currently consider in depth the individual and interpersonal factors involved in self-determination and goal-striving, we suggest that SDT also sheds much light on the understanding of intergroup relations. That is, self-determined intergroup attitudes reduce the effects of intergroup threat and may promote intergroup harmony. Indeed, the continued integration of self-determination theory with intergroup processes research is likely to be a generative area of future study. For instance, those with a self-determined motivation to be nonprejudiced not only believe in (and strive toward) the virtues of social justice and egalitarianism, but also derive interest, satisfaction, and enjoyment from relating to other groups (Legault et al. 2007). This internalized motivation toward harmonious intergroup contact may help to explain differences in the nature of intergroup contact and prejudice. In contrast, non-self-determined motivation to regulate prejudice is liable to intensify intergroup conflict by increasing the salience of external and internal pressures to control prejudice, thus promoting intergroup anxiety (Legault et al. 2007, in press).

Toward the reduction of prejudice

The practical benefits of internalizing motivation to be nonprejudiced should be underscored. Consistent with previous findings (Devine et al. 2002; Legault et al. 2007,

2009; Moskowitz et al. 1999), the current studies suggest that individuals who are self-determined in the self-regulation of prejudice are more successful at upholding their nonprejudiced standards. To the extent that people are able to restructure their motivation, it is advisable that they shift motivation to control prejudice from externally enforced to internally endorsed. Indeed, research shows that when people take the time to reconsider their goals in more self-determined terms, they are more likely to attain them (Vansteenkiste et al. 2004). Thus, an important application of the current project is the personal development of strategies to reduce prejudice. If people are able to spend some effort identifying their motivation toward the control of racial bias, and subsequently improve and recast their motives, vast strides in prejudice reduction may be feasible. Furthermore, a fundamental tenet of self-determination theory asserts that the social environment influences the degree of self-determination experienced in goal-striving and behavior. Social contexts and social figures that support autonomy and competence in action are likely to cultivate self-determined motivation (Deci and Ryan 1985, 2002). Recent evidence suggests that environments that encourage self-determined values vis-à-vis prejudice regulation are more likely to produce nonprejudiced attitudes than are contexts that demand nonprejudice through pressure and control (Legault et al. in press). Future applications might focus on the development of prejudice regulation interventions aimed at educating and supporting people in their motivational pursuit of *personal* egalitarian ideals.

Differences in motivation to regulate prejudice have important implications at the socio-political level as well. Given that Canada and the United States are lands of diversity, with two of the world's highest immigration rates per capita (United Nations 2006), the challenges of annually incorporating hundreds of thousands of immigrants and visible minorities into the workforce—and into society at large—require that we stamp out barriers to integration. The results of this work suggest that having a non-self-determined (or *controlled*) regulation of bias is linked to prejudice. In other words, pressuring students, workers, and citizens to abide by external standards of political correctness may be counterproductive when the *inherent value* of these standards is not emphasized. This may be a valuable piece of information for both educators and policy-makers. Prejudice reduction requires support not just from our immediate social environment—like our teachers, parents, and employers, but also from our social institutions and government.

A note on reducing intergroup threat

The current findings (i.e., Study 1) underscore the causal role of intergroup threat in predicting prejudice among

non-self-determined prejudice regulators. Given that intergroup threat increases negative intergroup attitudes for these individuals, one way to decrease prejudice is to decrease threat. This notion has important implications at the organizational and policy level. For instance, under controlling conditions, the implementation of certain anti-discrimination policies may serve only to emphasize intergroup competition and increase intergroup threat salience, thereby increasing prejudice among non-self-determined prejudice regulators (e.g., Legault et al. in press). The intergroup effects of imposing such policies are indeed worsened when controlling and ill-explained mandates are put forth. Although the virtue in equality and equity policies should always be underscored and elaborated, it is important to bear in mind that promoting self-determined values about such ideals should *precede* their social and political enforcement.

Conclusion

The definitive goal of prejudice research is to contribute to the development of practical strategies for prejudice reduction. From a SDT perspective, one such solution may rest in the process of internalization. Not only does the internalization of motivation to be nonprejudiced protect against the destructive effects of intergroup threat, as we demonstrate in the current research, but it succeeds, ultimately, in the reduction of prejudice and the promotion of positive intergroup affect. Notions of how to foster the internalization of egalitarian goals, attitudes, and values are thus important, and to this end, the role of socio-political networks should be targeted. Through rearing, education, workplace leadership, and legislation, a self-determined regulation of prejudice can be cultivated, learned, and valued.

Acknowledgments This research was supported by a fellowship awarded to the first author from the Social Sciences and Humanities Research Council of Canada.

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