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The Effects of Social Identification on Individual Effort under Conditions of Identity Threat and Regulatory Depletion

Benjamin Giguère and Richard N. Lalonde
York University

The current study examined whether the influence of social identification on effort exertion in identity-threatening situations could be altered through a prior engagement in an effortful task (i.e. regulatory resource depletion). One hundred university students took part in the study. The results revealed that under intergroup threat, higher social identification was associated with greater effort exertion. In contrast, under intragroup threat, lower social identification was associated with greater effort exertion. A decrease of regulatory resources hampered the effect of social identification on effort in both threatening situations, suggesting a role for regulatory processes in the influence of social identification on effort. These results are discussed in terms of their implications for the importance of regulatory responses in group-based contexts.

KEYWORDS   identity threat, regulatory depletion, social identification

MANY behaviors that occur either in intergroup contexts, such as participating in a public protest or within a group, such as following certain ingroup norms, require effort to complete. Effortful behaviors can be characterized as demanding, difficult or strenuous acts whose completion requires individuals to expend some type of physical or psychological energy (see Muraven & Baumeister, 2000). In the case of participating in a public protest, effort exertion can take different forms, from telephone recruitment to marching for hours in inclement weather. It has been argued that individuals' strength of identification with their group influences the degree to which they will put effort in tasks to restore threatened identities (see Doosje, Ellemers, & Spears, 1999).

An individual's ability to engage in effortful behavior is also assumed to draw on limited resources. The depletion of these resources (e.g. by prior engagement in an effortful task) has been shown to decrease the likelihood of subsequent engagement in effortful acts (see Muraven & Baumeister, 2000). A failure to carry out effortful behaviors can have dire group-based consequences. For example, when individuals

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Author's note
Address correspondence to Benjamin Giguère, York University, Behavioural Science Building, Room 205, 4700 Keele St, Toronto, ON, Canada M3J 1P3
[email: bgiguere@yorku.ca]

passively accept group-based discrimination, they fail to engage in behaviors that may change the status quo (Lalonde & Cameron, 1994). The current study examined if social identification would influence individual effort in intergroup- and intragroup-threatening situations, and whether prior depletion of regulatory resources would impair the influence of social identification on the exertion of effort on an identity restorative task.

Group membership and identity threats

Social identity theory (Tajfel & Turner, 1979) is a meta-theory used to explain behaviors that occur within group contexts. It proposes that individuals strive to maintain positively valued identities, and that a threat to an identity's value can motivate behaviors that could restore the threatened identity's value. Breakwell (1983, p. 13) defines identity threat broadly as 'any thought, feeling, action or experience which challenges the individual's personal or social identity'. This definition of threat reflects the duality of self proposed by Tajfel, who saw the self as composed of two distinct but related identities: a group identity, which he saw as 'comprised of that part of an individual's self-concept, which derives from the knowledge of membership in a social group together with the value and emotional significance attached to that membership' (Tajfel, 1978, p. 63); and a personal identity, which is based on personal, idiosyncratic characteristics that distinguish individuals from other ingroup members. Threats to identity, therefore, can occur at an intergroup level or at an intragroup level.

Intergroup threat
Different categories of intergroup threats have been proposed (see Branscombe, Ellemers, Spears, & Doosje, 1999). Of those, value threats, wherein the comparison of the ingroup's position relative to an outgroup's leads to an unfavorable result, are perhaps the most central within social identity theory. Strength of ingroup identification is fundamental in determining responses to such threats (Branscombe et al., 1999). Elevated

social identification has been associated with a higher likelihood that individuals will attempt to restore a threatened ingroup's image, even if this process entails personal costs such as effort exertion. Individuals with weaker social identification, by contrast, may be more likely to use strategies that favor their personal interest rather than the interests of their group, thus avoiding personal costs (Ellemers, Spears, & Doosje, 2002).

Effort exertion, although an important determinant of group-based behaviors (see Ouwerkerk, Ellemers, & de Gilder, 1999), is an implied but not explicitly elaborated construct within social identity theory. For example, effort is essential for social competition responses such as public protests (Louis & Taylor, 1999). Moreover, intergroup threats have been proposed to influence individual effort (see Doosje et al., 1999), and burgeoning research in this area suggests that the ingroup's status (e.g. threatened, disadvantaged) does influence the exertion of individual effort (e.g. Barreto, Ellemers, & Palacios, 2004; Ouwerkerk, de Gilder, & de Vries, 2000). Paralleling this work, research on motivational gains has demonstrated that social comparisons with an outgroup can increase the effort output of individuals (Lount & Phillips, 2007).

The strength of identification with a threatened group will also influence effort exertion. Lambert, Libman, and Poser (1960) found that individuals who voluntarily displayed symbols of their religious identification on their clothes, thereby signifying high religious identification, tolerated more pain (a measure of self-control effort, see Muraven, Tice, & Baumeister, 1998) after their religious group was threatened compared to a non-threatened group. In a more recent demonstration of a social identification–effort relationship, Ouwerkerk et al. (2000) found that among psychology students whose ingroup (fellow psychology students at their university) was threatened by fabricated poor test scores, strength of ingroup identification was positively associated with an improvement in the speed of response in spatial choice tasks, another measure of effort. It is important to note that in both the Lambert et al. and Ouwerkerk et al. studies, performance on the effort measures offered opportunities for

participants to restore their threatened identities. These findings therefore suggest that individuals' strength of social identification is related to higher investment in behavioral efforts in intergroup threatening situations, in order to restore the ingroup's standing vis-a-vis an outgroup.

Intragroup threat

In contrast to intergroup threat, intragroup threat occurs when individuals' personal identity is challenged within the ingroup, such as when they fail to meet their ingroup's performance standards. As with group identity, social identity theory suggests that individuals are likewise motivated to maintain a positive personal identity within their group (cf. Brewer, 1991). To do so, individuals will engage in a host of group-serving behaviors in order to establish the positive value of their personal identity. For example, work on intragroup respect has demonstrated that threatening the intragroup status of individuals, by decreasing the respect granted by the ingroup, increased the amount of time individuals were willing to donate to a positive ingroup (Branscombe, Spears, Ellemers, & Doosje, 2002). Moreover, this increase was motivated by an attempt to gain back one's ingroup status. In a similar vein, work on motivational gains has demonstrated that social comparisons within teams of individuals can lead weak group members to increase their effort output (Kerr et al., 2007).

Social identity theory (Tajfel & Turner, 1979) and optimal distinctiveness theory (Brewer, 1991) suggest that social identity should influence the regulation of behavior and the exertion of effort in intragroup-threatening contexts. For example, after an intragroup threat, individuals may wish to restore their standing within the ingroup by adhering to ingroup norms, a behavioral process that often requires effort. While intragroup threats provide a motivation to engage in identity-restoring activities (e.g. Branscombe et al., 2002), the type of influence that social identification will have on an individual's willingness to partake in such activities remains unclear.

On the one hand, individuals having a stronger identification with their ingroup may feel more threatened if they feel rejected within this group and this may lead them to engage in activities to restore their identity (Hogg & Abrams, 1988). Less identified individuals may in turn engage in social mobility and attempt to find a more positive group with which to affiliate (Tajfel & Turner, 1979). This latter behavior assumes that social mobility is an option, but this is not always the case, particularly for more stable identities such as gender, race, and even nationality (see Huddy, 2001).

On the other hand, it has been found that greater identification with a stable social ingroup is associated with a more secure identification (Smith, Murphy, & Coats, 1999). It is possible, therefore, that a secure ingroup attachment may buffer against negative evaluation within the ingroup, in much the same way that a secure attachment helps buffer threatening events within close relationships (see Shaver & Mikulincer, 2008). This view is concordant with the notion that a primary motivational drive to respond to intragroup threat is a concern for one's image within the ingroup. In such a situation, more weakly identified individuals may be more likely to engage in identity restorative behavior in the face of an intragroup threat when compared to more strongly identified individuals, who may be more secure in their ingroup attachment. This situation may be particularly likely to occur for more stable forms of social identities since individuals may have built more complex connections with such groups, compared to more transient ones such as minimal groups (Huddy, 2001).

Self-regulation, social identification and effort

Social identity theory involves social regulatory processes through which social identities influence the regulation of the self, at both the group and personal levels (Abrams, 1994). Self-regulation occurs when individuals alter their habitual responses in order to pursue specific goals usually aimed at improving their situation (Karoly, 1993), and such regulation requires effortful behavior (Muraven & Baumeister, 2000). In a group context, goals are provided by the

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ingroup's norms and values, and the maintenance of positively valued group and personal identities is generally emphasized by most group goals (Brewer, 1991; Tajfel & Turner, 1979).

Muraven and Baumeister (2000) have proposed that regulatory processes are limited by a set amount of resources. They further assert that effortful actions deplete these limited regulatory resources increasing the likelihood of failure in subsequent attempts at effort exertion. The assumption underlying this hypothesis is that all forms of regulation (behavioral, affective or cognitive) draw from the same resource pool. For example, sustained cognitive effort (e.g. controlling unwanted thoughts) should decrease available resources for subsequent exertion of effortful behaviors (e.g. persistence at an unsolvable task). In support of this assumption, Muraven et al. (1998, Study 4) reported that individuals were more likely to fail at everyday emotion regulation (e.g. anger management) when these acts were preceded by other effort-demanding behaviors.

Multiple group processes require effortful actions. For example, Louis and Taylor (1999), following work by Wright, Taylor, and Moghaddam (1990), argue that behaviors that occur in identity-threatening situations (e.g. challenging discrimination) often require considerable effort. Further, they report that the failure to exert such effort could explain preference for acceptance of discrimination by disadvantaged group members. Similarly, Ouwerkerk et al. (1999) point out that effort is often required to behave according to ingroup norms, a process fundamental to maintenance of group cohesion.

It is important to recognize that identity threats often occur following effortful actions and that the two are often unrelated (e.g. facing discrimination after a long workday). Moreover, the process of negotiating identity threats often requires a sequence of effortful actions (cf. Lalonde & Cameron, 1994). Thus, the model of limited regulatory resources may set some limits on the regulation influence of social identity strength in both intergroup- and intragroup-threatening situations with regards to carrying out effortful behaviors to negotiate such threats. Specifically, depleting regulatory resources may

disrupt the influence of social identification on effort in both types of threatening situations. An examination of the relationship between social identification, identity threats, and situational determinants of regulation ability can therefore offer important contributions to the understanding of effort exertion in group-based contexts.

Current study

In the present study, the intergroup threat involved a negative comparison of ingroup members to outgroup members. Lalonde (2002) reports that Americans are a relevant outgroup of social comparison for Canadians that is chronically salient when it comes to *Canadian national identification*. Thus, we used Canadians as the ingroup and Americans as the outgroup. The intragroup threat involved a negative comparison between the individual and ingroup standards. Canadian identity was also used in this threat condition, because Canadian identity is associated with valued traits (e.g. hardworking; see Lalonde, 2002) and the failure to meet a Canadian standard was expected to be threatening.

This study examined the influence of social identification on effort exertion under conditions of intergroup identity threat and regulatory depletion. The study also explored the effect of regulatory depletion under a condition of intragroup threat. A between-subjects design was used, where the independent variables were the type of identity threat and the presence or absence of regulatory resource depletion. The strength of national identification was a measured continuous variable. The main dependent variable was the amount of time spent on a task that required participants to exert effort and which afforded them an opportunity to restore their threatened identity. This design was used to examine the following hypotheses:

(1) social identification should be positively related to effortful behaviors in intergroup-threatening situations; and

(2) depletion of regulatory resources should decrease the influence of social identification on effortful behaviors.

The effects of regulatory resource depletion and social identification on effort were also explored in the context of an intragroup threat.

Method

Participants

One hundred (58 women, 42 men, mean age = 20.0) Canadian university students were recruited for this study in exchange for either course credit or movie tickets. Most participants self-identified as White (n = 50), Black (n = 11), Asian (n = 11), or South Asian (n = 11). No gender or race (coded as White vs. non-White) main effects were observed.

Procedure

Participants individually completed two tasks that were presented to them as two separate studies: a 'first study' containing a problem-solving task, and a 'second study' supposedly examining language processing.[1] The 'first study' consisted of a standardized problem-solving test of analytical ability (supposedly used for university admission purposes). Answers to the questions were subjective, ensuring that participants could not easily predict their performance. Participants were then given a rest period and informed that they needed to be rested for the next 'study'. This 'second study' began with a 12-item measure of national identification, e.g. 'I feel strong ties to other Canadians' (Cameron, 2004; α = .82). Filler items were included after the identification measure to distance it from the threat manipulation. All items were rated on 7-point Likert scales (1 = strongly disagree to 7 = strongly agree). Demographic information was collected at this time.

Manipulations

Following the completion of the national identification questionnaire, two manipulations were introduced: an identity threat manipulation that included three conditions (intergroup, intragroup, or no threat), and a regulatory resource depletion manipulation that included two conditions (absent, present). The manipulations were counterbalanced between participants and no order effects were observed. Participants were randomly assigned to conditions. For the threat manipulation, the experimenter briefly left the room, ostensibly to compile the results of the standardized test. Upon his return, participants were presented with bogus negative feedback. In the intergroup threat condition, participants were presented with what they believed was the Canadian average (47%) and the American average (62%). In the intragroup threat condition, participants were presented with what they believed to be their score (47%) and the Canadian average (62%). In the no threat condition, no scores were presented.

For the depletion manipulation, a thought suppression task was used. Participants were assigned to either a thought suppression (i.e. depletion present) or a thought listing (i.e. depletion absent) task for five minutes. The suppression task, borrowed from Muraven et al. (1998, Study 2), asked participants to write down any words that came to mind while suppressing all thoughts of a 'white bear' or of the words 'white' and/or 'bear'. Participants in the thought-listing task were asked to list any words that came to mind. Muraven et al. report that thought suppression qualifies as an effortful task that depletes regulatory resources (see also Muraven & Baumeister, 2000; Wegner, Schneider, Carter, & White, 1987).

Following the manipulation, the participants were asked to complete a brief questionnaire containing filler items, as well as manipulation check items which probed the level of self-control effort that the thought task had required, e.g. 'How much effort did the task require?' (6 items, α = .74). These items were rated on 11-point scales, from 0 (not at all) to 10 (very much).

The dependent measure of effort exertion was persistence at a difficult task: a mix of solvable (n = 5) and unsolvable anagrams (n = 43) (following Muraven et al., 1998, Study 2). Persisting at a difficult task requires individuals to override an easy response (i.e. quitting) and thus constitutes an index of effortful behavior.[2] This effort measure, like the problem-solving test in the 'first study', was of a cognitive nature

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and offered an opportunity for the restoration of threatened identities.[3] Participants were told that the anagrams task examined 'how memory deals with words' and were left to work on the task for as long as they wanted and instructed to inform the experimenter when they wished to stop. The experimenter left the room and surreptitiously timed (in seconds) how long participants worked on the anagrams. They were stopped after 30 minutes if they had not quit earlier.[4]

Finally, after completing items inquiring about their perception regarding the anagram task, including willingness to work hard on the anagrams, the experimenter asked participants to complete a brief questionnaire relating to the 'first study' (i.e. problem-solving test used to generate the threat feedback) on the pretext that he had forgotten to ask earlier. Participants were asked how successful they had been on the test and how well they thought Canadians generally did on this test (0 = not well at all to 8 = very well). These items were used as threat manipulation checks for intragroup and intergroup threat, respectively. Participants were then probed for suspicion, debriefed, and thanked for their participation. The entire study took approximately two hours per participant.

Results

Overview of analyses

The individual and interactive effects of identity threat, resource depletion, and social identification were examined using multiple linear regression analyses (Aiken & West, 1991). The coding scheme for depletion was: depleted = −1, not depleted = 1. The coding scheme for threat was established by creating two vectors. An intergroup vector was coded 1 for intergroup threat, 0 for intragroup threat, and −1 for no threat. An intragroup vector was coded 1 for intragroup threat, 0 for intergroup threat, and −1 for no threat. The effects of threat and depletion were entered in the first step of the analysis, along with centered identification scores. Two-way interaction vectors involving threat, depletion and identification were entered in the second step following the guidelines of Aiken and West (1991). The two vectors capturing the three-way interaction were entered in the final step.

Manipulation checks

When using the regression procedure described above, the only significant effect for the intergroup manipulation check was a main effect of the intergroup threat vector, $t(88) = 5.01$, $p < .001$. This main effect was investigated by performing a simple contrast using dummy coding to compare the intergroup condition to the no threat condition. Participants in the intergroup threat condition, $M = 3.57$, reported that Canadians performed worse on the problem-solving test relative to non-threatened participants, $M = 5.05$; $t(88) = −4.67$, $p < .01$. For statistical completeness, a contrast between the intergroup threat condition and the intragroup threat condition was conducted and it was found that intergroup threatened participants perceived Canadians as performing more poorly on the problem-solving task compared to intragroup threatened participants, $M = 4.82$; $t(88) = −4.00$, $p < .01$. Importantly, no identification effect was observed, suggesting that higher and lower social identifiers equally perceived the intergroup threat.

For the intragroup threat manipulation check, only a significant main effect of the intra-group threat vector was observed, $t(88) = 5.45$, $p < .01$. This main effect was investigated by performing a simple contrast using dummy coding to compare intragroup condition to the no threat condition. Participants in the intra-group threat condition, $M = 2.13$, reported that they performed worse on the problem-solving test compared to non-threatened participants, $M = 4.54$; $t(88) = −5.39$, $p < .01$. Another simple contrast also revealed that intragroup-threatened participants felt they performed more poorly than intergroup-threatened participants, $M = 3.94$; $t(88) = −4.09$, $p < .01$. Importantly, no identification effect was observed, suggesting that higher and lower social identifiers equally perceived the intragroup threat.

The analysis performed on the depletion of regulatory resources manipulation check revealed only a main effect of depletion, $t(88) = 3.39$, $p < .01$. Participants subjected to

the depletion manipulation ($M = 5.84$) reported having to exert more effort to perform the thought suppression task compared with those in the control condition ($M = 4.28$).

Effort

The regression procedure was applied to the time spent on the anagram task (in seconds) in order to test the central hypotheses of the study. The first and third steps accounted for a significant increase in explained variance, respectively $R^2 = .25$, $F(4, 95) = 7.79$, $p < .001$, $\Delta R^2 = .10$, ($F(2, 88) = 6.99$, $p < .002$, while the second step did not, $\Delta R^2 = .04$, $F(5, 90) = .98$, *n.s.* The standardized coefficients for each of the vectors at each step are presented in Table 1.

The significant depletion vector was indicative that the time spent on the anagrams by depleted participants was significantly different from the grand mean. Simple contrast revealed that depleted participants, $M = 812.00$, spent less time on the anagram task than non-depleted participants, $M = 1202.25$. A significant main effect of intragroup threat revealed that the mean time spent on the anagram task by the intragroup threatened participants was different from the grand mean. A simple contrast revealed that intragroup threatened participants, $M = 1152.08$, persisted longer at the effortful task than non-threatened participants, $M = 814.22$; $t(88) = 3.21$, $p < .01$.

Although step 2, which contained all the two-way interaction vectors, did not account

for a significant increase in explained variance, the interaction of intragroup threat and identification was significant. All of the above effects were qualified by a significant three-way interaction of social identification, identity threat and depletion, as suggested by the significant increase in accounted variance by the third step. No other effects were significant.

Simple slopes (Aiken & West, 1991) breaking the three-way interaction down by threat level were calculated. Specifically, the simple slope of the relation between social identification and effort was calculated for depleted and non-depleted groups within each threat level. As can be seen in Figure 1, under the condition of *intergroup threat*, identification had a significant effect on effort when participants were not depleted, $\beta = .56$, $t(88) = 3.17$, $p < .01$. Specifically, higher group identification was associated with greater persistence at the effortful task. The effect of identification was not significant in the depletion condition, $\beta = -.20$, $t(88) = -1.13$, $p > .10$. As shown in Figure 2, under the condition of *intragroup threat*, identification had a significant influence on effort when participants were not depleted, $\beta = -.75$, $t(88) = -2.58$, $p < .01$. Specifically, lower group identification was associated with greater persistence at the effortful task. In contrast, when participants were depleted, identification had no significant effect, $\beta = .15$, $t(88) < 1$. As can be seen in Figure 3, in the *no threat* conditions, identification had no significant influence

Table 1. Standardized Beta coefficient for each of the vectors included in the linear regression at the last step

Step	Variable	R^2	ΔR^2	F	β
1	Depletion (Dep)	.25	.25	7.79***	.39***
	Intergroup Threat (Inter)				.09
	Intragroup Threat (Intra)				.23*
	Identification (Id)				.11
2	Dep × Inter	.29	.04	.98	−.06
	Dep × Intra				.02
	Dep × Id				.09
	Inter × Id				.13
	Intra × Id				−.22*
3	Dep × Inter × Id	.39	.10	6.99**	.37***
	Dep × Intra × Id				−.31***

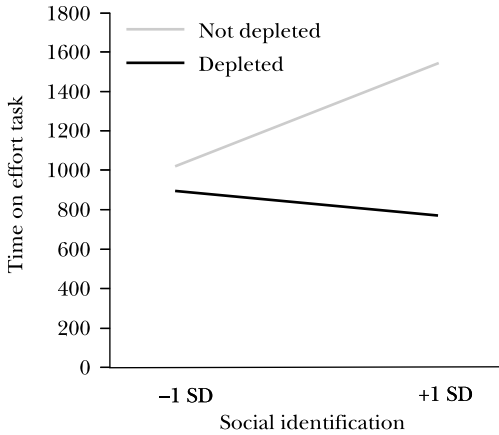*Note*: *$p < .05$; **$p < .01$; ***$p < .001$.

Figure 1. Effect of social identification on the time spent on the effortful task (in sec.) for depleted and not depleted participants faced with an intergroup threatened.
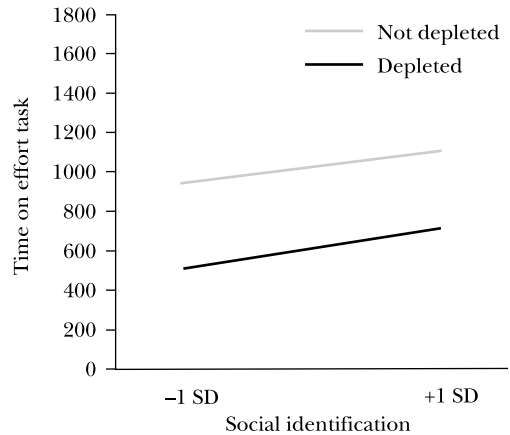

Figure 3. Effect of social identification on the time spent on the effortful task (in sec.) for depleted and not depleted participants not threatened.
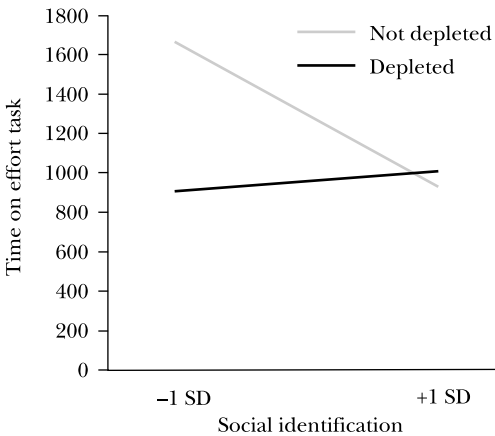

Figure 2. Effect of social identification on the time spent on the effortful task (in sec.) for depleted and not depleted participants faced with an intragroup threat.

on effort regardless of the level of depletion: depletion absent, β = .17, $t(88)$ < 1; depletion present, β = .22, $t(88)$ < 1.[5]

Willingness to exert effort
Two highly correlated items (r = .83, p < .001) that assessed participants' motivation to perform on the anagram task (e.g. How motivated were you to work hard on the task?) were averaged

to create an index of willingness to exert effort. The regression procedure described above revealed significant intergroup by identification and intragroup by identification interactions (respectively, β = .43, $t(88)$ = 3.46, p < .001; β = −.27, $t(88)$ = −2.14, p < .05). All other vectors were not significant (ps > .10). Simple slope analyses revealed that, in the intergroup threat condition, greater identification was associated with greater willingness to exert effort on the restorative task, β = .47, $t(88)$ = 2.96, p < .01. In the intragroup condition, a weaker identification was associated with greater willingness to exert effort on the task, β = −.33, $t(88)$ = −1.88, p = .069. Finally, in the no threat condition, identification had no significant influence on willingness to exert effort, β = .27, $t(88)$ = 1.43, p > .10. Depletion did not significantly influence willingness to exert effort on the anagram task; regardless of whether participants were depleted or not, participants self-reported that they were motivated to exert effort on the identity restorative task as a function of their level of social identification.

Discussion

The aim of the current study was to examine whether the relationship between social

identification and effort in intergroup threatening situations would be altered by the depletion of regulatory resources. Our results offer support for the two hypotheses. Social identification was positively associated with effort exertion on an identity restorative task under a condition of intergroup threat. When the ingroup failed to meet the performance standards of a salient outgroup, greater social identification led to greater behavioral effort. More importantly, this relationship was only observed on the behavioral measure when regulatory resources were *not* depleted; depleting these resources removed the positive influence of social identification on behavioral effort under intergroup threat. Results further revealed that social identification was negatively associated with behavioral effort exertion in the intragroup threat condition and that this relationship was also impaired by the depletion of regulatory resources. These results further corroborate that depletion of regulatory resources may impair the influence social identification on threat restoration actions when these require behavioral efforts. Further analyses suggested that identification was positively related to a measure of willingness to exert effort under intergroup threat and negatively related to such willingness under intragroup threat. Moreover, this measure was unaffected by depletion of regulatory resources; supporting the notion that depletion did not impair the relation between identification and the willingness to exert effort, but between identification and the ability to exert behavioral efforts on the identity restorative task. Finally, as expected, social identification was not related to effort in the absence of identity threats, regardless of participants' self-regulatory state.

Social identity theory argues that variations in social identification influence how individuals respond to different group-related threatening situations. In line with the duality of self proposed by Tajfel (1978), the current study revealed that the influence of social identification extended to effort exertion responses in two identity-threatening situations (intergroup and intragroup).

Under conditions of intergroup threat, greater social identification was associated with increased

behavioral effort. Ouwerkerk et al. (2000) reported a similar pattern of results while focusing on spatial task response time as an effort measure. Our conceptual replication of Ouwerkerk et al.'s findings therefore provides strong support for social identification's positive influence on effort exertion to restore a threatened identity in intergroup-threatening situations.

The most significant novel contribution of the current study comes from the results suggesting that state variations in regulatory resources alter the influence of social identification on effortful responses to identity-threatening situations. The influence of social identification on effortful behavior under intergroup threats was no longer observed following participation in a task designed to reduce self-regulatory strength – although the relation between identification and willingness to work at an identity restorative task was pos-itive, regardless of regulatory state. The results from our behavioral measure suggest that the depletion of regulatory resources prevented the combined motivational influence of threat and identification on actual behavioral efforts, supporting our key hypothesis as well as Muraven and Baumeister's (2000) self-regulation theory.

Our results offer new avenues for understanding passive responses to intergroup threat (e.g. passive acceptance of discrimination by disadvantaged group members, Louis & Taylor, 1999), such as exploring the conditions that negatively impact disadvantaged individuals' regulatory abilities. Social identification provides the motivational impetus for collective responses to intergroup threats, particularly those faced by disadvantaged group members (Stürmer & Simon, 2004), but these responses often require sequences of effortful acts (Lalonde & Cameron, 1994). Moreover, disadvantaged group members are often subject to situations that lower their regulatory resources. For example, Richeson, Trawalter, and Shelton (2005) found that the experience of an interracial interaction was cognitively depleting for African Americans who had a more favorable view of their ingroup. Such pressures on regulatory resources, particularly those that are systemic (e.g. poverty and all of its sequelae) may impair the motivational

influence associated with social identification on behavioral responses to intergroup threats for many disadvantaged individuals (e.g. collective actions against discrimination), thus maintaining the societal status quo.

This study also explored the effects of intragroup threat, wherein individuals were threatened by their standing within the ingroup. The findings suggested that intragroup threat can increase the likelihood that individuals will engage in an effortful response. Branscombe et al. (2002) observed a similar pattern of results, reporting that intragroup threatened individuals within groups with positive identities were more likely to donate time to improve their standing within the ingroup, compared to non-threatened ingroup members. The results of the current study add to this work by suggesting that effortful behavior following an intragroup threat is moderated by social identification. One expectation was that high social identifiers might respond with greater effort when facing an intragroup threat, since their ingroup identity would be more important to them. This, however, was not the case. The results indicated that a weaker social identification was associated with greater effort on an identity-restorative task as measured by both a behavioral dependent variable and a self-reported one.

One interpretation of these results is that individuals who had a stronger ingroup identification were more securely attached to their group (Smith et al., 1999), thus buffering them from the threat of a poor standing within the ingroup. Conversely, individuals with lower social identification engaged in more effort following the intragroup threat because they were seeking a more secure status within their ingroup. Another possibility could be that the lower social identification is resulting from individuals having disengaged themselves from their group membership. In such a situation, individuals could have perceived the intragroup threat as a threat coming from an outgroup and not from within their group. From this perspective, elevated effort exertion by more weakly identified participants would be resulting from a comparison to a functional outgroup (Lount & Philips, 2007). Finally, it is also possible that

participants with stronger identification are less likely to engage in effortful output following an intragroup threat, because for them the impact of this threat is lessened by the relatively good performance of their group (compared to their own, i.e. basking in the reflected performance of their group) and they have less need to repair their personal identity.

Assuredly, however, intragroup processes have received less attention than intergroup ones and the current finding will need to be further investigated, and replicated, before strong conclusions on the relation between intragroup threat, social identification and participation in effortful identity restorative activities can be drawn. Among the concerns that will require further investigation is the possibility that measured identification is correlated with a third variable acting as the psychological mechanism (e.g. perceived self-efficacy). Researchers may need to identify an approach to experimentally manipulate the salience of social identity and intragroup threats independently to address this third variable problem. Experimentally, however, the types of social identities that are typically manipulated are transient ones (e.g. Doosje, Ellemers, & Spears, 1995) compared to more stable form of identities such as nationality or ethnicity (Huddy, 2001). An alternative approach could be to measure for potential mediating psychological mechanisms and to conduct mediational analyses (Preacher & Hayes, 2004, 2008). For example, Stürmer, Simon, Loewy, and Jörger (2003) demonstrated the mediational influence of inner obligation to the ingroup on the relation between identification and collective action. More importantly, results from the intragroup threat condition concurred with results from the intergroup threat condition in showing that the depletion of regulatory resources impaired the motivational influence of social identification on a behavioral measure.

The impact of regulatory resource depletion on the relationship between social identification and effort reported in the current study raises important questions about the nature of social identification's influence on behavioral involvement in identity-threatening situations. Two contrasting views about this relationship,

particularly in intergroup-threatening situations, are present in the literature. One suggests that the response to threat stems from an impulsive urge to reaffirm individuals' threatened identity (James & Greenberg, 1989). The other suggests that social identity's influence in identity-threatening situations is associated with a regulated response (e.g. Abrams & Brown, 1989). The implications of these assumptions are pivotal in understanding the conditions leading to failure to carry out effortful behaviors in group-based contexts.

Motivation and self-regulation are intimately linked. Relying upon the assumption that regulatory resources are depleted but not entirely eliminated following prior successful engagement in effortful action, Muraven and Slessavera (2003) report that giving participants specific motivation to exert self-control efforts removed the difference in behavioral effort output between depleted and non-depleted participants. In the present study, we similarly observed that motivation (i.e. threat) reduced the difference in behavioral effort between depleted and non-depleted participants *when* they were *not* particularly sensitive to the motivator (i.e. lower social identifiers in the intergroup threat and higher social identifiers in the intragroup threat). We did find, however, that motivated non-depleted participants sensitive to the threat presented to them (i.e. higher social identifiers in the intergroup threat and lower social identifiers in the intragroup threat) exerted more effort than did their depleted motivated counterparts. It is important to note that the significant difference between depleted and non-depleted motivated participants is due to the moderation of social identification. In this situation, the measure of identification could be argued to constitute an individual difference measure moderating the impact of the motivator (i.e. threat). Thus, this study adds to Muraven and Slessavera's by examining the influence of sensitivity to the motivator.

Limitations and future directions
Our findings may be limited to more chronically salient and stable identities, such as nationality, ethnicity or gender, compared to situationally constructed ones (see Huddy, 2001). The preferred response to identity threats is often to move away from the threatened group membership (e.g. Lalonde & Silverman, 1994), such as disidentifying with the group. In the case of stable chronically salient groups, however, this option is difficult, if not impossible, to fully attain (Ellemers et al., 2002). Although some individuals may not strongly identify with stable ingroups, their social reality is invariably shaped by the social standing of these groups and their personal standing within them. Thus, when in the presence of an intergroup or an intragroup threat, members of these stable groups must address the threat or accept the change in their identity's value and subsequently to their social reality. Our findings may also be limited to situations where dealing with an identity threat requires action on a task that requires self-regulatory efforts (see Muraven & Baumeister, 2000).

Conclusion

This study examined the role of self-regulation in the relationship between social identification and individual effort in group-based contexts. There are other regulation factors involved that may moderate this relationship, such as self-efficacy beliefs (Bandura, 2002). It should be recognized that the decision to forego effortful behaviors in response to threat in group-based contexts will often be the fallback position (e.g. Lalonde & Silverman, 1994; Wright et al., 1990). It is important, therefore, to identify the situational and individual dynamics that will lead individuals to exert effort on behalf of their group, or themselves, whether this leads to amelioration (i.e. positive social change) or deterioration (i.e. escalating group conflict) of the social climate.

Notes

1. The 'two study' cover story and its accompanying rest period were in fact necessary to prevent regulation depletion effects from the first problem-solving task to carry over to the second part of the study.
2. Muraven et al. (1998) used persistence at anagrams to measure self-control efforts.

Our definition of effort is compatible with a self-control interpretation of our measure. Moreover, we opted for the term 'effort' because it is concordant with previous literature in the field of intergroup relations (e.g. Ouwerkerk et al., 2000). Finally, in line with previous intergroup relations research, using the term 'effort' emphasizes the motivational and self-regulatory influence on our main dependent variable.

3. Brunstein and Gollwitzer (1996) found that failure at a task relevant to self-definition led individuals to increase their performance on a second task, when this task was relevant to the same self-definition domain targeted by the failure. In the same vein, our second task offered our participants an opportunity to restore their threatened identity because it was domain-related to the task used to generate the threat (i.e. both involved cognitive abilities).

4. Participants who were stopped by the experimenter ($n = 17$) were coded as having persisted for 30 minutes. Removal of these participants did not change the pattern of results. Thus, the results with the entire sample are presented.

5. It could be argued that participants persisted at the anagrams because they were self-conscious. As part of suspicion check we asked participants using a single item to rate on a 1 (not at all) to 10 (a lot) scale the degree to which they were self-conscious while they completed the anagram task. Conducting the regression procedure previously described on this item revealed no significant effect (all ps > .10), suggesting that self-consciousness was not the reason why participants kept working on the anagrams in the threat conditions.

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Biographical notes

BENJAMIN GIGUÈRE, is a PhD candidate at York University in Toronto. He received his honors BA from McGill University. His research intersects the fields of cross-cultural psychology, intergroup relations and group processes, focusing, in part, on the influence of collective identities in the social regulation of risk taking behaviors.

RICHARD N. LALONDE, is a professor of psychology at York University in Toronto. His research falls at the intersection of culture, identity, and intergroup relations, with a particular focus on issues that are pertinent to multicultural societies.