



Why Do Students Strike? Direct and Indirect Determinants of Collective Action Participation

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The current project investigated affective and strategic determinants of participation in collective actions by taking a multidimensional approach to collective identity (see Cameron, 2004) and investigating rational decision-making processes. A field study was conducted during an important student strike within the Canadian province of Quebec. One hundred and eighty four students attending the province's postsecondary francophone institutions participated in the study. Path modeling was used to investigate two channels to collective action participation. A direct path involved the affective dimensions of identification. An indirect strategic path revealed that pro-action arguments allowed individuals to derive instrumental value, which in turn led them to participate in collective actions. This indirect influence only occurred at higher self-control. The results and their implications for understanding participation in collective actions during social movements are discussed.

KEY WORDS: Collective identity, Collective action, Instrumental value

There are many situations of social injustice and group discrimination where the majority of disadvantaged group members appear to passively accept their situation (Wright, Taylor, & Moghaddam, 1990; see Kelly & Breinlinger, 1996). Individuals who do engage in some type of action to improve their disadvantaged status tend to prefer individual strategies rather than collective ones (e.g., Lalonde & Silverman, 1994; Wright et al., 1990). Occasionally, however, some group members will band together and act collectively against a perceived injustice. Understanding participation in these collective acts is of interest because they sometimes succeed in their challenge to the status quo by advancing a group's

position (e.g., civil rights movement in the United States; the quiet revolution in the Canadian province of Quebec).

A well-established finding indicates that individuals who identify more strongly with a group are more likely to participate in collective actions aimed at improving the plight of this group (e.g., Simon et al., 1998; see Huddy, 2001; Kelly & Breinlinger, 1996; Stürmer & Simon, 2004b). The nature of this influence, however, is a point of considerable debate. Some social psychologists have reported that the influence of collective identity on behavior is likely driven by the affect related to group membership (e.g., James & Greenberg, 1989). Alternatively, some have gathered evidence indicating that identity operates via a cost-benefit analysis of the collective actions (e.g., Louis, Taylor, & Douglas, 2005), while another subset of researchers have found that identification and a cost-benefit analysis independently contribute to action participation (e.g., Simon et al., 1998). The implications of these different channels are important as activities designed to promote actions through affective means or rational decision-making processes are quite different (e.g., an appeal to emotion vs. an appeal to logic).

The complexity in understanding collective action participation lies in the comprehension of the channels through which collective identification leads individuals to partake in such acts. Is collective identification independent of strategic concerns, or does it influence such concerns, and if so, how do these concerns motivate collective action participation? Simultaneously examining identification and rational motives to collective action participation is fundamental in addressing these questions in order to pinpoint the psychological mechanisms underlying collective identity's influence on participation in collective actions.

The current study, which was conducted during an important student strike in the Canadian province of Quebec, examined participation in collective actions as occurring through multiple channels involving collective identification and rational decision-making processes. This goal was achieved in two ways. First, a multidimensional approach was used to assess collective identification; both affectively and cognitively driven dimensions of identification were examined in relation to collective action participation, as well as to rational decision-making processes. Second, the study explored the role of self-control as one of the mechanism explaining the influence of strategic concerns on engagement in collective actions.

Collective Identity

Tajfel (1978) proposed that collective identity "is 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" (p. 63). He, along with Turner, further proposed that collective identity was the primary social psychological process underlying collective action participation (Tajfel & Turner, 1979).

Dimensions of collective identification. A multidimensional approach to investigating collective identification is highly preferable because of the multifaceted nature of collective identity (see Ashmore, Deaux, & McLaughlin-Volpe, 2004), particularly in a politicized context (see Huddy, 2001). Following the work of Tajfel (1981), who spoke of emotional, cognitive, and evaluative components of identification, Cameron (2004) reported that a three-factor model best captured collective identification. Obst and White (2005) confirmed his interpretation and others have found converging models (e.g., Ellemers, Kortekaas, & Ouwerkerk, 1999; Jackson & Smith, 1999). The three dimensions in Cameron's model are ingroup ties, ingroup affect, and cognitive centrality. Ingroup ties refer to frequent contact with other ingroup members and feeling connected to them. The ingroup affect aspect of identification involves the specific positive or negative emotions that arise from group membership. Finally, the cognitive centrality component of identification relates to its cognitive accessibility; it involves the frequency with which the group comes to mind and the subjective importance of the group to one's self-definition. These dimensions have different predictive value. For example, Cameron and Lalonde (2001) demonstrated that subgroups (i.e., traditional vs. feminist women) that are associated with different approaches to collective engagement differentially endorsed each of these identity dimensions. No study, however, has taken such a multidimensional approach to measure identification in examining its relation to collective action participation during social conflicts, although these actions are multiply determined (see Stürmer & Simon, 2004b).

Another layer of identification should be considered when examining collective actions, namely its specificity. Simon and colleagues (1998) compared a more general level of identification associated with a social issue (e.g., the elderly) and a level of identification that was more specific to the social movement (e.g., Gray Panthers). The latter, referred to as politicized identity, was found to be a better predictor of collective action participation because its conception was more closely tied to the grievance raised by a disadvantaged group with direct implications for action participation (see Simon & Klandermans, 2001). Following their lead, the current study, aimed to investigate collective action participation by focusing on a politicized level of student identity.

Collective Action Participation

From a social psychological perspective collective actions are best understood as "efforts by a large number of people who define themselves and are also often defined by others as a group, to solve collectively a problem they feel they have in common, and which is perceived to arise from their relations with other groups" (Tajfel, 1981, p. 244). From this perspective it can be inferred that both identification with a group and rational decision making are involved in collective action participation.

This duality in collective action determinants is well captured in the work of Simon and Stürmer (e.g., Simon et al., 1998; Stürmer, Simon, Loewy, & Jorder, 2003; Stürmer & Simon, 2004a; see Stürmer & Simon, 2004b). Their work on collective action participation during social movements demonstrated two independent paths to participation. A first path suggests that greater collective identification increases the likelihood of participation in collective actions. The second path proposed by Simon and Stürmer operates through the perception that collective actions have instrumental value (e.g., that their costs are outweighed by benefits). Importantly, these two paths were not observed to interact with each other. When discussing their results Simon et al. (1998) raised an important question. Can the determinants of collective action participation be separated into affective and strategic dimensions? The current study was designed in part to examine this question.

An Affective Path

Affect and cognition are often assumed to operate as distinct systems in psychological models of behaviors. For example, Metcalfe and Mischel's (1999) "hot/cold" model proposes two systems of behavioral regulation. Their first system operates on affective dimensions such as the fear and anger arousing properties of a stimulus. Their second system is cognitive in nature, focusing on knowledge and strategic responses. Although research on emotions in intergroup contexts is rapidly emerging (e.g., Mackie, Devos, & Smith, 2000) and the role of cognition in such context is well established (see Hogg & Abrams, 1999), few studies have explicitly contrasted affective and cognitive determinants of behavior during social conflicts (for an exception see Guimond & Dubé-Simard, 1983).

The affective contribution of collective identity to group-based behaviors is well recognized (see Ashmore et al., 2004). Tajfel's (1981) early conceptualization of collective identity proposed that the affect individuals experience as a function of their group membership was an important determinant of participation in collective acts. Reflecting the importance of affect in collective identity processes, most measures of identification contain some items that assess its affective components (e.g., Brown, Condor, Mathews, Wade, & Williams, 1986; Ellemers et al., 1999; Luthanen & Crocker, 1992). More importantly, measures that have demonstrated the positive influence of identification on collective action participation have included affectively based components of identification (e.g., Stürmer et al., 2003). Cameron (2004) proposed that affectively laden components of collective identification are the most likely to influence behavioral responses in group-based contexts.

Following the suggestion of separate and independent behavioral systems for affect and cognition (e.g., Metcalfe & Mischel, 1999), it was postulated that affective influences of identification on collective action participation would be direct and not influenced by the rational decision-making processes associated

with those actions—the latter being cognitive/strategic in nature and thus associated with the “cold” system. In contrast, the influence of the other dimensions of collective identification was not expected to be this exclusive.

A Strategic Path

Tajfel (1981) proposed that group members must come to the conclusion that collective action will lead to the improvement of their condition. In situations where individuals perceive that the benefits outweigh the costs of action, it can be said that individuals are perceiving instrumental value from the actions. Instrumental value, therefore, is a form of expectancy-value outcome and a key strategic determinant of collective actions, which is cognitive in nature (Louis et al., 2005). A considerable body of research has explored collective action participation from the perspective of expectancy-value models (see Feather, 1982, 1992) and demonstrated the importance of the perceived instrumental value of collective actions in determining an individual's willingness to participate in them (e.g., Finkle & Muller, 1998; Finkle & Opp, 1991; Klandermans, 1984; Simon et al., 1998; Stürmer & Simon, 2004a; Stürmer et al., 2003). Feather (1982, 1992) proposed that the expected instrumental value of collective actions is determined by an individual's subjective analysis of costs and benefits and the expected success of these actions.

Simon et al. (1998) reported that collective identification and instrumental motives comprised two independent and significant paths to collective action (see Stürmer & Simon, 2004b).¹ The results of Simon and colleagues (1998) also reveal a positive relationship between collective identification and instrumental value (see Stürmer & Simon, 2004b), suggesting that certain aspects of identification can be related to rational decision processes.

A more direct investigation of the relationship between group identity and instrumental value was conducted by Louis et al. (2005). They provide evidence suggesting that when individuals identify as group members, the normative message communicated by the group (e.g., normative support of group favoring actions) shaped the instrumental value of the collective actions, and that this value in turn led to collective action participation. More importantly, their results demonstrated that the relation between the group's normative message and collective action participation was mediated by its perceived instrumental value. Their investigation, however, did not include a measure of the strength of collective identification. To investigate this relationship further, the current study examined the relationship between the different dimensions of collective identification and the perceived instrumental value of collective actions.

¹ Simon and colleagues explored the moderating relationship between collective identification and instrumental concerns in predicting collective action participation across multiple studies and found no support for this relationship (see Stürmer & Simon, 2004b).

It was expected that of the three dimensions of identification greater ingroup ties would increase perceived instrumental value because this dimension of identity is particularly attuned to the normative aspects of group identity (see Ashmore et al., 2004; Cameron, 2004). One way to gauge the normative message associated with an identity is to examine the extent to which individuals have learned the arguments in favor of collective actions found in the rhetoric promoted by the group. This study, therefore, also explored the relationship between identification and support for the group's message. While ingroup ties were expected to relate to the perceived instrumental value of collective actions and associated supportive arguments, no specific hypotheses were set for the cognitive centrality dimension of identity. The affective component of identity as previously explained was expected to be unrelated to instrumental value and to have a direct influence on collective actions,

Self-Control. Having proposed an approach to understand how collective identification help foster instrumental value, little is known of the psychological process that can lead instrumental value to motivate participation in collective action. How does one go from perceiving instrumental value to implementing actions?

The instrumental value of collective actions is a form of expected outcome, which plays an important part self-in control mechanisms (see Bandura, 1986). Self-control is generally conceived as the process by which individuals delay immediate gratification in the pursuit of a goal with longer-term benefits (see Logue, 1988). Perceiving instrumental value occurs when individuals come to the conclusion that although collective actions have little immediate rewards (e.g., marching for hours in inclement weather during a demonstration), they have long-term ones (e.g., gaining financial support for the group). Self-control should thus facilitate the process leading individuals to participate in collective actions once they perceive such actions as having instrumental value. Given that individuals rely on the messages communicated by their ingroup to derive instrumental value (e.g., arguments claimed in favor of a strike on a newsletter; see Louis et al., 2005), greater self-control should also facilitate the process by which individuals derive instrumental value from the message of the group.

The Social Context of the Study

In early 2005 the provincial government of the Canadian province of Quebec attempted to implement reforms to its student loan and bursary program. The program is aimed at increasing accessibility to education by providing financial support on the basis of students' economic resources. Students perceived changes to the program as threatening to the economic vitality of their group (Giguère & Lalonde, 2006), and a social movement arose in protest to the changes (see Curran, 2005). The movement was organized around a large-scale student strike, which involved collective actions such as picketing, demonstrating, and office occupa-

tions. Estimates suggest that 110,000 to 230,000 students participated in the strike. The current study was conducted in the month March 2005 once the student movement was well underway, but before a resolution was reached.

Overview of the Study

The overall aim of this field study was to further the understanding of participation in collective actions by examining the unique influence of different dimensions of identification through two pathways: one affective and one strategic in nature. In line with the notion that affect operates through different channels than rational decision processes it was expected that ingroup affect would predict participation independently from instrumental value, due to the rational decision making involved in determining instrumental value. Ingroup ties, as well as cognitive centrality, were expected to predict collective action participation; however, it was expected that their influence would not necessarily be independent of rational decision-making processes.

It was expected that the group message, in the form of the supportive arguments individuals had learned, would lead to the perception of instrumental value, which in turn would predict collective action participation. This mediated relationship was expected to be qualified in different ways. First, it was anticipated that ingroup ties would increase the perception that collection actions have instrumental value. Second, it was expected that greater self-control would facilitate the process by which the group message is turned into perceived instrumental value, which in turn will lead to action (i.e., that the instrumentally mediated relationship between the group message and collective action participation would be moderated by self-control).

Method

Participants. A total of 283 surveys were distributed and 184 were returned (65%). Of these, 16 were removed because of missing data. The final sample ($N = 168$) included 127 women and 41 men. The average age was 21 years. Most participants had French as their first language ($n = 149$) and most self-identified as White ($n = 148$).

Procedure. Participants were recruited through snowball sampling and were entered into a draw for one of four \$50 prizes. Questionnaires were distributed through contacts at six of the province's Francophone universities (including the four largest ones) and at three of the province's larger colleges. The surveys consisted of an instruction sheet, a consent form, the questionnaire, a debriefing sheet, a coupon for the draws, and a stamped return envelope. All documentation for the study was in French. All items borrowed from English scales were translated by the first author, back translated by a research assistant, and a few minor adjustments were made. The questionnaire included (in the reported order) a

student activist identification measure, a self-control scale, social identity theory moderators, which also included perceived instrumental value of collective action, an open-ended question on participants' arguments for or against the strike, an open-ended question on participants' actions during the strike, and some demographic items such as age and gender. The scales and open-ended questions were as follows.

Identification. Simon et al. (1998) demonstrated the importance of targeting the politicized level of identification when investigating participation in collective actions related to a social movement. Accordingly identification as a student activist was measured using items from the Cameron (2004) three factor measure of collective identification. Cameron (2004) and Obst and White (2005) report that the measure has good validity and reliability.² Scores for the three subscales were calculated by averaging across items. The *ingroup affect* subscale contained three items (e.g., I feel good when I think of myself as a student activist; $\alpha = .69$). The *cognitive centrality* subscale contained three items (e.g., I often think of myself as a student activist) ($\alpha = .69$). The *ingroup ties* subscale contained four items (e.g., I feel strong ties to other student activists) ($\alpha = .78$). Items were rated on a 7-point Likert scale ranging from -3 (very untrue of me) to $+3$ (very true of me). Higher scores were indicative of greater identification.

Self-Control. Ten items from the short form of the Tangney, Baumeister, and Boone (2004) self-control measure were used (e.g., I often act without thinking through all the alternatives; $\alpha = .67$). Tangney et al. (2004) report the measure to have good reliability and validity. Items were rated on a 7-point Likert scale ranging from 1 (never) to 7 (almost always). Higher scores were indicative of greater self-control.

Instrumentality. The perceived cost-benefits of the collective actions (Do the benefits of the strike movement outweigh its costs?) and the perceived efficacy and expected success of the collective actions (Is the strike movement efficacious in bringing about social change?) were rated on 11-point Likert scales ranging from 0 (not at all) to 10 (very much). The items were highly correlated ($r = .62$; $p < .001$) and were averaged to create a composite score of instrumentality. Higher scores were indicative of greater perceived instrumental value.

Open-Ended Questions. One question asked participants in a forced-choice format if they were for ($n = 95$) or against the strike ($n = 61$); 12 respondents indicated they were both for and against the strike. The next questions asked participants to describe their arguments for or against the strike (word length:

² A confirmatory factor analysis was conducted to confirm the three factor structure proposed by Cameron (2004) using LISREL 8.7 (Jöreskog & Sörbom, 2003). The analyses compared a single factor model to the three factor model. Although χ^2 values for both models were significant, indicating that no model completely accounted for the data, the hypothesized three-factor model, $\chi^2(42) = 96.95$, $p < .001$; GFI = .90; IFI = .95; CFI = .95; RMSEA = .084, yielded a better fit compared to a single factor model, $\chi^2(45) = 114.96$, $p < .001$; GFI = .89; IFI = .93; CFI = .93; RMSEA = .089. A χ^2 difference test indicated that the three factor model was a closer fit to the observed data compared to a single factor model, $\Delta\chi^2(3) = 18.01$, $p < .001$.

$M = 50$, $SD = 24.55$) and to describe any actions that they had taken in relation to the strike (word length: $M = 40$, $SD = 28.94$). Answers to these questions provided two measures: the *arguments* individuals associated with the strike actions and the *participation* in collective actions.

Two coders rated the arguments and actions reported by participants. The first author identified the most common arguments for and against the strike. Coders then gave a code of 1 when an argument was present and 0 when it was not. The intercoder correlations between the two summed variables were significant and strong (arguments in favor: $r = .71$, $p < .001$; arguments against: $r = .60$, $p < .001$). A third coder resolved the discrepancies between the first two coders. On average participants reported a combined total of 1.76 arguments ($SD = 1.22$, range 0 to 5). A final argument score was computed for each participant by subtracting the arguments against the strike from the arguments in favor of the strike. Higher scores were indicative of more arguments in support of the strike. The scores ranged from -5 to 4.

The same approach was used for the second question. The first author identified the most common collective actions reported. Coders gave a score of 1 for participation and a score of 0 when the action was not mentioned. Coders were also instructed to negatively code (i.e., -1) any explicit mentions of a refusal to participate in an event (e.g., No one could have paid me enough money to go in front of the parliament). The summed scores of the two coders were significantly correlated ($r = .72$, $p < .001$), and a third coder was used to resolve coding discrepancies. The scores ranged from -4 to 5.

Results

Preliminary Analyses. The most commonly observed positive arguments regarding the strike were the preservation of equal access to education ($n = 78$; 46%); the maintenance of norms of social justice within the province of Quebec ($n = 41$; 24%); and getting the government to listen to student claims ($n = 31$; 19%). The most commonly observed negative arguments were a perceived lack of negotiations prior to the strike ($n = 34$; 20%), a recognition that postsecondary education costs for students in the province were the lowest in North America ($n = 24$; 14%), and the creation of a negative image of students in the public eye ($n = 20$; 11%). The most frequent reported collective actions were participating in public demonstrations and office occupation (111 occurrences), participation at student unions rallies (47 occurrences), picket line participation (23 occurrences), and other forms of support (19 occurrences).

Table 1 presents descriptive statistics and zero-order correlations between the major predictor and outcome variables of the study. These relationships were examined in further detail using path analyses in order to test the central hypotheses of the study.

Table 1. Descriptive statistics and zero-order correlations between the predictor and outcome measures

Variable	1	2	3	4	5	6	7
1. Cognitive Centrality	–	.55***	.56***	–.09	.43***	.39***	.42***
2. Ingroup Ties		–	.63***	–.05	.47***	.51***	.44***
3. Ingroup Affect			–	–.07	.42***	.38***	.45***
4. Self-control				–	–.07	–.08	–.09
5. Supportive arguments					–	.49***	.37***
6. Instrumental value						–	.49***
7. Collective actions							–
Mean	–.42	.43	.74	4.88	.26	5.87	.70
SD	1.34	1.35	1.28	.58	1.87	2.63	1.41

Note: *** $p < .001$

Path Modeling

Overview of analyses. Path modeling of the hypothesized relationships was conducted using LISREL 8.7 (Jöreskog & Sörbom, 2003). Maximum likelihood was the method of estimation chosen, and all predictors were centered at their respective mean. In addition to the χ^2 test, a number of goodness-of-fit indices aided with the interpretation of the results (see Hu & Bentler, 1995). Two general approaches to examine the fit of the modeled relationships are recommended (see McDonald & Ho, 2002). Absolute fit approaches address the degree to which the variances and covariances implied by the specified model match the observed variances and covariances. The χ^2 test and the goodness-of-fit index (GFI; see Jöreskog & Sörbom, 1993) were included to assess absolute fit.³ Incremental fit approaches compare the specified model to a baseline model in which, typically, the covariances among all the variables are assumed to be zero. The incremental fit index (IFI; Bollen, 1989) and the comparative-fit index (CFI; Bentler, 1990) were used to assess incremental fit.⁴ The root mean square error of approximation (RMSEA; see Browne & Cudeck, 1992) was also included.⁵ Values above .90 on the GFI, IFI, and CFI and below .08 for RMSEA are typically interpreted as indicating an acceptable fit, although the reliability of rule-of-thumb criteria varies (see Hu & Bentler, 1995). These indices were used to assess a sequence of nested

³ A significant χ^2 value indicates that the observed relationships between the variables depart from the hypothesized model. Due to the sensitivity of this statistic to sample size and other factors, it is generally recommended to supplement this index with another. Thus, the GFI (see Jöreskog & Sörbom, 1993) was also included. Although still somewhat influenced by sample size, the GFI fares much better in simulation studies compared to the χ^2 . The GFI reflects the extent to which the hypothesized model fits the data better than no model at all and varies between 0 and 1 (Jöreskog & Sörbom, 1993).

⁴ The IFI and CFI compare the performance of the estimated model to that of the independence model, in which the variables bear no relationship to one another and vary between 0 and 1.

⁵ The RMSEA was included because it indexes discrepancy per degree of freedom and hence addresses parsimony in modeling by contributing to signal the inclusion of relationships that should not be.

Table 2. Fit indices for model 1 to model 4

Model	χ^2	df	$\Delta\chi^2$	GFI	IFI	CFI	RMSEA
Model 1	69.81***	17	–	.91	.92	.92	.14
Model 2	65.43***	16	4.38*	.92	.93	.93	.13
Model 3	32.88**	14	32.55***	.96	.97	.97	.086
Model 4	16.45	9	16.40**	.98	.99	.99	.067

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

models developed to examine the hypothesized relationships. Each nested model was compared with the previous one using a χ^2 difference test. A significant reduction in the χ^2 value is indicative of improved fit.

Identification. Central hypotheses were that collective identification would be related to collective action participation, as well as instrumental value. A first model, Model 1 in Table 2, was generated with paths from the three dimensions of collective identification to participation in collective action, to instrumental value and to arguments. It can be seen in Table 2 that Model 1 had a mixed overall fit as indicated by the GFI, IFI, and CFI values greater than .90, indicative of an acceptable fit, and the RMSEA value that was above .10, indicative of poor fit. In addition, a significant χ^2 value further revealed that this model departed from the observed data.

Simple mediation. It was expected that the relationship between arguments and collective action participation would be mediated by instrumental value. A model nested in the identification model was generated where arguments predicted collective actions. It can be seen in Table 2 that Model 2 had a relatively poor fit, with a pattern of fit indices similar to Model 1. This model, however, did offer improved fit compared to Model 1, as indicated by a significant reduction in χ^2 , $\Delta\chi^2(1) = 4.38$, $p < .05$, suggesting that Model 2 was a closer fit to the observed data compared to Model 1. A significant relationship between a predictor and the outcome variable is a precondition to the investigation of mediation (see Baron & Kenny, 1986).⁶ Fulfilling this requirement, a greater number of supporting arguments was associated with more participation in collective actions, $\beta = .18$, $p < .05$.

⁶ The criterion that a significant relationship between a predictor and an outcome variable is a precondition to infer mediation, as suggested by the causal step approach of Baron and Kenny (1986), is debated (see e.g., MacKinnon, Krull, & Lockwood, 2000). A product-of-coefficient approach where the strength of an indirect effect is estimated by computing the product of the path between a predictor and a mediator, by the coefficient for the path between the mediator and an outcome variable, for example, does not necessitate such a precondition (e.g., Sobel, 1982; see Preacher & Hayes, 2004). Typically, however, the term indirect effect is used when the precondition is not met, while the term mediation is used when it is.

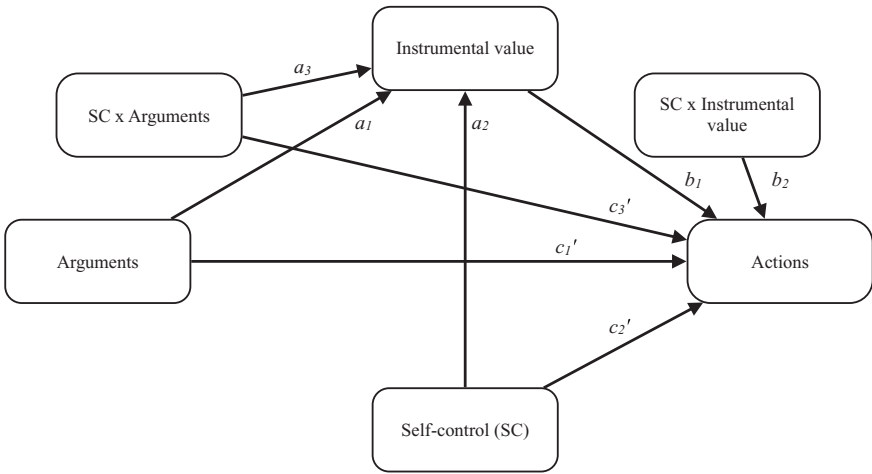


Figure 1. Diagram illustrating all theoretical paths required to investigate the self-control moderated mediation of the relationship between arguments and collective action participation by instrumental value.

Note: For visual clarity this figure does not depict the paths estimated to account for the influence of all three collective identification dimensions on arguments, instrumental value, and collective action participation.

To investigate the role of instrumental value on the relationship between arguments and collective action participation a third model (i.e., Model 3) was generated adding a path from arguments to instrumental value and from instrumental value to action participation. These paths are labeled a_1 and b_1 in Figure 1, which depicts the paths pertaining to the moderated-mediation aspects of the model. This model yielded a better fit compared to Model 2, as indicated by the significant $\Delta\chi^2$, and its overall goodness of fit as indicated by the various indices reported in Table 2. In this model reporting more arguments was associated with perceiving greater instrumental value, $\beta = .32, p < .01$, which in turn increased the likelihood that the individual had participated in collective actions, $\beta = .36, p < .001$. No significant relationship between arguments and collective action participation was observed once instrumental value was included, $\beta = .05, p > .05$. This nonsignificant relationship was suggestive of a mediational role by instrumental value in the relationship between arguments and action. This role was investigated further in conjunction with the moderation of self-control.⁷

⁷ It could be argued that due to the retrospective nature of the study participating in collective actions allowed individuals to derive instrumental value, and they are now using this instrumental value to generate arguments towards the collective action movement. To test this alternative hypothesis, a model where collective action predicted arguments was investigated. The fit of this model was somewhat poorer, $\chi^2(16) = 67.18, GFI = .91, IFI = .92, CFI = .92$, and an RMSEA = .14, than the one hypothesized (i.e., Model 2). More importantly, no significant relationship between collective action participation and arguments was observed, $\beta = .14, p > .05$. For statistical completeness a nested

Moderated mediation. Moderated mediation is said to occur when the strength of an indirect effect varies as a function of another variable. In such a situation, the mediation is contingent upon the level of a moderating variable. This moderating variable may influence the relationship between the predictor and the mediator, the mediator and the outcome variable, or both.

In the current case moderation of self-control on the mediated relationship between arguments and collective action was hypothesized to occur on the relationship between arguments and instrumental value, as well as on the relationship between instrumental value and collective action participation. To test these hypothesized relationships a fourth model was generated. The theoretical paths necessary to investigate this moderated mediation are depicted in Figure 1. The first part of the moderated mediation was assessed by introducing paths to instrumental value from self-control (i.e., a_2), from an interaction vector generated by the product of argument and self-control (i.e., a_3), and by introducing paths to action participation from self-control and from the interaction vector of self-control and arguments (respectively, c_2' & c_3'). The second part of the moderated mediation was investigated by the introduction of a path to collective action participation from the interaction vector generated by the product of instrumental value and self-control (i.e., b_2). As can be seen in Table 2, Model 4 demonstrated an improved fit from the previous model. In addition, the GFI, IFI, CFI, and RMSEA were all indicative of a good fit. Finally, the nonsignificant χ^2 value suggested that this model's hypothesized relationships and the observed data did not significantly depart from each other.

The individual coefficients for Model 4 are presented in Table 3, while Figure 2 illustrates the significant paths for this model. As can be observed in Table 3, the interaction vector between self-control and arguments was significantly related to instrumental value. In addition, the interaction vector between self-control and instrumental value significantly predicted collective action participation. The moderated mediational effect was estimated by the product of the unstandardized coefficient of the interaction vector between a predictor and a moderator; and the unstandardized coefficient of the interaction vector between a mediator and the moderator (i.e., the product of a_3 and b_2 paths in Figure 1).⁸ An

model where collective action participation predicted instrumental value, which in turn predicted reported arguments was investigated. In this model collective action significantly predicted instrumental value, $\beta = .39$, $p < .001$, this value predicted arguments, $\beta = .31$, $p < .001$, and action was again not significantly related to arguments, $\beta = .03$, $p > .05$. Further, the fit of this model was somewhat poorer, $\chi^2(14) = 37.51$, GFI = .95, IFI = .96, CFI = .96, and an RMSEA = .091, than the one hypothesized (i.e., Model 3).

⁸ To evaluate the indirect effect of the moderation of self-control on the mediation by instrumental value a product-of-coefficient approach was taken (see Sobel, 1982). In this approach the unstandardized coefficient of the path between a predictor and a mediator is multiplied by the unstandardized coefficient of the path between a mediator and an outcome variable. A standard error term is generated for this product-of-coefficient and used to perform a statistical test of the relationship. Different approaches exist to compute this error term, the most popular in psychology being the one suggested by Sobel (1982; see Preacher & Hayes, 2004, for a further discussion).

Table 3. Standardized path coefficients for Model 4 from the predictors to arguments, instrumental value, and participation to collective actions

	Arguments	Instrumental Value	Action
Ingroup Affect	.13	.04	.30**
Ingroup Ties	.28**	.30**	-.01
Cognitive Centrality	.17†	.07	.09
Self-Control	-.07	.05	.12
Arguments		.29**	.01
SC × Arguments		.19*	.01
Low self-control		.12	.02
High self-control		.47***	-.05
Instrumental value			.34**
SC × Instrumental value			.21*
Low self-control			.15
High self-control			.62***

Note: † $p < .06$; * $p < .05$; ** $p < .01$; *** $p < .001$.

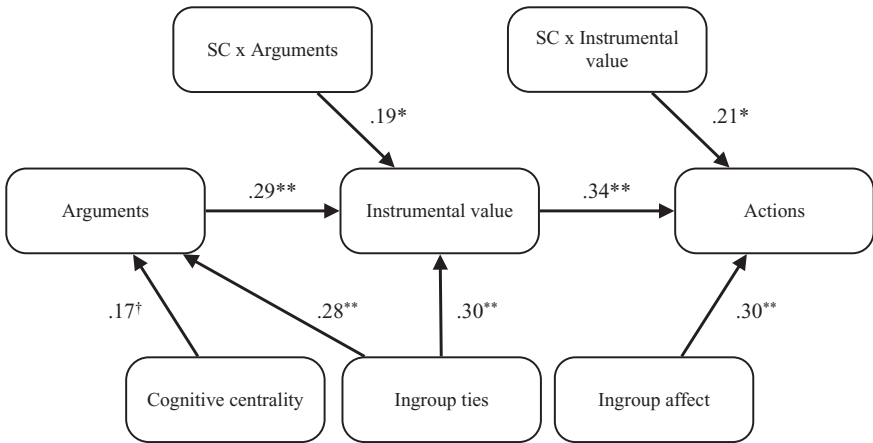


Figure 2. Path diagram illustrating only the significant relationships from Model 4, which modeled the self-control moderated mediation of the relationship between arguments and collective action participation by instrumental value, along with the influence of collective identification.

Note: SC = self-control; the coefficients depicted are standardized; † $p < .06$; * $p < .05$; ** $p < .01$.

error term was computed using the equation suggested by Sobel (1982) and a significant product-of-coefficient was observed ($z = 1.98, p < .05$), thus supporting moderated mediation. This significant indirect effect indicated that the moderation of self-control qualified the mediation by instrumental value of the relationship between arguments and actions.

Follow up analyses of the moderation were conducted using simple slopes (Aiken & West, 1991). The relationships between arguments and instrumental

value and between instrumental value and collective action were estimated fixing self-control at either $-1SD$ (i.e., lower self-control) or $+1SD$ (i.e., higher self-control). As can be seen in Table 3, at higher self-control, reporting more positive arguments towards the strike was associated with perceiving greater instrumental value. In contrast no significant relationship between arguments and instrumental value was observed at lower self-control. Similarly, as presented in Table 3, at higher self-control greater instrumental value was associated with greater participation in collective actions, while no significant relationship between instrumental value and collective action participation was observed at lower self-control.⁹

Finally, it can also be observed in Table 3 that ingroup affect was the only dimension of collective identification that was directly related to collective action participation. Cognitive centrality was related to arguments, and ingroup ties were related to both arguments and instrumental value.

Discussion

The purpose of this study was to examine different pathways through which collective identification influenced participation in collective actions during social conflicts. Overall the results suggest two paths which lead individuals to become involved in collective actions: a direct path that was driven by the affective aspect of identification, and a strategic path, which operated through the perceived instrumental value of collective actions. In this latter path the group message, in the form of reported arguments in support of the strike, led to the perception that collective actions had instrumental value, which in turn predicted collective action participation. This mediated relationship was qualified through the influence of ingroup ties and cognitive centrality, in the form of positive influences on arguments held by individuals, and, in the case of ingroup ties, in the promotion of greater perceived instrumental value of action. It was also qualified by the moderation of self-control. The relationship between instrumental value and action was only observed at higher self-control, as was the relationship between arguments and perceived instrumental value. These results are of particular theoretical and social relevance by revealing that identification has both direct and indirect influences on collective action participation. In addition, the study offers a novel avenue to understand the psychological mechanisms which allow individuals to derive instrumental value from a group's message as well as to turn this value into actions.

⁹ It could be argued that the influence of arguments is moderated by identification such that greater identification along with more supportive arguments would predict instrumental value, and/or collective action participation. A model was generated where the moderation of each identification dimension was investigated on the relationship between arguments and instrumental value along with collective action. We found there to be no significant moderation of identification on the influence of arguments (all $ps > .10$ for the paths involving the interaction vectors including a dimension of collective identification investigated).

Affective Path

Although the role of affect in identification processes is well established (see Ashmore et al., 2004), the results of this study suggest that the affect experienced as a function of group membership provides a unique and direct influence of identification on participation in collective actions. This finding is of theoretical importance as it complements current models that posit a direct influence of identification on collective action participation (see Kelly & Breinlinger, 1996; Stürmer & Simon, 2004b) by suggesting this influence may stem from the individual's affective response to the ingroup. The results of this study also replicate and extend the work of Simon, Stürmer, and colleagues on social movement participation (see Stürmer & Simon, 2004b). As these authors have reported, it was observed that collective identification, specifically its ingroup affect dimension, and instrumental value offer two independent paths in predicting collective action. These results further suggest that individuals may be motivated to participate in collective actions without necessarily perceiving rational reasons for their actions.

Strategic Path

Rational decision-making processes comprise an important channel leading to collective action participation (see Stürmer & Simon, 2004b). The role of collective identification in this process, however, has been debated. At issue is whether collective identification is independent of, or contributes to, perceiving instrumental value. The results of this study offer support for group identification as a psychological mechanism fostering the perception of the instrumental value of collective actions (e.g., Louis et al., 2005). The results suggest that the group's message is related to feeling tied to other ingroup members and to the cognitive centrality of group identity. Ingroup ties were also a significant predictor of the perceived instrumental value of action. Feeling connected to other ingroup members may increase the extent to which individuals care about the plight of others, thus enabling them to perceive more benefits than costs from collective actions. In addition, the success of collective action depends on the ability of the group to mobilize its resources. Essential to this mobilization is the connection between ingroup members who should work collectively on actions to improve the ingroup's conditions. Trust in the bonds with ingroup members may be one means through which individuals can foresee the mobilization ability of a group and the possible success of collective actions. Our findings complement those of Louis et al. (2005) in supporting the notion that collective identity is an important determinant of what can be construed as rational decision making within a group-based context.

Our results also conceptually replicated the mediated relationship between a group's message, here in the form of arguments, and collective action participation

by instrumental value reported by Louis et al. (2005). More importantly, the current study extended Louis et al.'s (2005) by assessing reported actions (as opposed to intended) and demonstrating that this relationship was qualified by self-control.

Self-Control. This study makes a further contribution to the literature by suggesting that self-control acts as a possible psychological mechanism allowing perceived instrumental value of action to bolster participation in collective actions. In addition, the results suggest that this same mechanism may also facilitate the derivation of perceived instrumental value from the pro-collective action arguments associated with a social group.

Self-control is said to occur when individuals accept certain costs, such as the delay of gratification, in the pursuit of a valued goal (Bandura, 1986). The goal of many collective actions is to protect or improve the position of the group. Perceiving that collective actions have instrumental value occurs when the improvement of the group's position outweighs the costs of collective actions. The results of the current study suggest that the perceived value of collective actions increased participation in them, only when individuals had greater self-control. When individuals perceive that actions offer a long-term goal, the ability to avoid costs in the pursuit of goals facilitates the process of participating in such action. Similarly, self-control has been associated with an ease to rely on rational decision processes when regulating actions (Bandura, 1986). Individuals with greater self-control will more easily derive expectations of actions to regulate their behavior. In support of this assumption, the normative message of the group (i.e., the number of learned pro-collective actions arguments) was found to predict the perception of instrumental value for individuals having greater self-control.

The role of self-control opens the door to an often overlooked dimension in the area of intergroup relations and group processes, namely, individual dispositions and personality. The majority of intergroup and group processes research has focused on a situational approach. Guided by social identity theory and self-categorization theory, which both posit that the situational salience of collective identity is at the heart of behavioral responses in group contexts, research has generally shied away from dispositional explanations of collective behaviors. Our results suggest that a person by situation approach, which is ideally suited to understand individual behaviors (Mischel, 1977), can also be beneficial to understanding group-based behaviors as well.

Paths of Identification in Collective Action

Once group members become aware of a shared grievance related to their group membership their identification with the group becomes an important causal factor motivating individuals to engage in collective acts to improve the plight of the ingroup (see Simon & Klandermans, 2001). By distinguishing the

unique effects of different identification dimensions this study furthers the comprehension of the underlying mechanisms via which identification motivates participation in collective actions. Although the original proposition was that collective identification operated through emotions, the primacy of this mechanism has been questioned and other motivations have emerged (e.g., Deaux, Reid, Mizrahi, & Cotting, 1999; Vignoles, Regalia, Manzi, Gollledge, & Scabini, 2006). While the current study revealed that an emotional explanation, which is related to the ingroup affect dimension of identification, was applicable, other motivators may operate simultaneously and incite individuals to engage in collective actions. A sense of connectedness with other ingroup members and the cognitive accessibility of the collective identity are other important components of identification motivating collective action participation through rational decision-making processes. Through this finer grain analysis of identification this study integrated two complementary perspectives on the role of identification in collective action participation: one that proposes that identification operates separately from perceived instrumental value (see Stümer & Simon, 2004b) and another that suggests that group identification informs instrumental value (see Louis et al., 2005). In doing so the current study provides a partial affirmative answer to a question posed by Simon and colleagues (1998), who asked whether determinants of collective actions possessed similar characteristics to other dual path models found in psychology that are divided into affective and cognitive influences.

Conclusion

It is fitting to conclude that a dual path model offers opportunities to understand participation during social conflicts where “hot” collective actions aim to change the “colder” political and financial systems within which social groups operate. With regards to the social conflict that was addressed in the current study (i.e., student movement on funding issues), the collective actions that were taken were viewed by many as having been successful given that most of the government’s proposed funding cuts were subsequently restored (see Curran, 2005).

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