
Intrinsic Versus Identified Regulation in Distinct Political Campaigns: The Consequences of Following Politics for Pleasure Versus Personal Meaningfulness

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Intrinsic and identified regulation were examined in the context of two Canadian political campaigns. It was anticipated that identification (but not intrinsic motivation) would lead to positive outcomes when one is involved in an activity that is not necessarily fun but self-relevant, such as following a personally valued political event. Questionnaires were completed by 216 college students 1 week before and 1 week after the 1995 New Brunswick election and Quebec referendum. As predicted, results revealed that identification (but not intrinsic motivation) was significantly positively associated with the personal relevance of the vote, pleasant emotions about the vote outcome, and reported voting. Surprisingly, in the highly emotional Quebec referendum, intrinsic motivation was significantly associated with experiencing less pleasant emotions about a favorable vote outcome. The personal relevance of the campaign also mediated the process by which identification predicted to positive outcomes.

Active participation is necessary if democratic political structures are to function effectively. This statement represents a clearly articulated ideal in both the United States and Canada. Yet, North Americans vary widely in the extent to which they participate in political decision making. In the United States, less than half of eligible voters usually vote in major elections (Seppa, 1996). Although voting turnout is somewhat higher in Canada, it also varies greatly from one election to another. For example, in the fall of 1995, voting turnout in the New Brunswick provincial election was 76% (Godin, 1995b), whereas voting turnout was 94% in the Quebec referendum (Lessard, 1995).

The present investigation sought to understand such variability in voting behavior by examining individual differences in why people follow politics. In particular, we examined whether intrinsic versus identified forms of behavioral regulation, operationalized as a distinction between following politics because "it is interesting and fun" versus because "it is personally important," are associated with the manner in which individuals participate in the political process. The study was based on self-determination theory (Deci & Flaste, 1995; Deci & Ryan, 1985, 1987, 1991; Ryan, 1993, 1995).

Intrinsic motivation refers to activities that are done for their inherent interest and enjoyment. Intrinsically motivated behavior is thought to represent "a paradigmatic instance of integrated behavioral regulation, being invariantly fully self-regulated (rather than heteronomous) and involving the dedicated engagement of the whole organism" (Ryan, 1995, p. 404). Because intrinsically motivated actions are experienced as highly self-determined, they are associated with optimal behavioral

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regulation as evidenced in active task engagement, resilient persistence, creative problem solving, and the experience of positive affect (Deci & Ryan, 1991; Koestner & McClelland, 1990).

A great deal of our everyday behavior, however, is not intrinsically motivated. In fact, Ryan (1995) noted that "the lion's share of social development concerns the assimilation of culturally transmitted behavioral regulations and valuations that are neither spontaneous nor inherently satisfying" (p. 405). The particular regulations and values that individuals are called on to internalize vary across development. For example, children are required to internalize relatively concrete regulations regarding conscientious and agreeable behavior ("Do your homework," "Say 'thank you' to your uncle"), whereas teenagers are called on to internalize more abstract concerns, such as the importance of developing a coherent and personally meaningful set of religious and political beliefs (Marcia, 1980). Self-determination theory posits that people are inherently motivated to internalize the regulation of important activities, even those that are initially perceived as uninteresting (Deci, Eghrari, Patrick, & Leone, 1994). Thus, the theory suggests that even teenagers who do not find politics intrinsically interesting will still be motivated to internalize the cultural value placed on political participation.

Internalization is conceptualized as the process of transforming external regulations into internal regulations (Deci & Ryan, 1991). Successful internalization, termed *identification*, involves the integration of formerly external regulations into one's sense of self, typically in the form of important personal values (Ryan, 1995). However, the internalization process often fails to function optimally, resulting in a value or regulatory process being taken in but not accepted as one's own. *Introjection* is the term used to describe such partial internalization of regulations and beliefs. A central difference between the two forms of internalization is that identification is experienced as self-determined because it represents the adoption of beliefs as committed, personal values, whereas introjection is experienced as non-self-determined because it is characterized by approval-based pressures that result in behavioral regulation based on guilt/anxiety avoidance and self-esteem maintenance (Ryan, Rigby, & King, 1993).

A recent study showed that identification and introjection are associated with distinctive patterns of thoughts, emotions, and actions regarding political participation (Koestner, Losier, Vallerand, & Carducci, 1996). Canadian voters' reasons for following political events were assessed prior to the 1992 constitutional referendum and the 1993 federal election. Results showed that identification was associated with actively seeking information about political events, possessing a complex

set of political attitudes, experiencing pleasant emotions if political outcomes favored one's position, and being more likely to actually vote. Introjection was associated with relying on the influence of important others, vulnerability to persuasion, and experiencing conflicted emotions about political outcomes.

The Koestner et al. (1996) study also yielded interesting findings related to the extent to which voters were intrinsically motivated to follow politics. The results obtained for intrinsic motivation paralleled those for identification. As with identification, following politics for intrinsic reasons (e.g., for the pleasure of it) was positively related to actively seeking information and reporting predominantly pleasant emotions. Furthermore, there was some evidence that intrinsic motivation produced an even higher level of involvement than did identified regulation. Thus, an objective test indicated that intrinsic motivation but not identified regulation was significantly positively related to accuracy of campaign knowledge (Koestner et al., 1996, Study 2).

However, unlike identification, there was no evidence that intrinsic motivation was related to actually voting (Koestner et al., 1996, Study 1). It is puzzling that people who naturally enjoy following politics would spontaneously gather information and become emotionally involved in political issues but not follow through to cast their ballot in a referendum. It suggests that enthusiastic interest in a given domain may not be sufficient to guarantee responsible behavior. Perhaps intrinsic motivation leads people to view following politics as an interesting leisure activity (similar to following sports) but fail to see voting as an essential aspect of good citizenship. That is, intrinsic motivation draws them to become actively involved in following politics, yet they fail to internalize the ultimate political value (i.e., that citizens must vote in elections and referenda).

If this interpretation is correct, it challenges the notion that intrinsic motivation will invariably ensure the highest level of effective self-regulation in a given domain. Self-determination theory proposes that if an individual is intrinsically motivated with regard to a particular activity (if he or she naturally finds the activity interesting and enjoyable), it is not necessary to internalize the value placed on the activity by socializing agents (Ryan, 1995). Thus, the theory suggests that teenagers who find politics intrinsically interesting will not need to internalize the cultural value placed on political participation. That is, they will pursue the activity spontaneously without having to be persuaded of the importance of becoming politically involved.

Initial results suggest, however, that following politics simply out of interest will not necessarily ensure that young people vote (Koestner et al., 1996, Study 1). Indeed, these findings suggest that in terms of the demo-

cratic ideal of fostering an electorate made up of involved participants who voice their opinions in elections, it may be important to promote identified reasons for following politics, even if a young person has a strong natural interest in the process. That is, it is important for citizens to see not only that politics can be interesting but that what happens is also personally meaningful to them.

Present Investigation

Whereas our previous work (Koestner et al., 1996) mainly focused on the distinction between successful (i.e., identification) versus unsuccessful internalization (i.e., introjection) of political values, the present investigation sought to examine more closely the distinction between two self-determined forms of regulation toward politics, namely intrinsic motivation and identification. Data were also collected in the context of two distinct Canadian political events in 1995: the New Brunswick provincial election and the Quebec referendum.

These two political events were chosen because they were expected to be quite different in terms of the level of personal involvement they elicited. The New Brunswick election was a one-sided campaign likely to yield little political change. The ruling Liberal government led by Premier Frank McKenna was seeking reelection for a third mandate and was heavily favored in public opinion polls.¹ In contrast, the Quebec referendum was a tightly contested battle of great significance. A successful yes vote would have given the government of Quebec the mandate to begin negotiations on sovereignty from the rest of Canada. If these negotiations were not resolved within 1 year, the government of Quebec would have been entitled to proceed with a unilateral declaration of independence.² For each event, undergraduate students completed scales assessing their reasons for following politics along with scales assessing information seeking, voting behavior, and emotional responses to the outcome of the vote held in their respective province.

In this study, two main objectives were pursued. The first was to replicate the finding that identified regulation but not intrinsic motivation to be associated with reported voting behavior in distinct campaigns. Such a replication is important because it would suggest that there are certain contexts in which intrinsic motivation is not sufficient to guarantee responsible behavior. It would also suggest that, in those contexts, it may be necessary to foster active internalization efforts even among individuals who are naturally drawn to a socially valued activity.

The second focus of this study was to extend previous findings by examining the process by which identified regulation (but not intrinsic motivation) leads to more socially responsible behaviors, such as voting. By considering self-regulation in two distinct political events as the

1995 New Brunswick election and Quebec referendum, it allowed us to examine whether the relations between intrinsic motivation versus identified regulation and voting behavior are influenced by the personal relevance of the respective campaigns. In particular, we sought to examine whether intrinsic or identified regulation would better prepare people to participate in a highly consequential political event such as the Quebec referendum.

METHOD

Participants and Procedure

This study was a joint venture involving data collection at both the Université de Moncton and McGill University concerning, respectively, the 1995 New Brunswick provincial election and the Quebec provincial referendum. Because the main purpose of the study was to compare forms of self-determined political involvement (i.e., intrinsic vs. identified regulation) in two distinct campaigns, the same procedures were followed for collecting the data from both samples. That is, in both cases, questionnaires were administered 1 week before and 1 week after each vote. Questionnaires in English concerning the Quebec referendum were first developed and then translated into French and adapted for the New Brunswick election by us. The motivation scales were previously developed in both English and French (Koestner et al., 1996).

All participants were assured that their responses would be anonymous and confidential. We were able to match their follow-up and initial questionnaires because we had instructed them to list their parents' birth dates on both questionnaires. Parents' birth dates were chosen because this is information that nearly all participants can easily remember but that is not available to others, thus ensuring anonymity.

The New Brunswick election sample. Participants were undergraduate students ($n = 158$, including 120 women and 38 men) mainly enrolled in psychology programs. They ranged in age from 18 to 26 years old ($M = 20$ years), and French was the native language for 95% of them. Participants were all eligible voters, and 58% of them reported voting in the New Brunswick election. Among these individuals, 71% reported voting in favor of the winning Liberal party, and 29% voted for one of the other parties, for an independent candidate, or cancelled their vote.

The Quebec referendum sample. Participants were undergraduate students ($n = 58$, including 42 women and 16 men) mainly enrolled in psychology majors. They ranged in age from 19 to 28 years old ($M = 21.2$ years), and English was the native language for 60% of them. Participants were also eligible voters, and 95% of them did vote

in the referendum. Among these individuals, 89% of them reported voting for the winning "no" side, therefore stating that they were not in favor of the proposed plan from the government of Quebec to start negotiating sovereignty with the rest of Canada.

Measures

Political motivation. The scales used to measure intrinsic motivation, identification, introjection, and amotivation³ toward politics were adapted from scales developed and validated in English and in French by Vallerand and O'Connor (1989) (see also O'Connor & Vallerand, 1990, 1994) to measure motivational orientations across six separate domains, including interpersonal relations and current events. The scales developed by Vallerand and O'Connor are based on self-determination theory (Deci & Ryan, 1985, 1991) and were modeled after the Attributional Style Questionnaire (Seligman, Abramson, Semmel, & von Bayer, 1979). Three questions were presented for each of the six domains (e.g., "Why do you follow current events?"), and respondents were required to indicate their level of agreement with each of four responses. The responses were fixed and were selected to reflect intrinsic motivation ("for the pleasure of doing it"), identification ("I choose to do it for my own good"), introjection ("Because I am supposed to do it"), and amotivation ("I don't know, I don't see what it does for me"). This methodology was successfully adapted by Koestner and his colleagues (1996) to consider reasons for following political events. The four-item political motivation scales in English and in French were shown to be highly reliable ($\alpha > .80$) among undergraduates students (Koestner et al., 1996, Study 1).

In the present study, respondents were asked four questions regarding their reasons for following the New Brunswick election or the Quebec referendum: (a) "Why is it important that you get information concerning the position of the different political parties in the upcoming provincial election in New Brunswick" (or "in the upcoming referendum")? (b) "Why is it important to voice your concerns in relation to the upcoming election" (or "referendum")? (c) "Why is it important to weigh all the issues in the upcoming election" (or "referendum")? (d) "Why is it important to vote in the upcoming election" (or "referendum")? For each question, respondents were asked to indicate their level of agreement on a 7-point scale (1 = *does not correspond at all*, 7 = *corresponds exactly*) toward each of the four statements that were developed by Vallerand and O'Connor (1989) and used to assess intrinsic motivation, identification, introjection, and amotivation.

Summary scores for each of the motivation subscales were created by calculating the mean of the four responses. Cronbach's alphas indicated that the four-item

subscales were reliable ($\alpha > .77$). The means for the combined samples ($n = 216$) revealed that participants were mostly identified ($M = 4.78$) toward politics but also endorsed intrinsic ($M = 2.98$) and introjected ($M = 2.72$) reasons for following politics. In general, they were less amotivated ($M = 1.86$) toward politics.⁴

As anticipated, motivation subscales closer together on the self-determination continuum (i.e., intrinsic and identified regulation) were positively associated, whereas subscales farther apart on this continuum (i.e., intrinsic motivation and amotivation) were negatively correlated. For instance, intrinsic motivation was positively associated to identification ($r = .40, p < .01$), uncorrelated to introjection ($r = .06, ns$), and negatively related to amotivation ($r = -.22, p < .01$). This pattern of correlations provides some support for the self-determination continuum that is supposed to underlie the distinction between different kinds of self-regulation. Scales measuring motivation in domains such as education (Vallerand et al., 1992, 1993), work (Blais, Brière, Lachance, Riddle, & Vallerand, 1993), and sports (Pelletier et al., 1995) also found support for the self-determination continuum by observing a similar pattern of correlations among the regulation subscales.

Active information seeking. If one is to make an informed political decision, it is important to actively seek out information concerning the issues of the campaign and to try make up one's mind. This type of action was assessed with five items. Respondents rated on a 5-point scale the frequency (1 = *not at all*, 3 = *once a week*, 5 = *every day*) with which they did the following behaviors: (a) read a newspaper story about the election (or referendum), (b) watched a TV news segment about the election (or referendum), (c) listened to a radio news segment about the election (or referendum), (d) read a magazine story about the election (or referendum), and (e) discussed the election (or referendum) with someone. A summary score was created by calculating the mean of the five responses ($\alpha = .77$).

Pleasant emotions. Participants were asked to indicate on a list of 15 emotions (6 pleasant and 9 unpleasant) taken from Diener's (1991) daily affect survey how they would feel if the election or referendum were to go in the direction they preferred (i.e., anticipated emotions) as well as how they felt about the election or referendum outcome after each vote (i.e., emotions resulting). For each emotion, a 7-point scale was provided from 1 (*not at all likely*) to 7 (*extremely likely*). Because the main focus of this study was to examine the role of intrinsic and identified regulation and because these self-determined forms of regulation are both expected to relate more strongly to positive outcomes, we only considered their relations with anticipated and resulting pleasant affect. The six

pleasant emotions were contentment, love, friendliness, affection, happiness, and relief. These measures of anticipated and resulting pleasant emotions were shown to be highly reliable ($\alpha > .85$).

Personal relevance. One week before each vote, participants were asked to respond to four items concerning the extent to which they felt that the political event was personally important. Using a 7-point scale, they indicated the extent to which they agreed (1 = *strongly disagree*, 7 = *strongly agree*) that the upcoming vote was (a) crucial for the future of their province, (b) personally important, (c) of considerable consequences, and (d) not relevant to their future in the province (reversed scoring). Participants also responded to the question "How strongly do you feel about your position in this campaign?" by using a 7-point scale from 1 (*not at all strongly*) to 7 (*extremely strongly*). A summary score was created by calculating the mean for the standardized scores on the five items after factor analysis showed that they loaded on a single factor (eigenvalue = 2.65) and explained 53% of the variance in the perceived self-relevance of the vote. Internal consistency for this five-item scale was also good ($\alpha = .77$).

Anticipated voting direction. One week before each vote, participants were asked which option they would choose if the vote were to be held that day. Based on the result of each vote, scores were then coded -1 for the losing options (i.e., voting yes in the Quebec referendum or any option in the New Brunswick election except for the Liberal Party) and +1 for the winning options (i.e., voting no in the referendum or for the Liberal Party in the election).

Reported voting behavior. In the follow-up questionnaires administered 1 week after each vote, participants were asked whether they actually voted in the election or referendum. They were also asked which way they had voted, although our previous findings (Koestner et al., 1996) suggest that the direction of the vote is not related to any of the motivation subscales.

RESULTS

Preliminary Analyses

Table 1 shows, for both the New Brunswick election and the Quebec referendum, the four motivation subscales' and the political outcomes' means, standard deviations, and *t* test. As can be seen, the New Brunswick participants were significantly more amotivated toward the election, $t(213) = 3.33, p < .001$, than were their counterparts toward the Quebec referendum. Participants from the Quebec sample were significantly more identified toward the referendum campaign, $t(213) = -4.05, p < .001$, than were participants in the New Brunswick elec-

tion. As previously discussed, the New Brunswick election was essentially a one-way race, in which the ruling Liberal government was expected to easily win a third mandate. Therefore, not much change was expected to follow from the actual election campaign. Thus, participants in the New Brunswick election may have felt that, no matter how they would vote, there was not much that they could do to change the (obvious) election outcome. This may have led them to be more amotivated toward the election in comparison to participants in the Quebec referendum. This referendum was indeed a different matter. Here, polls indicated that the race was too close to call. In addition, the stakes were very high in terms of (potential) significant political changes, because a winning referendum would have given the government of Quebec a green light to start negotiating sovereignty with the rest of Canada. Thus, participants in the Quebec referendum were more likely to feel a greater sense of duty to take a responsible decision, as reflected by their stronger identification toward the campaign, in comparison to their New Brunswick counterparts.

Table 1 also shows that, in comparison to the New Brunswick participants, those involved in the Quebec referendum reported more actively seeking information about the campaign, $t(213) = -6.78, p < .001$, indicated that the campaign was more relevant to them, $t(213) = -10.59, p < .001$, anticipated more pleasant emotions, $t(213) = -5.59, p < .001$, and reported more pleasant emotions toward the vote outcome, $t(213) = -3.65, p < .001$. These results suggest that Quebec participants were more actively involved in the referendum in comparison to the New Brunswick election's participants.

The Quebec participants were also more likely to report voting in the referendum, $\chi^2(1, 214) = 33.13, p < .001$, than were their New Brunswick counterparts. Voting turnout was moderate in the New Brunswick sample (58%) and high in the Quebec sample (95%). These numbers are somewhat reflective of the voting turnout in the general population for both the New Brunswick election (76%) and the Quebec referendum (94%). (Lower voting turnout for New Brunswick students relative to the general population may be related to the fact that election day was only 1 week after the start of the university's fall session.)

Central Analyses

This study was designed to examine the relation between two types of self-determined motivation (i.e., intrinsic vs. identified regulation) and different outcomes in distinct political campaigns (i.e., the one-sided and relatively uneventful New Brunswick election vs. the very close and crucial Quebec referendum). Therefore, the central analyses are mainly aimed at examining the distinctive roles of intrinsic versus identified regulation to-

TABLE 1: Means, Standard Deviations, and *t* Tests of Motivation Subscales and of Political Outcomes for Both the New Brunswick (*n* = 158) and the Quebec (*n* = 58) Samples

Variable	Mean		Standard Deviation		<i>t</i> test (two-tailed)
	New Brunswick	Quebec	New Brunswick	Quebec	
Motivation subscales					
Amotivation	2.02	1.43	1.25	0.81	3.33****
Introjection	2.75	2.65	1.39	1.35	0.50
Identification	4.52	5.50	1.66	1.27	-4.05****
Intrinsic motivation	2.90	3.19	1.66	1.64	-1.16
Political outcomes					
Actively seeking information	2.46	3.31	0.88	0.62	-6.78****
Personal relevance (z score)	-0.26	0.70	0.60	0.55	-10.59****
Pleasant emotions					
If outcome is in one's favor	3.34	4.46	1.34	1.22	-5.59****
Among winners only	3.42 (<i>n</i> = 69)	4.41 (<i>n</i> = 49)	1.39	1.52	-3.65****

*****p* < .001.

ward politics in two vastly different political campaigns. The intent was to replicate and extend previous findings (Koestner et al., 1996) regarding the similarities and differences in intrinsic and identified regulation in the domain of politics.

Table 2 shows the results from hierarchical regression analyses in which type of vote and sex (both entered as Set 1), intrinsic and identified regulation (both entered as Set 2), and the interaction terms of vote by intrinsic or identified regulation (both entered as Set 3) served as predictors.⁵ The dependent variables were active information seeking, personal relevance of the vote, reported voting behavior, and anticipated and resulting pleasant emotions. Note that the data for eligible voters from both samples (*n* = 215) are included in the analyses, except for the analysis with the dependent variable resulting pleasant emotion, which involved victorious participants only (*n* = 117). It can be seen that the type of vote was significantly related to all of the outcomes considered. These results, similar to those presented in Table 1, merely indicate that Quebec participants were more actively involved in the referendum than were New Brunswick participants in the election.

Results also revealed that political motivation played an important role. As Table 2 shows, identified regulation was significantly positively associated with each of the political outcomes. Thus, identification was associated with more actively seeking information ($\beta = .22, p < .001$), feeling that the vote was more self-relevant ($\beta = .34, p < .001$), anticipating ($\beta = .20, p < .01$) and reporting ($\beta = .21, p < .05$) more pleasant emotions concerning the vote outcome, and voting more ($\beta = .27, p < .001$). Intrinsic motivation was similarly associated with active information seeking ($\beta = .39, p < .001$) and with anticipating pleasant emotions ($\beta = .36, p < .001$). However, contrary to identified regulation, intrinsic motivation did not predict reported voting behavior ($\beta = .07, ns$) and resulting positive emotions ($\beta = .06, ns$). These results essentially

replicate previous findings (i.e., Koestner et al., 1996, Study 1) and suggest that identified regulation is the critical motivational factor in predicting voting behavior.

Furthermore, the results presented in Table 2 revealed interactions involving the type of vote by intrinsic or identified regulation. Specifically, a significant vote by identification interaction was noted for active information seeking, $\beta = -.20, p < .01$. Also, two vote by intrinsic motivation interactions emerged involving, in one case, resulting pleasant emotions ($\beta = -.27, p < .01$) toward the vote outcome and, in the other, the personal relevance of the vote ($\beta = -.11, p = .06$), with the latter interaction being marginally significant. To better understand the direction of these three interactions, further regression analyses were conducted with each sample separately using intrinsic and identified regulation as predictors for each of the dependent measures involved with the interaction terms.

Table 3 reports the results of these separate regressions. It can be seen that identification related to more actively seeking information in the New Brunswick election ($\beta = .30, p < .001$) and somewhat less actively seeking information in the Quebec referendum ($\beta = -.15, ns$). One plausible explanation for this interaction is that the New Brunswick election involved a four-party race, whereas the Quebec referendum involved a yes or no response to a single question. Thus, participants in the New Brunswick election had more political options to choose from in comparison to their Quebec counterparts.

As can be seen in Table 3, identification was positively associated to the personal relevance of the vote in the Quebec referendum ($\beta = .30, p < .05$) and in the New Brunswick election ($\beta = .36, p < .001$). Although intrinsic motivation tended to be more positively associated with greater personal relevance of the vote in the New Brunswick election ($\beta = .16, p < .11$) than in the Quebec refer-

TABLE 2: Hierarchical Regression Coefficients of Vote and Sex (Set 1), Intrinsic and Identified Regulation (Set 2), and Interaction Terms (Set 3) by Political Outcomes

	Total Sample (n = 215)			Winners (n = 117)	
	Active Information Seeking	Personal Relevance	Reported Voting Behavior	Pleasant Emotions	
				Anticipated	Resulting
Entered in Set 1					
Vote	.42****	.59****	.35****	.36****	.32****
Sex	.12	-.07	.16**	-.02	.07
Entered in Set 2					
Identification	.22****	.34****	.27****	.20***	.21**
Intrinsic motivation	.39****	.09	.07	.36****	.06
Entered in Set 3					
Vote × Identification	-.20***	.00	-.08	-.01	-.03
Vote × Intrinsic Motivation	-.11	-.11*	-.07	-.03	-.27****
Variance explained in percentages (R^2)	40	46	23	29	21

NOTE: Vote was scored -1 for the New Brunswick election and +1 for the Quebec referendum. Reported voting was scored -1 (did not vote) and +1 (did vote). Sex was scored -1 for women and +1 for men.

* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

endum ($\beta = -.07, ns$), in both instances the relations were not significant. Thus, it appears that identification (but not intrinsic motivation) is associated with finding personal meaning in the democratic process even when a vote can be seen as not crucial.

The third interaction observed suggests that intrinsic motivation in a crucial decision-making situation can lead to experiencing less satisfaction from one’s involvement. Table 3 shows that intrinsic motivation is associated with reporting less pleasant emotions among participants in the Quebec referendum ($\beta = -.25, p < .10$) in comparison to their New Brunswick counterparts, who reported more pleasant emotions toward the vote outcome ($\beta = .30, p < .05$). (Recall that this analysis includes only participants who voted for the winning side.) This suggest that when it comes to an important decision-making situation, intrinsic motivation may lead people to experience less pleasant emotions about the vote outcome even when it turns out in their favor.

Finally, to examine the process by which identification (but not intrinsic motivation) predicts positive outcomes, such as greater participation and satisfaction toward voting, path analyses were conducted using multiple regressions. The dependent variables considered, each in turn, were reported voting and resulting pleasant emotions, both measured 1 week after the vote. Variables measured prior to each vote were used as potential predictors or mediators. The potential predictors were sex, type of vote, anticipated vote direction, and the four types of regulation measured, namely intrinsic motivation, identification, introjection, and amotivation. Three variables were considered as potential mediators because correlational results revealed that they were strongly associated with one or both of the dependent variables and also related to some of the predictors men-

tioned above. These potential mediators were actively seeking information, the personal relevance of the vote, and anticipating pleasant emotions toward the vote outcome. (Please note that the latter mediator was not included in the path to predict resulting positive emotions because both variables were measured with the same scale. Thus, other likely mediators would have had little chance of predicting any of the variance in the dependent variable.)

To construct the paths that predict either dependent variable, multiple regressions were conducted in two stages. In the first stage, all potential predictors and mediators were entered at the same time and thus had an equal chance of predicting a significant portion of the variance in the dependent variable considered. In the second stage, the variable that we wanted to predict was excluded from the regression equations, and the three potential mediators served, each in turn, as the dependent variable. Therefore, in this second stage, three multiple regressions were conducted to examine if any of the potential predictors had an indirect influence (i.e., through one of the three mediators) on reported voting or resulting pleasant affect toward the vote outcome. Several paths were conducted in this fashion to remove, one by one, the nonsignificant predictors or mediators. A final solution was reached when the remaining predictors or mediators significantly contributed directly or indirectly (i.e., through a mediator) to predict the dependent variable. Below, we report the final path solutions for reported voting behavior and resulting pleasant emotions toward the vote outcome.

Figure 1 presents the path to predict reported voting behavior. As can be seen, the more participants perceived the vote as personally relevant, the more they reported having voted ($\beta = .25, p < .005$). Greater identifi-

TABLE 3: Regression Coefficients of Intrinsic and Identified Regulation With Political Outcomes Separately for the New Brunswick Election and the Quebec Referendum

Outcome	Identification		Intrinsic Motivation	
	New Brunswick		Quebec	
	(n = 157)	(n = 58)	(n = 157)	(n = 58)
Information-seeking	.30****	-.15	.35****	.19
Personal relevance	.36****	.30**	.16	-.07
Among winners only	n = 68	n = 49	n = 68	n = 49
Actual pleasant emotions	.19	.11	.30**	-.25*

* $p < .10$. ** $p < .05$. *** $p < .001$.

ation was associated with perceiving the vote as more self-relevant ($\beta = .25, p < .001$), thus predicting indirectly as well as directly ($\beta = .17, p < .05$) to higher reported voting behavior. Interestingly, amotivation was significantly associated to participants reporting less personal relevance toward their respective campaign ($\beta = -.20, p < .001$), therefore having a negative indirect effect on reported voting behavior. As shown in results presented earlier, in comparison to their New Brunswick counterparts, Quebec participants felt that their campaign was more personally relevant ($\beta = .48, p < .001$), and they subsequently reported voting in greater numbers ($\beta = .16, p < .05$). Men were also more likely than women to report that they had voted in the referendum or election ($\beta = .14, p < .05$). Overall, these significant predictors and the mediator predicted 24% of the variance in reported voting behavior. Intrinsic motivation and the other predictors and mediators considered did not significantly predict (directly or indirectly) reported voting behavior.

Figure 2 presents a very similar path to predict positive emotions toward the vote outcome. As with the path described above, the more participants perceived the referendum or election as personally relevant, the more they reported pleasant emotions toward its outcome ($\beta = .31, p < .001$). Again, greater identified regulation was related to perceiving the campaign as more personally relevant ($\beta = .21, p < .001$), thus predicting both indirectly and directly ($\beta = .15, p < .05$) more satisfaction toward the vote outcome. The more amotivated that participants felt toward politics, the less likely they were to report that the campaign was self-relevant ($\beta = -.27, p < .001$) and to subsequently express pleasant emotions toward its outcome. Introjection was positively associated to the personal relevance of the vote ($\beta = .11, p < .05$), suggesting that participants who felt more guilty about not following politics were more likely to perceive the campaign as personally relevant. As might be expected, participants who selected, 1 week before each vote, what turned out to be the winning option also reported greater satisfaction following the outcome of the event

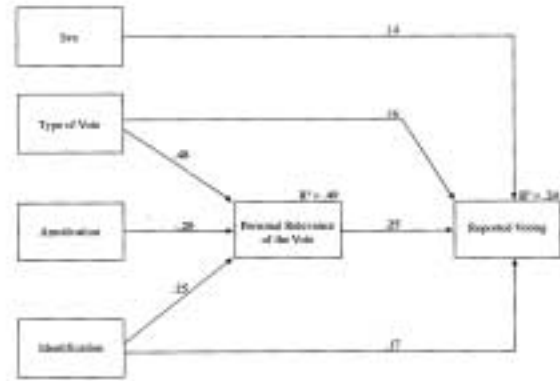


Figure 1 Path to predict reported voting behavior (n = 212).

NOTE: All reported beta values are significant ($p < .05$). Sex was scored -1 for women and +1 for men. Type of vote was scored -1 for the New Brunswick election and +1 for the Quebec referendum. Reported voting behavior was scored -1 (did not vote) and +1 (did vote).

($\beta = .30, p < .001$). Quebec participants were more likely than their New Brunswick counterparts to report that their campaign was personally relevant ($\beta = .48, p < .001$). Overall, these significant predictors and the mediator predicted 35% of the variance in reported pleasant emotions following the vote outcome. No other predictor or mediator contributed (directly or indirectly) to predicting a significant portion of the variance in the dependent variable.⁶

In sum, the results suggest that identification (but not intrinsic motivation) is key to the successful regulation of behaviors that are socially valued but not necessarily fun, such as voting in an election or a referendum. The results from *t* tests indicated that, in comparison to participants responding to the one-sided and uneventful 1995 New Brunswick election, participants in the tightly battled and crucial Quebec referendum reported being significantly more personally taken by the event. However, regardless of whether the vote could be seen as almost trivial versus crucial, results from hierarchical analyses revealed that greater identified regulation toward politics was consistently associated with more responsible behaviors, such as seeking information more actively, perceiving the vote as more self-relevant, expecting and reporting more positive emotions toward the vote outcome, and reporting voting in greater numbers. Finally, results from path analyses suggest that the personal relevance of the vote partially mediated the process by which identification predicts positive outcomes, such as greater reported voting and pleasant emotions toward the vote outcome.

DISCUSSION

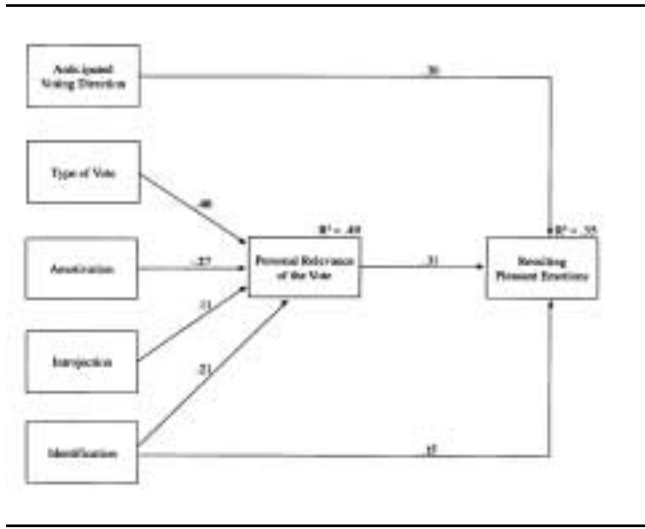


Figure 2 Path to predict reported pleasant emotions toward the vote outcome ($n = 203$).

NOTE: All reported beta values are significant ($p < .05$). Anticipated voting direction was scored -1 (for losing voting options) and +1 (for winning voting options). Type of vote was scored -1 for the New Brunswick election and +1 for the Quebec referendum.

The present study was designed to examine the distinctive relations of intrinsic and identified regulation with behavioral outcomes during two Canadian political campaigns. Intrinsic regulation refers to political participation based on the inherent enjoyment of such activity, whereas identified regulation refers to participation grounded in personal meaningfulness. A previous study showed that although both self-determined forms of regulation were associated with certain positive outcomes (e.g., active information seeking and positive emotions), only identification predicted reported voting behavior (Koestner et al., 1996, Study 1). In the present study, 216 college students completed questionnaires 1 week before and 1 week following the 1995 New Brunswick provincial election and Quebec referendum.

Our results show that intrinsic motivation and identified regulation are both related to higher levels of information seeking and anticipated positive affect. Both types of regulation were associated with participants being more likely to read newspaper articles and watch TV coverage of the political campaigns and to report that they expected to feel happy and contented if their side won the campaign. The relation of intrinsic motivation to active information seeking was somewhat stronger than that for identified regulation, which is a pattern that was also obtained in previous studies by Koestner and his colleagues (1996). These results coincide with the view that both identified and intrinsic regulation will promote adaptive behavior but that intrinsic regulation, because it reflects a higher level of self-determination,

may yield somewhat more positive outcomes than will identification.

However, it appears that intrinsic motivation may not always promote greater adaptive behaviors than identified regulation, at least in the domain of politics. Indeed, the present results confirmed the most surprising finding obtained by Koestner et al. (1996, Study 1). Identified regulation but not intrinsic motivation was shown to be significantly predictive of reported voting behavior. Thus, whether participants viewed following politics as personally important was a better predictor of reported voting than whether they found following politics interesting. The fact that two studies with more than 500 participants obtained this pattern of relations suggests that, in certain contexts, identified regulation may promote more responsible behavior than does intrinsic motivation.

To explain this, it is necessary to consider that intrinsic motivation emerges directly from the particular appeal of an activity for a given individual. By contrast, identification represents instrumental regulation in which the task becomes a means to some personally valued end, implying that the inherent nature of the activity itself is not sufficient to lead to behavior. Perhaps, identification requires more personal commitment to the activity than does intrinsic motivation. Indeed, the present study found that identification but not intrinsic motivation is positively associated with the personal relevance of the campaign. Such perceived personal meaningfulness may be essential to ensure that individuals carry out all of the various tasks related to the activity, even those that are not so interesting. In fact, results from path analyses indicate that the impact of identified regulation on reported voting behavior is partially mediated by the greater personal relevance of the vote. Stated differently, the personal commitment that is involved with identified political regulation may be critical to ensuring that citizens not only follow all of the interesting twists and turns of an election campaign but also actually cast their vote.

In countries such as the United States and Canada, which have a long history of stable democratic governance, it is easy to minimize the importance of elections. It is likely, for example, that whether the Democrats or Republicans won the 1996 U.S. election was not viewed by many citizens as crucial to the future of the country. The 1995 Quebec referendum represented a radically different political event, one in which the outcome could have produced far-reaching economic and personal consequences. A successful yes vote would have given the government of Quebec the mandate to begin negotiations on sovereignty with the rest of Canada. If these negotiations were not resolved within 1 year, the Quebec government would have been entitled to proceed with a unilateral declaration of independence. Such a declaration

would have likely resulted in a period of great political uncertainty across Canada.

The Quebec referendum thus presented a unique opportunity to examine political participation in the context of a highly consequential event. Our results reveal that intrinsic motivation appears not to prepare individuals very well to participate in such a context. Intrinsic motivation was not correlated with finding either the Quebec referendum or the New Brunswick election personally meaningful. In addition, intrinsic motivation was associated with experiencing less pleasant emotions after a favorable outcome in the Quebec referendum relative to the New Brunswick election. This relative lack of association between intrinsic motivation and personal engagement in a highly consequential referendum was contrasted with significant relations between identification and greater levels of involvement in both political events. Identification was associated with equally strong personal relevance and equally positive emotions during the Quebec referendum and the New Brunswick election.

On the other hand, it could be argued that because the opposed ("no") side in the Quebec referendum won by such a narrow margin (no = 51.4%, yes = 49.4%), victorious participants may not have perceived this as a win but perhaps as a loss. Consequently, it could then be said that the apparent lack of association between intrinsic motivation and personal engagement in the Quebec referendum has more to do with the ambiguity of interpreting its outcome than with the role of intrinsic motivation. However, we feel that the fact that identification was consistently related to positive emotions following a win either in New Brunswick or Quebec is important in arguing that it is not something unique about the referendum that accounted for the interaction of type of vote with intrinsic motivation but rather something unique about intrinsic motivation.

It is also important to consider whether the stronger relations to positive outcomes for identified regulation in comparison to intrinsic motivation is a pattern unique to the domain of politics. Intrinsic and identified regulation have also been examined in the domains of education, sports, and interpersonal relations (e.g., Blais, Sabourin, Boucher, & Vallerand, 1990; Grolnick & Ryan, 1987; Pelletier et al., 1995; Vallerand et al., 1993). These studies have generally shown that although both forms of regulation are associated with positive outcomes, the relations are typically stronger for intrinsic motivation than for identification. Such results have been explained in terms of the adaptive benefits that accrue from more self-determined forms of behavioral regulation, with intrinsic motivation representing the highest level of self-determination.

The results of two recent studies in the academic domain, however, also found that identification promoted superior adaptation relative to intrinsic motivation (Koestner, Losier, Fichman, & Mallet, 1998). The studies were designed to examine how academic self-regulation would influence students' transition to graduation. High school and college students' academic self-regulation was assessed shortly prior to graduation. Grade point average (GPA) and level of psychological distress were also assessed. Six months to 1 year after graduation, the students again completed measures of psychological distress. The results showed that identified regulation but not intrinsic motivation was significantly related to lower levels of distress at follow-up. This relation controlled for initial GPA and distress levels and was not influenced by whether students continued their education or began working. To ensure successful adaptation, it appeared to be critical that adolescents not only view their school work as interesting and enjoyable but that they also come to view it as personally important and consistent with their values and goals.

Greater research attention needs to be placed on examining how intrinsic motivation relates to the internalization process described by self-determination theory. It should not be assumed that intrinsic motivation produces the same level of commitment to an activity as does identification. Our results clearly imply that even if teenagers are intrinsically motivated with regard to politics or school (if they find the activity interesting and enjoyable), it is still important for them to internalize the cultural values placed on the activity. A failure to integrate the activity into one's personal goals and values leaves the risk that certain important aspects of the activity may be ignored (such as voting in elections) or that the individual may be poorly prepared to cope with stressful circumstances (such as a critical referendum).

An important remaining question concerns how to promote identified regulation. Grolnick and Ryan (1987) found that parental levels of autonomy-support and involvement were highly predictive of children reporting greater identification with and intrinsic motivation for achievement tasks as well as with better teacher-rated adjustment and performance in class. A recent study by Williams and Deci (1996) confirmed the critical role of autonomy-support in promoting the development of identified regulation among medical students. Experimental studies similarly highlight the important role played by autonomy-support in promoting both identified regulation and intrinsic motivation (Beauchamp, Halliwell, Fournier, & Koestner, 1996; Deci et al, 1994). One problem with these studies is that they have yet to establish which environmental factors are uniquely associated with the promotion of identification rather than intrinsic motivation. Future research

should address this issue to understand the distinction between these two forms of self-determined behavioral regulation.

As suggested by Vallerand (1997), future research should consider not only the level of self-determination for doing an activity but the nature of the task as well. The distinctive role of intrinsic motivation and identification could indeed be more salient when behavioral regulation is considered in domains as different as politics, education, and sport and perhaps even within domains, depending on the nature of the task. Future research should also examine the role of intrinsic motivation and identified regulation for predicting distinct outcomes by relying on more than self-report scales, as was the case in the present study. Using a combination of self-report and objective measures as well as longitudinal designs could be a promising avenue for research on the role of self-determined regulations in successful adaptation.

NOTES

1. In their first mandate, the Liberals, led by Premier Frank McKenna, had won every seat in the province, governing 4 years with no opposition. They also won a strong second mandate, leaving the opposition parties only 9 of the 55 seats in the province. Throughout the 1995 election, campaign polls heavily favored the Liberal government of Frank McKenna to win another strong majority. Indeed, at the beginning of the campaign, polls indicated that 51% of decided voters had the intention to vote Liberal, with only 13% for the Conservative Party, which was the strongest opposition party (Godin, 1995a). The Conservatives made some gains toward the end of the campaign, winning the favor of 21% of decided voters, but the Liberals were in a comfortable lead with 58% of vote intentions (Allard, 1995). As expected, the Liberals were easily reelected for a third mandate on September 11, 1995, winning 47 of the 55 seats in the province (Godin, 1995b). Thus, from beginning to end, this election was a one-sided and relatively uneventful campaign.

2. Early in the Quebec campaign, polls indicated that the "no" side was leading with 47% of the votes, as opposed to 39% of the population supporting a yes vote (Fontaine, 1995a). However, this slim lead by the no side diminished as the campaign neared its end. In the last week, polls were indicating that the yes side had actually taken the lead with 44.5% of the vote as opposed to 42.2% of the vote for the no side (Fontaine, 1995b). On October 30, 1995, the no side won a very slight majority with 50.6% of the population's vote against 49.4% for the yes side (Lessard, 1995). This referendum campaign was therefore a very close battle involving proposed changes of great significance.

3. Amotivation represents the relative absence of motivation (or self-determination) and is characterized by nonregulation of one's actions, whereas intrinsic and extrinsic motivation (i.e., identification and introjection) represent intentional forms of regulation (Deci & Ryan, 1991). An individual is amotivated toward a particular activity when he or she feels disinterested or helpless to perform the activity. This person does not perceive any contingency between his or her actions and the activity, and therefore, it is unlikely that he or she will begin the process of internalizing the value placed on the activity by socializing agents. Amotivation has been associated with passivity, distress, and poor adaptation (Vallerand et al., 1993; Vallerand & O'Connor, 1989).

4. The Political Motivation Scale, similar to other instruments based on self-determination theory, is intended to assess different types of reasons for doing an activity, such as following politics, rather than for not doing a particular activity. Thus, the questions are worded to pull for an expression of political interest rather than disinterest. This

wording likely contributed to the low scores obtained on the Amotivation subscale.

5. Initial hierarchical regressions analyses also included native language (entered with vote and sex as Set 1) as a predictor. However, this factor was removed from subsequent analyses because it was not significantly associated ($p > .20$) with any of the political outcomes considered.

6. A reviewer suggested that identification may only predict reported voting behavior or resulting pleasant emotions because we ask participants to respond to the question "Why is it important that you vote in the present election or referendum?" therefore suggesting a possible confound between our self-regulation measure and the predicted outcome (see the Political Motivation Scale in the method section of this article). Consequently, the hierarchical regressions and path analyses were conducted again, this time leaving out scores for responses to the above question. Although some beta values varied slightly from the ones reported herein, all significant relations remained significant except for one. Introjection was no longer significantly associated with the personal relevance of the vote in the path that predicts resulting pleasant emotions (see Figure 2).

REFERENCES

- Allard, É. (1995). Sondage Léger & Léger/L'Acadie Nouvelle: 58 pour cent du vote au Parti libéral [Léger & Léger/L'Acadie Nouvelle Poll: 58 percent of the vote in favor of the Liberal Party]. *L'Acadie Nouvelle*, 12(65), 3.
- Beauchamp, P. H., Halliwell, W. R., Fournier, J. F., & Koestner, R. (1996). Effects of cognitive-behavioral psychological skills training on the motivation, preparation, and putting performance of novice golfers. *Sport Psychologist*, 10, 157-170.
- Blais, M. R., Brière, N. M., Lachance, L., Riddle, A. S., & Vallerand, R. J. (1993). L'inventaire des motivations au travail de Blais [The Blais Work Motivation Scale]. *Revue Québécoise de psychologie*, 14, 185-215.
- Blais, M. R., Sabourin, S., Boucher, C., & Vallerand, R. J. (1990). Toward a motivational model of couple happiness. *Journal of Personality and Social Psychology*, 59, 1021-1031.
- Deci, E. L., Eghrari, H., Patrick, P. C., & Leone, D. R. (1994). Facilitating internalization: The self-determination theory perspective. *Journal of Personality*, 62, 119-142.
- Deci, E. L., & Flaste, R. (1995). *Why we do what we do: The dynamics of personal autonomy*. New York: Grosset/Putman Book.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Deci, E. L., & Ryan, R. M. (1987). Support of autonomy and the control of behaviour. *Journal of Personality and Social Psychology*, 53, 1024-1037.
- Deci, E. L., & Ryan, R. M. (1991). A motivational approach to self: Integration in personality. In R. Dienstbier (Ed.), *Nebraska symposium on motivation: Vol. 38, Perspectives on motivation* (pp. 237-288). Lincoln: University of Nebraska Press.
- Diener, E. (1991, October). *Measuring subjective well-being*. Paper presented at the meeting of the Society of Experimental Social Psychology, Denver, CO.
- Fontaine, M. (1995a). Le statu quo devance la souveraineté: Sondage CROP-TVA-La presse-The Toronto Star [Status quo ahead of sovereignty: Poll by CROP-TVA-La presse-The Toronto Star]. *La Presse*, 111(336), B1.
- Fontaine, M. (1995b). Le Oui gruge encore un peu de terrain: Les deux camps ont autant de chances de l'emporter le 30 octobre: Sondage CROP-TVA-La presse-The Toronto Star [The Yes side is still gaining ground: Both sides have equal chances of winning on October 30: Poll by CROP-TVA-La presse-The Toronto Star]. *La Presse*, 112(7), B1.
- Godin, B. (1995a). Selon un sondage Léger & Léger/L'Acadie Nouvelle: Énorme avance pour les libéraux [According to the Léger & Léger/L'Acadie Nouvelle Poll: The Liberals have a huge lead]. *L'Acadie Nouvelle*, 12(51), 3.
- Godin, B. (1995b). Le troisième mandat du PL ressemblera aux deux autres [The third mandate of the Liberal Party will look like the two previous]. *L'Acadie Nouvelle*, 12(68), 4.

- Grolnick, W. S., & Ryan, R. M. (1987). Autonomy in children's learning: An experimental and individual difference investigation. *Journal of Personality and Social Psychology*, *52*, 890-898.
- Koestner, R., Losier, G. F., Fichman, L., & Mallet, M. (1998). *When intrinsic motivation is not enough: Identification toward school activities and successful adaptation among teenagers*. Unpublished manuscript, McGill University, Department of Psychology, Montreal, Canada.
- Koestner, R., Losier, G. F., Vallerand, R. J., & Carducci, D. (1996). Identified and introjected forms of political internalization: Extending self-determination theory. *Journal of Personality and Social Psychology*, *70*, 1025-1036.
- Koestner, R., & McClelland, D. C. (1990). Perspectives on competence motivation. In L. A. Pervin (Ed.), *Handbook of personality: Theory and research* (pp. 527-548). New York: Guilford.
- Lessard, D. (1995). Le non de justesse [The No-side by a close margin]. *La Presse*, *112*(12), B1.
- Marcia, J. E. (1980). Identity in adolescence. In J. Abelson (Ed.), *Handbook of adolescent psychology* (pp. 159-187). New York: John Wiley.
- O'Connor, B. P., & Vallerand, R. J. (1990). Religious motivation in the elderly: A French-Canadian replication and extension. *Journal of Social Psychology*, *130*, 53-59.
- O'Connor, B. P., & Vallerand, R. J. (1994). Motivation, self-determination, and person-environment fit as predictors of psychological adjustment among nursing home residents. *Psychology and Aging*, *9*, 189-194.
- Pelletier, L. G., Fortier, M. S., Vallerand, R. J., Tuson, K. M., Brière, N. M., & Blais, M. R. (1995). Toward a new measure of intrinsic motivation, extrinsic motivation, and amotivation in sports: The Sport Motivation Scale (SMS). *Journal of Sport and Exercise Psychology*, *17*, 35-53.
- Ryan, R. M. (1993). Agency and organization: Intrinsic motivation, autonomy, and the self in psychological development. In J. E. Jacobs (Ed.), *Nebraska symposium on motivation 1992: Vol. 40. Developmental perspectives on motivation* (pp. 1-56). Lincoln: University of Nebraska Press.
- Ryan, R. M. (1995). Psychological needs and the facilitation of integrative processes. *Journal of Personality*, *63*, 397-427.
- Ryan, R. M., Rigby, S., & King, K. (1993). Two types of religious internalization and their relations to religious orientations and mental health. *Journal of Personality and Social Psychology*, *65*, 586-596.
- Seligman, M.E.P., Abramson, L. Y., Semmel, A., & von Bayer, C. (1979). Depressive attributional style. *Journal of Abnormal Psychology*, *88*, 242-247.
- Seppa, N. (1996). Do Americans take their voting rights for granted? *APA Monitor*, *27*(11), 12.
- Vallerand, R. J. (1997). Toward a hierarchical model of intrinsic and extrinsic motivation. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (pp. 271-360). New York: Academic Press.
- Vallerand, R. J., & O'Connor, B. P. (1989). Motivation in the elderly: A theoretical framework and some promising findings. *Canadian Psychology*, *30*, 538-550.
- Vallerand, R. J., Pelletier, L. G., Blais, M. R., Brière, N. M., Senécal, C. B., & Vallières, E. F. (1992). The Academic Motivation Scale: A measure of intrinsic, extrinsic, and amotivation in education. *Educational and Psychological Measurement*, *52*, 1003-1019.
- Vallerand, R. J., Pelletier, L. G., Blais, M. R., Brière, N. M., Senécal, C., & Vallières, E. F. (1993). On the assessment of intrinsic motivation, extrinsic motivation, and amotivation in education: Evidence on the concurrent and construct validity of the Academic Motivation Scale. *Educational and Psychological Measurement*, *53*, 159-172.
- Williams, G. C., & Deci, E. L. (1996). Internalization of biopsychosocial values by medical students: A test of self-determination theory. *Journal of Personality and Social Psychology*, *70*, 767-779.

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