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Personality as a Determining Factor of the Decision to Vote (or Not)

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Résumé

Dans cette étude, qui contribue à la littérature sur les déterminants de la participation électorale, on examine l'effet de la personnalité sur la décision de voter (ou non). On utilise un échantillon non-probabiliste pour recueillir des données auprès de 255 étudiants au Baccalauréat. Ceux-ci ont répondu à un questionnaire mesurant les indicateurs traditionnels de participation électorale, aussi bien que deux traits de personnalité – l'efficacité personnelle et le locus de contrôle. Des analyses des regressions logistiques nous permettent de conclure que la personnalité influence la participation électorale, même lorsque l'on tient compte des facteurs classiques. Les résultats suggèrent également que la personnalité joue peut-être un rôle encore plus important parmi les étudiants qui sont plus politiquement informés et intéressés.

Mots clés: Personnalité, électoral, participation, vote, déterminant, Québec

Abstract

In this study, which contributes to the literature on determinants of electoral turnout, we examine the effect of personality on the decision to vote (or not). We use a non-probability sample design to gather data from 255 undergraduate students who responded to questionnaire items measuring traditional indicators of electoral turnout, as well as two personality traits – self-efficacy and locus of control. Analyses of logistic regression results allow us to conclude that personality influences voter turnout even if classic indicators of electoral participation are held constant. Results also suggest that personality maybe plays an even greater role in determining electoral participation among the more politically knowledgeable and interested students.

Key words: personality, electoral, turnout, vote, determinant, Quebec

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Introduction

"**Indecision,** *n. The chief element of success; 'for whereas,' saith sir Thomas Brewbold, 'there is but one way to do nothing and divers ways to do something, whereof, to a surety, only one is the right way, it followeth that he who from indecision standeth still hath not so many chances of going astray as he who pusheth forwards'—a most clear and satisfactory exposition of the matter.*"

"Where there's a will there's a won't."

Ambrose Bierce, *The Devil's Dictionary*

Within the field of political behavior, electoral behavior has been the topic that preoccupied scientists from the emergence of democratic regimes up to now. Today, given the importance of political participation for the survival of our democratic societies, and given the complexity and extensiveness of factors determining, and influencing this process, electoral behavior is one of the most widely studied subfields of political science. From Lazarsfeld, Lijphart, and Duverger to Dalton, Clarke, and Blais electoral behavior is a subject that is inextricably related to both societies and individuals, values and goals, duties and freedoms, opinions and rights, costs and benefits, electoral systems, and individual attitudes. Understanding and predicting electoral behavior envelops the understanding and prediction of an array of processes which touch upon fields as varied as politics, economics, sociology, communications, and psychology. It is this characteristic of completeness that creates the challenge of explaining an interesting and crucial human behavior which leads to changes in the distribution of power in our societies. It is also this characteristic of completeness that allows scientists to use different methods and apply different approaches to understanding such a basic human act with immense implications.

Electoral turnout is a way of studying, evaluating and comparing the importance of the different factors that create and transform certain individual-level or system-level components, attitudes, opinions, or structures, into electoral results. The literature on electoral behavior is generally divided into two main streams: literature focused on the reasons of the decision to vote or abstain (Ferejohn and Fiorina 1974; Blais 2000); and literature focused on the causes of differences in electoral preferences (Downs 1957; Campbell, Converse, Miller, and Stokes 1960; Lazarsfeld, Berelson, and Gaudet 1948). It seems, however, that in historical terms literature on vote choice has been more abundant than literature on the reasons why individuals vote or abstain. More recently due to a certain level of declining turnout (Min 2004; Blais, Gidengil, Nevitte, and Nadeau 2004), there has been a renewed scientific preoccupation with the reasons why some vote while others abstain. And it seems that while it is important to know how individuals choose whom to vote for, it is even more crucial to understand why some choose to vote and others choose not to vote at all; another related issue is if their behavior could be termed "choice", or predisposition, or a mere circumstancial coincidence related to pragmatic reasons such as lack of time or ressources. Knowing whom one would vote for, in case that an individual decides to vote, is not the same as knowing that an individual would actually vote; and the difference between these two states, could make up for the difference between a good prediction and a far better one. We have to acknowledge the fact that electoral participation and electoral choice are two closely intertwined processes as the literature review shows.

Summary of the Literature Review

Organizing the literature in the field of political participation is a challenging task because of the consistent lack of a parsimonious theory uniting all of the studies conducted

on the subject. Nonetheless, for the purposes of our research we organize existing approaches into five broader categories namely rational choice approaches, institutional approaches, structural approaches, cultural approaches, and agency approaches. To a certain degree, the rational choice model covers the remaining approaches by explaining voting in terms of costs, benefits, and probability of obtaining desired results through casting a vote (Downs 1957). Institutional approaches explore the role of institutions for lowering the costs of participation and increasing the importance of a single vote (governmental responsiveness) through institutional structures such as electoral systems and regulations (Duverger 1954; Powell 1980, 1986; Blais and Dobrzynska 1998). Structural approaches focus on the role of inequalities created by larger and persisting social cleavage structures such as class, income, resources, ethnicity, gender, and age (Lipset and Rokkan 1967; Lijphart 1981; Wolfinger and Rosenstone 1980; Topf 1995; Norris 2002). These approaches rely on the rational choice model as they view political participation as dependent on resources such as time, money, knowledge, and the skills which definitely alter the costs and benefits of one's participation. The assumption underlying cultural approaches is that the benefits of participation are inculcated to individuals through culture, perceptions, values, attitudes, political interest, and social norms (Campbell 1960; Almond and Verba 1963). Finally, agency approaches emphasize the role of mobilizing agents such as social networks, group leaders, opinion leaders and circles of friends or family members (Wolfinger and Rosenstone 1980; Lazarsfeld, Berelson, and Gaudet 1948). These mobilizing agents assumingly decrease the costs and/or increase the benefits of electoral participation.

Because all approaches are based to a certain extent on the rational choice theory and its concepts, it seems that in order to understand why people vote or abstain, it would

not be wrong to rely on rational theory concepts and assumptions related to them such as costs, benefits and/or the importance of one's vote. If we simplify voting by dividing it into two different and separate but interdependent processes, the one being the decision to vote or not, and the next one being the decision whom to vote for and if we assume that it is true that for the rational voter the benefits which are divided among the decision to vote (or not) as a consumption act (bringing immediate benefits), and the decision whom to vote for as an investment act (which depends on electoral results and includes a certain level of risk)[1]; we can conclude that our primary concern should be the relative weight of these two benefits and the factors that determine their importance to an individual. But what is it that unites consumption benefits and investment benefits, and relates them to the decision to vote or not? How is it that we could determine how much importance, if any at all, a voter attaches to immediate consumption benefits? How could we determine how much importance, if any at all, a voter attaches to investment benefits and the risk attached to them hoping that this act would bring them investment benefits in a close or more distant future? We suggest that personality could answer these questions.

Personality is related to the cognitive framework that guides behavior over time and space; as such it guides cognitive, behavioral, and emotional political processes beyond attitudes (Adorno, Frenkel-Brunswik, Levinson, Sanford 1950; Barber 1977; Winter 1987; Bizer, Krosnick, Holbrook, Wheeler, Rucker, and Petty 2004). More recently, personality studies related to political participation have focused on the immediate and direct effects of voter personality on voter choice and turnout. For example, studies have explored personality as a predictor of: voting behavior measured 7 years before the actual behavior (Krampen 2000); of "voter-politician congruency" which determines vote choice and the

[1] See Ordeshook and Zeng (1997).

decision to vote (Caprara and Zimbardo, 2004; Lovett and Jordan 2005); of voter choice despite policy issues (Langer 2004; Fiorina 2004); and of turnout (Acevedo and Krueger 2004; Denny and Doyle 2005; Caprara, Schwartz, Capanna, Vecchione, and Barbaranelli 2006). More precisely, personality has been discovered to influence voter turnout through traits such as moralism (Lovett and Jordan 2005), the need to evaluate (Bizer et al. 2004), patience (Fowler and Kam 2006), high cognitive ability and aggressiveness (Denny and Doyle 2005), and perceived beliefs in being able to control events (Zimmerman and Rappaport 1988; Britt 2003). Denny and Doyle (2005) suggest that not only do personality (in terms of aggressiveness, but not impusliveness) and cognitive ability influence electoral turnout, but that they also reduce the impact of education. Furthermore, they discover that standard turnout models may be biased by the inclusion of the much used interest in politics measure as it is determined by personality.

These studies show that personality, and personality traits in particular, influence the decision to vote or not. However, it is still worth testing a different sort of personality traits in order to determine which of them is most important to the decision to vote or not and in which way. We suggest that for electoral turnout self-evaluative and perceived control mechanisms are at play. As Bandura and Cervone (1993) put it:

> "The capability for intentional and purposive human action is rooted in cognitive activity [...] through the exercise of forethought. By representing foreseeable outcomes symbolically, future consequences can be converted into current motivators and regulators of behavior. The second major source of cognitive motivation derives from internal standards and self-evaluative reactions to one's performances" (1017).

We underlined the importance of one's belief in one's capacity to execute a particular act, and one's judgment that once performed this behavior will cause a particular outcome as these two refer to the benefits of voting (Bandura 1977, 1997; Peterson, Maier and

Seligman 1993). Therefore, in this study we examine two personality traits related to self-evaluative mechanisms, locus of control and self-efficacy, and their impact on voter turnout.

Summary of the Theory

The main research question that we try answering is whether personality influences the decision to vote or not through personality traits. Personality traits refer to the differences among individuals in their tendency to behave, think, or feel in a certain consistent way, across a variety of situations and across a certain period of time (McCrae and Costa 1990: 23). Personality traits could explain the decision to vote or not through a general structure of coherent responses to reality. The personality traits that we consider important to the decision to vote or not are self-efficacy, which refers to one's judgment of how well one will cope with a situation (Bandura 1986), and locus of control, which refers to one's perception of control over a situation (Rotter 1966). These two traits are related to personal sense of empowerment as opposed to helplessness, and because we consider that the act of voting is a way of empowering oneself, or expressing one's sense of being empowered, we find them interesting to observe for our study. Furthermore, these two traits are related to the aforementioned consumption and investment benefits of voting. Self-efficacy is related to immediate benefits from voting, while locus of control is related to the outcomes of elections and thus the investment benefits of voting. We hypothesize that:

H1 *Those who have higher levels of internal locus of control are more likely to vote than those who have higher external locus of control.*

H2 *The more self-efficient one is the more likely one is to vote.*

In addition, we examine the possibility that the two personality traits have non-linear effects on turnout.

Summary of the Methodology

We use a non-probability convenience sample design by administering the surveys to 255 university students in two classes at Université de Montréal, while being very aware of the fact that this method is likely to yield an unrepresentative sample.

The dependent variable is measured by questionnaire items adapted for the pre-election and post-election context. The questionnaire items are modified versions of Blais, Young, and Lapp's (2000) items measuring vote.

In order to measure the independent variable locus of control, we use a shorter and adapted version of Levenson's (1974) 24-item locus of control scale, which accounts for internal and two types of external locus of control: powerful others and chance (Sapp and Harrod 1993).

We measure perceived self-efficacy using a modified and shorter version of Schwarzer and Jerusalem's (1995) 10-item general self-efficacy (GSE) scale.

In addition, we include numerous control variables in order to ascertain the impact on turnout that is attribuable to our two main independent variables notably: political efficacy, cynicism, sense of duty, the general feeling that one's vote will matter, costs of voting, political interest, gender, age, and group influence.

We do not control for variables such as education and income because within our sample those factors are constant by default: undergraduate students have attained the same level of education; they have low or no income.

Structure

This thesis is organized in four chapters and a general conclusion. In the first chapter, I look at and summarize the existing literature on political participation. I conclude by posing some specific questions about electoral turnout that are not addressed by existing approaches. More precisely the questions reside on the suggestion that external factors influence political behavior through personality. As personality influences general human behavior in a variety of situations and through a multitude of psychological constructs, it could be the case that it plays a role for determining behavior in such a precise situation as electoral participation as well. Therefore, in the second chapter, relying on the literature in political psychology, I shall suggest that personality plays a role in influencing individual's decision to vote or abstain. This part ends with two working hypotheses stating a relationship between two personality traits, self-efficacy and locus of control, and electoral participation. In the third chapter, I discuss the advantages and disadvantages of the methodology that shall be applied for rendering our hypotheses operational. Finally, in the fourth chapter, I analyse the results from this survey. At the end, I summarize our findings and suggest ideas for future research.

Chapter 1 - Political Participation Literature Review

In this chapter, I review and summarize the literature on political participation by organizing it in five broad categories, namely: rational choice, institutional, structural, cultural, and agency. I address both the merits and the weaknesses of the most authoritative works in the field. At the end of the chapter, I pose some specific questions, suggesting that external factors influence political behavior through personality.

Definition of the Dependent Variable

Electoral turnout concerns the fraction of the literature on political participation which studies the reasons of the decisions to vote (or not). In itself, the way we see it, the decision to vote (or not) is a conscious or subconscious act provoked by a single or a multitude of factors; these factors and their importance are determined, and interpreted through cognitive-affective processes, which are unified in what we know as personality. As the voting decision is also related to vote choice through personal perceptions about the benefits, importance, and costs of one's vote, it is necessary to provide our readers with a review of existing literature on political participation in order to show in what ways our dependent variable fits within this discipline. The inclusiveness of this review is required as our personality approach complements, transcends, and is rooted in existing theories. Furthermore, reliance on established approaches of electoral participation allows us to define with precision the goals of our resarch, and to provide an in depth analysis of our research results. The presentation of the studies is done in proportion to their importance and their predominance in the field of political participation.

Approaches to and Determinants of Political Participation

The field of political behavior has contributed an immense amount of work for the study of electoral behavior. However, research within the study of electoral participation has been marked by a rather consistent lack of theoretical framework that could help classify each study into a separate category. It is the case that a great number of empirical studies have emerged testing one or a multitude of variables influencing turnout without strongly relying on clear theories of electoral participation. Indeed, one might argue that the process of political participation is so much intertwined with other social, economic, and psychological processes that it is simply impossible to create a single, coherent, and parsimonious theory that covers all three sides of political participation. Thus, the search for a main and direct cause of voter turnout has created a range of studies unfolding on finding more explanatory variables of the observed behavior. As Campbell et al. put it: "Yet for the purpose of understanding, such additional factors are invaluable, although they do not improve our prediction of the final event materially. They do enhance our grasp of the total situation and the full range of conditions that operate" (Campbell, Converse, Miller, and Stokes 1960: 20).

Organizing political participation studies into separate categories is difficult because, as mentioned, these categories often overlap (Blais 2000). Nonetheless, we may distinguish between four broader types of approaches that systematize our knowledge on political participation (Norris 2002). Firstly, there is the *institutional approach*, which explores the role of institutions such as electoral systems, electoral and registration laws, party systems and electoral competition as these are related to participation opportunities and costs. Secondly, there is the *structural approach*, which stresses social cleavages such

as class, income, gender, and ethnicity as explanatory factors of voter turnout. This approach is also closely related to civic resources, such as time, money, knowledge, and skills. Thirdly, there is the *cultural approach*, which emphasizes values and attitudes such as party identification, political interest, and social norms. Finally, there is *the agency approach*, which stresses the importance of mobilizing agents such as social networks, party organizations, etc.

It is useful to note that in the basis of these approaches lays a general difference based on the degree of importance they ascribe to costs for and/or benefits of political participation. Thus, we may divide the mentioned approaches between ones that insist on the costs of political participation and others that emphasize the benefits of political participation. The institutional, structural, and agency approaches insist on the costs of participation. The cultural approach accentuates the benefits of participation. In addition, the benefits from voting are reflected as investment or consumption ones in the different studies[2].

Having thus classified the different studies will help us both situate our approach within the broader field of political participation literature, and better understand the reasons for voting or not. A question that leads further our analysis is whether existing approaches provide us with an unequivocal answer to the question: why people vote or abstain.

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[2] Investment or instrumental benefits refer to the benefits expected in case the preferred candidate wins the election. Thus, investment benefits include a certain level of risk. On the contrary, consumption benefits are related to the direct satisfaction of the act of voting, no matter what the result. Usually, the reasoning about consumption benefits relies on the assumption that fulfilling one's civic duty increases their impact (Blais 2000).

Institutional Approaches

The rational choice theory (closely associated with the above-mentioned institutional approach) tells us that in case individuals act rationally, they will always choose to abstain because the probability of casting a decisive vote is so small, that despite the benefits that one receives from having their chosen candidate win, the costs will always be higher (Downs 1957). Nonetheless, it is a fact that individuals do vote. Consequently, although logically and theoretically sound, the rational choice theory has been criticized for its unempirical conclusions and its inability to explain the cause behind getting to the polls (Green and Shapiro 1994). Since Downs many theorists have tried to save the rational choice theory by either adding external variables or by changing the equation form of representation of the theory (see Ferejohn & Fiorina 1974; Barry 1978; Mueller 1989; Niemi 1967; Aldrich 1993). For example, Riker and Ordeshook (1968) suggest that people vote because of the sense of satisfaction closely resembling the sense of duty. They term this new variable "D", and suggest that as people's sense of satisfaction (D) adds up to the cost-benefit equation of the act of voting, it is most often the case that people which mark high on D, will vote. Nonetheless, the authors find that they cannot completely eliminate the "instances of possible irrationality" where people with high sense of citizen duty do not vote, and others with low sense of citizen duty, caring only little, and believing the outcome not close, actually do vote (39).

Furthermore, it seems that a certain misunderstanding arises with the analytical application of Down's economic theory of democracy. As Blais (2000) points out, rational choice theory is mostly concerned with the investment benefits of voting, and not so much with direct consumption benefits. However, adopting a rational choice perspective,

Ordeshook and Zeng (1997) admit, "a rational voter evaluates the decision to vote as a consumption act and the decision for whom to vote as an investment act" (178). They conclude that the decision to vote is "not based on a calculation about the likelihood of casting a decisive vote, and that the algebra commonly associated with rational-choice models is largely irrelevant to understanding turnout" (183). In addition, Blais (2000) finds that many voters actually rely on the perception that the likelihood of casting a decisive vote is high, however, "this is not a clear estimation of the probability of one's casting the decisive vote, as it is a fuzzy perception that the outcome could be decided by a relatively small number of votes" (139). Furthermore, it is established through empirical tests that for people with high sense of duty, the rational choice theory model has simply no explanatory power (Blais 2000).

Studies converge on the conclusion that "the major motivation that leads people to vote is the feeling that if one truly believes in democracy one has a moral obligation to vote" (Blais 2000: 140). However, the work of Clarke et al. 2004 demonstrates that the link between belief in democracy and moral obligation to vote is not as clear as suggested. They find that despite the fact that duty matters too, "voters have been concerned consistently and primarily with valence—the ability of governments to perform in those policy areas that people care most" (315). To summarize, rational choice literature does leave some gray areas as to if voters are rational, not at all rational, or just rational in different ways when they vote, choose whom to vote for, or abstain. Most importantly, it is unclear if individuals vote because of expected consumption or investment benefits. In the basis of the rational choice model lies the unresolved assumption that self-centered instrumentalism is contrary to democratic participation (see for example Clarke, Sanders, Stewart, and Whiteley 2004: 327; Sen 1977). Thus, it seems that the greatest contradiction within the rational choice

framework is related to accounting for individual utility-maximizing voters that engage into collective action mainly for the common good.

Rational choice theory includes the calculus of voting in terms of investment benefits and costs. *Institutional approaches* touch upon rational choice theory verging on the role of institutions as related to electoral costs, opportunities of participation, and the degree of importance of a single vote. According to this approach, institutions matter as far as they can decrease the cost of political participation or increase the cost of non-participation, and magnify the sense of importance of a single vote. Thus, according to one of the first and most popular proponents of this approach, institutions such as electoral systems influence electoral turnout and choices (Duverger 1954). Duverger found that proportional representation systems generate greater turnout. Since Duverger, a multitude of political scientists focused on the effects of electoral systems and their consequences for electoral participation. For example, comparing turnout in twenty-nine democracies, Powell (1980, 1982, 1986) shows that the constitutional setting, party system and compulsory voting laws boost turnout. Blais and Dobrzynska (1998) analyzed voters as a proportion of the registered electorate in parliamentary elections in ninety-one democracies from 1972 to 1995 and found that the usage of compulsory voting, the electoral systems, the closeness of the electoral outcome, and the number of parties influence turnout. Franklin, van der Eijk, and Oppenhuis (1996) compared turnout for direct elections to the European Parliament and found that differences in participation levels among member states were due to the use of compulsory voting, the proportionality of the electoral system, and the proximity of European to national elections. It seems that most studies converge on emphasizing the greatest importance of compulsory voting as a determinant of turnout.

However, Norris (2002) criticizes the institutional approach, by showing that compulsory voting is an important indicator of higher turnout for established democracies mainly, but that this is not the case with worldwide elections (82). She believes that one reason for this concerns the efficiency of nonvoting sanctions, as well as cultural traditions about obeying the law (82). Another critique of the institutional approach comes from Wolfinger and Rosenstone (1980) who pointed out that the costs of entering politics, such as the costs associated with registering to vote, are not borne equally by all voters. They find that liberalizing registration provisions has greatest effect on the least educated and relatively little effect on well-educated. Therefore, in case registration laws are changed, "the number of voters would increase, but there would be virtually no change in their demographic, partisan, or ideological characteristics. They would be more numerous but not different"(88). Consequently, institutions cannot overrule the impact of individual-level factors such as differences in education, or for example, the use of heuristics for decision-making.

As costs of participation may be lowered by institutional characteristics, so they could be lowered by subjective psychological mechanisms that allow for efficient decision-making and judgment (Plous 1993: 109; Lupia 1994); vice versa, as the costs of non-participation could be increased by institutional structures, so can they be increased by internal psychological beliefs, such as the belief in civic duty, that foster negative feelings for non-participation such as guilt, anxiety, or shame (for example see Blais, Gidengil, Nevitte, and Nadeau 2004). It follows, then, that institutional approaches fail in capturing individual differences and deeper psychological mechanisms that work in influencing electoral participation independently from institutional structure and efficacy. Furthermore, it has been argued that specific political institutions do spring from specificities within

societies, rather than vice-versa. Sartori (1976) shows that party systems are dependent on voter distribution along interparty competition lines, which reflect social cleavage structures. In cases where parties do not reflect social cleavage structures, they lose electoral support and competitiveness; this in turn results in changes in the respective political institutions. Lastly, as institutions are relatively stable over time, it is arguable how well they can account for existing fluctuations in turnout (Norris 2002: 60).

Structural Approaches

Other approaches to political participation include resources. One such approach is the structural approach, which stresses social cleavage structures—such as class, income, ethnicity, gender, and age—that lead to unequal political representation because of the inequalities in civic resources like time, money, knowledge, and skills that these generate. The first proponents of this approach supported the view that social cleavages such as class and religion have historically been institutionalized in the form of political parties representing different ideologies. It has been argued that these cleavages are "frozen" and that they have structured and shall structure competition among parties within Western democracies (Lipset and Rokkan 1967; Lijphart 1981). However, recent studies show that these initial cleavages have either changed or disappeared as reliable predictors of electoral behavior (Dalton 1996; Clarke et al. 2004; Inglehart 1977, 1990, 1997). This presents an electorate that is much more volatile than before and probably mobilized on the basis of other concerns that are not so ideological, but more so rational and idiosyncratic. Nonetheless, some indicators used with this approach remain on the agenda of political scientists.

Age is a structural variable that has interested researchers for a long time. The basic argument about age's influence on voting is that life-cycle effects make younger electors participate less because they have fewer stakes in the system, less time, less interest, less experience, and less knowledge about politics. Some researchers have tried to explain this by taking up the participation-cost analysis as related to age. Eric Plutzer (2002) takes on a developmental theory of turnout and integrates costs and resources into his model, in order to show that "young citizens start as habitual nonvoters but they vary in how long it takes to develop into habitual voters" (41). However, others have suggested that there are also generational effects that contribute to age effects so that most recent generations vote less because "they pay less attention to politics and because they are less likely to adhere to the norm that voting is not only a right, but also a moral duty" (Blais et al. 2004: 221). Finally, there are those like Schmitt and Manheimer (1991) who by examining factors leading to voting and nonvoting in European elections, report that voting is weakly correlated with age, sex, and education.

Another important structural factor is gender. Earliest studies found that gender did indeed play a role in predicting electoral participation, and more precisely: "In all societies for which we have data, sex is related to political activity; men are more active than women" (Verba et al. 1978). However, this initial view was challenged by more recent studies that found that gender differences have also diminished if not disappeared (Christy 1987; DeVaus and McAllister 1989; Scholzman, Burns, and Verba 1994; Norris 2002). Gender has come to be considered an obsolete predictor of electoral turnout.

Socioeconomic status is another important determinant of voter participation, which makes part of the structural approaches. Lipset (1960) remarked that, by decreasing distributional conflicts, industrialization, urbanization, education, income, and occupation

eventually culminate in democratization at the aggregate level. Also, Wolfinger and Rosenstone (1980) show that, at the individual level, electoral participation is related to education, occupation, and to a lower extent income. Education is considered to be the resource with strongest impact on political participation across numerous countries: the more education one has, the more likely one is to vote (Dalton 1996; Franklin 1996; Oppenhuis 1995; Texeira 1992; Topf 1995; Verba et al. 1995; Miller and Shanks 1996). Education increases the acquisition of civic and cognitive skills thus reducing the costs of participation and information. However, if as Brady, Verba, and Scholzman (1995) argue, it is true that voting requires only the least of civic skills, and the cost of voting is usually low, then the link between education and voting becomes less clear. It is suggested, that education not only increases civic skills, but also instills and increases political interest, participatory motivation, and the sense of civic duty. Thus, the effect of education is exercised through increasing the benefits of participation, as well as lowering its costs (see Wolfinger and Rosenstone 1980; Brady et al. 1995; Blais 2000; Campbell 2006). However, the role of education as predictive variable has been challenged. Milbrath and Goel (1977) making a survey of the literature conclude that education has no consistent impact on voting (102). Topf (1995) demonstrates that in general West European citizens of different levels of education are equally likely to vote in national elections. Other scholars such as Przeworski and Limongi (1997) showed that, at the aggregate level, income is more important to democratization than education: "[...] the effect of income survives when education is controlled, and indeed it is much stronger" (166).

Income is another important variable within the socioeconomic model, although its ability to predict turnout is also open to debate. The reasoning is that poorer people have less time and emotional energy to get involved into politics (Wolfinger and Rosenstone

1980). Or, they have less interest in doing so because they do not have a great stake in the system, for example, they do not own private property (Wolfinger and Rosenstone 1980; Clarke et al. 2004: 47). Various scholars have shown that the higher people's income, the greater their propensity to vote (Kleppner 1982; Teixeira 1992; Blais 2000). Verba et al. (1995) find that only 50 percent of families with incomes under $15,000 cast a ballot, compared to 86 percent of those with income of $75,000 and higher. However, Wolfinger and Rosenstone (1980) report that their findings "about the effect of occupation and income are inconsistent with theories of voting that posit money or time as resources facilitating turnout. [...] By itself, wealth does not increase one's probability of voting beyond what would be expected for someone of moderate income" (28). It is interesting to note that Lewis-Beck and Lockerbie (1989) find that turnout is less dependent on personal finances and more so on general perceptions of national economies at large.

The term socioeconomic status and its compounding elements, as well as its effects on political behavior are so entangled that it is usually unclear which variable or a cluster of variables has the greatest explanatory impact. Oftentimes scholars agree that there is more to explaining behavior than resources: "[...] turnout varies substantially across continents, even when other socioeconomic factors are controlled for. [...] It would seem that unmeasured factors that are specific to the political culture of these continents affect voting participation" (Blais 2000: 26; see also Norris 2002). In addition, Doppelt and Shearer (2000) discovered and analyzed the existence of a significant minority of contended, knowledgeable but simultaneously apathetic non-voters.

Cultural Approaches

Cultural approaches include values, intentions, attitudes, political interest, social norms, religion, ethnicity, and language. These approaches highlight the relevance of individual perceptions, feelings, and cognition by stressing the benefits that individuals derive from political participation due to their belonging to a religious, ethnic, racial, or orther culturally defined group (Leege, Lieske and Wald 1991: 193-194). The first proponents of cultural approaches, Campbell et al. (1960) and Almond and Verba (1963), emphasized the significance of party identification, political interest, and political efficacy as cultural factors leading to an increased political participation (see also Barnes and Kaase 1979). More recently, scholars like Dalton (2002: 47-45) defend the assumption that the more politically effective, satisfied, and interested individuals are, the greater the probability that they will participate. The distinctions between traditional and contemporary approaches to political culture is concisely established by Aronoff (2002):

> "Traditional approaches define political culture in terms of attitudes and values, whereas more contemporary approaches view culture in terms of scenarios and discourses. The former conceive of political culture as reified, holistic, discrete, clearly bounded, coherent systems; while the latter view boundaries as gragmented, tenuous, and contested. Older approaches view traditions as objective or 'natural' and assume continuity, while newer approaches perceive traditions as 'invented' social constructions and assume they are dynamic because actors have (limited) options. [...] Contemporary students of political cultrue examine the mechanisms of transmission of political culture and strategies of boundary maintenance. Traditional approaches focus on goals, while contemporary approaches focus on strategies of action and the incompatibility of strategies of various actors" (11643).

The underlying unifying force behind cultural approaches is the idea that socioeconomic differences achieve individual political relevance through "cultural formation that characterizes religious groups, ehtnic communities, races, and other social collectivities"

(Leege et al. 1991: 209). Thus, culture is considered to determine issue salience, political preferences, and participation of voters.

To a certain extent, cultural approaches get closest to analyzing individual psychological mechanisms that cause political behavior. One reason for this might be the fact that in order to be measured, the concept of "culture" is oftentimes decomposed to its smallest structural units—individual attitudes, which are then analysed on the aggregate level (Deth 1995: 7). Another reason for the closeness between cultural and psychological approaches might be due to the fact that, oftentimes, authors draw connections between cultural theoretical frameworks and individual identity, responsibility, and rationalization (Leege et al. 1991: 195). Or, these approaches, relying on the assumption that individual political preferences are "culturally derived", aim at analysing how this is so (Leege et al. 1991: 215-216). For example, van Deth (1995) suggests that "a simple scheme" based on two assumptions underlies cultural values research. The first assumption is that "individual behaviour is determined by behavioural intentions, which, in turn, are shaped by values and political orientations. The second assumption is that people's values are highly influenced by the social environment and by their social position in that environment" (4-5).

Nonetheless, a weakness of cultural approaches is that they do not provide an accurate and profound explanation of the mechanisms that transform culture into political behavior. Therefore, in a sense, we argue that political psychology takes cultural approaches a step further by examining the psychological factors, which trigger a certain type of political behavior. Another marked weakness of cultural approaches is that they are characterized by unresolved controversies related to the adequacy of methodology and to the direction of the causal arrow in the relationship culture-participation (Ulzurrun 2002; Elkins and Simeon 1979). As an example, it is uncertain if apathy produces lower turnout

and inefficient institutions, or if inefficient institutions produce apathy; and vice versa, it is unclear if political interest and efficacy increase participation, or if efficient institutions instill interest and sense of political efficacy to individual participants. A certain degree of circularity continues to preoccupy the defendants of cultural paradigms, especially as comparative political research reveals and establishes large controversies (Letki and Evans 2005).

Recently, and contrary to previous research in political culture, a thorough study of participation in Britain found that the most cynical are actually the ones that are most engaged in political activities, including voting (Parry, Moyser, and Day 1992). In addition, Clarke et al. (2004) observe that decreased turnout in Britain coincides with decreased sense of duty and partisanship, but an increased or stable support for and satisfaction with democracy:

> "The simple conclusion is that there is little, if any, systematic variation in either interest or concern with election outcomes over the 1964-2001, period. Contrary to the conjectures offered by some observers, there is no evidence to suggest that engagement with the political system has declined significantly since the early 1960s" (284).

Clarke et al. (2004) find that interest in politics, as a cognitive mobilization variable, boosts participation but makes people less satisfied with democracy. Simultaneously, political efficacy has a very slight and almost insignificant correlation with participation (305); practical judgments about a party's managerial competence ("valence") actually guide electoral choice (15).

Presently, in a context where cultural diveristy has continued to increase, cultural approaches to electoral participation have generally been funneled to the effects of a single variable—party identification (Leege et al. 1991: 194, 210). Although, we might agree that

cultural variables have become peripheral to understanding actual electoral behavior[3], they have, nonetheless, remained important in explaining the broader field of political participation. These approaches prove useful in identifying new forms of political activism, especially from a comparative politics perspective[4]. Lastly, very recently, cultural approaches focused on exploring the role of social capital and political trust for political participation[5]. The main hypothesis behind these approaches is that social capital is based on social trust, and the greater the trust among its societal members, the greater their civic participation[6]. Thus, we observe that cultural approaches extend their theoretical boundary and overlap with agency approaches.

Agency Approaches

Finally, agency approaches, although related to cultural approaches, offer greater emphasis on mobilization and mobilizing networks such as friends, neighbors, politicians, parties, activists, interest, and occupational groups. These mobilizing agents either help decrease the costs of participation by providing information or other resources; or they increase the benefits of participation by increasing the satisfaction one gets from participating. For example, Wolfinger and Rosenstone (1980) find that public employees vote at a higher rate than private workers because of the mobilizing effects of their position in the system ("patronage hypothesis") and because of their work experience ("political

[3] Cultural variables are more often included as control, rathen than causal variables in electoral participation research.

[4] Nonetheless, it is worth noting that cultural approaches have often been presented as conflicting with economic and/or rational choice models, which may be due to an artificial theoretical division among political scientists, rather than an empirically established reality. We consider that an approach to electoral participation focused on personality may help to resolve this underlying controversy. For an example of combination of political culture approaches with the rational choice model see Laitin (1998). In his work Laitin explores the construction of identities as juxtaposed to social constraints and the choices that need to be made given certain circumstantial opportunities.

[5] For example, Putnam (2000); on the role of social trust in East-Central Europe, see Letki and Evans (2005).

[6] For an example of a political cultural critique of this hypothesis, see Marsh (2005). In his study, Marsh finds no significant or negative relationship between generalized trust and political participation.

alertness hypothesis"). The authors also suggest that turnout of farmers, for example, is extraordinarily high because of farmers' relations with government and the concurrent political awareness due to uncertainty about economic profit: "The perpetual uncertainty about harvests and markets, combined with governmental involvement in many aspects of farming, raises farmers' political consciousness to a level attained by few other groups" (33). Simultaneously, results show that mobilizing effects of occupation are greatest for the least educated and almost disappear for the most educated. Lazarsfeld, Berelson, and Gaudet (1948) explore the influence of family on stability of voter attitudes, and find that 77 percent of the interviewed voted in accordance with family traditions in order to avoid internal hesitation and external conflicts (xxii). As voters usually belong to more than a single social group it was not clear which group would exert the greatest mobilizing effect; therefore, the authors reasoned that individual opinion of the importance of group membership is what matters most in mobilization. As opinions are organized hierarchically, "the identifications which people make in their own minds are more important in determining their vote than is their objective occupation" (20)[7]. Thus, opinion leaders such as close friends and family members have the greatest mobilizing impact on voters. This is because "personal relationships have certain psychological advantages which make them especially effective in the exercise of the 'molecular pressures' finally leading to the political homogeneity of social groups" (152).

The conclusion that could be derived from the work of Lazarsfeld et al. (1948) is that groups and opinion leaders exert mobilizing effects by helping resolve cross-pressures and thus increasing voter turnout. Nonetheless, this conclusion has been recently challenged by Huckfeldt, Johnson and Sprague (2004). In fact, their thesis states the complete opposite

[7] The idea of "personal political salience" is further developed in Duncan (2005).

of what Lazarsfeld et al. concluded in 1948. The authors demonstrate through empirical research that disagreement and cross-pressures are actually beneficial to political participation: "the vitality of democratic politics [...] depends on the capacity of citizens to disagree—to reject as well as accept the viewpoints of others" (1). In another earlier work that verges with structural approaches to electoral participation, Huckfeldt and Sprague (1995) demonstrate that individuals are influenced by their surroundings not only because they choose to be so, but also because a certain social environment is imposed on them:

> "It is not simply that being located within a particular subelectorate is an intrinsic characteristic of individuals that is correlated with preference and utility and hence choice. Rather, individual location is important primarily because it influences information flow and hence the political information and interpretations to which an individual is exposed" (283).

The authors discover that the degree of influence that one might exercice over others is dependent on social contexts where communication occurs. One of the most important conclusion of their work is that voters in a minority context are more likely to encounter and to recognize dissonance-producing information (143). On the contrary, majority members are less likely to encounter and more likely to ignore dissonant information (143). In addition, contrary to Lazarsfeld et al. (1948), they find that psychological factors such as intimacy and respect between discussion partners do not explain varying degrees of influence over voter choice; rather, perceived "minority-majority status has major implications for the flow of social influence in politics" (189). Thus, minority members seem to misperceive their discussant's electoral position, and thus they reinforce a false perception of a dominant majority. The consequence of this is that minorities "turn inward" and become more resistant to communications of disagreeable preferences (158). Last, Huckfeldt and Sprague show that social context effects are strongest among the politically interested part of the population (96-97).

Finally, while Putnam (2000) does not pay such close attention to the internal processes of external cross-pressures and disagreement, he definitely emphasizes the importance of political mobilization through personal communication and civic involvement in all forms of social life. Though, the goal of Putnam's research is different, he strives to find the reasons for declining political participation, the conclusions that he reaches resonate with those of Lazarsfeld et al. Putnam's argument that modern technologies destroy associational life and erode social capital, and electoral participation, definitely fits with the mobilization approaches to political participation.

Conclusion

To summarize the literature reviewed, we must adamantly admit that existing approaches to electoral participation not only explain and predict electoral behavior to a great extent, but also lay the basis for future research which should address the differences between the importance of these factors over place and time, and the factors which influence the specificity of their effects on individuals. More importantly, the literature review leads us to believe that if there is a remaining "gray" area for political participation research, it is definitely related to our ability to understand ourselves.

It seems that in order to organize and unify the multitude of approaches to electoral behavior it is helpful to rely on the the rational choice model and its assumptions developed first by Downs (1957). As we have suggested, *Institutional* approaches explore the role of institutions for lowering the costs of participation and increasing the importance of a single vote (governmental responsiveness) through institutional structures such as electoral systems and regulations. *Structural* approaches focus on the role of inequalities created by larger and persisting social cleavage structures such as class, income, resources, ethnicity,

gender, and age. These approaches rely on the rational choice model as they view political participation as dependent on resources such as time, money, knowledge, and skills, which definitely alter the costs and benefits of one's participation. The assumption underlying *Cultural* approaches is that the benefits and costs of (non-) participation are inculcated to individuals through culture, perceptions, values, attitudes, political interest, and social norms. Finally, *Agency* approaches emphasize the role of mobilizing agents such as social networks, group leaders, opinion leaders and circles of friends or family members. These mobilizing agents decrease the costs and/or increase the benefits of electoral participation. Nonetheless, the rational approach model has been criticized for being unable to explain certain behaviors fostered by indicators such as moral duty or subjective psychological constructs both in terms of vote choice and in terms of the decision to vote or not (Blais 2000; Fournier et al. 2003). In addition, it seems that the approaches reviewed are less adapted in capturing effects of emotions and differences in individual perceptions[8].

Traditional predictors of voting turnout remain important for research in the field of electoral participation. However, there still remain some questions that need to be addressed by future research. For example, recent studies have found that even after controlling for all of the above-mentioned variables, some electoral results remain rather obscure or biased. As expressed by Franklin and Wlezien (2002):

> "This problem [the endogeneity problem], is essentially one of acquiring information about the world that is independent of voters' own assessments. If we treat voters as experts and ask them about the policies of the parties they choose between, or about the economic circumstances they experience, then we risk the answers being contaminated by the political orientation of our 'expert' witnesses. When we then use those answers as independent variables in a study of political orientations, our analysis is flawed because of circularity" (172).

[8] As, for example, the effects of individual issue salience (Fournier et al. 2003).

In addition, the authors add that not only "election studies will certainly have to provide linkage variables beyond geographic location and standard demographics", but also they will have to borrow to a large extent from the different fields, and subfields of sciences that deal with the human being (174).

It could be the case that the ability to predict political behavior through classic variables, upon which research has relied for a long time, has been diminishing over the years: party identification is becoming less indicative of turnout and vote choice; socio-economic indicators reflect to a lesser extent the differences among individuals; income's impact is insufficient in predicting political behavior especially as it reaches certain levels; education's impact has also decreased, or the educated part of the population has reached such high levels that education might become a constant; gender's influence is indiscernible; and the ability of duty to predict voter turnout is less clear especially for the uneducated or the youngest whose sense of civic duty is rather low. Furthermore, we should acknowledge the fact that altough the rational model responds to the requirements of parsimony, and serves as a useful theoretical framework for understanding political participation, it does leave unclear a certain degree of irrationality in human behavior. For example, could it be that beyond benefits, importance of one's vote, costs, and political interest a political campaign is nonetheless salient to an individual voter? Could it be that voters vote (or not) without ever considering the costs, benefits, or importance of voting, but rather relying on a certain general sense of identifying themselves with an issue or a political figure? Could it be that they vote considering solely benefits, or importance, or only costs? Could it be that personality determines the decision to vote or not, and also determines the perception of duty, benefits, importance, and costs of voting? If the answer

to this last question is yes, then it is definitely useful to determine the relative weight of all these factors, and the interrelations among them, if any, and personality.

Research by Blais (2000) shows that after controlling for classic factors, citizen duty proves most important in explaining voter turnout. Clarke et al. (2004) posit that "if, in an individualistic world, people do things for private benefits and they do not worry about society, then they are not inclined to vote" (273). Campbell (2006) even suggests that students should be taught civic duty at school if democratic regimes are to survive. However, both authors conceive of duty as a common good: people, who vote, do so only with the idea of a corresponding group or society. However, contrary to their normative statements, Clarke et al. find that despite that "system benefits are substantially more important than private returns from voting [...], the latter are also significant" (259). Could it be that dutiful individuals vote out of selfishness? Is duty a social norm, or could it be an internalized personality trait, which manifests itself in different forms for some? Should we try denying the diminishing role of existing variables for predicting turnout by trying to inculcate beliefs about the moral duty to vote in coming generations? Or should we try to redefine and refine our concepts? Is there a higher-level variable that could unite the remaining political participation approaches? Do people vote in accordance with what they want or with who they are? Could voter behavior better be explained by personality traits than individual beliefs? Is political efficacy related to a more general sense of self-efficacy that has an independent effect on the decision to vote (or not)? Is personality a viable indicator of voter turnout?

These are some of the questions that guide our research in this paper, and although the answers we provide may be liable to academic critique, we are convinced that the future

of political science, and all science, lies in our ability to gain a better understanding of our own selves.

Chapter 2 - Personality as a determinant of the decision to vote (or not)

In this chapter, after providing a brief overview of the literature on political psychology, I focus on defining the concepts of personality and personality traits. Then, I suggest that locus of control and self-efficacy influence voter turnout because they are related to forethought, self-evaluative and self-judgmental cognitive processes.[9] This chapter ends with two working hypotheses, which are operationalized in the following chapter.

Literature Review

There is an enormous amount of scientifict literature on the role of personality as a motivational mechanism guiding human behavior. As Pervin and John (2001) put it concisely:

> "some notion of self is necessary to explain, firstly, the integrity and unity of behavior and, secondly, the observation that how we feel about ourselves influences how we process and act on information. The cognitive approaches to personality propose the existence of self-schemata and self-regulation systems that perform these functions. However illusory it may be, we have a sense of self and experience ourselves as having an integrity that transcends time and place" (in Butt 2004: 9).

But if it is true that "a notion of self" influences the decision to vote or not, it is less certain which notion of self will have the greatest impact. Thus, for example, there are 24 theories of motivation that fosters behavior, among which the most recent ones are the learned helplessness theory (Peterson, Maier, and Seligman 1993), the goal setting theory (Locke and Latham 2002), and the self-determination theory (Ryan and Deci 2000). Therefore, it is useful to explore different theories as we approach the subject.

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[9] See Bandura and Cervone (1993).

While work on political psychology has continued to grow during the past half-century, its importance for revealing psychological mechanisms behind cognitive, emotional, and behavioral processes has been rather undervalued. The role of personality (as a psychological construct) for political behavior has been central for social scientists working on interdisciplinary theories of political attitudes and behavior (Adorno, Frenkel-Brunswik, Levinson, and Sanford 1950; Almond 1954; George and George 1956; Srole 1956; Smith, Bruner, and White 1956; McClosky 1958; Rokeach 1960; Rotter 1966; Christie and Geis 1970; Barber 1977; Winter 1987). However, maybe because at the beginning research on personality was primarily concerned with the ontogenetic origins of individuals and acquired personality traits that impact behavior, classic political scientists did not pay great attention to personality factors as reliable predictors of electoral choice because: "[...] knowledge that a person is disposed to deviate from a political expectation in his social environment helps little in predicting the partisan direction of the deviation" (Campbell et al. 1960: 507). Consequently, emphasis on personality within the field of political psychology shifted in the direction of theories related to attitudes and cognition (McGuire 1993).

Nonetheless, it seems that recent research has revived interest in the role of personality for political behavior. Studies have explored personality as a predictor of: voting behavior measured 7 years before the actual behavior (Krampen 2000); of voluntary union membership (Parkes and Razavi 2004); of cognitive, behavioral and affective political processes (Lyons 1997; Bizer et al. 2004); of "voter-politician congruency" which determines vote choice and the decision to vote (Caprara and Zimbardo, 2004; Lovett and Jordan 2005); of voter choice despite policy issues (Langer 2004; Fiorina 2004); of electoral choice (Altemeyer 1996); of political information processing (Fekken and Holden

1992; Fuhrman and Funder 1995; Lavine, Borgida, and Sullivan 2000; Duncan 2005); and of turnout (Acevedo and Krueger 2004; Denny and Doyle 2005; Caprara, Schwartz, Capanna, Vecchione, and Barbaranelli 2006). More precisely, studies pertaining to the relationship between personality and voter turnout show the effects of traits such as moralism (Lovett and Jordan 2005), the need to evaluate (Bizer et al. 2004), patience (Fowler and Kam 2006), high cognitive ability and aggressiveness (Denny and Doyle 2005), and perceived beliefs in being able to control events (Zimmerman and Rappaport 1988; Britt 2003). Denny and Doyle (2005) suggest that not only does personality (in terms of aggressiveness, but not impusliveness) and cognitive ability influence electoral turnout, but that they also reduce the impact of education. Furthermore, they discover that standard turnout models may be biased by the inclusion of the interest in politics measure as it is determined by personality.

According to some scholars, the importance of personality has increased so much that politics in Western societies have become personalized (Caprara, Barbaranelli, and Zimbardo 1999, 2002; Giddens 1998; Ricolfi 2002). Caprara and Zimbardo (2004) state:

> "The personalization of politics encompasses two presumed processes. First, the personalities of candidates capture center stage and become the focus of voters' attention. Second, the individual personalities of voters, rather than their social locations in various interest groups, become decisive for political choice" (in Caprara et al. 2006: 2).

These studies show that personality, and personality traits in particular, influence the decision to vote or not. And while previous studies on personality and electoral participation do show that personality influences voter turnout when we control for classic turnout indicators, what they do not oftentimes demonstrate is whether this influence is not absorbed by rational choice concepts such as benefits, importance of one's vote, and costs.

Given the amount and quality of recent literature on personality and political behavior, we can confidently conclude that personality does indeed play an independent and separate role on political behavior and participation. What this role is exactly, how it is interrelated with classic indicators of voter turnout, and how we measure it are questions to which we turn next.

Personality is defined as a set of dynamic, internal, self-regulating systems that guide motivations, emotions, cognition, and behavior by allowing for coherent and systematic responses to external environment (Caprara and Cervone 2000). Personality structures perceptions, assures behavioral continuity across different situations and fosters a sense of identity (Harré 1998; Baumeister 1999; Robins, Norem, and Cheek 1999; Cervone 1999; Bandura, 2001). Research on personality is divided into two principal directions: firstly, research tries to establish the degree of temporal stability of the different compounding elements of personality such as values, attitudes, traits, and emotions (Sears 1983); secondly, research focuses on the different dimensions of a single category of compounding elements.

What interests us in our research is personality traits, which "are dimensions of individual differences in tendencies to show consistent patterns of thought, feelings, and actions" (McCrae and Costa 1990: 23). According to Caprara et al. (2006)[10], traits describe what people are, and not what they strive for; contrary to goals and values, traits are enduring dispositions that vary in their frequency and intensity of occurrence.[11] Furthermore, we deem it crucial to note that values and goals apply to the instrumental/

[10] See also Bilsky and Schwartz (1994), Roccas et al. (2002).

[11] Caprara et al. (2006) resourcefully juxtapose the concept of "trait" to the one of "goal" or "value". Contrary to traits, which are enduring dispositions, values are enduring goals that serve as standards for judging behavior, events, and people (3).

investment approaches of electoral participation, and that effects of personality traits fit better with consumption approaches. Thus, if we analyze values/goals we would treat the act of voting as related to individual desire for obtaining benefits or achieving goals from an electoral outcome. If we concentrate on analyzing the effects of personality traits instead, we acknowledge that the act of voting has a personal importance of its own separate from the desired benefits associated with an electoral outcome.[12] Briefly, personality traits could explain electoral participation through a general structure of coherent responses to reality, and not only through an instrumental sense of desire for achieving one's goals. In addition, it may be the case that people "refer to values when they wish to justify choices or actions as legitimate or worthy" (Caprara 2006: 3). However, we should admit that in certain situations such justification and legitimization comes only after a particular behavior has already taken place. Zimbardo (1970) shows that "in the process of having to generate *intrinsic* justifications in order to make a discrepant commitment appear rational and consistent, man shifts the locus of control of his behavior from external stimuli to internal cognitive controls" (238). Where direct responsibility is assumed for, values and goals may play greater role. However, where anonymity and freedom of responsibility prevail, as is the case with voting, individual traits could triumph because voters are rarely required to justify, legitimate, or estimate the worthiness of the act of voting beforehand. Therefore, it seems to us that the role of personality traits may prove to be of greater importance for determining electoral participation than popularly believed, and it is to this that we now turn. Bandura and Cervone (1993) state that:

> "The capability for intentional and purposive human action is rooted in cognitive activity [...] through the exercise of forethought. By representing

[12] This does not mean that outcomes are unimportant, but that they are important in a way that concerns an individual's personality.

> foreseeable outcomes symbolically, future consequences can be converted into current motivators and regulators of behavior. The second major source of cognitive motivation derives from internal standards and self-evaluative reactions to one's performances" (1017).

We underlined the importance of one's belief in one's capacity to execute a particular act, and one's judgment that once performed this behavior will cause a particular outcome as these two refer to voting (Bandura 1977, 1997; Peterson et al. 1993). Therefore, we consider that we should examine two personality traits related to self-evaluative mechanisms, locus of control and self-efficacy, and their impact on voter turnout.

Motivations to exercise personal control are related to two types of expectancies: efficacy expectations which refer to one's capacity to execute a particular act; and outcome expectations which refer to the judgment that once performed a behavior will cause a particular outcome (Bandura 1977, 1986, 1997; Heckhausen 1977; Peterson, Maier and Seligman 1993). When both efficacy expectations and outcome expectations are low, individuals perceive that personal initiatives and actions produce little effect and consequently trying seems pointless; the contrary is also true.[13] Although, outcome and efficacy expectations are strongly related to personal behavior history, and thus we might expect that past failures or uncontrollability could only cause further decrease in sense of efficacy, actually individual personal control beliefs may cause different responses in similar situations: some may show mastery motivational orientations, while others may show helpless motivational orientations. Those who demonstrate mastery motivational orientations shall respond to failure by remaining self-focused and striving despite difficulties (Diener and Dweck 1978, 1980). On the other hand, those who show helpless

[13] Although expectations form according to personal behavior history (Bandura, Reese, and Adams 1982), this does not mean that they are not stable enough to be measured cross-sectionally (Krampen 2000; see also Mone, Baker, and Jeffries 1995).

motivational orientation shall respond to failure by giving up, or through avoidance, acting as if the situation were out of their control (Dweck 1975; Dweck and Repucci 1973). What is important here is that the sense of helplessness or control is not objective, as Reeve suggests, and therefore does not always refer to objective environmental contingencies (how controllable outcomes really are), but also to subjective personal control beliefs (how controllable one thinks those outcomes are) (2005). According to psychologists (Reeve 2005: 256), helplessness is learned:

> "Research on learned helplessness [...] shows that as people find themselves in unpredictable, unresponsive environments, they learn that their actions and efforts are futile. But the reverse is not necessarily true. That is, when environments are predictable and responsive people do not necessarily put forth strong effort to exert control over their outcomes. [...] When some barrier like task difficulty separates the person from attractive outcomes [...], individual differences in perceptions of control intervene, explaining when and why people willingly put forth the effort necessary to control their fate" (Reeve 2005: 376-377).

Learned helplessness, or the feeling that one does not have control over one's acts and environment, generates passivity through causing: motivational, learning, and emotional deficits (Alloy and Seligman 1979). On the other hand, efficacy expectations, or the feeling that one is capable of performing an act or not, may impact: a) choice of activities and selection of environments; b) quality of thinking and decision-making; and c) emotional reactions (Reeve 2005: 232). As personal control beliefs exert such a great effect on behavioral processes, we are tempted to think that they may exert effects on electoral participation as well.

As we have demonstrated, a multitude of personality traits such as learned helplessness, self-efficacy, and mastery motivational orientations could be included under the category of personal control beliefs. However, for the purposes of our research we shall

concentrate on exploring the effects of a single personality construct consisting of the traits of self-efficacy and locus of control, because these constructs are related to individual sense of empowerment. The formal definition of self-efficacy is "one's judgment of how well (or poorly) one will cope with a situation, given the skills one possesses and the circumstances one faces" (Bandura 1986, 1993, 1997). Self-efficacy measures one's beliefs about one's abilities to do something (how well?); locus of control measures one's beliefs about one's chances of doing something (can I do it or does it not depend on me?) (Reeve 2005: 255).

Both psychologists and other scientists have argued that self-efficacy beliefs are inextricably related to the sense of perceived control, also termed locus of control (Findley and Cooper 1983; Levenson 1981; Rotter 1966; Judge et al. 2002). Some have even suggested that perceived control over a situation or an outcome precedes or comes as an antecedent of beliefs about one's competence, efficacy, and ability (Boggiano, Main, and Katz 1988). Consequently, if one perceives that one has the ability to achieve a result, one must necessarily have perceived some personal control over a situation or an outcome. More importantly, perceived control could emanate from the feeling of having control over the factors that control an outcome, and not only from the feeling of personal competence or efficacy (Reeve 2005: 377). Because of the above evidence, we consider that our research should concentrate on both personality traits: self-efficacy and locus of control. But how are those personality traits related to electoral participation more precisely?

Campbell et al. (1960) explored the role of personality for issue perceptions and vote participation. Firstly, the authors look at the link between authoritarianism and issue perceptions, by suggesting that the more authoritarian should be less sympathetic with the civil rights of minority groups and should resist federal government's concern with welfare. They hypothesize too that in foreign policy issues authoritarians would favor "tough-

minded" approaches to diplomacy. Results suggest that there is only very weak relationship, if any, between personality effects and issue perceptions. However, the authors point out that the only group that confirms the hypotheses includes college people: "Although the same people are involved in each of the various tests, it seems striking that all three of the clear confirmations appear in the five tests involving college people; at least one of the more marginal confirmations is found here as well. Within the remaining four fifths of the population, positive and negative trends appear in nearly equal number" (514-515).

Secondly, authors explore the role of "personal effectiveness" for electoral participation. They reason that underlying the sense of political efficacy (defined also as a basic sense of control over the working of the political system) is a more general sense of psychological effectiveness, which does not reflect any immediate political experience but rather an individual's "ego". Furthermore, their supposition seems to coincide with the one of Blais': "also appears that the perception that one can have some personal influence does have some impact on the propensity to participate. What seems to matter, however, is a general sense of personal efficacy, and not the perception that one can be decisive as such" (Blais 2000: 134). Campbell et al. (1960) hypothesize that differences in ego strength should influence beliefs in personal efficacy *vis-à-vis* the political process (517). The results of Campbell et al. seem to reveal that self-effectiveness is a determining factor of political participation only for the least educated (519). Nonetheless, the authors do not indicate clearly the degree of association between the independent and dependent variables, or the statistical significance of their results. In addition, they never test their hypothesis without including control variables such as political efficacy or education; and thus, they themselves admit consistent errors of over-control.

Lastly, closer analysis of their measurement methods shows that their "personal effectiveness" index includes a greater number of questions measuring locus of control and fewer questions measuring self-efficacy. As the debate between psychologists about whether self-efficacy, locus of control, and self-esteem are separate concepts has not been solved, merging the two variables into a single index may obscure results. Consequently, our research will take up on an idea suggested by Campbell et al. (1960) and Blais (2000) in order to analyze with greater precision, more reliable methods, and more recent data the effect of general personality traits such as self-efficacy and locus of control on electoral participation. Thus our proposition is that *personality influences voter turnout*. The question that we try answering next is how personality influences turnout.

Hypotheses

As mentioned earlier, we suggest that efficacy expectations and locus of control as consistent personality traits shall structure choices of activities, selection of environments, quality of thinking, decision-making, and emotional reactions in all spheres of life (Reeve 2005: 232). If the personality traits in question influence all of the enumerated processes, it is logical to think that efficacy and locus of control will also affect the decision to vote (or not). Thus, a person high on internal locus of control would be more likely to be looking for opportunities to influence events or gain the tools for such influence on both political and other arenas of social life. Or, the ones who believe that they influence outcomes or control the factors that bring those outcomes (or have internal locus of control) would be more active and more willing to participate in politics. In addition, in the context of electoral participation, a person with internal locus of control will perceive one's participation as more important than it is in reality. On the contrary, the ones that have external locus of

control and believe that "powerful others" or chance control outcomes would be less active, and would be more likely to "free-ride". They would be more likely to remain passive, to avoid responsibility, and to miss opportunities for influencing a particular course of action. Therefore, we hypothesize that *those who score higher on internal locus of control are more likely to vote than those who score higher on external locus of control* (H1).

In addition, as the review of previous research literature established, generalized self-efficacy and locus of control are markers of the same higher order concept, and therefore if one has internal locus of control one is likely to have a high degree of self-efficacy (Judge et al. 2002). In general, the more self-efficient one feels, the more one will be motivated to achieve one's goals and to persist in one's efforts in all spheres of life (Bandura 1989; Bandura and Cervone 1983; Weinberg, Gould, Jackson 1979). In the context of electoral participation, we can assume that generalized self-efficacy may influence individual's perceptions of the costs and benefits of the act of voting. Costs related to information processing and decision-making would be relatively low for highly self-efficient individuals. Furthermore, the benefits, such as personal satisfaction, would also be higher for self-efficient persons. A generally self-efficient person will perceive of voting as a consumption act in which the costs are minimal, and the consumption benefits – in the form of control over a situation – are immediate and maximal. A self-efficient person should regard electoral participation as a test of one's sense of self-efficacy and ability to exert control over events. Self-efficient persons should be more motivated to fulfill their beliefs about themselves, and voting should help them improve their sense of efficacy independent from electoral results and eventual risk-related investment benefits. On the contrary, the less self-efficient will perceive the costs of voting to be high and the benefits of participation to be low, distant, and highly dependent on chance or others. Thus, a self-

inefficient person would be less likely to vote. We hypothesize that *the more self-efficient one is the more likely one is to vote* (H2).

Chapter 3 - Methodology

To the best of our knowledge, no recent data that covers indicators of self-efficacy, locus of control, and voter turnout exists. Therefore, in order to operationalize our propositions and hypotheses at lowest costs, similar to other scholars, we conducted a survey of undergraduate students at Université de Montréal (for example see Quattrone and Tversky 1988; Acevedo and Krueger 2004). Questionnaires were administered to 255 university students in two classes. It is worth mentioning that the first group was a group of political science students. We obtained completed questionnaires from 221 students (34 excluded students were either not eligible to vote or did not reply to the questionnaire item about voting). Although merging the two samples could undermine some statistically important differences between the two groups, we had to proceed with merging in order to sufficient cases to obtain more reliable results. In addition, given the fact that there is less than $1/5^{th}$ of all students who did not vote merging the samples was crucial (Peduzzi, Concato, Kemper, Holford and Feinstein 1996).

What is crucial to our research is that we keep our independent, dependent and control measures strictly separated. What this means is that contrary to previous research, we do not rely on measures of political efficacy and political locus of control in order to determine political behavior. Rather our independent measures only include general personality indicators unrelated to political behavior. Thus, we should avoid eventual "contagion" between our dependent and independent variables.

In order to measure the independent variable locus of control, we use a shorter and adapted version of Levenson's (1974) 24-item locus of control scale, which accounts for internal and two types of external locus of control: powerful others and chance (Sapp and

Harrod 1993). In this study, we hypothesize that individuals higher on internal locus of control would be more likely to vote, and therefore higher scores obtained on the scale items will reflect one's internal locus of control.[14] Sapp and Harrod report scale reliability of .58, .65, and .72, respectively for the Internal, Chance, and Powerful Others dimensions of the scale (548). Authors conclude: "the brief scale provides a reliable and valid alternative to the full scale in cases in which locus of control is not the focus of study and when time and space are at a premium" (549). Agree/disagree statements are worded as follows: 1) *Ma vie est déterminée par mes propres actions*; 2) *Habituellement, je suis capable de défendre mes propres intérêts*; 3) *Je peux contrôler avec succès ce qui se passe dans ma vie*; 4) *Quand je réussis à avoir ce que je veux, habituellement c'est parce que je suis chanceux*; 5) *Les gens comme moi ont peu de chance de pouvoir défendre leurs intérêts privés quand ils s'opposent à ceux des groupes de pression très puissants*; 6) *J'ai l'impression que ce qui se passe dans ma vie est déterminé surtout par des gens en position de puissance.*

Once we had the data gathered we had been able to determine the reliability of our scale according to the samples. Cronbach's α is

$$\alpha = \frac{N^2 \overline{Cov}}{\sum s^2_{item} + \sum Cov_{item}} \qquad (1)$$

However, as we have items that are reverse phrased, they will have negative relationship with other items and therefore the top part of the equation diminishes, which will diminish the Cronbach's α without this being a correct reflection of scale reliability. In order to account for this effect we transform items that had reverse phrasing by reversing the scale such that 1 = tout à fait vrai, and 10 = Pas du tout vrai. Thus, we obtain Cronbach's α of .63

[14] I explain this point further.

and .69 for the first and second sample groups respectively.[15] Because locus of control is a psychological construct, these reliability values seem appropriate. Furthermore in psychological research, given the nature of the constructs being measured, reliability measures under .7 are acceptable if not expected (Kline 1999). The removal of none of the items could have increased the scale's reliability, and therefore we did not eliminate any of the items. The locus of control index was calculated by adding the scores on each of the items, then substracting the minimum possible score on the scale and dividing the result by the difference between the maximum and minimum scale scores. Thus, for example, the locus of control index equals:

$$\frac{\sum_{items1-6} -6\times 1}{6\times 10-6\times 1} \qquad (2)$$

This index computation allows us to make the results fit a uniform zero to one score scale. We use analogous calculations to compute all indexes and variables.

Many scholars have conceptualized a general sense of self-efficacy, which refers to the overall confidence of one being able to cope with a broad range of situations (Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, and Rogers 1982; Skinner, Chapman, and Baltes1988). We measure perceived self-efficacy using a modified and shorter version of Schwarzer and Jerusalem's (1995) 10-item general self-efficacy (GSE) scale. Schwarzer and Jerusalem reported Cronbach's alphas ranging from .76 to .90, with the majority in the high .80s. In addition, the scale is available in French, which facilitates our work. Statements used in the analysis are: 1) *Si quelqu'un s'oppose à moi, je peux trouver une*

[15] Reversely phrased items that measure external locus of control (powerful others and chance) are such as the following: 4) *Quand je réussis à avoir ce que je veux, habituellement c'est parce que je suis chanceux*; 5) *Les gens comme moi ont peu de chance de pouvoir défendre leurs intérêts privés quand ils s'opposent à ceux des groupes de pression très puissants*; 6) *J'ai l'impression que ce qui se passe dans ma vie est déterminé surtout par des gens en position de puissance.*

façon pour obtenir ce que je veux; 2) *J'ai confiance que je peux faire face efficacement aux événements inattendus*; 3) *Je peux résoudre la plupart de mes problèmes si j'investis les efforts nécessaires*; 4) *Lorsque je suis confronté à un problème, je peux habituellement trouver plusieurs solutions*; 5) *Peu importe ce qui arrive, je suis généralement capable d'y faire face*. Once we had gathered the data we were able to measure the scale's reliability in terms of our samples. Cronbach's α were .73 and .70 for the first and second sample groups. Statistical tests showed that if we removed from the scale the item worded *Si quelqu'un s'oppose à moi, je peux trouver une façon pour obtenir ce que je veux*, the scale's reliability increases to .79 and to .82 respectively in the first and second sample groups. Therefore we eliminated the item from the scale before forming our index of self-efficacy. Similarly to the locus of control index, the self-efficacy index is calculated by summing the scores on all items, substracting from them the minimum possible score and dividing the result by the difference between the maximum and minimum scale scores. This computation allows us to measure self-efficacy on a zero to one scale.

The dependent variable is measured using questions relating to the 2007 provincial elections in Quebec. The items on our questionnaire are slightly modified versions of Blais, Young, and Lapp's (2000) items. The variable is coded as 0 for those who did not vote (or did not consider voting in the pre-election group) and 1 for those who voted (or considered voting in the pre-election group). The questions used in the pre-election and post-election studies are as follows: 1) *Pour quel parti pensez-vous voter lors de l'élection provinciale du 26 mars 2007?*; 2) *Avez-vous voté lors de l'élection provinciale de 2007?*.

Controlling for Intervening Variables

It is reasonable to assume that the generally more self-efficient individuals may be more likely to vote because they feel greater political efficacy. In order to observe if this is the case, we have included in the questionnaire an item that measures political efficacy: *Parfois la politique semble si compliquée qu'une personne comme moi ne peut pas comprendre ce qui se passe.* In order to be able to interpret results easier, we have reversed the scoring of this reverse-phrased item. Individuals with higher scores on this item have higher degrees of political efficacy. This item has been recoded in a similar manner to fit a zero to one scale.

Similarly, it may be the case that general sense of locus of control is reflected in the sense of political locus of control, or that a person who generally believes that "powerful others" are responsible for what happens to her/him could transfer the same belief about the world of politics as well. This means that we should observe the sense of political locus of control also called cynicism for each of the participants. The items that measure cynicism are: 1) *Je ne crois pas que le gouvernement se soucie beaucoup de ce que les gens comme moi pensent;* 2) *Ceux qui sont élus perdent vite contact avec les gens;* 3) *Les partis sont seulement intéressés par le vote des gens, et non par leurs opinions*. The cynicism scale is reliable at the .760 level. An index for cynicism was computed in the same manner as the indexes for the two independent variables, and recoded to fit a scale from zero to one. A separate item that measures the degree of belief that one can change things through voting has been measured by the question: 1) *Quand des gens comme moi votent, ils peuvent vraiment changer la manière dont notre province est gouvernée.* Scores on this question are on a scale from zero to one. Thus, participants who score lower on the cynicism scale and

higher on the belief in changing things through voting item would have a greater degree of internal political locus of control, which would mean that they believe that they can influence politics. Vice versa, participants whose score is higher on cynicism and lower on the belief in changing things through voting item would have a lower degree of internal political locus of control and consequently would feel less powerful in influencing political processes, and more dependent on powerful others.

Finally, it could be the case that self-efficient individuals derive personal satisfaction from voting. However, it could be that this satisfaction is created by an underlying sense of civic duty to vote. Therefore, in addition to the variables enumerated above, we shall test the proximate variable duty in order to determine if it is intervening in the initial relationship. For the measurement of duty, we use questionnaire items from the election study of Blais et al. (2000), more specifically: 1) *C'est le devoir de chaque citoyen de voter*; 2) *Pour préserver la démocratie, c'est essentiel que la majorité des citoyens votent*; 3) *Si je ne votais pas, je sentirais que j'ai négligé mon devoir de citoyen*; 4) *Si je ne votais pas, je me sentirais coupable*. Our tests indicated that scale reliability increases from .824 to .839 if the reversed-scale item four is removed, and consequently this item has been removed from the scale. Respondents who score higher on the scale would have higher degree of duty compared to those who score lower. The duty index was computed analogically to the main independent variables on a scale from zero to one.

Furthermore, our reasoning predicted that if an individual has internal locus of control and feels highly self-efficient he/she would attach greater importance to one's vote. Therefore, we include a measure of the general feeling that one's vote will matter, also referred to as the probability that one's vote would matter. We use Blais et al.'s (2000) questionnaire items as related to the importance individuals attach to their participation, an

indicator that takes into consideration beliefs about the closeness in electoral competition. Questions are worded as follows: 1) *Pour moi personnellement, c'est important qui gagnera l'élection provinciale*; 2) *Je pense qu'un des partis va gagner l'élection provinciale avec peu d'avance sur les autres partis*; 3) *Il n'y a aucune chance que l'élection dans votre circonscription ne soit décidée par un seul vote.* In order to estimate the reliability of the scale we have reversed the scale for item three. Tests showed that scale reliability was negative, and it remained so even if items were removed. Therefore, we decided to measure probability using only item 2 as we consider that it is more clearly phrased and must reflect a more reliable measure for the probability that a vote will matter. Scores on the item have been computed to fit a zero to one scale. Individuals who have higher scores on the item would attach greater importance to their voting, and individuals who have lower scores would consider their participation less important.

In addition, we predicted that the costs of voting and making a decision about whom to vote for would be lower for the self-efficient individuals. Therefore, we need to include an indicator of perceived costs, which is also taken from Blais et al. (2000). Statements are worded as follows: 1) *Ça prend beaucoup de temps pour aller voter et retourner chez moi*; 2) *Pour moi personnellement, c'est vraiment très difficile d'aller voter*; 3) *C'est toujours facile pour moi de trouver l'information qui me permet de décider pour qui voter*. As removing question three from the index increased the scale's Cronbach α from .588 to .656, we have excluded this item from the index. Nonetheless, we have included as a separate variable item number three called easiness to decide. Finally, the cost index is formed analogically to the main independent variables, and both the index and the item were computed to fit on a zero to one scales. Thus, a high score on the cost index would mean that respondents find costs of voting high, and vice versa, a low score would indicate that

respondents feel low costs, if any, associated with the act of voting. Analogically, if voter's scores on the easines to decide item are higher, they would be finding it easier to decide whom to vote for, and vice versa.

Finally, we assumed that self-efficient individuals should expect or derive greater satisfaction from the act of voting. Consequently, we included a measure of the general sense of satisfaction from the act of voting, namely: 1) *L'acte de voter me donne de la satisfaction.* Scores on this item were transformed to fit a zero to one scale.

Controlling for Potential Sources of Spuriousness

There is no need for us to control for variables such as education, income, and age, because within our sample those factors are constant by default: students have attained the same level of education; they have low or no income; and they are approximately of the same age. Furthermore, even if socio-economic characteristics would have influenced electoral participation, it would be the case that these factors are antecedent to our independent variable – personality. Thus, if an individual has been raised in a low-income family he/she could have lower self-efficacy and external locus of control, and vice-versa.[16] This natural control will render our analysis and measurement less burdensome, and our results more interesting. If classic socio-economic characteristics are held constant, and there is a strong correlation between the independent and dependent variables, it would be the case that personality plays a great role for the decision to vote (or not). Nonetheless, we

[16] It is not clear if the relationship between personality and socio-economic indicators such as income or education is one-way. However, in our case, the impact of personality on income is not yet manifested, as most students do not have steady income. Personality cannot influence age, and age therefore is obviously an antecedent to personality. Speculations may be made about personality's influence on educational achievement; however, this is not one of the goals of this study.

have included an item to measure age, in order to gain a deeper understanding of our hypotheses and in order to purge the effects of the main independent variables.

Gender is a social background characteristic, which is not likely but, nonetheless, could render the initial relationship spurious. Gender could be the cause for differences observed in personality traits, as well as the cause for the decision to vote (or not), and therefore we should take into account the impact gender could have on the relationship. This variable is called women and is coded as 1 if the respondent is female and 0 if the respondend is male.

Finally, it could be the case that individuals are more likely to vote (or not) because they feel part of a larger group and consequently particularities related to their personalities turn out to be slightly relevant or not relevant at all as determinants of electoral participation. Belonging to a group may decrease one's self-efficacy, and instill external locus of control. However, belonging to that group may increase one's likelihood of voting because of increasing one's belief in common efficacy and power as opposed to individual ones. Vice versa, group influence could increase individual sense of self-efficacy and sense of internal locus of control. Therefore, group influence and mobilization may be a source of spuriousness in our initial relationship. If the impact of a particular group destroys the relationship between personality and voter turnout, then groups as scientific units will prove more useful than personality for explaining electoral turnout. We consider that adapted versions of the indicators cited in Clarke et al. (2004: 245, 251) as "political mobilization", "group influence", and "social norms" would serve our purposes. In order to create an index of group influence on respondents' decision to vote or not, students had to provide ther views on the following items: 1) *Un ami, un membre de ma famille, ou quelqu'un à l'école/au travail a essayé de me convaincre d'aller voter lors des prochaines (des*

dernières) élections provinciales; 2) *La plupart de mes amis et de ma famille trouvent que voter c'est une perte de temps*; 3) *La plupart des gens autour de moi iront voter lors des élections provinciales*. Reliability tests showed that if item one is removed from the index, Cronbach alpha goes up from .325 to .486, and consequently this item has been removed. Analogically to previous variables, the new calculated group influence index varies from 0 (no group influence) to 1 (great group influence).

Finally, all cases with invalid or erroneous scores have been excluded from the data analysis.

Weaknesses

One of the weaknesses of our approach may be the fact that the measurement of concepts such as generalized self-efficacy and locus of control is still subject to scientific debate. Studies have demonstrated that the measurement scales to be used are reliable. However, there has been a debate about the discriminant validity of those scales. Some scholars have argued that measures of generalized self-efficacy are redundant and multidimensional because self-efficacy as a concept itself is hard to define, "appearing to assess both affective state and instrumental personality characteristics" (Voyten 1997: iii). Stanley and Murphy (1997) argue that generalized self-efficacy and self-esteem are the same because of measurement scales used. Nonetheless, as the main focus of this paper is not general self-efficacy or personality but electoral participation as related to personality, the eventual conceptual closeness between psychological terms such as general self-efficacy, self-esteem, and locus of control does not prevent us from gaining an important insight for the field of political science by using any of the mentioned concepts for measuring personality in this paper. Therefore, we consider that for the purposes of this

paper our concepts are meaningful and valid. Nonetheless, we shall keep in mind that multicollinearity between the two main independent variables is possible, if not unavoidable.

Chapter 4 - Analysis

In this chapter, I briefly present the estimation method used to examine the relationship between personality traits and voter turnout. Then, I analyze the results obtained from the study by examining the strength and changes in the initial relationship after including a number of traditional control variables. Later, I test for non-linear effects of personality traits on voter turnout. Finally, I examine the effect of personality on turnout among a subgroup of politically knowledgeable and politically interested undergraduate students.

Introduction

The choice of estimation in this study is determined by the variable to be explained, which is dichotomous. The best model to be used in order to determine the influence of multiple independent variables on a dichotomous dependent variable is the multivariate binary logistic regression. Linear regression cannot be used in this case as the data cannot satisfy the assumption of normal distribution with constant variance. The multivariate logistic regression equation from which the probability of Y is predicted is given by the equation:

$$P(Y) = \frac{1}{1 + e^{-(b_0 + b_1 X_1 + b_2 X_2 + \ldots b_n X_n + \varepsilon_i)}} \qquad (3)$$

where $P(Y)$ is the probability of Y occurring; $e = 2.718$ is the base of natural logarithms; b_0 is the constant (the y intercept); X_1, X_2, etc. are the independent variables; b_1, b_2, etc. are the coefficients (or weights) attached to the corresponding independent variables, and ε_i is the error term, or the difference between the score predicted by the model and the score obtained by the i^{th} respondent. For our study Equation 3 can be transformed as:

$$P(vote=1)=\log(P)=\ln\left(\frac{P}{1-P}\right)=b_0+b_1X_1+..b_nX_n+\varepsilon_i \qquad (3.1)$$

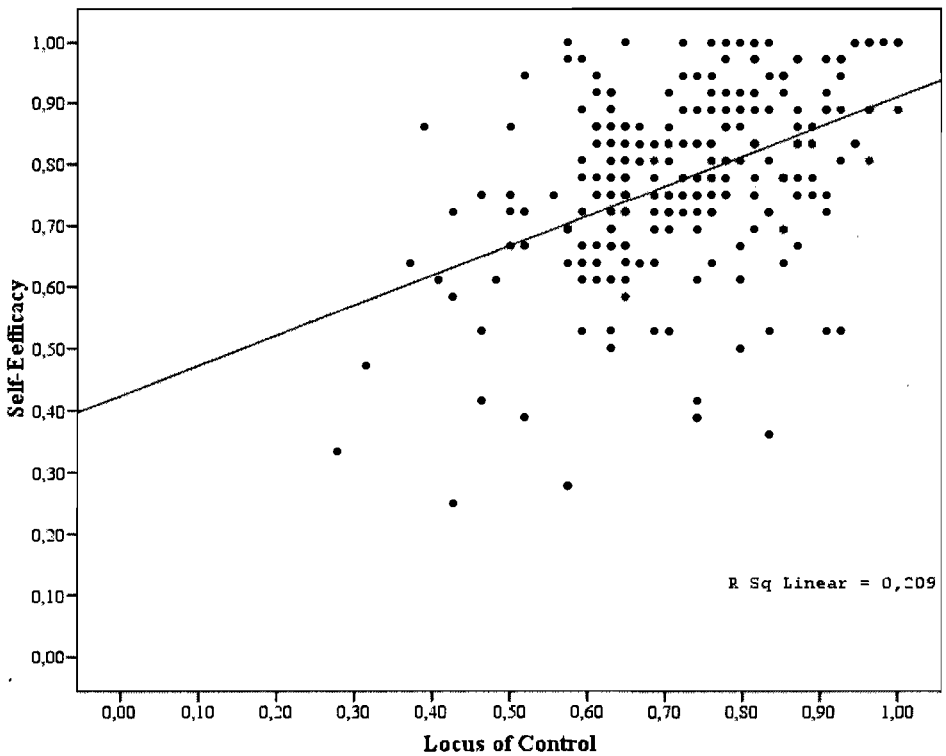
so that the logged odds of a respondent voting are equal to the additive effect on the logged odds ratio for a unit change in the i^{th} independent variable. The linear relationship between the independent variables (X) and the logit implies a non-linear relationship between the independent variables and the original probabilities (Pampel 2000, 16-17). Although it is possible to transform the logged odds into certain probabilities of voting, this fact does not prevent us from interpreting the direction and relative magnitude of the independent variables for predicting the dependent variable by the logged odds. What this means is that if we obtain large and positive coefficients on our independent variables, the logged odds of voting would increase. Thus, if respondents voted and their self-efficacy was high, the coefficient associated with self-efficacy should be large and positive. Similarly, if respondents voted and their locus of control was internal, the *b* coefficient associated with locus of control should be large and positive, the opposite is also true. In addition, these coefficients will have to remain large, positive, and statistically significant once the control variables are included. In the vent they do not satisfy the mentioned conditions, this would mean that locus of control and self-efficacy are not viable predictors of turnout, or that their ability to predict the outcome depends on other factors included in the statistical model. This analysis will allow us to estimate and compare the relative weight of our predictor variables by analyzing their coefficients.

Results

Before proceeding with the logistic regression, we did a measure of association test because, as mentioned by the criticisms of the use of concepts such as self-efficacy and

locus of control to measure personality, we would expect that there is a positive association between these two independent variables (which could pose a problem of multicollinearity in our regression model). In addition, it is interesting to observe how our personality variables correlate with existent predictors of electoral participation. Because our data are negatively skewed and we would like to avoid the impact of any outliers on the correlation coefficients, we chose a nonparametric Kendall's tau-b statistic to measure the association. The results show that indeed there is a moderate correlation between internal locus of control and self-efficacy ($r=.32$, $p<.001$). This correlation is also evident from the graph in Figure 1, which shows results from a linear regression. Respondents who had high internal locus of control were more likely to have high self-efficacy.

Figure 1. Correlation between internal locus of control and self-efficacy (linear regression)



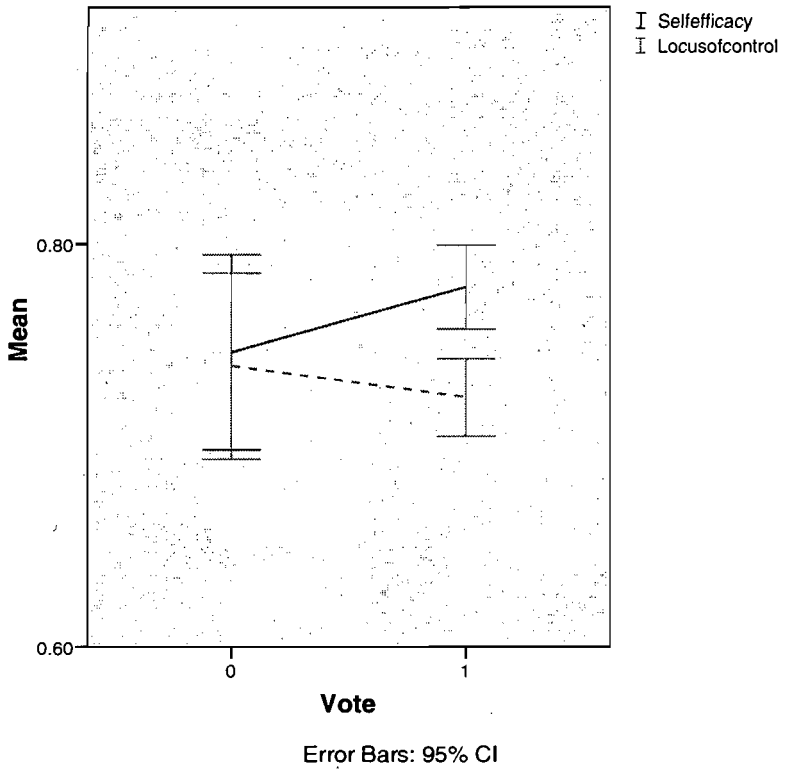
Among the other determinants of turnout, the highest correlations are between duty and satisfaction (r=.50, p<.001), and between the variable belief in changing things through voting and satisfaction (r=.39, p<.001). Therefore, none of our variables is highly or perfectly correlated with any other, which suggest that there are only small chances that our logistic regression results would be biased.

Are there statistically significant correlations between our two main independent variables and the usual determinants of turnout? Yes, several of them. It seems that cynicism is negatively correlated with internal locus of control (r=-.132, p=.003), and it is positively correlated with self-efficacy at the .1 level. This means that as internal locus of control grows, cynicism diminishes; and as self-efficacy grows cynicism increases. In addition, both internal locus of control (r=.176, p<.001) and self-efficacy (r=.209, p<.001) are positively and significantly related with duty, so that when internal locus of control and self-efficacy increase duty increases also. Political efficacy is significantly linked with locus of control (r=.181, p=.000), but not with self-efficacy. Satisfaction with the act of voting is also positively and significantly correlated with both locus of control (r=.158, p=.001) and self-efficacy (r=.133, p<.005). The importance attached to the act of voting is also positively and significantly associated with internal locus of control (r=.152, p=.001) and self-efficacy (r=.125, p=.007). Furthermore, the costs of voting are negatively and significantly correlated with both internal locus of control (r=-.163, p=.001) and self-efficacy (r=-149, p=.002), which means that the more self-efficient individuals and those who have internal locus of control are more likely to perceive the costs of voting as lower. Both self-efficacy (r=.086, p=.059) and internal locus of control (r=.146, p=.001) are positively and significantly correlated with the belief that one can change things through voting. Both internal locus of control (r=.196, p<.000) and self-efficacy (r=.089, p=.054)

are positively and significantly related with the easiness to decide variable. Gender is negatively but insignificantly related with both internal locus of control ($r=-.02$; $p>.05$) and self-efficacy ($r=-.05$, $p>.05$). However, age seems significantly linked with self-efficacy ($r=.123$, $p=.009$) and not with internal locus of control. Finally, surprisingly maybe, both internal locus of control ($r=.163$, $p<.001$) and self-efficacy ($r=.104$, $p=.023$) are positively and significantly associated with group influence. This means that the more self-efficient individuals are, and the more internal locus of control they have, the more they are surrounded by groups who care about their decisions to vote or not.

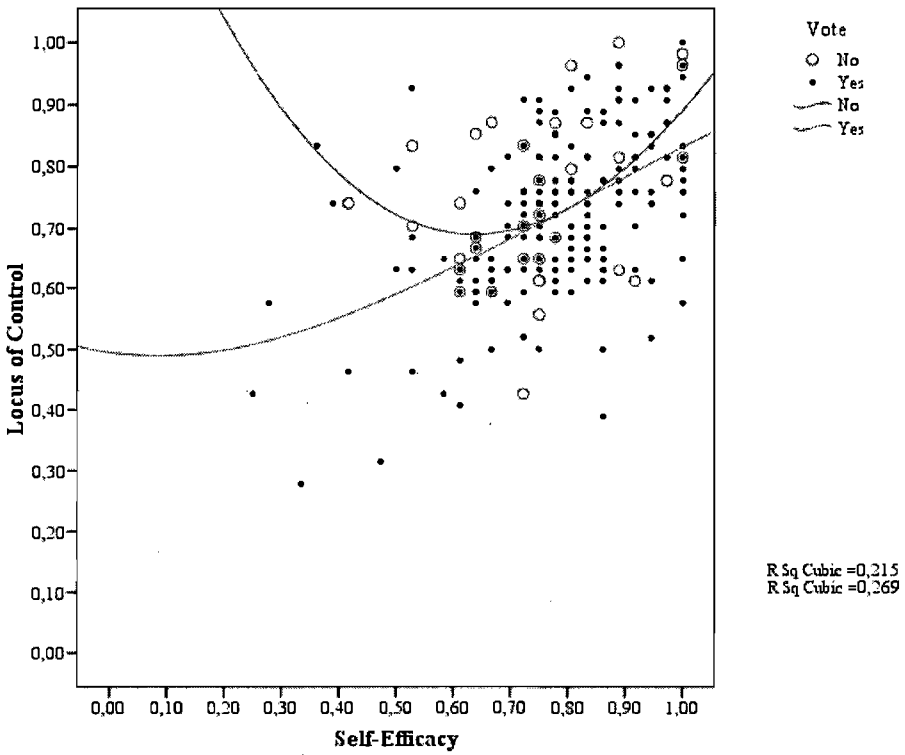
These correlations are interesting, especially if they are put into perspective once we have an idea about the relations between internal locus of control, self-efficacy, and voting. For example, if duty is positively and significanlty correlated with both of our independent variables, and they are both correlated with each other, and duty is an established and reliable predictor of the probability to vote, one would conclude that both of internal locus of control and self-efficacy would have a similar positive relation to voting. As hypothesized earlier, those who score higher on internal locus of control are more likely to vote than ones who score higher on external locus of control, and the more self-efficient one is the more likely one is to vote. Surprisingly maybe, the results displayed in Figure 2 show a situation slightly different from what was predicted.

Figure 2. Mean scores on internal locus of control and self-efficacy scales for respondents who voted and those who did not



As we can see, the mean self-efficacy for those who voted is higher than the mean for those who did not vote. On the contrary, the mean score on internal locus of control is lower for those who voted than for those who did not. The figure demonstrates that there is a good possiblity that internal locus of control is negatively related to the probability of voting, contrary to what we hypothesized; and that self-efficacy, as we hypothesized, might be positively related to the probablity of voting. This figure seems striking considering the fact that, as shown above, self-efficacy and locus of control are positively correlated. In order to clarify the relationship between the two personality traits we tried observing it separately for those who voted and those who did not. Figure 3 shows this relationship.

Figure 3. Correlations between internal locus of control and self-efficacy for individuals who voted and those who did not (cubic regressions)



Internal locus of control and self-efficacy are positively and linearly correlated for those who voted[17]. However, for the individuals who did not vote, internal locus of control and self-efficacy are not linearly correlated, and correlate positively for those who score higher than .60 on the self-efficacy scale; but correlate negatively for those with self-efficacy scores below .60. This finding is important not so much because it marks a significant particularity between two personality traits, but because it suggests that the effects of self-efficacy and internal locus of control might not be linear as suggested by our hypotheses. This leads us to believe that we should analyze if the effects of changing both self-efficacy and locus of control are dependent on the values of self-efficacy and internal

[17] The line fitted for those who voted is not linear, however one can easily imagine where the linear regression line would lie. The cubic regression line is presented for the sake of comparison, and to show that a linear regression line fits the data as well as a cubic one.

locus of control themselves; this will be tested by including nonlinear specifications of both self-efficacy and internal locus of control in addition to all other control variables.

Multivariate Analyses

The logistic regression results are summarized in Table 1. The columns labeled (1) through (7) report separate model specifications. Firstly, what we observe in regressions (1) and (2) is that the coefficients of neither internal locus of control nor self-efficacy are statistically significant at predicting the logged odds of voting when inserted separately in the model. In other words, the observed relationships between internal locus of control and voting, and between self-efficacy and voting are so weak that they could have easily occurred by chance. However, it is worth noting that the coefficient for internal locus of control has a negative sign, which once again shows that, differently from what we assumed, it is the case that as internal locus of control increases the logged odds of voting decrease. Inversely, the coefficient for self-efficacy is positive (and larger than the one of locus of control), which suggests that voting increases as self-efficacy increases.

In regression (3), we add both internal locus of control and self-efficacy in the model. Results show that the coefficient of internal locus of control, although it increased by 1.35 points, is once again negative and statistically insignificant. However, this time we notice that self-efficacy is statistically significant at the .1 level, with an increased coefficient of 2.49. As one's self-efficacy increases, one is more likely to vote, and it is unlikely that, even in such a small sample as ours, this occurred by chance only. The results suggest also that controlling for the relationship between self-efficacy and internal locus of control strengthens their specific effects on turnout. Holding internal locus of control constant increases the impact of self-efficacy on voting, and vice-versa. Taken together,

these independent variables predict electoral participation better than separately. The pseudo-R^2 of .03 is modest. However, the rather large large and statistically significant coefficient of self-efficacy shows that personality may be an important new determinant of electoral participation worth examing more closely with controls.

In regression (4), we add the first group of control variables (group influence, gender, and age) in order to test if the relationships between self-efficacy, locus of control and voting will disappear or change direction once these potential sources of spuriousness are included. As hypothesized, belonging to a group may foster or undermine electoral participation without personality remaining an important predictor for turnout; or one's voting probability may turn out to be independent of individual differences in self-efficacy and internal locus of control in case group influence takes effect. More precisely, in a social context where one is influenced to vote by a group supportive of voting, one's personality could be of lesser or no importance at all for the decision to vote (or not) – one will do what the group does. The question then is to find out which matters most for the decision to vote (or not), group influence or personality. Results show that group influence is a significant predictor of the probability to vote (b=1.64, p<.1). However, although the coefficients of locus of control and self-efficacy are (respectively slightly and moderately) above the .1 level of statistical significance, they remain large (and larger than the coefficient of group influence) and preserve their respective signs. Furthermore, the coefficient for locus of control increases, while the coefficient of self-efficacy decreases, which suggests that group influence is not a source of spuriousness as hypothesized in the beginning. Both group influence and personality are important, nonetheless, it seems that personality is more decisive when one is making the decision to vote or not. While the coefficients for internal locus of control and self-efficacy do not reach statistical significance, they point to a greater

impact on voting than group influence.

Table 1. Determinants of electoral participation among university students in Quebec (logistic regression coefficient and standard errors)

Regressor	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Locus of control	-.91		-2.27	-2.71	-4.02*	-2.98*	-3.72*
	(1.42)		(1.63)	(1.70)	(2.11)	(1.76)	(1.98)
Self-efficacy		1.37	2.49*	2.18	1.39	1.62	.90
		(1.22)	(1.42)	(1.48)	(1.81)	(1.56)	(1.71)
Political efficacy					.91		
					(.93)		
Cynicism					-.56		
					(1.1)		
Probability of close race					-.37		
					(.92)		
Satisfaction from voting					1.95*		1.60
					(1.12)		(.99)
Sense of duty					1.44	3.19**	1.13
					(1.23)	(.82)	(1.14)
Cost of voting					-5.05**		-4.86**
					(1.24)		(1.19)
Can change things					.67		
					(1.05)		
Easiness to decide					-1.48		
					(.96)		
Group influence				1.64*	1.09	1.39	1.26
				(.89)	(1.13)	(.95)	(1.04)
Age				-.98	.78	-.80	.47
				(1.21)	(1.54)	(1.28)	(1.49)
Women				-1.27**	-1.58**	-1.58**	-1.60**
				(.47)	(.59)	(.51)	(.56)
Constant	2.33	.59	1.42	1.91	2.72	.38	2.70
	(1.06)	(.94)	(1.16)	(1.43)	(2.05)	(1.53)	(1.79)
Pseudo-R^2	.00	.01	.03	.10	.39	.22	.36
N	219	221	219	216	214	215	215

Significance level: * $p < .1$ (two-tailed test), ** $p < .05$ (two-tailed test)

Note: Dependent variable—vote.

Finally, it is worth noting that compared with regression model (3), where the effect of self-efficacy is larger than that of locus of control, the situation is reversed in the current model. We might conclude that group influence reinforces slightly the effect of locus of

control as a determinant of voting, but diminishes slightly the effect of self-efficacy.

In addition, we predicted that gender could be a source of spuriousness because both internal locus of control and self-efficacy may be determined by gender, while voting could be as well. Results show that being a woman decreases one's chances of voting (or men are more likely to vote than women), no matter what the level of their self-efficacy and/or locus of control. The coefficient of the gender variable measuring is -1.27 (which is less than the coefficients of both locus of control and self-efficacy), and it is significant at the .05 level. Similar to group influence, gender does not offset the effects locus of control and self-efficacy on voter turnout, even though we admitted that the effects of personality might be due to chance only as the levels of statistical significance for both variables are above .1, which is not surprising for such a small sample.

We have also included age in the model in order to gain a deeper understanding of our hypotheses and in order to purge the effect of the main independent variables. Surprisingly, and contrary to results from previous research, in this model age is negatively related to the probability of voting. Two caveats downplay this innocuous finding. First, the effect is not statistically significant. Second, with a sample of undergraduate university students, this variable only spans a few years around the early 20s.

Finally, the model's pseudo-R^2 has increased from .03 to .10, which means that this specification's ability to predict the probability of voting is higher than the first three models.

In regression model (5), we added the potential intervening variables in order to see if our personality indicators would be able to predict voter turnout when all control variables are included. Self-efficacy is not a significant predictor, while locus of control is significant at the .1 level. The negative -4.02 coefficient of locus of control suggests that as

one's internal locus of control increases, the likelihood of one's voting decreases. This effect is significant even when we hold constant variables such as sense of duty, cost of voting, political efficacy, cynicism, probability that vote will matter, group influence, age, and gender. We should not forget, however, that the high coefficient of locus of control is not independent from self-efficacy, as the results from regression models (1), (2) and (3) showed. Therefore, it is reasonable and safer to conclude from this model that personality does influence voter turnout through internal locus of control and this effect is not due to chance only.

As for self-efficacy, we observe that its coefficient's value has fallen and its level of statistical significance has risen ($p>.1$), in comparison with regressions (3) and (4). This could be due to the fact that its effect is rather weak and unreliable; but this could also be due to the fact that its effect is exercised through other variables such as age, satisfaction from voting, sense of duty, political efficacy, cost of voting, belief in being able to change things through voting, and easiness to decide. For example, as we have suggested at the beginning, one who is highly self-efficient is more likely to see the costs of voting as low (a statement that proved correct in the correlational analysis). So it is that the perception of cost is influenced by self-efficacy, and the effect of voting cost on the probability of voting is not independent from self-efficacy. For comparison, it is worth noting that the coefficient of sense of duty, a reliable predictor of voter turnout, is almost as low as self-efficacy, and also statistically insignificant. Note, in regression models (6) and (7) we explore the possibility that the effect of duty on the probability of voting is achieved through other variables such as satisfaction and cost stemming from voting.

Many control variables are not significantly linked to electoral turnout. The coefficients of political efficacy and cynicism have the right direction, but they bring little

elucidation to our research question, since both are not significant. The impact of the belief in changing things through voting is also in the expected direction, but it is not significantly related to turnout. The general feeling that one's vote will matter which is negatively related to the probability of voting, but not significantly. The easiness to decide variable, which was included in our analysis as an alternative to the variable of voting cost, also can not be retained as an important determinant. Group influence's impact, which was significant in model (4), does not survive the additional controls. Finally, age is of little importance as well, though this time its coefficient is positive.

Duty is positively related to the probability of voting, but this result is statistically insignficant because, as we show in regression models (6) and (7), duty's effect on the probability of voting is exerciced through satisfaction and cost. Model (7) shows that once we include satisfaction and cost, duty's coefficient decreases, and becomes statistically insignificant. What this means is that the more dutiful one is, the more satisfaction one will derive from voting; and the more dutiful one is, the lower one will consider the costs of voting. Therefore, duty is important in determining turnout because of satisfaction and cost. Furthermore, interestingly, regression model (6) shows that in comparison with regression (4), once that we add duty, the effect of locus of control increases slightly, but also gains statistical significance. Nonetheless, its weight for determining voter turnout is lower than that of duty. This changes, after adding satisfaction and cost in model (7), where the coefficient of locus of control increases again while remaining statistically significant. This means that personality may be a better predictor of voter turnout when duty, satisfaction, cost, self-efficacy, and group influence are held constant.

The cost of voting is the most important and statistically significant predictor of voter turnout, and we have already suggested above some of the reasons why this may be.

We might add to what has been said above in terms of variables such as duty, locus of control, and self-efficacy having an effect on the probability of voting through influencing the perceptions of cost, that the cost of voting is the most important determinant of the probability to vote for students, as their ressources are scarce, and they have no stakes in the political system (Wolfinger and Rosenstone 1980). The higher the cost to vote, the less likely one is to vote.

Two other variables are significant predictors of participation. Satisfaction with the act of voting is a variable that attains statistical significance in the model. The more satisfied one is with voting the more likely one is to vote. Gender also proves to be of statistically significant importance. Being a woman reduces one's likelihood of voting, even if we control for all other factors.

The model's pseudo-R^2 is .39. Cook's distance shows that there are only two cases with values over 1, which could influence the regression coefficient in case they are deleted from the model. Leverage values indicate that none of the cases have values above 1, which means that no case exerts undue influence on the model. The normalized residual shows that no cases have values above or even close to three. And the DFBeta values for the constant are all less than 1. This tells us that our model fits well our data and the results are reliable. Nonetheless, collinearity diagnostics show that there is a collinearity problem between self-efficacy and locus of control, which accounts for some unreliability within the model. However, collinearity between self-efficacy and locus of control is not an insuperable barrier for the model's interpretation or utility as both of the variables measure personality. In this case, although the two traits are different, they interact with each other and therefore, certain amount of collinearity is unavoidable. Nonetheless, even if we interpret our results with collinearity in mind, personality still influences the decision to

vote or not.[18]

From the first table of logistic regression results we can conclude that:

1) personality does influence voter turnout even when we control for classic indicators;

2) having internal locus of control decreases one's likelihood of voting;

3) self-efficacy increases one's likelihood of voting, however its effect is not strong enough to achieve statistical significance when we control for classic indicators;

4) locus of control and self-efficacy interrelate in a way that reinforces their impact on voting.

Although self-efficacy does not have a statistically significant effect on voter turnout once we add all control variables, and locus of control has an effect opposite from the one that we predicted, results show that personality is important when it comes to deciding whether to vote or not.

From the correlations that we have observed at the beginning of this analysis, it is clear that internals (the ones with internal locus of control) have higher sense of duty, are more politically efficient, derive more satisfaction from the act of voting, consider voting more important, perceive the cost of voting lower, believe that one can change things through voting, decide whom to vote for more easily, and surround themselves by groups that vote more often. Why is it then that internals are less likely to vote than externals? What could explain the results that we obtained once everything is controlled? One reason might be their personality: they actually have less confidence in the process of democratic

[18] We mentioned earlier that the measurement of psychological constructs such as personality, and in particular self-efficacy and locus of control, are still subject to scientific debates. As the purpose of our study is simply to explore the influence of personality, as represented by two traits, on the decision to vote or not, and not the interaction between self-efficacy and locus of control and their relation to personality, we consider that our model is useful and achieves its purpose.

representation through elections because they do not have direct control over election results or the results from specific party's governance. It could be the case that internals find it useless to delegate authority through electing representatives. Another reason might be that internals perceive of election results as having a self-destructive effect given their belief in having control over events – or they prefer not participating in events that involve a certain high level of uncontrollability. Altough they might agree in principle with the importance of voting or electoral representation, they actually vote less than the externals – internals could be fearful to put their personality to the test and consciously or subconsciously avoid this. Vice versa, the externals might perceive of their life situations as out of their control (and under the control of chance, or powerful groups), and consequently accept electoral participation as a way of collective resistance to powerful others, or simply an act that does not threaten their inner-selves. In addition, externals as they perceive less control over their lives they might see voting as one of the few ways to obtain by law (and without such great effort on their part) some influence over the political course of events.

Another question that we should ask ourselves is why the effect of self-efficacy diminished with every control variable that we add, while the effect of locus of control increased in each model. From being statistically significant and with a higher coefficient than locus of control in regression (3) to being statistically insignificant and with much lower coefficient than locus of control in regression (5), self-efficacy seems to exert influence over the decision to vote or not via other variables.

The results from regression (5) are important also because they suggest that personality can add to our ability to predict turnout even if predictors such as sense of duty, importance of one's vote, cost of voting, political efficacy, group influence and all other traditional determinants are taken into consideration. The effect of personality is moderate,

however this is a notable finding.

Testing for Non-Linearity

We mentioned that there are chances that the effects of both self-efficacy and locus of control might be dependent on the values of these same variables. In Table 2, we examine the potential non-linearity of the relationships. This is done by collapsing the scales of locus of control and self-efficacy into three categories – low, medium and high – and adding two of these variables to a specification with all other control variables.[19]

Results of the first regression summarized in column (1) show that H1b does not hold. Locus of control is linearly related to the likelihood of voting. The values of locus of control are essentialy linearly related to the logged odds of voting. As internal locus of control increases, the likelihood of voting decreases. Nonetheless, it is worth noting that none of the coefficients reaches reliable levels of statistical significance.

The estimates in regression (1) are also inconsistent with the hypothesis of self-efficacy having a nonlinear effect (H2b). For respondents with low self-efficacy, the likelihood of voting is lower than for respondents with a high level of self-efficacy. However, none of the coefficients reaches the necessary level of statistical significance.

The model's pseudo-R^2 is .03, the same as for regression model (3) from Table 1. This means that including the categorized variables of locus of control and self-efficacy did not substantially improve the goodness of fit of the model, and does not help predict any better the probability of voting.

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[19] Low locus of control is coded 1 for all respondents whose score was less than or equal to .66 points, or else coded as 0. High locus of control is coded 1 for all respondents whose score was greater than or equal to .79 points, or else as 0. Low self-efficacy is coded as 1 for all respondents whose score was less than or equal to .73, or else coded as 0. High self-efficacy is coded 1 for all respondents whose score was greater than or equal to .85 points, or else, as 0.

Table 2. Testing for non-linear effects of self-efficacy and locus of control (logistic regression coefficient and standard errors)

Regressor	(1)	(2)	(3)
Low locus of control	-.14	-.01	-.02
	(.48)	(.50)	(.61)
High locus of control	-.61	-.62	-1.26**
	(.48)	(.50)	(.64)
Low self-efficacy	-.53	-.47	-.44
	(.45)	(.47)	(.55)
High self-efficacy	.36	.33	.33
	(.52)	(.53)	(.67)
Political efficacy			1.13
			(.95)
Cynicism			-.49
			(1.11)
Probability of close race			-.46
			(.92)
Satisfaction from voting			1.99*
			(1.13)
Sense of duty			1.50
			(1.23)
Cost of voting			-5.57**
			(1.33)
Can change things			.63
			(1.05)
Easiness to decide			-1.92**
			(.97)
Group influence		1.65*	1.04
		(.89)	(1.13)
Age		-.99	.92
		(1.20)	(1.57)
Women		-1.27**	-1.62**
		(.47)	(.61)
Constant	2.02	1.89	1.58
	(.41)	(.89)	(1.72)
Pseudo-R^2	.03	.10	.40
N	219	216	214

Significance level: * $p < .1$ (two-tailed test), ** $p < .05$ (two-tailed test)

Note: Dependent variable—vote.

In regression (2), similarly to what we have done previously, we add group influence, gender and age as control variables in order to observe their effects on the main independent variables' initial relationships. The estimates of the personality variables are

not affected to a great extent. Both remain linearly related to electoral turnout; negatively for locus of control and positively for self-efficacy.

Similar to column (4) of Table 1, the results show that group influence and gender are statistically significant determinants of turnout.Age also behaves as it did previously; it is negatively but insignificantly related to the probability of voting. The model's pseudo-R^2 is .10, exactly the same as for regression model (4) from Table 1.

Finally, in regression (3) we include all control variables and we obtain similar results to the ones in column (5) from Table 1.We notice that, from all personality variables, only high locus of control achieves a statistically significant coefficient with the expected negative sign. We can predict with confidence that the higher internal locus of control, the lower the probability of voting.

We can conclude that, according to these results, the relationships between self-efficacy, locus of control, and the probability of voting are not better captured by a nonlinear specification. The link between self-efficacy and turnout is positive and constant, but it does not reach statistical significance. We fail to find supportive evidence for both hypothesis H2 and the idea of a non-linear effect. In regression (3), high locus of control is significant at the .05 level. However, as previous results suggested, H1 should be rejected. Instead, as internal locus of control increases, the likelihood of voting decreases. Also, the relationship between locus of control and voting is linear. Thus, the idea of a non-linear effect should be dismissed as well.

Once again, cost of voting, satisfaction derived from voting, and gender are statistically significant. One difference with the previous table is the significant impact of the easiness to decide variable. Everything else held constant, those who find it easier to decide whom to vote for are less likely to vote ($p<.05$).

The model's pseudo-R^2 is .40, which means that knowing respondents' scores on the predictor variables increases our ability to predict their probabiltiy of voting by 40 percentage points. We should accept that our model fits relatively well the data, however it does also reveal some degree of uncertainty. Including a greater number of participants would allow a better estimation of the model's fit and more reliable results.

The general conclusions that can be drawn from the analysis of the regressions in this table are that: 1) locus of control is linearly related to the likelihood of voting; 2) self-efficacy is not related to the likelihood of voting with satisfactory confidence for such a small sample.

Examining the More Politically Sophisticated Respondents

In order to assure the reliability of our results, we included another control variable in our model: interest in politics.[20] This is typically a major determinant of electoral turnout (Blais 2000: 100, 101; Blais et al. 2006). The more interested one is in politics, the more likely one is to vote. However, does the role of personality change once we hold political interest constant? Or, could it be that the more internal locus of control individuals are less likely to vote because their personality urges them to be less interested in the world of political affairs or not? It is reasonable to assume that interest in politics, as an expression of internally or externally acquired conscious or subconscious desire or will to know more about politics, could influence personality's effect on the decision to vote or not. Furthermore, as the first group of respondents are students taking a political science class (and most probably students majoring, or minoring in political science), it is worthwhile to test our hypotheses separately for this group of purportedly highly politically

[20] Our previous models did not contain this variable because it was only captured for half of our sample.

knowledgeable individuals. In case the coefficients for our personality variables are higher from the previous models and still statistically significant, it would be the case that political knowledge and political interest are conditional variables for the initial relationship. This means that for the more politically knowledgeable and more interested in politics contingent of respondents personality plays a greater role in determining turnout. If the relationship between personality and turnout disappears or diminishes it would be the case that interest or the desire to know more about an issue are better predictors of turnout than personality. Political interest has been measured only for the first of the two groups of participants, and therefore we shall include it as a control variable only for the first group.[21] Before proceeding with the analysis of the logistic regression results, we look at the bivariate correlations between interest in politics and the remaining variables for this group in Table 3.

Correlations show that locus of control and self-efficacy are slightly but significantly correlated with interest in politics. The more self-efficient one is and the more internal locus of control one has, the more interested one is in politics. In addition, interest in poitics is positively correlated with political efficacy, satisfaction from voting, cost of voting, belief in changing things through voting, and easiness to decide whom to vote for. These correlations help us understand better the regression results.

Logistic regression results are summarized in Table 4. Regression (1) contains no controls. The signs of the coefficients and the statistical significance of the personality indicators remain similar to Table 1. However, the values of the coefficients of both locus of control and self-efficacy have increased for this group. The model fit is also greater

[21] The index that fits a zero to one scale has been created for interest in politics in the same manner as for all other variables; questionnaire items can be found in Appendix A.

among political science students. Both of these patterns suggest that personality has a greater effect on the probability of voting for those who are politically interested and knowledgeable. In addition, we can be confident that this effect is not due to chance only for self-efficacy ($p<.10$), though it should be noted that this sub-sample is quite small, and both effects are quite large.

Table 3. Bivariate correlations between interest in politics and other determinants of electoral participation among political science students in Quebec

Vote	.42
Locus of control	.14*
Self-efficacy	.19**
Political efficacy	.22**
Cynicism	-.10
Probability/Importance	.11
Satisfaction	.25**
Duty	.14
Cost	-.17*
Group Influence	.13
Belief in changing things	.21**
Easiness to decide	.25**
Age	-.03
Women	-.15

Significance level: * $p < .05$ (two-tailed test), ** $p < .01$ (two-tailed test)
Note: N=107.

In regression (2), we include control variables: group influence, gender, and age. Results show that these controls slightly decreased the weight of both locus of control and self-efficacy as determinants of voter turnout. Again, the coefficients of group influence and gender are significant. Nevertheless, the largest coefficients are those for locus of control and self-efficacy, as it was the case in regression (4) from Table 1. This means that individual personality is still a more powerful predictor of the likelihood of voting, though neither locus of control nor self-efficacy manage to attain statistical significance in this

small number of cases.

Table 4. Determinants of electoral participation among political science students in Quebec (logistic regression coefficient and standard errors)

Regressor	(1)	(2)	(3)
Locus of control	-5.00	-4.70	-5.41
	(3.06)	(3.23)	(5.12)
Self-efficacy	4.12*	3.75	2.80
	(2.22)	(2.33)	(3.56)
Interest in politics			-7.45
			(4.67)
Political efficacy			1.17
			(2.22)
Cynicism			-3.30
			(2.68)
Probability of close race			2.24
			(2.78)
Satisfaction from voting			3.91
			(3.93)
Sense of duty			5.99
			(3.95)
Cost of voting			-8.29*
			(3.09)
Can change things			-2.68
			(2.55)
Easiness to decide			-.40
			(2.12)
Group influence		2.71*	3.67
		(1.47)	(2.44)
Age		.31	1.13
		(2.45)	(3.77)
Women		-2.01**	-7.43**
		(.87)	(3.15)
Constant	2.70	2.08	9.22
	(2.02)	(2.73)	(6.10)
Pseudo-R^2	.08	.24	.63
N	109	108	107

Significance level: * $p < .1$ (two-tailed test), ** $p < .05$ (two-tailed test)
Note: Dependent variable—vote.

The model's pseudo-R^2 has increased to .24 in comparison with regression (4) in Table 1, which shows that this specification better predicts the likelihood of voting among the more politically interested and knowledgeable.

In the last regression model (3), we include interest in politics together with all control variables. The only variables that are statistically significant in the model are gender and cost of voting. Once again, we notice that cost of voting is the most important and statistically significant predictor of voter turnout. The higher the costs of voting, the lower the likelihood of voting for both politically knowledgeable and students as a whole. Women are also less likely to vote than men. More interestingly, interest in politics has the largest negative coefficient (after cost) which is not statistically significant. The relationship is contraty to expectations, but considering this sub-sample is made up of political junkies, the nature of differences between interest levels should not garner much concern.

The negative coefficient of locus of control shows that as one's internal locus of control increases, the likelihood of one's voting decreases for this group also. This effect is strong but statistically insignificant when we hold constant the traditional determinants of electoral participation (contrary to the statistically significant effect among the group as a whole). Similarly, self-efficacy is not significantly linked to turnout. Adding all control variables also decreased the effect of self-efficacy. The impact is still positive, as in Table 1. Self-efficacious respondents have a tenuously higher propencity to vote.

The statistically insignificant coefficients on both personality indicators could mean that the relationships between personality and turnout have occurred by chance among this politically knowledgeable group because they are weak and unreliable. Or this could be due to the fact that once we control for various variables, personality fails to predict the likelihood of voting. Thus its effects are exercised through other variables. For example, as we have suggested above in interpreting the results from Table 1, one who is highly self-efficient is more likely to see the costs of voting as low (a statement that proved correct in the correlational analysis for this group as well), so it is that the perception of cost is

influenced by self-efficacy, and the effect this personality trait on the probability of voting may intervene through cost of voting. Nonetheless, it is worth noticing that the personality coefficients are rather high (particularly for locus of control), and that an analysis based on approximately a hundred cases hinders the attainment of statistical significance.

As the pseudo-R^2 for the whole model has increased from .39 for regression (5) in Table 1 to .63 for the present regression in Table 4, we should conclude that the variables in the model predict better the behavior of politically interested and knowledgeable respondents.

From the last table of regression results, we can conclude that:

1) personality does contribute to our understanding of voter turnout among the politically sophisticated, its effect on the probability of voting is maybe even greater for this group than for the student population as a whole, however a greater sample is required in order to determine if this is true;

2) having internal locus of control may decrease one's likelihood of voting, but this effect does not achieve statistical significance among the politically interested and knowledgeable;

3) self-efficacy may increase one's likelihood of voting, however its effect is not strong enough to achieve statistical significance when we control for classic indicators;

4) personality partly influences the decision to vote or not through other variables such as cost of voting.

Conclusion

According to the official electoral statistics of the Le Directeur général des élections du Québec, electoral turnout at the March 2007 provincial elections in Quebec was 71.2%. A week before the elections, *Le Devoir* announced once again that clearly elections results would be very close, and votes would be split almost equally among the three main parties in Québec. It was a close competition, and even a less clairvoyant, self-inefficient, and internal voter could understand that one's vote was rather important, and that election outcomes involved a certain level of risk. Who were the students that did vote in these circumstances?

The results from this study are based on a modest sample, and they cannot confidently be generalized to the voting population at large, nor even to the voting student population. Nonetheless, they indicate clearly that personality influences the decision to vote (or not) even when we control for classic determinants of electoral participation such as political interest, satisfaction, duty, cost, benefits, probability of close race, education, age, and gender. However, it has to be emphasized that according to our findings the two personality traits are incompatible: they exert different and distinct influence on electoral participation[22]. The variable locus of control behaves contrary to our expectations.

Our findings show that as internal locus of control increases, the likelihood of voting decreases. This might be due to the fact that internals have an aversion for situations involving certain high levels of risk, which threaten their self-perception as individuals having control over their lives. Concurrently, internals 1) derive greater satisfaction from voting, and 2) perceive election results as closer than they are—findings, which are

[22] This does not mean that our findings aim at establishing an unequivocal and generalizable principle about the interrelation between these two psychological concepts.

consistent with the suggestion of Ordeshook and Zeng (1997) that the decision to vote or not involves a consumption benefit, while the decision whom to vote for involves an investment benefit (under an increased risk if one considers one's vote very important to election results). We can suggest that investment benefits are of greater importance to internals as determinants of their decision not to vote in the election. Deciding to vote (or not), even if voting brings satisfaction, is more difficult than deciding whom to vote for if one attaches greater importance to one's vote (inflated perception of close election results), and is afraid to lose control, and self-value by choosing a losing side. Indecision in this case will be the lessor of two evils to an internal, and that is why an internal is more likely to choose not to vote.

In addition, our results show that, as hypothesized (H2), self-efficacy may increase one's likelihood of voting. However, once we control for classic indicators, its effect diminishes and does not achieve statistical significance. This does not mean that self-efficacy has no substantial significance, because its effect is actually exerciced through other variables such as the cost of voting.

For the politically knowledgeable group, we discover, but with a lesser degree of confidence, that the effects of both locus of control and self-efficay maybe even greater than those for the student population as a whole. We need a larger sample to determine if this is true.

Finally, none of the personality variables showed to have non-linear effects on the decision to vote or not.

These findings may be more important than they seem. If personality influences the decision to vote or not, it would be interesting to observe the time span of this influence. Existing literature on the durability of personality traits suggests that traits and personalities

are, in general, less stable during early adulthood, but become stabilized and reinforced later in life (Roberts, Walton and Viechtbauer 2006). Our study showed the effect of personality for a student sample, but it is not impossible to find out that personality's effect among adults is even larger. Furthermore, consistent with a recent critique of the cross-sectional methodology used in electoral studies (Franklin and Wlezien 2002), we suggest that longitudinal research on personality and the decision to vote (or not) will be much more instructive, and will provide more conclusive results.

Most importantly, considering the timing of the election (it coincided with the end of the academic semester at Québec universities), we might want to ask ourselves if our results could not be explained by time. Given that, in general, internals are more likely to exercice control over their lives, and given that they had final exams coming up, it is possible that these students abstained not because they were internals, but because being internals they had to succeed in a task that had a priority for their success, and self-determination at this precise moment in time. Thus, it would be worthwhile that future research examines the role of timing of elections, and its importance, in a given situation, for the decision to vote (or not) according to personality. To answer an anonymous commentor, most probably a student high on internal locus of control, from the website of *Le Devoir* – "Qu'est-ce que vous pensez que ca fait un étudiant au mois de mars? Avec les travaux et les examens, et le rush de fin de session, vous vous posez vraiment la question?" – yes, as ludicrous as it may seem to some, we did dare ask ourselves this question.

Appendix A: Variables and Questionnaire Items

The variables and the questionnaire items used to measure them are listed below. All independent variables are measured using a one-point interval Likert scale from 1 to 10 where "Pas du tout vrai" represents a score of 1, "Neutre" is 5, and "Tout à fait vrai" is 10. In order to compare results, the separate index and item scales have been transformed to fit a scale from 0 to 1. The dependent variable "vote" is a dummy variable that equals 1 for those who cast a ballot and 0 for those who were not eligible or did not choose to vote. The questions were repeated for both sample groups with a slight change in the questionnaires in verb tense for the dependent variable in order to correspond to pre- and post-election contexts.

Pour chacune des phrases suivantes, utilisez cette échelle:

1	2	3	4	5	6	7	8	9	10
Pas du tout vrai				Neutre					Tout à fait vrai

Dependent Variable: Vote

1) Pour quel parti pensez-vous voter lors de l'élection provinciale du 26 mars 2007?
2) Avez-vous voté lors de l'élection provinciale de 2007?

Independent Variables

Self-efficacy

1) J'ai confiance que je peux faire face efficacement aux événements inattendus.
2) Je peux résoudre la plupart de mes problèmes si j'investis les efforts nécessaires.
3) Lorsque je suis confronté à un problème, je peux habituellement trouver plusieurs solutions.
4) Peu importe ce qui arrive, je suis généralement capable d'y faire face.

Political efficacy

1) Parfois la politique semble si compliquée qu'une personne comme moi ne peut comprendre ce qui se passe.

Cynicism (political locus of control)

1) Je ne crois pas que le gouvernement se soucie beaucoup de ce que les gens comme moi pensent.
2) Ceux qui sont élus perdent vite contact avec les gens.
3) Les partis sont seulement intéressés par le vote des gens, et non par leurs opinions.

Belief in changing things through voting

1) Quand des gens comme moi votent, ils peuvent vraiment changer la manière dont notre province est gouvernée.

Duty

1) C'est le devoir de chaque citoyen de voter.

2) Pour préserver la démocratie, c'est essentiel que la majorité des citoyens votent.
3) Si je ne votais pas, je sentirais que j'ai négligé mon devoir de citoyen.

Satisfaction

1) L'acte de voter me donne de la satisfaction.

Probability/ Importance (general feeling that one's vote will matter)

1) Je pense qu'un des partis va gagner l'élection provinciale avec peu d'avance sur les autres partis.

Costs

1) Ça prend beaucoup de temps pour aller voter et retourner chez moi.
2) Pour moi personnellement, c'est vraiment très difficile d'aller voter.

Easiness to decide

1) C'est toujours facile pour moi de trouver l'information qui me permet de décider pour qui voter.

Interest in politics

1) Sur une échelle de 1 à 10, où1 veut dire que *ça ne vous intéresse pas du tout* et 10 veut dire que *ça vous intéresse beaucoup*, quel est votre intérêt pour la politique en général?
2) Sur une échelle de 1 à 10, où1 veut dire que *ça ne vous intéresse pas du tout* et 10 veut dire que *ça vous intéresse beaucoup*, quel est votre intérêt pour la politique municipale?
3) Sur une échelle de 1 à 10, où1 veut dire que *ça ne vous intéresse pas du tout* et 10 veut dire que *ça vous intéresse beaucoup*, quel est votre intérêt pour la politique québécoise?
4) Sur une échelle de 1 à 10, où1 veut dire que *ça ne vous intéresse pas du tout* et 10 veut dire que *ça vous intéresse beaucoup*, quel est votre intérêt pour la politique canadienne?
5) Sur une échelle de 1 à 10, où1 veut dire que *ça ne vous intéresse pas du tout* et 10 veut dire que *ça vous intéresse beaucoup*, quel est votre intérêt pour la politique internationale?

Group influence

1) Un ami, un membre de ma famille, ou quelqu'un à l'école/au travail a essayé de me convaincre d'aller voter lors des prochaines (des dernières) élections provinciales.
2) La plupart de mes amis et de ma famille trouvent que voter c'est une perte de temps.
3) La plupart des gens autour de moi iront voter lors des élections provinciales.

Locus of control

1) Ma vie est déterminée par mes propres actions.
2) Habituellement, je suis capable de défendre mes propres intérêts.
3) Je peux contrôler avec succès ce qui se passe dans ma vie.
4) Quand je réussis à avoir ce que je veux, habituellement c'est parce que je suis chanceux.

5) Les gens comme moi ont peu de chance de pouvoir défendre leurs intérêts privés quand ils s'opposent à ceux des groupes de pression très puissants.
6) J'ai l'impression que ce qui se passe dans ma vie est déterminé surtout par des gens en position de puissance.

Gender

1) Quel est votre sexe? a) femme b) homme

Age

1) Quel est votre âge?

a) moins que 18	b) de 18 à 19	c) de 20 à 21	d) de 22 à 23
e) de 24 à 25	f) de 26 à 27	g) de 28 à 29	h) plus de 30

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