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FACULTEIT SOCIALE WETENSCHAPPEN  
MASTER OF SCIENCE IN DE SOCIOLOGIE

**Better prepared but less confident:  
explaining why girls are less politically  
efficacious than boys**

*A random-effects analysis of the influence of parental,  
secondary and tertiary socialization processes on gender  
disparities in internal political efficacy.*

Promotor: Prof. Dr. Ellen Claes  
Verslaggever: Prof. Dr. Geert Loosveldt

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## Summary

In spite of substantial improvements of women's societal status throughout the last decades, we still observe a persistent gender gap in internal political efficacy, with women being less efficacious than their male counterparts. Most studies focusing on gender disparities in efficacy assume a structural explanatory model, in which the significance of women's societal status and by extent their lower ability to accumulate political resources is underlined. This so-called resource framework, however, appears to perform relatively poorly when it comes to explaining this gender gap. Another strand of research suggests that socialization explanatory models present more promising explanations. Nevertheless, to date, little research is concerned with the emergence of the gap during pre-adulthood. In this study, we use two-wave panel data of the Belgian Political Panel Survey (2008-2011) to evaluate the validity of the resource framework from a socialization perspective. More specifically, we investigate the influence of the acquisition of political resources through processes of parental, secondary and tertiary socialization on the gender gap in political efficacy. We find strong indications that differences in political self-confidence emerge in childhood and are replicated through processes of secondary and tertiary political socialization taking place during adolescence.

**Keywords:** political efficacy, political socialization, resource framework

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*There are no happy endings.  
Endings are the saddest part.  
So just give me a happy middle.  
And a very happy start.*

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## Introduction

In spite of the many advances made on the level of gender equality in Western democracies following the efforts of the second-wave feminism movement, women's confidence in their own ability to understand political affairs is still lower than that of their male counterparts (Bennett & Bennett, 1989; Inglehart, 1981; Gidengil et al., 2008). Today, the question: "Why have women's gains in terms of educational attainment and labor force participation not done more to enhance their confidence in their political skills?" aptly put by Gidengil et al. (2008, p.538) remains an 'enduring conundrum' (Norris, 2000; Beckwith, 1986).

Studies on political efficacy tend to reaffirm what has already been found, namely that structural explanatory models, focusing on women's disadvantaged societal status, perform relatively poorly when it comes to solving this puzzle (Gidengil et al., 2008; Lane, 1965; Jennings, 1979). The lack of findings is surprising, given its considerable success in explaining differences in terms of political interest (Jennings, 1979; Bennett & Bennett, 1989) and the overwhelming empirical evidence showing that political resources are of paramount importance when explaining the development of political efficacy (Verba et al., 1995).

This is why another strand of research focuses on sex-role socialization explanatory models. Studies in this vein, highlighted the psychological mechanisms explaining women's overall inclination to leave politics to men (Conway, 1985; Campbell et al., 1960). However, most claims made in this line of research remain highly speculative and lacks a comprehensive answer to the question as to why empirical applications of the resource framework does not yield the expected results.

In this study, we attempt to give fresh impetus to this debate, by combining insights from both the socialization and structural explanatory model. More specifically, we evaluate the validity of the resource framework from a sex-role socialization explanatory model. We theorize that the limited explanatory power of the resource framework in studies assuming the structural model is caused by a conceptual misconception in which the attainment of political

resources is erroneously equated with the process through which they are acquired.

When it comes to explaining gender differences in political attitudes, individuals' civic development in pre-adulthood is of paramount importance, as it is at this stage that he or she will develop a political identity. However, children and adolescents are not only socialized into the political unit in which they are later expected to exercise their citizenship, they are also assigned a gender role on the basis of which they will develop a set of behaviors and attitudes, they deem appropriate (Money, 1955; Parsons & Bales, 1956). This leads to a wide range of implications ranging from gendered experiences in civic participation (Djupe et al., 2007) to what is generally referred to as sex-typed behavior (Bern, 1982; Powell & Greenhaus, 2010). The concurrence of these two socialization processes, may cause one's political and gender identity to intertwine, and – since girls are reared to be less independent – it is likely that they infer this norm to their political identity (Greenstein, 1969). In effect, the resources acquired through these processes may be less successful at facilitating the political socialization of girls, than that of boys.

Although Bennett and Bennett (1989) highlight that sex-role socialization is perhaps the most appealing explanation for gender differences in political engagement, to date, no study has further evaluated the relationship between the resource framework and sex-role socialization explanatory model among young people. Hence, the objective of this paper is (1) to evaluate the extent and development of the gender gap in political efficacy during adolescence and (2) to explain this gap in function of resources acquired through different socialization processes.

In particular, we investigate to what extent resources acquired through socialization processes in childhood – mainly parental socialization – contributes to the gender gap and whether or not the attainment of resources in secondary or tertiary socialization processes present a viable source of 'equalization'. We test the validity of three conflicting claims that exist in the current socialization framework. On the one hand, proponents of secondary socialization actors (e.g. Galston, 2001) assert that fostering the acquisition of these resources has either no implications for the gender gap or even has the potential to narrow the gap (Langton & Jennings, 1968). The underlying

argumentation of scholars expecting no effect is that boys and girls equally benefit from the enhancement of their political resources and therefore equally fosters the extent of adolescents' political socialization. Its potential to narrow the gap, on the other hand, is based on the so-called 'redundancy hypothesis', which assumes that those who have the least (i.e. girls) have the most to gain in this process.

Scholarly literature focusing on gender differences in the development of individuals' political identity, on the other hand, discerns that the acquisition of political resources only further broadens the gender gap in efficacy. In this respect, prior research reveals that the gendered civic experiences in the process through which boys and girls acquire (essentially the same amount of) resources, will leave girls with a lower sense of empowerment than their male counterparts. In other words, the political socialization of girls appears to be less successful than that of boys (Djupe, Sokhey & Gilbert, 2007; Mueller, 1988). In effect, encouraging the attainment of political resources, may yield beneficial implications to the overall levels of efficacy of adolescents, but also detrimental implications in terms of gender equality.

This study uses the data collected in two waves of the Belgian Political Panel Survey (BPPS 2008-2011) to answer these questions (Hooghe et al., 2011). The advantage of using these data and by extent the contribution of this study is twofold. First, it adds to the existing literature by including a dynamic measurement of political efficacy. This is particularly interesting because it allows for a certain level of causal inference, which is of particular importance when investigating socialization processes. Second, the units of analysis are at an early stage of the development of their political attitudes. We can therefore assume that the phenomena that are thought to influence political efficacy, are studied when their development is still at a pivotal stage, i.e. in a phase where differences between different segments of the population are still emerging and are yet to stabilize (Sears, 1983). In sum, these data provide for an ideal and unique opportunity to investigate the influence of political resources on the gender gap in political efficacy.

In what follows, we first discuss the literature on gender, the political resource framework and political efficacy, on the basis of

which we will formulate a number of hypotheses. The second Chapter contains an elaborate overview of the data and methods used to answer these questions. In this Chapter we also discuss specific problems related to the use of panel data, e.g. the assumption of measurement invariance for our dependent variable and the implications of attrition. In the third Chapter, the hypotheses are tested in a series of descriptive and multivariate analyses. In a final Chapter, we return to the discussion and conclusions of the findings of this study.

## 1. Literature

Although first emphasized in 1960 in Campbell et al.'s *The American Voter*, only in the last two decades scholarship has become concerned with explaining the gender gap in political efficacy. The few studies that have attempted to do so, often assumed structural explanatory models, focusing on women's disadvantaged societal position (Lane, 1965; Welch, 1977). This disadvantage would constrain women's ability to acquire the resources, i.e. political knowledge, attitudes and civic skills, necessary to be able to fully participate in political life, which would also be reflected in their political self-confidence (Brady, Verba & Schlozman, 1995).

Although the attainment of political resources has indeed proven a strong predictor of one's self-perceived ability to understand politics and is able to reduce the extent of gender disparities in political engagement, it has systematically failed to fully eliminate this gap (Bennett & Bennett, 1989; Verba, Burns & Schlozman, 1997). The inability of the resource framework to fully account for gender differences in political engagement, has even led some scholars to believe that gender itself must be a political resource. The underlying argumentation for this decision is that the constraints women face while accumulating those resources, renders gender an important instrument either hindering or fostering one's ability to participate in politics (André, Wauters & Pilet, 2012). As a consequence, they necessarily assume gender to be a cause of gender-inequality rather than a consequence emerging from external factors.

In this Chapter, we argue that the limited explanatory power of the resource framework is caused by the fact that it has been situated in the structural explanatory model. Countering the approach of earlier research, we discern that political resources are especially important in explaining gender disparities in the time during which they are first acquired, i.e. in pre-adulthood. In a first section, identify the shortcomings of studies departing from the structural model. We argue that, when it comes to explaining gender differences, the resource framework is best studied within the sex-role socialization explanatory model. In a second section we discuss the implications of sex-role socialization in infancy and early childhood on the development of the political identity of young people. We suggest that the conjunction

of the development of a political and gender identity, will already establish the first foundations of the gender gap in efficacy. Finally, we discuss to what extent secondary and tertiary socialization processes later in life contribute to the perpetuation of this gap.

### ***1.1. Beyond structural explanations of the gender gap in efficacy***

Most democracies depart from the principle of political equality, meaning that each citizen is granted equal access and influence over political decision making (Verba, Nie & Kim, 1978). Nevertheless, in practice, we observe great disparities in terms of political participation, with some groups being more likely to participate than others. In effect, a central question in electoral research has remained “why do (or don’t) citizens participate in political life?” (Brady, Verba & Schlozman, 1995).

In the literature, three explanatory models for political participation and attitudes exist, namely sex-role socialization models, structural models and situational models (Bennett & Bennett, 1989). Although Bennett and Bennett (1989) highlighted the appeal of the first explanatory model, most studies in this field of research have been confined to the use of structural models. The recurring answer to Brady et al.’s (1995) question provided by scholars assuming the structural model, is that even though the willingness to advocate one’s interests in the political realm may be equally present across different strata in the population, the resources necessary to put theory into practice are extremely unevenly distributed (Bekkers, 2005). In effect, the resource framework of participation (Brady et al., 1995), which states that the ability to participate is determined by one’s political knowledge, attitudes and civic skills, became almost indistinguishably associated with structural explanations of gender disparities in participation.

Indeed, there is a considerable amount of empirical evidence supporting the claim political resources largely determine one’s ability and by extent one’s propensity to participate in politics (Verba et al., 1993; Kenski & Stroud, 2006; Lee, 2006; Wells & Dudash, 2007). In this respect, prior studies reveal systematic gender differences in political participation. This assertion is reflected in the numerous

studies showing that women have a lower propensity to engage in conventional forms participation, i.e. forms of participation facilitated by political institutions themselves, such as voting and contacting politicians (Coffé & Bolzendahl, 2010). Nevertheless, when it comes to pinpointing the cause of these gender disparities in political participation, the resource framework appears to perform relatively poorly (Bennett & Bennett, 1989; Burns, Schlozman & Verba, 2001; Campbell & Wolbrecht, 2006). A striking illustration of the latter assertion is present in the study of Verba and colleagues (1997), who demonstrate that gender disparities still persist even after taking differences in terms of political resources, such as educational attainment, free time and civic skills, into account.

The persistence of this gap, has even caused some scholars (e.g. André et al., 2015) to uphold the assertion that gender itself should be considered a political resource. By doing so, they unintentionally equate individuals' sex with the cause rather than the consequence of differential patterns in political participation. To our understanding, this misconception emerged from the shifts in the demarcation of the concept of political resources, causing it to show striking similarities with Bourdieu's (2002) definition of social capital.

Whereas the initial definition of political resources, first coined by Brady et al. (1995), stressed their instrumental value – i.e. their value as instruments to facilitate one's participation (money, skills and time) – more recent applications of this so-called resource model of participation tends to draw from Bourdieu's (2002) inconvertibility theory. The definition of the concept in this line of research is similar to that of social capital, which Bourdieu (2002, p.16) defines as “the source for observable differences in patterns of consumption and lifestyles”. From this perspective, political resources can be understood as the “source for observable differences in patterns of” political participation. As a result, the demarcation of the concept political resources had become increasingly illusive and was further extended to include both tangible, material resources (e.g. money, time and civic skills), cognitive resources (e.g. educational attainment, political sophistication), attitudinal resources (e.g. political trust) and finally sociodemographic characteristics, including gender.

Thus, whereas the initial definition would explain gender disparities in participation in function of e.g. the differential access to political resources, more recent applications would take this existence of this differential access as a reason to label gender a resource. The argumentation of André et al. (2012) to include gender as a resource in their study on preferential voting behavior in Belgium, for instance, reads: “the broader pattern of gender stereotyping and structural inequality in society is reflected in women’s differential access to political resources.” This illustration accurately reflects prior scholarship’s focus on the amount of political resources one has at its disposal, while neglecting the reason why disparities in the attainment of these resources exist. Although there are indeed reasons to believe that there are gender-based constraints present in the acquisition of material, cognitive and attitudinal political resources, the cause of this difference is that men and women are treated unequally, not because they are unequal. By doing so this line of research imposes a retrospective relationship in which the outcome (gender inequality) is unjustly equated with the cause (differential treatment).

The incompatibility of this assertion with empirical research can best be illustrated by accepting the premise of gender being a political resource for theoretical purposes and evaluate the impasses it leads to. The empirical claim associated with this premise, is that gender has an independent effect on the propensity to participate that cannot be accounted for by other characteristics, albeit voter or institutional characteristics. Nevertheless, examples of studies invalidating this assertion are legion. Perhaps the most striking indication that it is not necessarily gender itself that explains gender disparities in conventional forms participation, but rather the characteristics of the activity itself (with politics being man’s game), is that when it concerns unconventional forms participation, women display more willingness to participate than men. Typically, studies provide empirical evidence that women do not lag behind when it comes to e.g. political consumerism or protest potential (see e.g. Marien, Hooghe & Quintelier, 2010; Micheletti, 2004; Stolle & Hooghe, 2005). Instead the study of Marien et al. (2010) demonstrates that women are more likely to participate in unconventional modes of participation e.g. taking part in a protest, boycotting products and political consumerism, as compared to their male counterparts.

Studies in this vein, suggest that non-institutionalized forms of participation are particularly appealing to women because, unlike conventional politics, they are less dominated by men and the hierarchical structures associated with politics. In other words, the characteristics of politics discourage women in particular to become familiar with participating in politics (Eliasoph, 1998). Studies on political role models further highlight that women consequently also feel less inclined to put effort in collecting these resources (Campbell & Wolbrecht, 2006). The findings of Marien et al. (2010) bolsters the assertion that the patriarchal character of politics is a part of the problem, by showing that even after controlling for individuals' attainment political resources, women still tend to prefer unconventional means of participation to conventional means. This, however, reallocates the focus of this puzzle, because if it is not gender itself that explains the differential patterns in the propensity to participate, what is?

Increasingly, studies are taking a factor in consideration that previously has been overlooked by scholars studying the resource framework, namely political efficacy – or one's self-perceived ability to understand and influence politics (Soss, 1999; Craig, Niemi & Silver, 1990; Lane, 1965). Political efficacy is said to encapsulate two components: an internal component – or one's political self-confidence – and an external component – or one's perceived ability to exercise influence over political decision-making (Balch, 1974; Lane, 1959). Findings indicate that whereas external efficacy is for a large part influenced by institutional characteristics, such as system responsiveness, internal efficacy is fostered by experiences in interaction with other actors and institutions (Finkel, 1985; Schulz, 2005). These experiences are cumulatively internalized and condition individuals' choices and behavior in the future. This is why scholars have alluded to internal efficacy as the theoretically most viable explanation of one's propensity to participate in political life.

Not only is there a considerable amount of scholarship (Levy, 2013; Almond & Verba, 1963; Beaumont, 2010; Hoffmann & Thompson, 2009) showing that political efficacy is indeed the strongest predictor of political participation, Verba et al. (1995) also find that it is the keystone to explaining gender disparities in political participation among adults. They show that once differences in

political engagement are taken into account, gender disparities in participation are rendered insignificant. This suggests that the fact that women, in general, feel less confident about their capacity to understand and influence political affairs, is the reason why they feel less inclined to participate in political life.

In the literature, multiple explanatory models exist assessing why women feel less politically self-confident than men. Similar to research on political participation, most social scientists interested in political efficacy are particularly drawn towards exploring structural causes, encouraged by the high level of convenience and the appeal of adequate measurement instruments. This strand of research (e.g. Verba, 2001; Kay et al., 1987) argues that it is the structurally socioeconomically disadvantaged position of women explains why they are less confident. After all, women's confinement to the domestic sphere and the high demands emerging from their engagement in family life, will leave them with less time and energy to care about politics and participate in public life (Kay et al., 1987).

The results of these studies indicate that these structural explanations are able to account for the major gender differences in motivational aspects of participation, such as political interest (Welch, 1977). Nevertheless, when it comes to the gender gap in political efficacy, support for this explanatory model is mixed at best (Bowler & Donovan, 2002; Lee, 2006). Generally speaking, gender differences in political self-confidence appear to be strongly dependent on the context (Levy, 2013). The limited explanatory power of structural factors, is further illustrated by the findings of e.g. Beckwith (1986), who shows that although gender disparities in terms of educational attainment, social class and occupational status have substantially declined throughout the last few decades, it has not been accompanied by a narrowing in the gender gap in political efficacy. Overall, the high demands emerging from women's traditional role in household and family matters do not appear to hamper their confidence in their own ability to understand politics (Bennett & Bennett, 1989; Burns et al., 2001; Campbell & Wolbrecht, 2006). Thus, although efficacy has proven an important mediator variable between political resources and participation, less agreement exists when it comes to its relation with gender.

The inability of the structural model to account for gender differences in political efficacy, plays well to the suggestions frequently made by another strand of research, assuming socialization explanatory models. Scholarly research departing from such models, stresses the significance of political learning and the formation of individuals' political identity (Campbell & Wolbrecht, 2006).

According to Easton and Dennis' (2002) research on regime norms acquisition, political socialization entails individuals' internalization of the ground rules associated with participation in the political system. In this study, three elements of these ground rules are catalogued: "minimal constraints in the goals of it's members, rules governing behavior and structures and authority through which members act in making and implementing political output" (Easton & Dennis, 2002, p.25). The psychological and attitudinal output of the acquisitions of these norms is often regarded as internal efficacy. A particularly interesting finding of this study is that, similar to the findings of Langton and Jennings (1968), the development of feelings of internal political efficacy, too, can be traced back to early childhood, during which children are shown to develop a broad set of attitudes. However, contrary to research conducted among adults, here no discernable difference between boys and girls was present. Easton and Dennis (2002) already highlight that this leaves the question why young girls' level of efficacy is not continued into womanhood open, a topic which is further expounded in this study.

It is at this metaphorical crossroad that sex-role socialization explanatory models enter the debate. From a tender age, children are not only socialized in a political role preparing them to participate in political life, they are concurrently socialized into a gender-role, rearing them to behave in concordance to the expectations that emerge from this role. Sex-role socialization may cause particularly the second aspect of the political regime outlined in Easton and Dennis' (2002) study, namely "rules governing [political] behavior", to be intertwined with rules governing social behavior. Thus, gender differences in political socialization may eventually result in a gendered understanding of political regimes.

Bennett and Bennett (1989) support the assertion that sex-role socialization processes play a crucial and perhaps even the most prominent role in explaining the gender gap in efficacy. In this respect,

Bandura (1986) shows its close conceptual nature to the notion of 'self-efficacy', because both internal political efficacy and self-efficacy are strongly influenced by social learning. The social cognitive theory further expanded upon in Bandura's (1993) later research, highlights young people's control over their own learning process. However, the outcome of this learning process is colored by the interactions with other actors. The differential treatment of boys and girls, may cause norms that guide social behavior to be inferred to norms about political behavior, therefore establishing the basis of gender inequality in terms of efficacy.

Tied back to the literature on the structural causes of gender disparities in efficacy, this theoretical shift to the sex-role socialization framework has two implications. First, it suggests that the source of the gender gap cannot be found in structural explanations used to explain participation patterns among adults. Instead, it calls for a much closer look into the processes shaping an individual's political and gender identity, which emerge in pre-adulthood. With this in mind, the most fundamental shortcoming of empirical research studying structural factors become apparent: its reliance on data collected among adults. Evidently, these data are not appropriate to infer information about political socialization processes, for which we need to collect data among children and adolescents.

A second implication is that while further expounding on possible mechanisms for the alleged differential development in political and gender identity, a substantial number of socialization actors enter the picture. The interaction between these actors and young people are constitutive of the way in which their political and gender identity develops. The experiences individuals have in this stage of their development do not only determine to what extent they are able to collect political resources, but also how willing and capable they are when it comes to using these resources.

Nevertheless, in spite of the many theoretical appeals and promising prospects in explaining the gender gap in efficacy, to date, socialization models remain the least explored (Jennings, 2001; Niemi & Hepburn, 1995). As a result, the theoretical and empirical triangulation between gender, political socialization and political socialization remains a vastly under-investigated topic in scholarly research (Norris, 2002). In the following sections, we therefore

attempt to lay the necessary theoretical groundwork for the socialization hypothesis and its relation with gender.

### ***1.2. The emergence of the gender gap in childhood***

As was highlighted earlier, Easton and Dennis' (2002) research investigating the socialization hypothesis, trace individuals' first experiences in the acquisition of political norms and behavior back to early childhood. In this process of political socialization individuals are socialized into the political unit in which they are later expected to exercise their citizenship. According to Abowitz and Harnish (2006) the membership of this unit also extends to the constitution of a certain identity, participation in the public sphere and a basic understanding of democratic documents and the processes through which they were created. However, prior and simultaneous to the development of a political identity, young people are also socialized into a gender role (Money, 1955; Parsons, 1955). This process of sex-role socialization teaches children from an early age on to think and behave in concordance with what is deemed appropriate for members of their sex (Best & Bush, 2016). In this section, we further elaborate on the assertion we made earlier, namely that the conjunction of one's political and gender identity, causes the primary socialization processes of girls to be less successful than that of boys. In effect, not only do girls have differential access to political resources, they also have lower expectations with respect to the efficacy of these resources.

In pre-adulthood, numerous socialization actors either foster or hinder the acquisition and utilization of political resources. The extent of the attainment of these resources, according to Zukin and colleagues (2006), depends on the strength, continuity and intimacy of the relationship between a child or adolescent vis-à-vis the socialization actor. The intimacy and strength of the bond between children and their parents causes parental socialization to establish the first foundations of an individual's sense of efficacy. Social scientists therefore underline the importance of parental socialization processes in the civic development of children. Zukin et al. (2006) as well as Torney-Purta et al. (2005), for instance, demonstrate that political talk with parents increases a child's attentiveness to his surroundings and

by extent encourages them to interact in kind. In a similar vein, Weissbourd (2009) proves that parents' voting habits and the way in which they involve their children in the process of voting, is one of the strongest determinants of a child's voting habits later in life. The memory of seeing a voting booth is, metaphorically speaking, imprinted in the mind of the child and will later influence their children's voting habits.

It is during this stage of civic development that children start accumulating political resources, such as political interest, knowledge and develop their ability to express their preferences through language (Hess & Torney, 1967). Here, social learning theory (Bandura, 1993) emphasizes that the experiences individuals have during pre-adulthood in this respect, are indicative of their political attitudes and behavior as adults. While children accumulate political resources, they grow increasingly confident about their ability to understand politics. Following this so-called 'accumulation hypothesis' we can deduct two implications. First, as children become increasingly civically skilled as they grow older, research shows that this development is also reflected in their political confidence (Koch, 1993; Wu, 2003).

However, the extent of children's political socialization may differ across different social strata in the population. Generally speaking, the success of the socialization process or more broadly speaking what is learned, is a function of many aspects, of which the socialization actors' own capabilities and motivation may serve as one of the most profound factors (McClosky & Schaar, 1965; Easton & Dennis, 2002). In this respect, prior research stresses the role of family background in throughout children's civic development (Renshon, 1973; Schulz, 2005). Particularly the socioeconomic background of the family in which children are brought up has proven a decisive factor in the extent and success of their political socialization. The way in which families, especially the parents, in this respect bolster or hinder their offspring's development is twofold. First, they are able to provide the necessary stimuli for children to engage with the institutions around them. Second, they can indirectly improve their children's prospects and by extent their political dispositions, by helping them in reaching a certain level of educational attainment (Schulz, 2005). An appropriate learning environment will further

contribute to the civic development of the adolescent and will allow them to reach a certain level of political sophistication (Luskin, 1987).

The relation between socioeconomic status and the acquisition of political resources is bolstered by a considerable amount of empirical research. Torney-Purta et al. (2005), for instance, demonstrate that children raised in impoverished families, get systematically less opportunities to develop the necessary attitudes and skills than children raised in affluent families. Moreover, parents themselves also have a certain disposition to collect political resources and also maintain a coherent set of attitudes towards the political system, which their offspring is likely to mimic. Hence, a second important implication of the accumulation hypothesis, is that children whose parents are more socially and politically well-endowed are better capable of accumulating the necessary resources to feel confident, than those who have not. We therefore expect that:

***Hypothesis 1: Adolescents with a higher socioeconomic status have higher levels of political efficacy than adolescents with a lower socioeconomic status.***

Although we asserted that the political socialization of individuals increases with age and in accordance with their socioeconomic status, we do not expect that that the extent of this success is equally strong for boys and girls. Instead, it can be assumed that the development of one's political identity is dependent on the aspired role of an individual in the political community. In this respect, studies assuming a social learning perspective, have systematically showed that these aspirations are partly defined in function of one's gender. Social scientists argue that these differential expectations are the result of sex-role socialization (Lottes & Kuriloff, 1992; Bandura, 1984). The gender disparities in political aspirations are therefore likely to grow alongside an individual's awareness of the social expectations following their gender.

This gender awareness grows throughout the individual's life course and is therefore also likely to increasingly exert influence over one's political socialization process in this time. Whereas during infancy, the difference between boys and girls is almost negligible, throughout childhood and into adolescence, both differences in terms

of physical appearance and behavior develop (Easton & Dennis, 2002; Best & Bush, 2016). In this stage of children's civic development, their behavior is modeled in accordance with their gender. Throughout this process, children learn the behaviors and social roles in order to prepare them for their (future) position in society. Although gender equality has substantially improved over the past few decades, even in highly developed societies there is still a considerably high degree of sex segregation. Parents (and other possibly salient socialization actors present childhood), in this respect, are likely to further replicate these sex differences in society through the way in which they raise their children. Here we discern two possible ways in which parents contribute to the sex-role socialization of their children.

First, parents – and adults in general – tend to treat children differently according to their sex. This differential treatment translates to the tone of the interaction with children (Rubin, Provezano & Luria, 1974), the toys they are given (Greenfield, Brazelton & Childs, 1989), the clothes they wear and more importantly the expectations parents have with respect to their child's behavior. These expectations largely reflect the presumptions about gender conformity parents themselves have been brought up with. Although the process through which aspects of the child's gender-role are transmitted, is very subtle and often to a large extent unintentional, there is still a real and salient impact on a child's perception of what constitutes appropriate behavior. Best and Bush (2016) aptly capture these expectations with the observation that “men are reared to be self-reliant and women are reared to be obedient”. Psychologically, this implies that boys are raised to be confident about their own capacities, whereas girls are raised to rely on others for the evaluation of their capacities. In effect, children are socialized into a gender role alongside which they guide their actions, before they are aware of the fact that their actions are partly defined in function of their gender. Because the formation of one's political identity partly grows concurrently with one's gender identity, children are likely to infer the information about what constitutes desirable behavior for members of their sex to their political identity and behavior. Since girls are reared to be less confident, this lack of confidence is also likely to manifest itself politically. Hence, we expect that:

***Hypothesis 2: Girls have lower levels of internal political efficacy than boys.***

In spite of the critical psychological implications for children's perception of their ability and the clear behavioral differences between boys and girls, research shows that, in general, gender differences in socialization are relatively minor and that the differences in the way in which parents treat boys and girls are relatively subtle. Of tantamount importance, however, is the informational value of the way parents behave themselves, i.e. their contribution as role models. This is why gender but also other types of social stratification tend to perpetuate over time.

Identification with members of one's sex is a particularly useful hook, because entails considerably salient features on the basis of which people can be classified (Langlois & Downs, 1980; Campbell & Wolbrecht, 2006). However, contrary to the impact of gendered treatments, this phenomenon encapsulates a much broader range of behaviors extending from interaction with family members, to their job aspirations (Eagly, 1987). For children, their parents are the first people they look to for behavioral cues and role information. This process of identification is simultaneously accompanied by self-stereotyping, in which an individual will behave in concordance with his or her group membership. When this group membership is based on one's gender, this process will lead to what is generally referred to as sex-typed behavior, i.e. "the development of gender-related differences [in behavior] in children" (Best & Bush, 2016; Huston, 1983). Throughout a child's civic development, their gender role will continuously be confirmed by other actors, albeit subtly by hearing sentences like "boys will be boys" and "that is not ladylike". Additionally, television plays a very salient role in the confirmation of gender roles, with most central characters being supportive of the status quo (Signorielli, 1989). These psycho-cultural aspects of gender contribute to the emerging synthesis of an individual's gender-identity and his or her political identity.

Cognitive developmental scholars show that there are several ways in which one's gender-identity shapes one's political identity. Gilligan (1982), for instance, illustrates that one's gender identity is constitutive of one's moral reasoning. He shows that women tend to

approach matters from a more relational perspective, i.e. they tend to care more, whereas men are likely to adopt a justice perspective. These different psychological orientations also have implications for the way in which individuals evaluate politicians: women evaluate politicians in function of e.g. the civility of their interaction with others, men focus on the broader concept of deservingness, causing them to be more tolerant towards conflict. What's more is that conceptions about gender-roles also affects one's relation with the political system. Within the political arena, male dominance is the status quo. When it comes the permissiveness of this dominance, social psychologists show that there is a substantial amount of gender disparity, with women showing a lower support for the justification of this dominance than men (Lottes & Kuriloff, 1992). This could in its turn establish girls' sense of political alienation or even disillusionment.

This already illustrates the close conceptual nature of socioeconomic status and parental socialization, as the latter two characteristics are indicative of the extent of girls' awareness of their gender role and societal status. Thus, based on the literature assuming cognitive developmental models of gender differences, we can infer two reasons for why the attainment of political resources will be less successful at facilitating the political socialization of girls than that of boys. First, even in contemporary democratic societies, politics is still considered a men's game, causing women to show lower levels of identification with the political system (Sapiro, 1983; Campbell & Wolbrecht, 2006). Thus, becoming more informed about politics may not necessarily equally bolster boys' and girls' sense of internal efficacy. Even more so, the structural lack of political role models and the examples their parents set when it comes to gender conformity further discourages women to become more acquainted with politics (Campbell & Wolbrecht, 2006). We therefore expect that the resources handed by parents to their children, are less successful at facilitating the familiarization with the political system for women than for men:

***Hypothesis 3: The effect of socioeconomic status on individuals' level of internal efficacy is stronger for men than for women.***

Although outside the scope of this study, it is useful to highlight that this theoretical expectation has dire implications for the normative dimension of our research question, as it necessarily follows that the extent of the success of parental socialization processes is simultaneously a structural source of gender inequality.

### ***1.3. Bridging the gap: secondary and tertiary socialization***

In this respect, secondary and tertiary socialization processes show a large potential to reduce this source of political inequality. By uniformly targeting children and adolescents from a wide range of socioeconomic backgrounds, schools, for instance, play a paramount role in the civic development of young people as they deliberately aim at encouraging their students to develop a certain level of political interest and knowledge (Syvertsen, Flanagan & Stout, 2005). Similarly, political discussion with peers can enhance an individual's perception of their understanding of politics. According to Dennis and Easton (2002, p.26) the aforementioned political resources help "construct a psychic map of the political world with strong lines of force running from himself to the places of officialdom". In accordance with this assertion, we can formulate the following assumption:

***Hypothesis 4: Resources acquired through processes of secondary and tertiary socialization have a positive influence on young people's self-perceived ability to understand politics.***

Because in schools these resources are presumably more equally accessible to people from different social strata, secondary and tertiary socialization processes are often lauded as the 'great equalizers'. However, conflicting hypotheses exist as to whether or not further fostering the attainment of political efficacy replicates, reduces or enhances gender inequalities, produced in parental socialization processes.

Proponents of civic education in schools, tend to depart from the accumulation hypothesis, which states that young people tend to

accumulate political resources throughout their civic development (Easton & Dennis, 2002). Disregarding differences between secondary and tertiary socialization, we can assert that this learning process would simply replicate the inequalities that emerge during childhood. If that is indeed the case, we can expect that:

***Hypothesis 5a:*** *The attainment of political resources has an equally strong positive influence on internal political efficacy for boys and girls.*

The so-called redundancy hypothesis, on the other hand, formulates the opposite expectation, namely that the accumulation of resources would narrow the gap in efficacy. In the processes of secondary socialization adolescents accumulate political resources, which further contribute to their level of political socialization. The accumulation in secondary and tertiary socialization processes is, however, expected to be more extensive for those who lag behind. In this regard, prior research consistently reveals that women have lower levels of political interest, knowledge and civic skills (Gidengil et al., 2008; Verba et al., 1997; Jennings, 1979). Thus, political resources have the potential of narrowing the gender gap, because those who have the least (women) have the most to gain (Langton & Jennings, 1968). Further building on the redundancy hypothesis, we formulate the following expectation:

***Hypothesis 5b:*** *The effect of political resources on an individual's level of internal political efficacy is stronger for girls than for boys.*

Thirdly, the difference in terms civic experiences and psychology, may further fortify the effects of gender-role socialization processes, because they tend to confirm the role that men and women have been assigned. The way in which these gendered experiences manifest themselves are manifold. In the following paragraphs, we discuss a few.

First, whereas in early childhood, children have little to no civic experiences, this changes throughout adolescence, which is often regarded the 'period of maximum change' for individuals' civic

development (Jennings & Stoker, 2004; Levy, 2013). Here substantial gender differences in terms of the way in which young men and women are able to exercise their (political) agency emerge. Following the resource framework, the amount of resources at one's disposal plays a paramount role in defining the extent of one's agency. According to Bandura (2005) "these resources enable them to make the most of opportunities that arise unexpectedly." Nevertheless, an individual's potential agency does not have to be fully realized, i.e. individuals with very similar predispositions may face barriers in terms of their ability to exercise their agency. Historically, members of the female sex have experienced severe constraints in this ability. However, even today, some of these constraints are present in the daily lives of women and therefore inhibit the extent of their political agency. In the following paragraphs, this assertion is underpinned with two examples of the constraints women face and their implications in terms of the differential social learning experience this may yield.

Studies focusing on the phenomenon of 'gender-based voting' – which refers to a situation in which a voter casts a vote for a candidate of the same sex – for instance, suggests that voters are often willing to translate their gender identity into their vote choice. Sanbonmatsu (2002) already shows that most voters have the tendency to prefer candidates of one sex over candidates of the other sex, or display a what she calls 'baseline gender preference'. Due to the salience of one's gender identity, in most cases, this preference corresponds to the voters' own sex: i.e. women (men) tend to prefer female (male) candidates (Plutzer & Zipp, 1996; Holli & Wass, 2010). Nevertheless, political scientists studying the phenomenon of gender-based voting behavior suggest that gender inequalities in the propensity of men and women to translate their gender membership into their vote choice are largely reflected in the institutional context as well as the internal structure of political parties. Thus, when it comes to their theoretical willingness to express support for female candidates, women's agency is systematically hindered by constraints imposed by political parties and/or other institutional factors (Matland, 1993; Giger, Holli, Lefkofridi & Wass, 2014).

This assertion even holds true in the Belgian context, which has been theorized to maximize women's agency. Belgian's multiple preferential voting system – in which voters are able to vote cast a list

vote or one or multiple preference votes for candidates on that list – should be particularly favorable to gender-based voting behavior, because voters' strategic or ideological considerations does not necessarily steer them away from their baseline gender preference (Marien, Schouteden & Wauters, forthcoming). Furthermore, the strict quota legislation dictates that the supply of male and female candidates on a list should be roughly equal.

Nevertheless, even in this context, women candidates occupy a disadvantaged position. Previous studies on gender-based voting behavior in the Belgian context (see Erzeel & Caluwaerts, 2015; Marien et al., forthcoming; de Leeuw, forthcoming; Erzeel, de Leeuw, Marien & Rihoux, forthcoming) systematically reveals that list composition inhibits women's baseline propensity to vote for a female candidate, as they generally occupy less visible positions on the list (Marien et al., forthcoming). These studies show that, in spite of the equal supply of male and female candidates, men are much more likely to cast a same-gender vote than women, but that this gender gap in gender-based voting behavior disappears once aspects related to list composition are accounted for (Erzeel et al., forthcoming; de Leeuw, forthcoming).

In sum, women's apparent preference for male candidates can be explained by the fact that ballot composition effects trumps – and therefore puts a constraint on – their overall inclination to vote for women candidates. All these factors contribute to the visible numerical underrepresentation, i.e. descriptive representation of women in politics. This in itself already constitutes a double gendered experience: firstly, in the expression of one's political agency, secondly, in the absence of political role models (Campbell & Wolbrecht, 2006). In effect, providing adolescents with the resources allegedly improving political equality, possibly increases the levels of gender stratification throughout society.

Although manifestly visible to young people, in terms of experience the latter observation mostly applies to individuals whose political attitudes have largely already stabilized. More relevant to children and adolescents is the gendered experiences they have when it comes to participation in (civic) organizations and associations, which – as shown by Putnam (2000) – is an important source of social

capital. In this respect, previous studies discern gender differences in terms of engagement, interaction and evaluation.

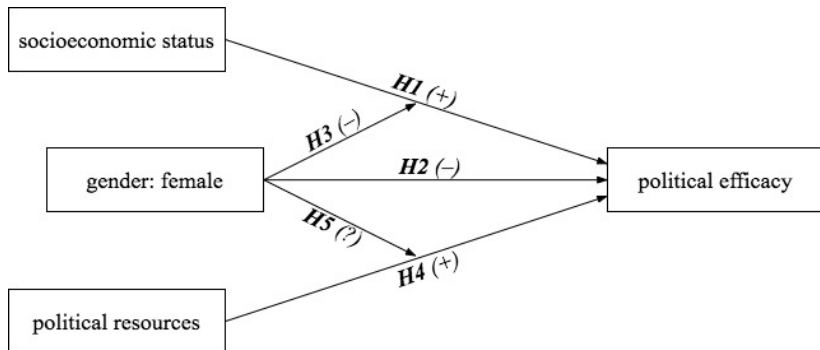
With respect to engagement, Djupe et al. (2007) illustrate that, while both men and women develop political resources through civic participation, for women group characteristics are decisive in predicting their level of civic engagement, whereas for men individual characteristics seem to prevail. The primary mode of interaction constitutes a second difference. Studies show that women do not only prefer more deliberative modes of interaction, they are also likely to defend different ideals and prioritize different issues than men. In other words, women appear to speak in a 'different voice' (Mueller, 1988; Cook & Wilcox, 1991). Finally, the gender difference also entails an evaluative component. As compared to men, women are less likely to be celebrated for their accomplishments within their participatory networks. Instead, women's successes are often rendered the result of contextual factors, whereas a men's successes are seen as the result of individual endeavors and characteristics. This discriminative mode of interaction between individuals and the participative institutions in which they operate based on their gender is what Burns et al. (2001) refer to as institutional treatment.

Although the aforementioned illustrations are all studies concerned with adult attitudes and behavior, these gender differences are also reflected in the activities and interactions prior to adulthood, for two reasons. First, studies focusing on role-models, assert that the political attitudes of parents is reflected in their children's attitudes and behavior. Girls are therefore likely to mimic the attitudes of their mothers and boys that of their fathers. Ultimately, girls will perceive political resources to be less useful than boys because their mothers do the same. Similarly, if their mothers feel less confident and less motivated to collect political resources, so will their children. Second, Elder (1994) underlines that the experiences young people undergo in the expression of their agency as well as in the process of the acquisition of political resources, yields differential results in terms of learning. Consequently, girls have less reason to believe that their ability collect political resources can be inferred to their overall ability to understand political affairs. Based on this part of the literature, we theorize that encouraging the attainment of political resources will only further broaden the gap in political efficacy:

***Hypothesis 5c:*** *The effect of secondary political resources on an individual's level of internal political efficacy is weaker for women than for men.*

Figure 1.1 presents a graphical depiction of the theoretical model and the hypotheses that will be tested in the following chapters.

**Figure 1.1:** Theoretical model and hypotheses



## **2. Research design**

### ***2.1. Data: the 2008-2011 Belgian Political Panel Survey (BPPS)***

The Belgian Political Panel Survey (BBPS) is a three-wave panel survey resulting from the data collection efforts of the University of Leuven (Belgium) to further research on the field of political socialization (Hooghe et al., 2011). By using a panel design, it addresses one of the most prominently defined data restrictions in political socialization research, namely the dependence on the analysis of cross-sectional data. The advantage of this data collection approach, is that it better allows to disentangle causal relations.

The survey used a stratified sampling technique, in which they randomly selected multiple schools were stratified on the basis of their location and educational system (private or Catholic versus public). In the first wave (2006), 60 schools in the Flemish region were sampled, compared to 52 schools in the Walloon region. This resulted in a sample of 6330 young people (aged 16-21), with a response rate of 72% in Flanders and 60% in Wallonia. Two measures were taken to facilitate a sufficiently large (sub)sample. First, within each school a minimum of 50 students were sampled, so that the sample size in each cluster (school) would suffice for statistical purposes. Second, the survey used a sampling approach with replacement, meaning that schools unwilling to participate were replaced by schools with similar characteristics in terms of location and educational system.

Throughout the panel study, questions were added or omitted based on their performance. The scale for political efficacy, which constitutes the main focus of this study, was only added in the 2008 survey. Hence, in this study, we use the data collected in the 2008 and 2011 waves of the survey.

### ***2.2. Attrition and weighting coefficients***

In order to compensate for differences in the composition of the sample and the population of interest (i.e. high school students in Belgium), the data were weighted according to the region in which the

school was located and their sex (based on the data collected in the first wave of the survey, see Table 2.1).

**Table 2.1:** Initial weighting coefficients

		population		sample		weight
		<i>N</i>	%	<i>N</i>	%	
<i>Flanders</i>	boys	35,750	27.8	1,857	29.4	0.95
	girls	34,326	26.7	1,595	25.2	1.06
<i>Wallonia</i>	boys	29,541	23.0	1,501	23.7	0.97
	girls	28,819	22.4	1,369	21.7	1.03
		128,436	100	6,330	100	

**Source:** Hooghe et al. (2009)

However, not all respondents participated in all three surveys. The dropout following the first wave of a panel, therefore results in a form of unit non-response, particularly associated with the collection of panel data. This form of non-response is generally referred to as attrition or panel mortality (Laurie, 2007).

**Table 2.2:** Probit regression predicting attrition<sup>1</sup>

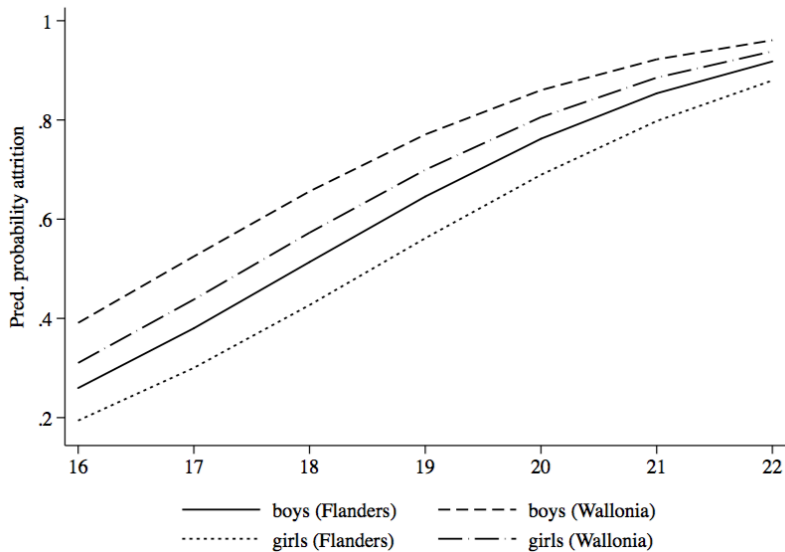
	B(SE)	Pred. probability
sex: male		.63(.01)***
female	-.22(.04)***	.53(.01)***
age: 16–17		.56(.01)***
18–20	.82(.09)***	.84(.02)***
21–22	1.01(.53)*	.88(.11)***
region: Flanders		.52(.01)***
Wallonia	.39(.04)***	.67(.01)***
constant	.07(.03)***	
<i>N</i> =6238		
Likelihood ratio chi-squared: 576.95***		
Pseudo R-squared = .07		

**Source:** BPPS 2006–2011 **Note:** \*\*\**p*<.001 \*\**p*<.01 \**p*<.05. Standard Errors are displayed between parentheses. The predicted probabilities were calculated with all other variables held constant at their mean.

<sup>1</sup> All analyses were performed in Stata13. The syntax for the analyses performed within the scope of this paper are available in Annex 1 ‘Syntax’.

The reason why attrition is of concern in the analysis of the data is twofold. First, it results in reduction of the initial sample size that increases over time. This has a considerable impact on the power of the analyses.

**Figure 2.1:** Predicted probabilities attrition



**Source:** BPPS 2006-2011

Second, if the dropout is selective, i.e. when participants with certain (demographic) characteristics are more likely to dropout than others, attrition can lead to attrition bias and consequently affect the quality of the estimators in the analysis and by extent its accuracy (Lynn & Clarke, 2002). Inversely, if the assumption of ‘missing completely at random’ (MCAR) holds, attrition is not necessarily a problem. The attrition bias can for a large part be eliminated by adjusting the weighting coefficients. In order to assess whether this was necessary, we investigated the possible selectivity of attrition by estimating a probit regression, predicting the likelihood of attrition (0=participated, 1=attrition) in function of a number of demographic characteristics. If the predictors in this model are significant, then we can conclude that the drop-out is indeed selective. For the interpretation of the results,

we rely on the predicted marginal probabilities. The results are displayed in Table 2.2 and visualized in Figure 2.1.

Laurie (2007) reports two reasons for panel mortality: failure to contact the respondents and refusal to participate. These reasons are also reflected in the results displayed in Table 2.2 and Figure 2.1. With respect to refusal, we observe that gender and region are significant predictors. With a probability of 53% women are less likely to drop-out than men. Similarly, the drop-out probability in Wallonia is approximately 15% higher than in Flanders.

A possible explanation for this observation is that the survey was collected by a Flemish university, leaving schools in Wallonia with a lower overall willingness to participate and in this particular case to repeatedly participate. This reluctance to participate was already reported with respect to the school-level response rates in the BBPS technical report of 2006 and is apparently also reflected in the drop-out rates. The significant effect of age, however, can be explained both in terms of refusal and inability to contact the respondent. Most students leave school at the age of 18 and after that it is much harder to keep track. Consequently, in the analysis we see that higher age categories are more likely to attrite. Contrast analyses revealed that cut-off point, as expected, is located at age 18 as the difference between the two highest age categories is insignificant ( $\text{Chi-squared}[1]=0.13$ ;  $p=.72$ ).

Based on this analysis, we can conclude that the attrition is indeed highly selective. Consequently, our sample can no longer be considered an adequate representation of the population, i.e. it can no longer be considered representative. This is especially problematic, because these demographic characteristics have been shown to correlated with the variables of interest in this study (mainly related to political attitudes). Although adjusting the weighting coefficients cannot fully eliminate the bias in the estimators, it can eliminate the bias caused by attrition. Even if the over-all representativeness of the sample does not necessarily have to be changed for the worse (although an unlikely scenario, a group that was oversampled earlier, may show a higher likelihood to attrite), the weights still ought to be calculated in function of the composition of the used sample, not the initial sample.

Thus, in order to correct for the incorrectly estimated weights and for possible attrition biases, we recalculated the weighting coefficients, on the basis of the sample we used in our analysis. In our analyses, we relied on a perfectly balanced sample, meaning that we only included cases that participated in both the 2008 and the 2011 waves of the survey. Given the fact that the sample was initially drawn in 2006, we still rely on a comparison between the composition of our sample and the auxiliary data collected for 2006 (i.e. the base year). The new weights as well as the attrition rates are reported in Table 2.3.

**Table 2.3:** Attrition rates and adjusted weighting coefficients

		population		sample		attrition		weight
		<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	
<i>Flanders</i>	boys	35,750	27.8	1,348	32.2	509	37.8	0.86
	girls	34,326	26.7	1,376	32.8	219	15.9	0.81
<i>Wallonia</i>	boys	29,541	23.0	668	16.0	833	55.5	1.44
	girls	28,819	22.4	796	19.0	573	41.9	1.18
				4,188	100			

**Source:** BBPS 2008-2011, own calculations

### 2.3. Model specification

#### 2.3.1. Dependent variable: internal political efficacy<sup>2</sup>

The dependent variable of the subsequent analyses is internal political efficacy. As only the second (2008) and third (2011) wave of the survey included a scale for internal political efficacy, we included all respondents that participated in both the 2008 and 2011 survey. The 2008 BPPS wave measures internal political efficacy using a battery of four items on a five-point scale (ranging from 1 ‘completely disagree’ to 5 ‘completely agree’), each of which gauging a different aspect of confidence in one’s ability to comprehend political affairs. The 2011 BPPS used a similar scale ranging from 1 ‘completely

<sup>2</sup> The survey items of the variables used in this study are available in Annex 3 ‘BPPS Survey items’. The summary statistics are displayed in Annex 2 ‘Summary statistics’

disagree' to 4 'completely agree', but – as opposed to the 2008 survey – did not include the neutral option 'neither agree or disagree'. The scale included the following items: “Sometimes politics seem so complicated that a person like me can't really understand what's going on” (Complex), “I consider myself well qualified to participate in politics” (Qualification), “I feel that I have a pretty good understanding of the important political issues facing our country” (Comprehension), and “I think I could do as good a job as politicians” (Public Office).

**Table 2.4:** Factor loadings internal political efficacy

Item	2008	2011
Complex	.54***	.64(.02)***
Qualification	.81***	.80(.02)***
Comprehension	.68***	.59(.02)***
Public Office	.45***	.36(.02)***

**Source:** BBPS 2008-2011. **Notes:** \*\*\* $p < .001$ . Entries are the result of a multi group confirmatory factor analysis. Standard errors are displayed between parentheses. The scale of the marker item 'Complex' was inversed so that high values for each variable as well as the factor scores indicate high levels of political efficacy.

Earlier research showed that most of these items constitute an adequate measure of political self-confidence (Niemi, Craig & Mattei, 1991). In order to make sure that these items statistically constituted a reliable scale in our sample, a Confirmatory Factor Analysis (CFA) with Maximum Likelihood Estimation was performed in Stata13.

**Table 2.5:** Fit indices political efficacy

	$\chi^2$ model-saturated	$\chi^2$ baseline-saturated	RMSEA	CFI	TLI
2008	11.74**	1547.458***	.049	.994	.981
2011	26.65***	1461.22***	.077	.983	.949

**Source:** BBPS 2008-2011. **Notes:** \*\*\* $p < .001$  \*\* $p < .01$ .

The preliminary estimations entailed a measurement model in which the factor loadings were freely estimated and the constants were constrained to be equal to zero. The factor itself was furthermore constrained to have an intercept equal to zero and a variance equal to one. This yielded a scale with a very poor fit (RMSEA=.738,  $p=.00$ ;

CFI=.00; TLI=.00). The modification indices suggested that the fit could be improved substantially by lifting the constraints on the intercepts (which were constrained to be zero). The results of the latter model are reported in Table 2.4.

The corresponding fit indicators presented in Table 2.5 suggest that this scale performs considerably well in both years, although the fit appears to be slightly better in 2008 than in 2011. With a Cronbach's Alpha of .71 in 2008 and .69 in 2011, we can consider this scale satisfactory.

In order to facilitate a meaningful interpretation of the results, a certain level of invariance is required of the measurement scale (Hom, 1991). This requirement is based on the assertion that the instrument used to measure a construct in one situation, ought to be the same as the instrument used in another situation. If this is not the case, inference and comparability across different contexts becomes problematic. In our analyses, we assume the measurement of internal efficacy in 2008 to be equivalent to its measurement in 2011. Given the fact that we are measuring this construct amongst adolescents whose attitudes vis-à-vis the political system are likely to be subject to change, it is not evident that the assumption of measurement invariance holds.

**Table 2.6:** Test for metric invariance across waves

Measurement model	Chi-Squared[df=1]	p-value
Complex	7.500	.0062
Qualification	2.981	.0843
Comprehension	27.747	.0000
Public Office	6.525	.0106

*Joint Test for Parameter Class:* Chi-squared [df=4]=50.349\*\*\*

**Source:** BBPS 2008-2011. **Note:** \*\*\*p<.001

Table 2.4 already illustrates that the factor loadings are configurally equivalent, i.e. the construct 'internal efficacy' is composed of the same items, displaying sufficiently high factor loadings, in both waves of the survey. Higher levels of invariance can be tested by adding a specific constraint to the factor structure and evaluating whether this constraint is significantly detrimental to the fit of the model compared to a model in which this particular constraint was lifted (or absent).

In Stata13 invariance can be tested after performing a Multi Group Confirmatory Factor Analysis (MGCFA), in which multiple CFAs are performed simultaneously across multiple groups (in our case waves or years). After this analysis, measurement invariance can be tested by evaluating whether the addition of a specific constraint associated with a particular level of measurement invariance, is detrimental to the fit of the measurement model.

The second lowest level of invariance is ‘metric invariance’, which assumes the scale metrics (i.e. factor loadings) to be equal across the two waves of the survey. We tested whether this level of invariance applied, by constraining the factor loadings of each indicator of political efficacy in 2008 to be equal to its corresponding measurement in 2011. Subsequently we tested whether the addition of this constraint was significantly detrimental to the local fit of the model. Table 2.6 shows the results of the test for metric invariance across the two waves of the survey and age groups. The tests displayed in Table 2.6 show highly significant results for the individual parameters. This indicates that the null-hypothesis of the coefficients being metrically invariant across groups (in this case time points) must be rejected.

In sum, the scale only appears to be configurally invariant. A possible explanation for the absence of higher levels of invariance is the change in the measurement of the dependent variable from a 5-point scale in 2008 to a 4-point scale in 2011. Although at a first sight, this change might seem rather trivial, there is a substantial difference between scales with an odd and even number of options. Scales with an even number of options force the respondent to choose, whereas scales with an odd number also provide for the opportunity to select a neutral option (Raaijmakers et al., 2000). Moreover, the decision whether or not to include the middle category is of particular importance when studying adolescents, since the neutral option is often seen as a more desirable alternative to item nonresponse (Raaijmakers et al., 2000). Consequently, part of the explanation of the absence of higher levels of measurement equivalence may be explained by the change in scaling.

In order to explore this possibility, we repeated the analyses excluding the respondents that selected the neutral option in 2011. This, however, yields the same conclusion, namely that no level higher than

configural equivalence applied. The test of (metric) measurement invariance, with each of individual parameter chi-squared tests as well as the joint test (Chi-squared[4]=206.163\*\*\*) displaying highly significant values.

The implication of the absence of higher levels of measurement invariance is twofold. First, it supports the assertion of Sears (1983) that adolescents are still “at a developmental stage where their political views are still crystallizing”. Second, departing from a methodological perspective, these results indicate that we should be reserved when it comes to the statistical interpretation of these results, especially when it comes to evaluating longitudinal patterns.

### *2.3.2. Independent variables*

In this study, we investigate the effect of three key independent variables, namely: gender (Hypothesis 2 and as an interaction term in other Hypotheses 3 and 5), socioeconomic status (Hypotheses 1 and 3) and political resources (Hypotheses 4, 5a, 5b and 5c).

Respondents' sex is included as a binary variable in which '0' referred to male respondents and 1 to female respondents. Second, we measure the extent of childhood socialization using respondents' socioeconomic status. Due to the fact that adolescents are often not capable of correctly estimating their family's socioeconomic background, we rely on two proxies. The first proxy entails a respondent's aspired level of educational attainment in 2006 (during which all respondents were still enrolled in secondary education). This measure consists of three categories: low 'does not expect to obtain high school degree' (1), average 'high school education' (2) and high 'higher education' (3) socioeconomic status. Furthermore, we also include a measure gauging the number of books in one's household, as this contains valuable information about the parents' socioeconomic status.

We furthermore included two time-variant measures of political resources, namely one attitudinal indicator (political interest) and one indicator gauging an individual's civic skills (political talk with friends). Political interest was measured on a four-point scale ranging from 1 'not interested' to 4 'very interested'. Second, we

measure an individual's civic skills by gauging the extent to which he or she engages in political talk with friends. This indicator is of particular interest, because, contrary to political interest it uniquely captures the influence tertiary socialization processes. This indicator was also measured on a four-point scale in which 1 indicated that the respondent never talked about politics with friends and 4 that he or she always talked about politics with friends.

Additionally, we include a number of control variables. Age was measured as a time variant continuous variable. The inclusion of age as a time variant variable also caused the time predictor to be omitted due to perfect collinearity with age, as (obviously) every respondent grew exactly three years older in three years' time. Second, there may also be a difference between respondents emerging from the school type in which they are enrolled. Here four different tracks were identified for the Flemish region, compared to six in the Walloon region. For the purpose of the analyses, we programmed a variable with four categories: 1 'humanities' (Flanders: Algemeen Secundair Onderwijs, Wallonia: Générale), 2 'artistic' (Flanders: KSO, Kunst Secundair Onderwijs, Wallonia: Artistique de transition/qualification), 3 'technical' (Flanders: TSO, Technisch Secundair Onderwijs, Wallonia: Technique de transition/ de qualification) and 4 'vocational' (Flanders: BSO, Beroeps Secundair Onderwijs, Wallonia: Professionnelle). Furthermore, we will control for cultural differences between Belgium's regions by including a dummy variable in which 0 indicated the Flemish provinces and 1 the Walloon provinces (including Brussels-Capital Region). No separate category was computed for the German community. Finally, we control for ideological self-placement (0 indicating a leftist orientation and 10 a right political orientation), in order to control for possible differences associated with orientations with regards to sex-roles. This decision is based on the assertion that more politically liberal people tend to be less permissive of male social dominance (Lottes & Kuriloff, 1992).

### *2.3.3. Methods*

In this study, we rely on the analysis of two wave panel data, in which each respondent was measured both in 2008 and in 2011. This allows

us to combine the advantages of a cross-sectional design with the perks of a longitudinal design. In what follows, we first discuss the adjustments to the structure of the data matrix, followed by a comprehensive explanation of the analysis techniques.

**Figure 2.2:** Initial data matrix

id	Sex	Age	Eff '08	Eff '11	Interest '08	Interest '11
1	Female	38	3.5	4	4	5
2	Female	22	2	3	2	4.5
3	Male	41	2	4	3	4.5
4	Female	23	3	4	1	3

**Figure 2.3:** Stacked data matrix

id	Sex	Age	Year	Efficacy	Interest
1	Female	38	2008	3.5	4
1	Female	38	2011	4	5
2	Female	22	2008	2	2
2	Female	22	2011	3	4.5
3	Male	41	2008	2	3
3	Male	41	2011	4	4.5
4	Female	23	2008	3	1
4	Female	23	2011	1	3

The dependent variable, as well as multiple independent variables (e.g. political interest) were measured at two points in time, namely in 2008 and its corresponding measurement in 2011. In the initial data structure (Figure 2.2) this variable was measured using two items, one for the 2008 wave and one for the 2011 wave of the survey. In order to integrate those two measurements into one dependent variable, we generated a stacked data matrix, so that the two measurements were nested into the respondents (Figure 2.3).

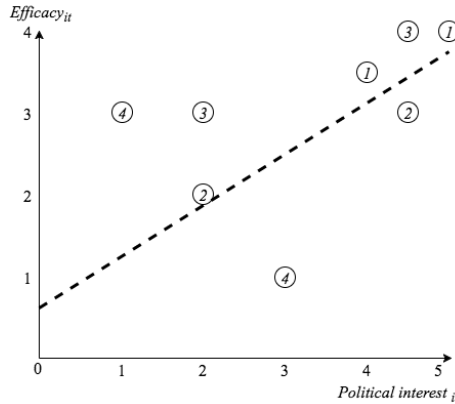
Panel data collection techniques have strong advantages compared to regular data collection techniques as they combine the perks of cross-sectional data analysis with the perks of longitudinal data analysis. In this study, we attempt to combine the strengths of both designs by estimating a random-effects model, which can be understood as the weighted average of effects calculated within respondents (i.e. the effect of the measurements in two consecutive

waves) and the effects calculated between respondents (i.e. the cross-sectional calculation of effects). In the following paragraphs, we further elaborate on the methodological features of this analysis technique. For the purpose of this section, we illustrate the technique by using one of the models we will be testing in this study. This model can be written as follows:

$$(1) \text{Efficacy}_{it} = \beta \text{Sex}_i + \beta \text{SES}_i + \beta \text{Political interest}_{it} + \beta \text{Political talk}_{it} + \beta \text{Political interest}_{it} * \beta \text{SES}_i + \beta \text{Age}_{it} + \beta \text{Educational attainment}_{it} + \beta \text{Region}_i + u_i + \varepsilon_{it}$$

in which the index  $i$  refers to the respondent (cross-sectional information) and the index  $t$  to time (longitudinal information),  $\beta$  to coefficients,  $u$  to the individual-specific random effect and  $\varepsilon$  to the stochastic error component.

**Figure 2.4** Example of an OLS regression analysis



**Note:** the numbers refer to the respondents' unique identification number, displayed in Table 2.1.

In order to illustrate the advantage of panel data analysis, we first visualize the results of a regular Ordinary Least Square analysis using the data depicted in Table 2.1. Figure 2.4 illustrates the regression coefficient based on an OLS analysis. Two limitations can be

identified. First, it neglects the clustering of the data, i.e. measurements are nested in respondents. Ignoring the nested structure of the data would lead to a vast underestimation of the standard error and therefore increase the probability of findings significant effects if they are in fact absent. Second, it does not use the longitudinal information included in the matrix.

In Figure 2.4, this longitudinal information is captured by matching the observations according to their numbers. Tied back to Equation 1, the way in which longitudinal information is reflected is twofold. First, the indices  $i$  and  $t$  allow us to distinguish between two types of variables. The first type – signified by the addition of the indices  $it$  – entails a variable that differs both across respondents and across points in time (such as political interest), i.e. time-varying variables, whereas the second – index  $i$  – entails a variable that is the same across different measurements in time but differs between respondents (such as a respondent's gender and region), i.e. time-constant variables (Dieleman & Templin, 2016). Second, the longitudinal information is also implied by the addition of the random effect ( $u$ ), which is generated in function of a difference score between the mean level of efficacy for an individual (average of efficacy in 2008 and 2011) and the grand average of the sample as a whole.

As was mentioned earlier, random effects analyses can be understood as a weighted average of between and within effects. The cross-sectional information (implied by the index  $i$  in Equation 1) is used for the between-effects, whereas the longitudinal information (index  $t$ ) is used to calculate the within-effects. In the following paragraph, we further elaborate on these two types of effects.

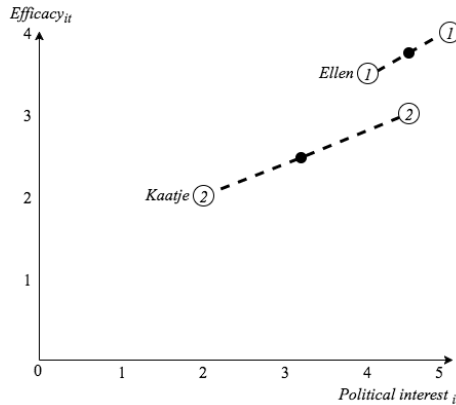
The calculation of a fixed-effects model only relies on the longitudinal information. This is a model that calculates the effects taking place within respondents over consecutive measurements in time. For instance, in 2008 the political interest of our first respondent (female, aged 38) – for the purpose of this illustration, we will hitherto forthwith refer to her as ‘Ellen’ – was 4 (out of 5) which increased to a value of 5 over the course of three years. The political interest of Kaatje (respondent 2) on the other hand, increased much more rapidly from 2 in 2008 to 4.5 in 2011. The fixed effect model calculates the effect of political interest on political efficacy focusing on the change from 2008 to 2011, rather than comparing Kaatje with Ellen. More

specifically, it regresses the time-demeaned estimate of Efficacy on the time-demeaned estimate of political interest. Time-demeaned estimates can be understood as follows:

$$(2) (efficacy_{it} - \overline{efficacy_i}) = (interest_{it} - \overline{interest_i})\beta$$

in which the second component of each term refers to the time averaged value of the two estimations (depicted by a black dot in Figure 2.4). It then estimates the slope closest to the time points, which in the case of two time points would yield the same results as a first-difference design, which first estimates the slope for each unit of analysis (the dashed line in Figure 2.5).

**Figure 2.5:** time-demeaned and first-difference estimates



Nevertheless, the sole fact that our model includes both types of variables does not suffice to justify the application of a random-effects model. This is only necessary, when the intercepts are significantly different across time-points. To test whether the calculation of time-fixed effects is desirable, we first run a fixed-effects analyses after which we performed an equivalence of parameter test in Stata using the command *testparm*. This is a joint test calculating a Wald-estimator evaluating whether the dummies for the different waves are jointly equal to zero. With a highly significant value ( $F[1,2022]=343.54$ ,  $p=.00$ ) we reject the null-hypothesis stating that

these values are jointly equal to zero, i.e. it is desirable to take the time-fixed effects into account in the calculation of our model.

Whereas the fixed-effects model focused on the longitudinal information contained in the data matrix, between-effects analysis uses the cross-sectional information, i.e. comparing Ellen to Kaatje. As was highlighted earlier, the random effects estimator can be understood as a matrix-weighted average between these two calculations. By pooling these two types of information, however, we make an important assumption, namely that the within-respondent effect can be equated with the between-respondent effect. This assumption can be tested by performing a Hausman-test, which evaluates whether the assumption of equality of effects holds. The value of this test is insignificant (Chi-squared[4]=1.06,  $p=.10$ ), meaning that the effects are not significantly different. One exception, however, can be identified: the addition of the variable age does render this test to a significant value. Thus, when it comes to the interpretation of this variable, we will decompose the analysis in a fixed and between-effects component.

#### *2.3.4. Assumptions of regression analysis*

Random effects analysis is a specific type of (multiple) regression analysis, that predicts a dependent variable in function of a set of independent variables and a stochastic error term. However, regression analysis only yields optimal estimations, if a number of conditions is met. In the following section, we discuss the extent to which these conditions are fulfilled and – if they are not – what implications this will have for the (interpretation of) the analyses.

The importance of the first assumption of *linearity* is already reflected in the word ‘model’. A model provides for a simplified representation of a state of affairs in reality. In a linear regression, we assume that linear effects are an accurate representation of the relationship between the dependent and the independent variable. In statistical terms, this is translated to the assumption that a one-unit increase in a particular independent variable leads to the same increase in the dependent variable across all its values. Meuleman, Loosveldt and Emonds (2015) add that this condition is not realistic under

normal research settings and that most of the time, there will be a difference between the predicted and observed value, i.e. residual term. Linearity implies that this residual term is expected to be subject only to random factors not included in the model, causing them to cancel each other out. If this is the case, then the expected value of the residual term is equal to zero. Here we test the assumption of linearity by means of a lack-of-fit-test, depicted in Table 2.7. In this test the sum of squared errors (SSE) is partitioned into two parts: the pure error sum (SSE') and the lack-of-fit sum of squares (SSLF). The first is calculated in function of the variation of the observed values around the conditional mean, i.e. a mean that is calculated for each unique value of the independent variable, whereas the latter refers to the variation of the conditional means around the values predicted by the model (Meuleman, Loosveldt & Emonds, 2015).

**Table 2.7:** Lack-of-fit-test

Statistic	Value	df
$pN$	1130	
$SSLF$	326.87	(1120)
$SSPE$	217.210	(835)
$F$	1.1219	(1120, 835)
$p > F$	0.0683	

The F-test displayed in Table 2.7 then evaluates whether the effects implied by the model are sufficiently similar to the observed patterns, by calculating a ratio between the SSLF and the SSE'. If this value is insignificant, then linearity is implied. Here, our value is borderline significant ( $p=.07$ ), suggesting that the assumption of linearity is mildly violated. The implication of this violation is that there is a possibility that the estimators are biased, therefore yielding systematically incorrect predictions. However, non-linear effects, too can be included in the model, for instance estimating a polynomial regression in which quadratic or cubic or higher-order terms are included. Given the violation of this observation, we will repeat every single of the subsequent analyses including higher-order terms as well and evaluate the robustness of our findings, by comparing the results of the models in which these higher-order effects are included with the

models estimated. If this yields no substantially different conclusions, these parameters will not be displayed in the analyses themselves.

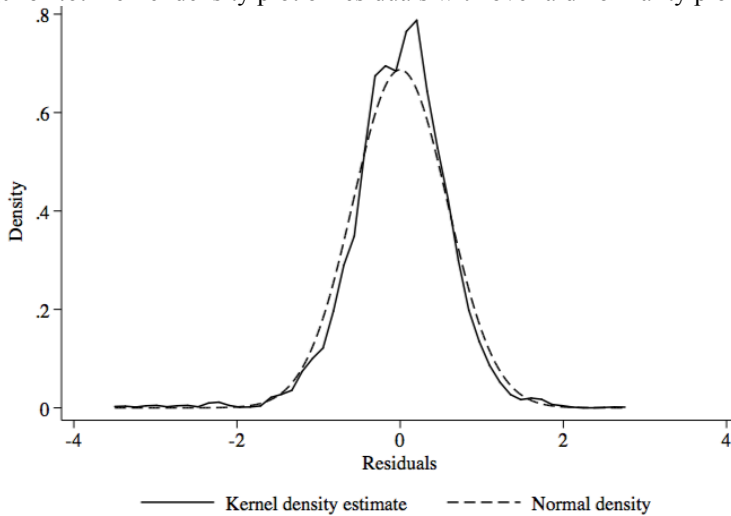
Second, regression analysis assumes that the dispersion of the error terms is constant across all values of the independent variables, which is also referred to as *homoscedasticity*. Here we use the White's test to evaluate this criterion. This test provides for information about the degree of heteroscedasticity, i.e. the deviations from homoscedasticity. If the null-hypothesis assuming homoscedasticity is rejected, then there is evidence that there is indeed a substantial degree of heteroscedasticity. With a significant value in both waves of the survey (2008: Chi-squared[49]=73.57\*\*; 2011: Chi-squared[49]=90.43\*\*\*) the White's test suggests that this assumption is violated. This is particularly problematic for the estimation of the between-effects. For the between effects, this can be compensated for by using a weighted least squares (rather than OLS) regression. This, however, cannot be taken into account when estimating the random-effects model. In order to ensure a certain level of robustness, we will also estimate a weighted least squares (WLS) regression for each wave of the survey separately, to see whether it yields similar results.<sup>3</sup>

The third assumption requires the residual terms to be independent, i.e. *independence of error terms*. Given the nested structure of the data, this assumption is necessarily violated (after all, one's level of for instance political interest in 2011 is dependent on one's level of interest in 2008). We corrected for this problem, by estimating a random effects model, because it only assumes the error terms between individuals to be independent of each other. However, our data also entails a third level of clustering, as the respondents were nested in schools. To determine whether this third level of clustering (and by extent variance) should also be considered, we calculated the intraclass correlation (ICC). The ICC was calculated as the variance on school level divided by the total variance (school level + individual level). This resulted in an ICC of 2.15% on school level. With the conventional threshold being set at 5%, we can conclude that this level of variation does not have to be taken into account.

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<sup>3</sup> These robustness checks will only be discussed if they yields results that lead to a different conclusion. The syntax and results of the Weighted Least Squares robustness checks are available in Annex 4A and 4B respectively.

**Figure 2.6:** Kernel density plot of residuals with overlaid normality plot

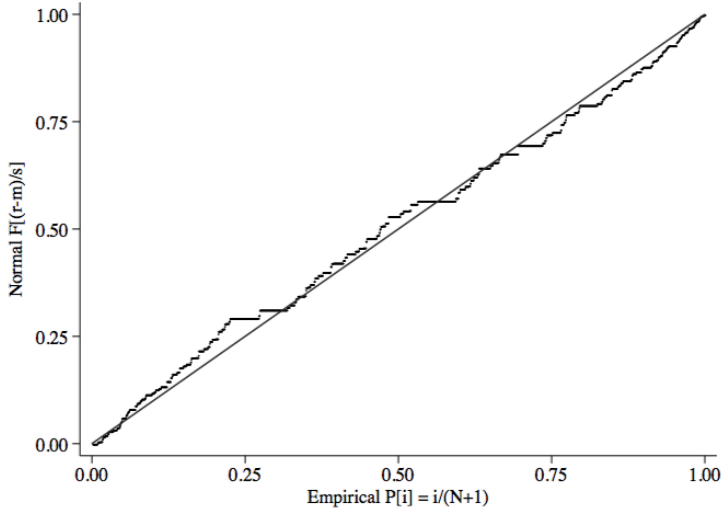


Fourth, the error terms are expected to be normally distributed. If the condition of *normal distribution of error-terms* is violated, then the calculation of the regression coefficients, confidence intervals and by extent the p-values of the coefficients are wrongly derived. However, these consequences are dependent on the severity of the violations, and a mild violation is often not problematic. We evaluated this criterion by calculating the residuals (true – predicted value) after running the regression analyses depicted in the following sections of this chapter. In a second step, we plotted the residuals in a kernel density plot, with the distribution for which normality is assumed overlaid on the plot (Figure 2.6).

We use Figure 2.6 to graphically evaluate the fulfillment of the assumption of normally distributed errors. Normal distribution implies three characteristics: it is assumed to be (1) unimodal (2) symmetric and (3) have zero kurtosis. The Figure shows that, overall, the residuals appear to be normally distributed and all three conditions are met. Moreover, in line with the assumption of linearity, the vertex of the curve is located very closely to zero. In order to gain better insights in the pattern in the deviations from non-normality, we also produced a standardized normal probability (probability-probability

or P-P plot), which provides information with respect to the deviations from normal. As shown in Figure 2.7 the deviations appear to be minor and we can assume the condition of normality to be sufficiently met.

**Figure 2.7:** Probability-probability plot



Fifth, some observations show such substantially different patterns in comparison to most observations that they – figuratively – pull the value of the regression coefficient towards their direction. *Influential cases* can occur both in respect to the dependent variable – or outliers – and in respect to independent variables – or leverage points. In our dataset we also have a number of influential cases (determined on the basis of DFBETA values). In total, approximately 90 influential cases were identified. After careful consideration, we decided that these influential cases were not the mere result of data entry errors and neither was there a clear pattern present that would justify the inclusion of a variable that would account for these extreme answer patterns. As there is no compelling reason to simply drop these observations from our dataset, we decided to perform robust analyses. This option partly corrects for the problem of influential cases, by assigning them a smaller weight, therefore rendering them less

influential. This results in a comparative advantage to regular OLS regression, where each case is assigned the same weight.

In multiple regression analysis, the independent variables are virtually always correlated to some extent. This correlation is often referred to as *multicollinearity*. When the correlation between the variables is exceptionally high, however, this may become a problem, as it becomes increasingly hard to discern the unique contribution of these variables. Statistically, this problem is caused by the fact that the conditional effects of a particular independent variable on the dependent variable are estimated by regressing the error terms of that independent variable after eliminating the effect of other independent variables. If most of the variance is accounted for by other independent variables (i.e. high levels of multicollinearity), the residual terms will be very close to zero, meaning that there will be hardly any variance left in the independent variable to explain the variance in the dependent variable. The tolerance and variance inflation factor (which we used to test the assumption of the absence of high levels of multicollinearity in previous analyses) are ways of evaluating the extent to which a predictor is dependent on other predictors, i.e. whether they share a substantial amount of variance.

**Table 2.8:** Variance Inflation Factor

	VIF	1/VIF
sex	1.14	0.88
SES: average	3.35	0.30
SES: high	4.41	0.23
political interest	1.49	0.67
political talk	1.46	0.69
age	1.12	0.90
educational attainment	1.84	0.54
left-right placement	1.05	0.95
region: Wallonia	1.08	0.93

The Variance Inflation Factor (VIF) indicates the extent to which the variance of a variable is inflated due to the presence of other variables in the model. The square-root of the VIF is the factor with which the standard errors increase due to the presence of these variables. A conservative rule of thumb is that the VIF should not be higher than 4, which means that the standard errors are not allowed to inflate more

than twice its original size. More liberal tests maintain a cut-off value of 10. With one sole exception, Table 2.8 displays no values larger than the conservative threshold 4 and all relatively high values are categories within the same variable. Based on these analyses, it can be concluded that no problems with regards to multicollinearity in the data could be detected.

### 3. Results

The presentation of the results consists of two parts. First, we present a series of descriptive analyses in which we discuss (1) the extent of the gender differences in political efficacy (2) the extent of the gender differences in political resources. Second, we test the validity of the hypotheses formulated in the theoretical framework by investigating (1) the evolution of the gender gap in political efficacy (2) to what extent the resource framework can account for this gap. The subsequent analyses were performed using the data collected among respondents that participated in both the 2008 and the 2011 wave of the survey, resulting in a perfectly balanced dataset. Out of the 6330 respondents participating in the first wave of the survey, 4188 (66.2%) were included in the analyses.

#### 3.1. Descriptive analyses

##### 3.1.1. The development of the gender-gap

In the following paragraph, we discuss the extent and development of the gender gap in efficacy. Contrary to the hypotheses formulated by social scientists assuming the structural explanatory model to explain the gender gap in efficacy, we theorized that – similar to the gender gap in voting intention – these differences would emerge in pre-adulthood.

**Table 3.1:** Political efficacy according to sex and year

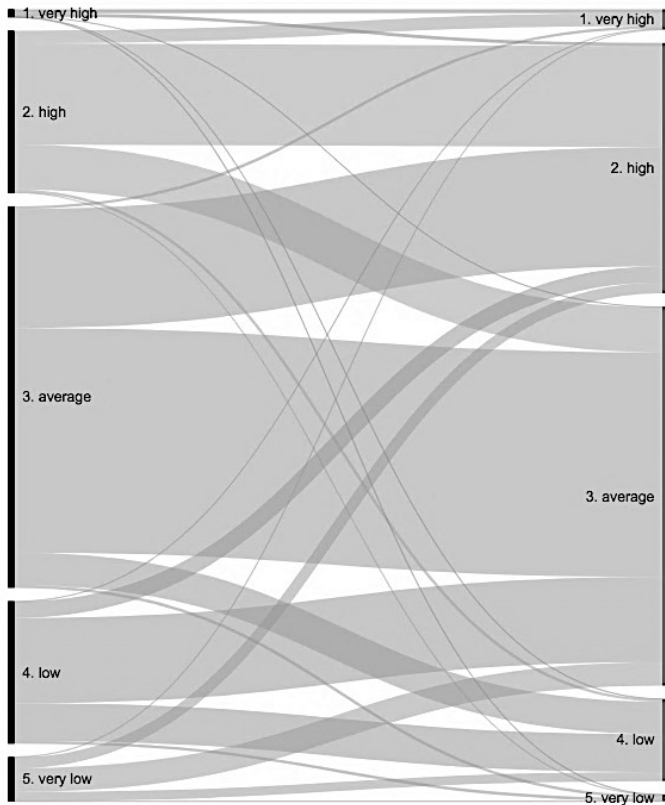
<i>Efficacy</i>	Mean	Std. Dev.	Sign. diff.
boys 2008	2.53	.02	boys '11, girls '08, girls '11
boys 2011	2.93	.02	boys'08, girls '08, girls '11
girls 2008	2.28	.02	boys'08, boys'11, girls '11
girls 2011	2.65	.02	boys'08, boys'11, girls '08
F[2,4187]=206.57***			

**Source:** BPPS 2008-2011. **Note:** the last column displays the results of a ANOVA post-hoc mean comparison test

Table 3.1 confirms that these gender differences are indeed already well-established in pre-adulthood. With a mean value of 2.28

(SD=.02), girls, on average, feel significantly less efficacious than their male counterparts ( $t[2092]=7.06, p=.00$ ) in the first wave of the survey. Similarly, in 2011 we also observe that boys are more efficacious ( $t[2092]=9.83, p=.00$ ). These observations speak well to the socio-psychological literature explaining sex-differences in function of gender specific socialization trajectories. Moreover, these gender differences are already present in the youngest stratum of our sample (aged 16). This suggests that the gender gap in efficacy emerges in childhood, rather than in adolescence. The influence of childhood socialization trajectories is discussed in the next section.

**Figure 3.1:** Alluvial diagram political efficacy



**Source:** BPPS 2008-2011

Furthermore, paired t-tests reveal that with an increase of .40 for girls ( $t[1007]=-14.41$ ,  $p=.00$ ) and .37 for boys ( $t[1085]=-15.35$ ), members of both sexes appear to become more confident in their capacity to understand political affairs over time. This pattern is also visible in the alluvial diagram displayed in Figure 3.1. The left bar refers to the relative frequencies of each category of political efficacy in 2008 and the right bar refers to the relative frequencies in 2011. The thickness of the paths between 2008 and 2011 indicates the size of the cluster changing from one category to the other. This picture tells a similar story: the percentage of young people with a low or very low level of efficacy is substantially smaller in 2011 than in 2008. Moreover, following the redundancy hypothesis, we observe that the size of the clusters of young people for whom their level of efficacy has increased, is larger for those with lower levels in 2008. Although not directly observable in this graph, what's more is that the increase for girls is slightly less strong, than that of boys. In the multivariate analyses, we will elaborate on whether the gender differences in growth-trajectories are significant.

### *3.1.2. Socialization during childhood*

The observation that the gender-gap is already established among young people entering adolescence, indicates that childhood socialization processes lie at the basis of the gender disparities in efficacy. We furthermore discerned that parental socialization would be of paramount importance. In this respect, the aspirations and expectations one has about their academic capabilities, serve as an adequate indicator about the extent to which young people have accumulated resources during childhood, which for the purpose of this study has been labelled as socioeconomic status. In this paragraph we discuss the relation between socioeconomic status, gender and efficacy. The results are displayed in Table 3.2.

Assuming the accumulation hypothesis, we expected that young people with a higher socioeconomic status would be more confident with respect to their ability to understand politics. Post-hoc analyses following an Analysis of Variance (ANOVA) reveal that this is indeed the case ( $F[3,4122]=138.89^{***}$ ). In order to better

comprehend the relation between socioeconomic status, gender and efficacy, we further disaggregated the results presented in Table 3.2 according to the sex of the respondents. Here we observe that, although preliminary analyses revealed that girls, on average, have a higher socioeconomic status than their male counterparts ( $t[2063]=-7.89, p=.00$ ), this advantage is not reflected in their mean levels of efficacy, as girls, on average, are significantly less efficacious than boys across every category of socioeconomic status.

**Table 3.2:** Efficacy according to socioeconomic status and gender

		mean (std. err.)
low	boys ( $N=388$ )	2.37(.04)
$t[524]=2.38^{**}$	girls ( $N=136$ )	2.18(.06)
average	boys ( $N=858$ )	2.63(.03)
$t[1832]=7.61^{***}$	girls ( $N=974$ )	2.37(.02)
high	boys ( $N=750$ )	3.04(.03)
$t[1770]=12.49^{***}$	girls ( $N=1020$ )	2.60(.02)

**Source:** BPPS 2008-2011 **Note:** \*\*\* $p<.001$  \*\* $p<.01$ .

Additionally, the increase in the t-value across the three categories of socioeconomic status, suggests that gender differences in efficacy are larger for young people with a higher socioeconomic status, than for those with a lower status. In sum, the more resources collected in socialization processes in early childhood, the larger the gender gap. This is in line with the expectations formulated based on the cognitive developmental models of socialization.

### 3.1.3 Secondary and tertiary socialization

A third objective of this study was to investigate whether resources collected through secondary and tertiary socialization processes would narrow, broaden or replicate the gap in efficacy. In order to gain a better understanding, in this paragraph we investigate the accumulation process of these resources.

The analysis displayed in Table 3.3 shows that gender disparities in political resources, too, appear to increase in size over the course of three years. This suggests that girls' socioeconomic

status translates relatively poorly to their level of efficacy, as well as the amount of political resources they acquire.

**Table 3.3:** Political resources according to sex and year

		2008	2011
<i>Political interest</i>	boys	2.31(.03)	2.46(.03)
F[2,4163]=27.11***	girls	2.19(.02)	2.34(.03)
<i>Political talk</i>	boys	1.81(.02)	2.02(.02)
F[2,4170]=54.73***	girls	1.71(.02)	1.86(.02)

**Source:** BPPS 2008-2011. **Notes:** Standard errors are displayed between parentheses.

Table 3.3 shows that girls, on average, are less interested in politics (2008:  $t[2084]=3.34$ ,  $p=.00$ ; 2011:  $t[2075]=3.26$ ,  $p=.00$ ) and engage to a lesser extent in political discussions with friends (2008:  $t[2087]=3.81$ ,  $p=.00$ ; 2011:  $t[2079]=5.85$ ,  $p=.00$ ). In sum, in line with the findings of previous studies, women have less political resources than men.

**Table 3.4:** Transition table political interest for boys and girls

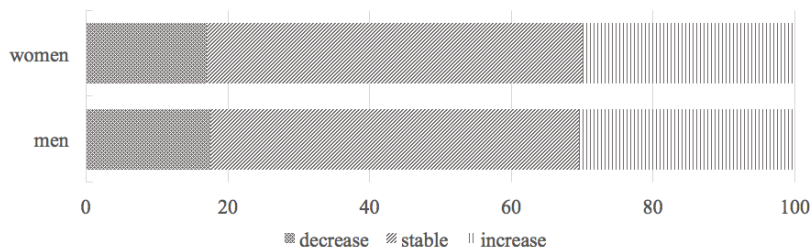
		very low	low	average	high
very low	boys	<b>45.5%(162)</b>	41.0%(146)	12.9%(46)	0.6%(2)
	girls	<b>43.6%(179)</b>	48.7%(190)	7.2%(28)	0.5%(2)
low	boys	12.2%(102)	<b>52.5%(440)</b>	33.2%(278)	2.2%(18)
	girls	11.5%(120)	<b>58.2%(606)</b>	26.9%(280)	3.5%(36)
average	boys	2.6%(16)	26.4%(162)	<b>52.4%(322)</b>	18.6%(114)
	girls	3.2%(20)	27.2%(170)	<b>54.5%(342)</b>	15.3%(96)
high	boys	0.0%(114)	4.4%(8)	32.6%(60)	<b>63.0%(116)</b>
	girls	0.0%(96)	7.0%(6)	46.5%(40)	<b>46.5%(40)</b>

**Source:** BPPS 2008-2011 **Note:** the percentages indicate the relative row frequencies.

In order to get an indication whether, aside from the amount of resources, boys and girls also differ in terms of the acquisition of resources, we study the transition table of political interest, in which we disaggregated the frequencies according to gender (Table 3.4). The diagonal of this table (displayed in bold) shows the (relative) row-frequencies of those whose level of efficacy has remained unchanged across the two waves. The values below the diagonal signify a

decrease in efficacy and inversely, values above the diagonal signify an increase. Overall, both boys and girls appear to successfully accumulate resources in three years' time.

**Figure 3.2:** Change in political interest for boys and girls



**Source:** BPPS 2008-2011

Figure 3.2 presents a graphical depiction of the transition table. Based on this Figure and the transition table we can draw three major conclusions. First, this graph shows that the vast majority of the respondents (53%) shows no or a mild change in political interest over the course of three years. However, with 29,98% of the respondents experiencing an increase in political interest compared to only 17.02% experiencing a decrease, there is to some extent empirical support for the accumulation hypothesis.

Second, the transition table shows that young people with a lower amount of political resources are more likely to show an increase in political interest and are therefore more successful at accumulating these resources over time. The opposite appears the case for more well-endowed adolescents, who show a slight decrease in political resources. This is in concordance with the expectations formulated on the basis of the redundancy hypothesis, namely that those who have the least, have the most to gain. Nevertheless, it should also be noted that this observation may well be a mere artifact of the truncation at the end of the measurement scale.

Third, contrary to the gender differences in the amount of political resources, gender disparities in terms of the accumulation of these resources paint a less comprehensive picture. Whereas the lesser (low and very low) politically interested girls in our sample appear slightly more successful at accumulating resources over the course of

three years than boys, the opposite appears to be the case for the more politically interested girls. Hence, although girls are less interested, they are not necessarily less successful at accumulating resources. In this respect, boys and girls show fairly similar growth trajectories.

The descriptive analyses allude to two major conclusions, the validity of which will further be investigated in the multivariate analyses. First, in our sample we observe a gender gap in political efficacy among adolescents with women being less efficacious than men. This finding on its own, is already able to invalidate a large extent of the explanations put forward by structural models of gender differences in efficacy. Secondly, although girls on average have a smaller amount of political resources, they are not necessarily worse at collecting these resources. This suggests that the gender gap is already established and tends to replicate itself over time.

### ***3.2. Multivariate analyses***

With adult women being systematically less confident about their ability to understand political affairs, the question arises whether this is the result of socialization processes throughout their lifespan, or whether this limited confidence is a mere static fact emerging from different biological dispositions. The study of Easton and Dennis (2002) suggests that the former is the case, as they find no evidence for the existence of such a gap among young boys and girls. With data collected among adolescents, we are able to discern whether this trend continues into adolescence. In this section, we investigate (1) whether this is indeed the case (2) if so, how socialization factors contribute to the development of this gap. More specifically, we distinguish between resources collected prior to adolescence (primarily through processes of parental socialization) and political resources collected during adolescence through secondary and tertiary socialization processes.

#### ***3.2.1. Socialization in (early) childhood***

In this section, we further explore the influence of socialization processes taking place in childhood on the gender gap in political

efficacy. Following the accumulation hypothesis, we discerned that adolescents whose parents are more politically well-endowed would feel more efficacious than those whose family background acts less favorably upon a positive development of political attitudes (Hypothesis 1).

**Table 3.5:** Explaining the gender gap using SES

	Model 1	Model 2	Model 3
Sex: female	-.36(.03)***	-.24(.09)**	-.21(.07)**
Academic exp.: low			
average	.18(.05)***	.18(.06)**	.17(.05)***
high	.40(.06)***	.48(.06)***	.39(.06)***
Books	.04(.01)***	.04(.01)***	.06(.06)***
Sex*SES			
female: average	—	-.06(.10)ns	—
female: high	—	-.20(.10)*	—
Sex*books	—	—	-.04(.02)**
<i>Control variables</i>			
Age	.12(.01)***	.12(.01)***	.12(.01)***
Education: humanities			
artistic	-.19(.08)**	-.18(.08)*	-.18(.08)*
technical	-.16(.04)***	-.16(.04)***	-.16(.04)***
vocational	-.26(.06)***	-.26(.06)***	-.26(.06)***
Region: Wallonia	-.06(.03)*	-.07(.03)*	-.06(.03)*
Ideological position	.01(.01)*	.02(.01)*	.02(.01)*
Constant	.05(.13)ns	.02(.14)ns	-.01(.14)ns
	<i>N</i> = 3800	<i>N</i> = 3800	<i>N</i> = 3800
R-squared (overall)	0.1702	0.1725	0.1716

**Source:** BPPS 2008-2011. **Note:** \*\*\* $p < .001$  \*\* $p < .01$  \* $p < .05$ ; standard errors are displayed between parentheses. Entries are the result of a robust random-effects regression analysis (stata command: xtreg). The sample was perfectly balanced. Adjusted weights (taking attrition into account) were applied in order to correct for compositional differences between the sample and the population.

In accordance with the expectation formulated on the basis of the accumulation and (parental) socialization hypothesis, Model 1 (Table 3.5) shows that there is indeed a clear indication that the political

socialization of adolescents with a higher socioeconomic background is more successful than those with a lower socioeconomic status (Academic expectations:  $\beta_2 = .18$ ,  $SE=.05$ ,  $p=.00$ ;  $\beta_3=.40$ ,  $SE=.06$ ,  $p=.00$ ; Books:  $\beta=.04$ ,  $SE=.01$ ,  $p=.00$ ). An additional contrast analysis furthermore reveals that the difference in efficacy is significantly greater for every step upwards in the academic aspirations dimension of socioeconomic status (Chi-squared[1]=119.92,  $p=.00$ ). This effect holds, even after controlling for a number of sociodemographic characteristics.

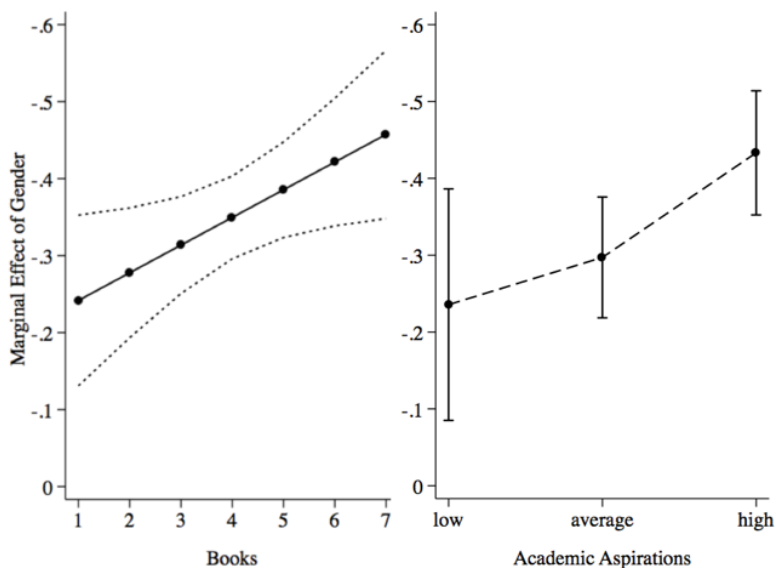
Additionally, the validity of this hypothesis is also reflected in the significant positive effect of age ( $\beta=.12$ ,  $SE=.01$ ,  $p=.00$ ). Remarkably, partitioning the random effects into between and fixed effects analyses, reveals that this effect is only significant within respondents ( $\beta=.13$ ,  $SE=.01$ ,  $p=.00$ ), but that no discernable effect can be detected between respondents ( $\beta=.01$ ,  $SE=.02$ ,  $p=.59$ ). Combined, this information suggests that as young people grow older, they become increasingly politically self-confident, but that older strata in our sample are not necessarily more efficacious than younger strata. With significant effects of both SES and age, the analyses provide unambiguous support for the primary socialization and accumulation hypothesis.

We furthermore theorized that the concurrence of sex-role socialization and political socialization processes would cause girls to feel less efficacious than boys (Hypothesis 2). Model 1 (Table 3.5) suggests that this is indeed the case: girls are significantly less efficacious than boys ( $\beta=-.36$ ,  $SE=.03$ ,  $p=.00$ ). Moreover, countering the arguments of studies assuming structural explanatory models, including socioeconomic status in the model does not reduce the effect of gender to insignificance. Instead, the effect of gender persists across all models displayed in Table 3.5. In sum, these findings provide support for Hypothesis 2.

Finally, we theorized that the political resources acquired through processes of parental socialization would be less successful at accommodating girls' sense of political empowerment than boys'. We tested this assertion by including an interactive term between sex and SES (measured using the indicators 'academic aspirations' and 'number of books'). In order to facilitate an accurate interpretation of each interaction effect, we also plotted the marginal effects (Figure

3.3) and predicted marginal values (Figure 3.4). Marginal effects can be described as the increase (or decrease) in the predicted value in one category of the dependent variable for a one-unit increase in a particular independent variable, while holding all other variables constant in this case at their mean value.

**Figure 3.3:** (Marginal) interaction effect between gender and SES

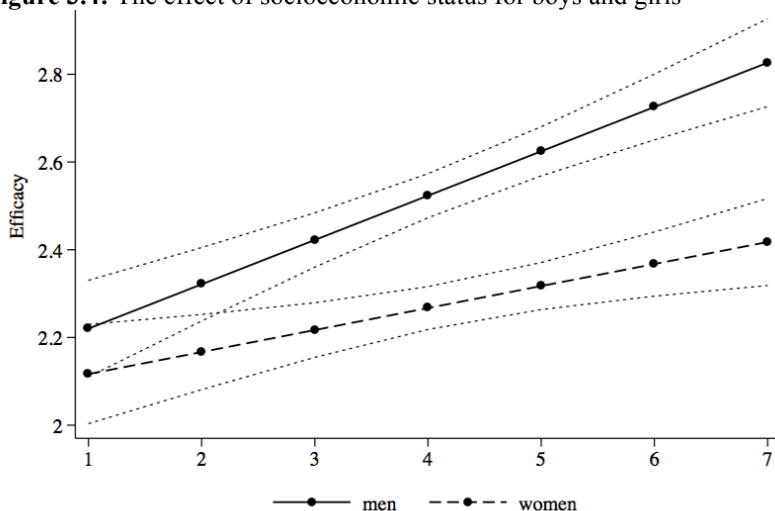


**Source:** BPPS 2008-2011. **Note:** The vertical whiskers and outer bounds indicate a 95 per cent confidence interval around the marginal effect.

Figure 3.3 depicts the marginal effect gender for each value of the two indicators of socioeconomic status. This Figure reveals that the effect of gender is marginally significant across all values of socioeconomic status. Moreover, both graphs speak well to the assertion made in the sex-role socialization hypothesis. Overall, the effect of gender appears to be stronger for young people with a higher socioeconomic status. This suggests that, in line with Hypothesis 3, having a higher socioeconomic status indeed facilitates a more successful socialization process for boys, but that this is only true to a lesser extent than girls. This assertion is also reflected in Figure 3.4, which shows that the difference in efficacy between boys and girls increases according to

socioeconomic status. Nevertheless, this difference should not be overestimated. Subsequent contrast analyses revealed that the difference in strength between higher and lower values of SES itself is insignificant.

**Figure 3.4:** The effect of socioeconomic status for boys and girls



**Source:** BPPS 2008-2011. **Note:** The outer bounds indicate a 95 per cent confidence interval around the predicted value.

The implications of these findings are twofold. First, we find strong evidence that resources acquired through processes of parental socialization successfully translate to higher levels of efficacy. On a less positive note, however, the analyses reveal that this is mostly strongly the case for boys and that girls benefit to a lesser extent from having a higher socioeconomic status. In effect, parental socialization processes contribute to the emerging gender inequalities in political efficacy.

### 3.2.2. The acquisition of political resources during adolescence

The first section showed that the political socialization of girls appears to be less successful than that of their male counterparts and that primary socialization processes are partly able to account for this gender gap.

**Table 3.6:** Explaining the gender gap using political resources

	Model 4	Model 5	Model 6
Sex: female	-.25(.02)***	-.17(.07)**	-.12(.06)ns
SES: low			
average	.11(.04)**	.11(.04)*	.11(.04)*
high	.25(.05)***	.24(.05)***	.24(.05)***
Books	.02(.01)*	.02(.01)*	.03(.01)**
Political interest	.29(.02)***	.30(.02)***	.29(.02)***
Political talk	.13(.02)***	.13(.02)***	-.03(.14)ns
Political interest*sex	—	-.03(.03)ns	—
Sex*books	—	—	-.03(.01)*
<i>Control variables</i>			
Age	.10(.01)***	.10(.01)***	.10(.01)***
Education:			
humanities	-.14(.08)ns	-.14(.08)ns	-.14(.08)ns
artistic	-.06(.03)ns	-.06(.03)ns	-.06(.03)ns
technical	-.06(.05)ns	-.06(.05)ns	-.06(.05)ns
vocational			
Region: Wallonia	.02(.03)ns	.02(.03)ns	.02(.03)ns
Ideological placement	.03(.03)ns	.02(.01)***	.02(.01)***
Constant	-.34(.13)**	-.38(.14)**	-.39(.13)**
	<i>N</i> = 3774	<i>N</i> = 3774	<i>N</i> = 3774
R-squared (overall)	.3093	0.3096	0.3110

**Source:** BPPS 2008-2011. **Note:** \*\*\**p*<.001 \*\**p*<.01 \**p*<.05; standard errors are displayed between parentheses. Entries are the result of a robust random-effects regression analysis (stata command: xtreg). The sample was perfectly balanced. Adjusted weights (taking attrition into account) were applied in order to correct for compositional differences between the sample and the population.

However, socioeconomic background is a resource with unique properties in comparison to other resources such as political interest as it SES is uniquely associated with socialization in childhood, and most prominently with parental socialization. Other forms of political resources, on the other hand, can be acquired through secondary and tertiary socialization processes e.g. in interactions with teachers, fellow students and friends.

Building on the assertion of Easton and Dennis (2002) we expected that, similar to socioeconomic status, political resources acquired through secondary and tertiary socialization processes, too, would be able to facilitate the political socialization of young people (Hypothesis 4). We tested this assumption by estimating a model in which political interest and political talk with friends were included as predictors, while controlling for the effect of resources acquired prior to the socialization process in adolescence.

The results of this analysis are displayed in Model 4 (Table 3.6). These findings suggest that adolescents that are more politically interested ( $\beta=.29$ ,  $SE=.02$ ,  $p=.00$ ) and engage more frequently in political discussions with friends ( $\beta=.13$ ,  $SE=.02$ ,  $p=.00$ ) are indeed more confident about their ability to understand politics. Contrary to the contradicting findings of age, the fixed effects and between effects yield the same conclusion as the random effects analysis. Thus, we find consistent evidence in favor of Hypothesis 4.

Our last set of hypotheses concerned the impact of the acquisition of political resources through these secondary and tertiary socialization processes on gender disparities in political efficacy. In this regard, the descriptive analyses revealed that boys and girls do not differ in their ability to accumulate secondary political resources (i.e. political interest and political talk). Although girls have significantly lower amount of political resources, the increase over time is remarkably similar to that of boys.

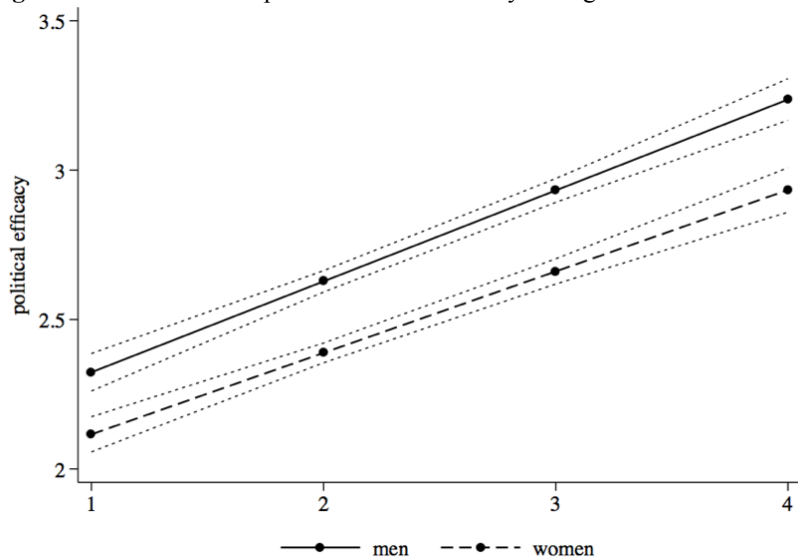
Based on the literature, we discerned three possible implications of these resources on the gender gap in political efficacy. On the one hand, following accumulation and redundancy hypothesis, we can assume that the acquisition of political resources in these processes could replicate (Hypothesis 5a) or narrow (Hypothesis 5b) the gender disparities established in primary socialization. On the other hand, we theorized that the psychological and social mechanisms

explaining the emergence of the gender gap through primary socialization processes, to exert a similar effect in secondary and tertiary socialization processes. This would further fortify gender differences (Hypothesis 5c).

We tested the validity of these claims in three steps. In a first step, we tested the assumption of the structural explanatory model, namely that gender differences in efficacy can be explained by gender differences in political resources, by studying the main effect of gender after including political interest and political talk in our model. This leads to a first remarkable observation, namely that after adding political interest and political talk as predictors, the main effect of gender has decreased by one third, but is in no way reduced to insignificance ( $\beta = -.24$ ,  $SE = .02$ ,  $p = .00$ ).

In a second step, we evaluated whether the gender differences in these secondary political resources could account for the gender gap in efficacy. Model 5 and Model 6 in Table 3.6 display the results of these analyses.

**Figure 3.5:** The effect of political interest for boys and girls



**Source:** BPPS 2008-2011. **Note:** the outer bounds indicate a 95 per cent confidence interval around the predicted value.

The insignificant values of the two-way interactive effects (as depicted in Figure 3.5) between gender and political interest ( $\beta = -.03$ ,  $SE = .03$ ,  $p = .23$ ) and gender and political talk ( $\beta = -.04$ ,  $SE = .03$ ,  $p = .21$ ), suggest that these resources neither narrow nor broaden the gap in efficacy. Instead, they tend to replicate the gender inequalities already established in primary socialization processes. These findings correspond to the expectations formulated in Hypothesis 5a, while Hypotheses 5b and 5c receive no support.

In a final step, we calculated a model in which we investigated whether the differential effects of primary socialization would still hold after controlling for political interest and political talk. Model 6 (Table 3.6) illustrates that this is indeed the case. With a consistently negative sign and a significant value in the highest category of the interaction between gender and SES, we can conclude that even after controlling for political interest and political talk, socioeconomic status remains a structural cause of the gender gap in efficacy. Even more so, once this gap is accounted for, the main effect of gender reaches an insignificant value, alluding to a metaphorical closing of the gender gap in efficacy.

## **4. Discussion and conclusion**

### ***4.1. Discussion***

The purpose of this study was twofold. First, we investigated the development of boys' and girls' level of political socialization and the process of the acquisition of political resources in adolescence. Second, we assessed the implications of the gendered primary, secondary and tertiary socialization processes in terms of gender equality.

First and foremost, in line with prior research conducted among adults, we find a persistent gender gap in political efficacy among adolescents. This gap already exists among the youngest stratum in our sample (age 16) and, against theoretical expectations, does not appear to grow nor decline over time. This suggests that the gender gap is already well-established and stabilized in pre-adolescence, i.e. during childhood. This illustrates that socialization processes taking place prior to adolescence, most prominently parental socialization processes, are of paramount importance in explaining the gender gap.

In line with the accumulation hypothesis, we observe a significant increase in political resources over time for both male and female respondents. With respect to gender disparities in these resources, we find that girls, on average, have acquired more political resources through processes of parental socialization than their male counterparts. This advantage, however, is not reflected in the acquisition of secondary and tertiary political resources: girls are systematically less interested in politics and engage significantly less often in political talk. Similar to the gap in efficacy, this difference is stable across all ages. In other words, the acquisition of political resources appears to be equally successful for boys and girls.

In a second section, we theorized that the gender gap in efficacy may be caused by the fact that these resources are less successful at accommodating the political socialization of girls than that of boys. Here we distinguished between resources acquired through processes of parental socialization, i.e. socioeconomic status, and resources attained in interaction with school and friends. Indeed,

in line with the expectations, our analyses indicate that socioeconomic status is a significant predictor of the gender gap. This confirms the assertion made earlier, namely that the gender gap is established in pre-adolescence.

Furthermore, we explored whether – and if so to what extent – resources collected through socialization processes of actors other than the parents (i.e. in school, peers, friends) could contribute to narrowing the gap. Based on the literature, we discerned three possible effects. First, further building on the accumulation hypothesis, we theorized that the acquisition of secondary and tertiary political resources could replicate the inequalities established in childhood. Alternatively, we explored the possibility that furthering the attainment of these resources could narrow or broaden the gap. In the formulation of the former hypothesis we drew from the so-called redundancy hypothesis, whereas the latter was based on assertions made within the framework of the cognitive developmental theory, more specifically research focusing on sex-typed behavior. The results provide unambiguous support for the first expectation: political resources acquired through secondary and tertiary political socialization processes neither narrow nor broaden the gap in efficacy. Instead, they tend to replicate the inequalities established through parental socialization processes.

In spite of the fact that this study among adolescents provided for the perfect opportunity to study the effect of socialization processes, this approach also came with a number of limitations. A first set of limitations concerns the methodological constraints. As was illustrated in the methodological section of this study, the measurement structure of political efficacy tends to change over time. Although this converges with the idea that adolescents are amidst a period of maximum change, this does put severe constraints on the interpretation of the fixed effects. Moreover, the lack of a consistent measure of efficacy in the first wave of the survey proved a second methodological limitation of this study, as we were unable to reach the level of causal inference we initially strived for. In hindsight, this complication could have been overcome by only using the ‘comprehend’ indicator of internal political efficacy, which has been measured across all three waves of the survey. Third, we also observed a high level of highly selective attrition across the second in the third

wave of the survey. This may have been detrimental to the overall accuracy of the estimators. A final methodological remark is that although for most of our time varying variables fixed and between effects showed a fairly similar trend, this was not the case for age. Although this puts a constraint on the appropriateness of this analysis technique, it also illustrates that solely relying on cross-sectional data may yield misleading results.

Aside from methodological limitations, we also faced multiple theoretical challenges. For instance, the causal mechanisms we assumed to be responsible for gender disparities in efficacy, namely sex-role socialization, are of a highly speculative nature. In our analysis we rely on a combination of longitudinal and cross-sectional information about the acquisition of political resources, which we equated with the contribution of particular socialization agents. Why these resources showed a differential impact on boys and girls, however, has not been directly observed and given the data at hand, cannot be observed. A second complication, that can also be categorized under methodological problems, is that we ascribe the contribution of each of the three political resources (SES, interest and talk) to distinct socialization actors. In this process, we neglected the possible overlap in the acquisition process of these resources. Finally, similar to the choices made by other social scientists, in this study we opted to explain political efficacy mainly in function of psychocultural aspects. Nevertheless, there is always a biological component when it comes to explaining gender differences, which we neglected for the purpose of this study.

We conclude this section, with providing several pointers for future research. First, in order to assess the presumed psychological mechanisms at play in the development of one's political identity and confidence in one's comprehension of the political system, further research is required. When it comes to studies focusing on people's gender-identity and sex-typed behavior, for instance, biological explanations have been explored. Manlove, Guillermo and Gray (2008) for instance, report a lower degree of gender-role conformity for women with Polycystic Ovary Syndrome (PCOS), which is associated with hyperandrogenism (i.e. the presence of a relatively high amount of male hormones). Similar conclusions have been drawn for women with congenital adrenal hyperplasia (Long, Wisniewski

& Migeon, 2004) and differences in the central nervous system. In order to understand the development of gender disparities in political attitudes, it would be interesting to perform similar studies. However, to achieve such research, interdisciplinary efforts are required.

A second interesting avenue to explore the influence of socialization processes and sex-typed behavior is the association between the development of personality traits and political efficacy. Boys and girls are reared to develop a different set of traits. By investigating the influence of these traits on one's level of internal efficacy, we can evaluate the gender gap in function of the impact of gender-conformity.

#### ***4.2. Conclusion***

Of course, multiple explanations exist for the gender gap in political efficacy. In the literature, three explanatory models are distinguished, namely structural models, situational models and sex-role socialization models. In this study, we seized the opportunity to explore the last model, which to date, has remained the least explored. Based on the findings of this study, we can draw three substantial conclusions. First, the observation that this gap already exists among adolescents largely invalidates suggestions made by scholars assuming the structural explanatory model. This study shows that the gap in efficacy is not caused by the inability of girls to accumulate political resources, but emerges because these resources are less successful at accommodating girls' confidence in their ability to understand politics than that of boys. Second, the fact that this gap is already present among the youngest stratum of our sample and remains stable afterwards speaks well to the assertion made by Langton and Jennings (1968) namely that the most fundamental development in political attitudes takes place in early childhood. Our analyses provide strong support for this assertion. Our study shows that there is a clear indication that the resources parents pass on to their children are less able to foster girls' confidence than boys' and that resources acquired through secondary and tertiary socialization processes structurally fail to correct this source of inequality. This maybe a viable explanation for why this gap tends to perpetuate over

time. The latter suggestion brings us to our final point. With sex-role socialization in early childhood constituting the foundations of gender inequality in terms of political efficacy, the role parents play in this respect, should be of central concern in both policy and research. For although girls are better prepared to participate, their internalized inhibitions emerging from their gender-role, will remain a structural barrier in doing so.

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## Appendices

### *Annex 1: Syntax*

**Table 2.2:** Probit regression predicting attrition

---

Probit:	probit attrition i.sex i.age_cat i.region
Pred. Probability:	margins, atmeans

---

**Table 2.4:** Factor loadings internal political efficacy

---

CFA (fixed interc.):	sem (Efficacy -> Eff1, ) (Efficacy -> Eff2, ) (Efficacy -> Eff3, ) (Efficacy -> Eff4, ) (Eff1 <- _cons@0, ) (Eff2 <- _cons@0, ) (Eff3 < _cons@0, ) (Eff4 <- _cons@0, ), variance(Efficacy@1) mean(Efficacy @0) group(year) latent(Efficacy ) nocapslatent nolog estat gof, stats(all)
Fit indices:	
Modification indices:	estat mindices
CFA (free interc.):	sem (Efficacy -> Eff1, ) (Efficacy -> Eff2, ) (Efficacy -> Eff3, ) (Efficacy -> Eff4, ), variance(Efficacy @1) mean(Efficacy @0) group(year) latent(Efficacy ) nocapslatent nolog

---

**Table 2.5:** Fit indices political efficacy

---

CFA (free interc.):	sem (Efficacy -> Eff1, ) (Efficacy -> Eff2, ) (Efficacy -> Eff3, ) (Efficacy -> Eff4, ), variance(Efficacy @1) mean(Efficacy @0) group(year) latent(Efficacy ) nocapslatent nolog
Fit indices:	estat gof, stats(all)
Save scores:	predict Efficacy, latent(Efficacy)

---

**Table 2.6:** Test for metric invariance across waves

---

CFA:	sem (Efficacy -> Eff1, ) (Efficacy -> Eff2, ) (Efficacy -> Eff3, ) (Efficacy -> Eff4, ), variance(Efficacy@1) mean(Efficacy@0) ginvariant(none) group(year)
Equivalence test:	estat ginvartest, showpclass(mcoef) year

---

**Table 2.7:** Lack-of-fit-test

---

Install package:	net install srd13_2, replace
------------------	------------------------------

---

Regression:	regress Efficacy xtreg Efficacy i.sex i.SES books interest talk age i.track i.region lrscale if year==2008
Lack-of-fit-test:	maxr2

**Table 2.8:** Variance Inflation Factor

Regression:	regress Efficacy xtreg Efficacy i.sex i.SES books interest talk age i.track i.region lrscale if year==2008
Variance inflation:	vif

**Table 3.2:** Socioeconomic status according to gender

t-test (SES=low):	ttest efficacy, by(sex) if SES==1
t-test (SES=average):	ttest efficacy, by(sex) if SES==2
t-test (SES=high):	ttest efficacy, by(sex) if SES==3

**Table 3.3:** Political resources according to sex and year

t-test (political interest):	ttest interest, by(sex)
t-test (political talk):	ttest talk, by(sex)

**Table 3.5:** Explaining the gender gap using SES

M1 Random effects:	xtreg Efficacy i.sex i.SES books age i.track i.region lrscale [pweight = weights_adjusted], robust
M1 Contrast:	test 2.SES=3.SES
M1 Fixed effects:	xtreg Efficacy age lrscale, robust
M1 Between effects:	xtreg i.SES i.sex i.track i.region [pweight = weights_adjusted]
M2 Random effects:	xtreg Efficacy i.sex i.SES books SES#sex age i.track i.region lrscale [pweight = weights_adjusted], robust
M2 Contrast:	test 2.SES=3.SES
M3 Random effects:	xtreg Efficacy i.SES i.sex sex#c.books age i.track i.region lrscale [pweight = weights_adjusted], robust

**Table 3.6:** Explaining the gender gap using political resources

M4 Random effects:	xtreg Efficacy i.sex i.SES books interest talk age i.track i.region lrscale [pweight = weights_adjusted], robust
--------------------	--

M4 Fixed effects:	xtreg Efficacy interest talk age [pweight = weights_adjusted], fe robust
M4 Between effects:	xtreg i.sex i.SES books i.track i.region interest talk age [pweight = weights_adjusted]
M5 Random effects	xtreg Efficacy i.sex i.SES books interest talk c.interest#sex age i.track i.region lrscale [pweight = weights_adjusted], robust
M6 Random effects:	xtreg Efficacy i.sex i.SES books interest talk SES#sex age i.track i.region lrscale [pweight = weights_adjusted], robust

**Figure 2.1:** Predicted probabilities attrition

---

Probit:	probit attrition i.sex i.age_cat i.region
Marginal values:	margins sex#region, at(age=(16(1)22)) atmeans
Margins plot:	marginsplot

**Figure 2.6:** Kernel density plot of res. with overlaid normality plot

---

Regression:	regress Efficacy xtreg Efficacy i.sex i.SES books interest talk age i.track i.region lrscale if year==2008
Predict residuals:	predict res, res
Plot:	kdensity res, normal name(kep) nodraw

**Figure 2.7:** Probability-probability plot

---

Regression	regress Efficacy xtreg Efficacy i.sex i.SES books interest talk age i.track i.region lrscale if year==2008
Predict residuals:	predict res, res
Plot:	pnorm res

**Figure 3.1:** Alluvial diagram political efficacy JavaScript code

---

```
{
  "nodes": [
    { "name": "1. very high", "group": "Efficacy 2008" },
    { "name": "2. high", "group": "Efficacy 2008" },
    { "name": "3. average", "group": "Efficacy 2008" },
    { "name": "4. low", "group": "Efficacy 2008" },
    { "name": "5. very low", "group": "Efficacy 2008" },
    { "name": "1. very high", "group": "Efficacy 2011" },
    { "name": "2. high", "group": "Efficacy 2011" },
    { "name": "3. average", "group": "Efficacy 2011" },
    { "name": "4. low", "group": "Efficacy 2011" },
    { "name": "5. very low", "group": "Efficacy 2011" }
  ],
  "links": [
    { "source": 0, "target": 5, "value": 0.53 },
    { "source": 0, "target": 7, "value": 0.1 },
    { "source": 0, "target": 8, "value": 0 },
    { "source": 0, "target": 9, "value": 0.05 },
    { "source": 0, "target": 6, "value": 0.43 },
    { "source": 1, "target": 5, "value": 0.47 }
  ]
}
```

```
:1.72},{ "source":1,"target":6,"value":13.66},{ "source":1,"target":7,"value":
6.11},{ "source":1,"target":8,"value":0.38},{ "source":1,"target":9,"value":0.
1},{ "source":2,"target":9,"value":0.38},{ "source":2,"target":8,"value":4.39}
,{ "source":2,"target":7,"value":30.37},{ "source":2,"target":6,"value":16.09}
,{ "source":2,"target":5,"value":0.38},{ "source":3,"target":5,"value":0.1},{ "
source":3,"target":6,"value":2.2},{ "source":3,"target":7,"value":11.51},{ "so
urce":3,"target":8,"value":5.11},{ "source":3,"target":9,"value":0.38},{ "sour
ce":4,"target":8,"value":1.24},{ "source":4,"target":5,"value":0.05},{ "source
":4,"target":6,"value":1.48},{ "source":4,"target":7,"value":3.2},{ "source":4,
"target":9,"value":0.05}}]
```

**Figure 3.3:** (Marginal) interaction effect between gender and SES

---

(R) Random effects:	xtreg Efficacy i.SES books i.sex sex#SES age i.track i.region lrscale [pweight = weights_adjusted], robust
(R) Marginal effects:	margins, dydx(sex) at(SES=(1 2 3)) atmeans vsquish
(R) Marginsplot:	marginsplot
(L) Random effects:	xtreg Efficacy i.SES books i.sex sex#c.books age i.track i.region lrscale [pweight = weights_adjusted], robust
(L) Marginal effects:	margins, dydx(sex) at(books=(1(1)7)) atmeans vsquish
(L) Marginsplot:	marginsplot

**Figure 3.4:** The effect of SES for boys and girls

---

Random effects:	xtreg Efficacy i.SES i.sex sex#SES age i.track i.region lrscale [pweight = weights_adjusted], robust
Marginal values:	quietly margins SES#sex, atmeans
Margins plot:	marginsplot

**Figure 3.5:** The effect of political interest for boys and girls

---

Random effects:	xtreg Efficacy i.sex i.SES interest talk c.interest#sex age i.track i.region lrscale [pweight = weights_adjusted], robust
Marginal values:	quietly margins sex, at (polint=(1 2 3 4)) atmeans
Margins plot:	marginsplot

## *Annex 2: Summary statistics*

	N	Mean	Std. Dev.	Min	Max
2008 Age	2086	17.60	0.67	16	21
2011 Age	2086	20.60	0.67	19	24
2008 Efficacy: complex	1401	3.61	1.16	1	5
2011 Efficacy: complex	2071	2.73	0.80	1	4
2008 Efficacy: qualification	1439	2.51	1.20	1	5
2011 Efficacy: qualification	2072	2.19	0.77	1	4
2008 Efficacy: comprehension	1151	3.21	1.16	1	5
2011 Efficacy: comprehension	2067	2.72	0.61	1	4
2008 Efficacy: public office	1360	2.43	1.15	1	5
2011 Efficacy: public office	2062	2.37	0.80	1	4
Track: humanities	1356	0.65		0	1
artistic	57	0.03		0	1
technical	457	0.22		0	1
vocational	195	0.09		0	1
2011 Ideological placement	2020	5.14	2.08	0	10
2008 Political interest	2086	2.25	0.82	1	4
2011 Political Interest	2077	2.40	0.86	1	4
2008 Political talk	2089	1.76	0.61	1	4
2011 Political talk	2081	1.95	0.62	1	4
SES: low	262	12.70		0	1
average	916	44.40		0	1
high	885	42.90		0	1
Sex: male	1008	48.14		0	1
female	1086	51.86		0	1
Region: Flanders	1362	65.04		0	1
Wallonia	732	34.96		0	1

**Note:** descriptive statistics of the time-varying variables are calculated for each wave separately.

### ***Annex 3: BPPS Survey items***

#### **Age:**

---

##### **Question:**

Hoe oud ben je? | Quel âge as-tu? | How old are you?

##### **Item(s):**

2006: Q2 2008: Q2 2011: Q2

##### **Answer categories:**

2006: (1) 14 (2) 15 (3) 16 (4) 17 (5) 18 (6) Anders | Autre | Other  
2008: (1) 16 (2) 17 (3) 18 (4) 19 (5) 20 (6) Anders | Autre | Other

#### **Track:**

---

##### **Question:**

In welke onderwijsvorm volg je les? | Quelle orientation suis-tu à l'école? |  
In which educational track are you enrolled?

##### **Item(s):**

2008: Q4

##### **Answer categories:**

Flanders: (1) ASO | humanities (2) KSO | artistic (3) TSO | technical (4) BSO  
| vocational

Wallonia: (1) Générale | humanities (2) Technique de transition | technical  
(3) Technique de qualification | technical (4) Artistique de transition | artistic  
(5) Artistique de qualification | artistic (6) Professionnelle | vocational

#### **Ideological placement:**

---

##### **Question:**

In de politiek worden de termen 'links' en 'rechts' vaak gebruikt. Kan je jouw eigen opvattingen plaatsen op een schaal van 0 tot 10, waarbij 0 'links', 5 'in het centrum' en 10 'rechts' betekent? | On utilise souvent, en politique, les notions de "gauche" et de "droite". Pouvez-vous situer votre propres | In politics people sometimes talk of "left" and "right". Using this card, where would you place yourself on this scale, where 0 means the left and 10 means the right?

**Item(s):**

2011: Q46

**Answer categories:**

0 'links' | 'la gauche' | 'left' – 5 'centrum' | 'le centre' | 'centre' – 10 'rechts' | 'la droite' | 'right'

**Political interest:**

---

**Question:**

Hoe geïnteresseerd ben je in maatschappelijke problemen en politiek? | Dans quelle mesure t'intéresses-tu aux affaires publiques et à la politique? | How interested are you in societal problems and politics?

**Item(s):**

2008: Q33

2011: Q21

**Answer categories:**

(1) Niet geïnteresseerd | Pas intéressé | Not interested (2) Een beetje geïnteresseerd | Un peu intéressé | A little interested (3) Geïnteresseerd | Intéressé | Interested (4) Heel geïnteresseerd | Très intéressé | Very interested

**Political talk:**

---

**Question:**

Hoe vaak spreek je over politieke en maatschappelijke problemen wanneer je bij je goede vrienden bent | Lorsque tu es avec tes ami(e)s proches, à quelle fréquence discutez-vous de questions publiques et de politique? | How often do you discuss political or societal issues with friends?

**Item(s):**

2008: Q47

2011: Q29

**Answer categories:**

(1) Nooit | Jamais | Never (2) Af en toe | De temps en temps | Sometimes (3) Vaak | Assez souvent | Often (4) Altijd | Tout le temps | Always

**Socioeconomic status:**

---

**Question:**

Wat is het hoogste diploma dat je jezelf in de toekomst ziet behalen? | Jusqu'ou competes-tu aller dans tes études? | What is the highest level of educational attainment you think you will achieve?

**Item(s):**

2006: Q11

**Answer categories:**

(1) Ik zal waarschijnlijk het secundair onderwijs niet afmaken | Je ne pense pas finir mon secondaire | I will probably not finish secondary education (2) Diploma secundair onderwijs | Un diplôme d'études secondaires supérieures | Higher secondary education (3) Hogeschool | Un diplôme d'études supérieures (ex: graduat) | Higher education (4) Universiteit | Un diplôme universitaire | University education

**Sex:**

---

**Question:**

Ik ben een? | Es-tu de sexe:... | I am a...

**Item(s):**

2006: Q1

2007: Q1

2011: Q1

**Answer categories:**

(1) Jongen | Masculin (2) Meisje | Féminin

**Internal political efficacy:**

---

**Question 1:**

Soms is politiek zo ingewikkeld dat iemand zoals ik niet kan begrijpen wat er aan de hand is | La politique est parfois si compliquée que je ne comprends vraiment pas ce qui se passe | Sometimes politics is so complicated someone like me cannot comprehend what's going on.

**Question 2:**

Ik beschouw mezelf in staat om aan de politiek deel te nemen | Je me sens capable de participer à la politique | I consider myself capable of participating in politics.

**Question 3:**

Ik denk dat ik een vrij goed begrip heb van de belangrijke thema's waarmee onze maatschappij geconfronteerd wordt | Je crois que j'ai une assez bonne idée des thèmes importants auxquels la société actuelle est confrontée | I think I have a good understanding of the important problems society is facing today.

**Question 4:**

Ik denk dat ik even goed werk zou leveren als de meeste politici die we verkiezen | Je crois que je ferais un aussi bon travail que la plupart des politiciens que nous élisons | I think can do as good a job in office as most politicians we elect.

**Items:**

2008: Q83 (1 to 4)

2011: Q43 (1 to 4)

**Answer categories:**

2008: (1) Helemaal niet akkoord | Totalement en désaccord | Strongly disagree (2) Niet akkoord | En désaccord | Disagree (3) Tussen beide | Entre les deux | Neither agree nor disagree (4) Akkoord | D'accord | Agree (5) Helemaal akkoord | Totalement d'accord | Strongly agree

2011: (1) Helemaal niet akkoord | Totalement en désaccord | Strongly disagree (2) Niet akkoord | En désaccord | Disagree (3) Akkoord | D'accord | Agree (4) Helemaal akkoord | Totalement d'accord | Strongly agree

## Annex 4: Robustness checks

### Annex 4A: Weighted Least Squares (WLS) Analyses: procedure

- Step 1: Estimate OLS regression analysis  
xtreg Efficacy i.SES i.sex [pweight = weights\_adjusted],  
robust
- Step 2: Calculate and save residuals  
predict res, res
- Step 3: Calculate the logarithm of the squared residuals  
gen res\_sqlog=log(res^2)
- Step 4: Regress variables on logarithm of the squared residuals  
xtreg res\_sqlog i.SES i.sex if year ==2008  
[pweight = weights\_adjusted], robust
- Step 5: Save predicted log of squared residuals  
predict res\_sqlog\_pred, xb
- Step 6: Estimate WLS regression analysis (analytical weight)  
regress Efficacy i.SES i.sex if year ==2008  
[aw=1/exp(res\_sqlog\_pred)], robust
- alternative: install package regwls

### Annex 4B: Weighted Least Squares (WLS) Analyses: results

#### Model 0:

Linear regression

Number of obs = 2063  
F( 3, 2059) = 63.31  
Prob > F = 0.0000  
R-squared = 0.0749  
Root MSE = .78168

Efficacy	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
SES						
2	.2803378	.0578876	4.84	0.000	.1668135	.393862
3	.5905191	.0585944	10.08	0.000	.4756087	.7054294
sex						
female	-.3011999	.0357093	-8.43	0.000	-.3712301	-.2311697
_cons	2.180575	.0530025	41.14	0.000	2.076631	2.28452

**Model 1:**

Efficacy	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
SES						
2	.1489522	.0672625	2.21	0.027	.0170381	.2808663
3	.3996018	.0747709	5.34	0.000	.2529622	.5462414
sex						
female	-.3247525	.0365011	-8.90	0.000	-.3963379	-.2531672
age	.0060617	.0287234	0.21	0.833	-.0502703	.0623936
track						
2	-.2834609	.1362066	-2.08	0.038	-.5505871	-.0163346
3	-.1933373	.0499816	-3.87	0.000	-.2913603	-.0953142
4	-.2585454	.0836751	-3.09	0.002	-.4226477	-.0944432
region						
Walloniv'	-.0116479	.0412001	-0.28	0.777	-.0924489	.0691531
lrscale	.0145523	.0086717	1.68	0.093	-.0024544	.0315591
_cons	2.238608	.5035944	4.45	0.000	1.250966	3.226249

**Model 2:**

Efficacy	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
SES						
2	.1352758	.0829302	1.63	0.103	-.0273657	.2979172
3	.5164111	.0903323	5.72	0.000	.3392526	.6935696
sex						
female	-.2077073	.0977517	-2.12	0.034	-.3994166	-.015998
SES#sex						
2#female	-.0352223	.1107351	-0.32	0.750	-.2523944	.1819498
3#female	-.2498918	.1115185	-2.24	0.025	-.4686003	-.0311834
age	.0046385	.0279533	0.17	0.868	-.0501831	.05946
track						
2	-.2677201	.1309363	-2.04	0.041	-.5245105	-.0109297
3	-.1827863	.0497722	-3.67	0.000	-.2803988	-.0851738
4	-.252837	.0807346	-3.13	0.002	-.4111726	-.0945015
region						
Walloniv'	-.0263737	.0410811	-0.64	0.521	-.1069413	.0541939
lrscale	.0155331	.0085915	1.81	0.071	-.0013164	.0323826
_cons	2.22632	.491098	4.53	0.000	1.263185	3.189454

### Model 3:

Efficacy	Robust		t	P> t	[95% Conf. Interval]	
	Coef.	Std. Err.				
SES						
2	.106861	.0609337	1.75	0.080	-.0126417	.2263637
3	.2549114	.0672873	3.79	0.000	.1229479	.3868748
sex						
female	-.2330966	.0343823	-6.78	0.000	-.300527	-.1656663
interest	.3367148	.0244136	13.79	0.000	.2888352	.3845945
talk	.1099522	.0315691	3.48	0.001	.048039	.1718653
age	.0195221	.0285388	0.68	0.494	-.0364479	.0754922
track						
2	-.2803376	.1444094	-1.94	0.052	-.5635522	.002877
3	-.1005124	.0451829	-2.22	0.026	-.1891248	-.0119
4	-.0437924	.0763285	-0.57	0.566	-.1934873	.1059025
region						
Walloniv'	.0299638	.0386505	0.78	0.438	-.0458373	.105765
lrscale	.0230776	.0079642	2.90	0.004	.0074584	.0386969
_cons	.9859197	.5027722	1.96	0.050	-.0001134	1.971953

### Model 4:

Efficacy	Robust		t	P> t	[95% Conf. Interval]	
	Coef.	Std. Err.				
SES						
2	.1098133	.0612751	1.79	0.073	-.010359	.2299857
3	.2566379	.0673157	3.81	0.000	.1246187	.388657
sex						
female	-.1693289	.0952626	-1.78	0.076	-.3561574	.0174996
interest	.3524693	.0328524	10.73	0.000	.2880394	.4168992
talk	.1079916	.0315579	3.42	0.001	.0461005	.1698827
sex#c.int						
female	-.0250704	.0377713	-0.66	0.507	-.0991472	.0490064
age	.0194219	.0286842	0.68	0.498	-.0368333	.0756771
track						
2	-.3090926	.161573	-1.91	0.056	-.6259686	.0077833
3	-.0904461	.044601	-2.03	0.043	-.1779172	-.002975
4	-.0283755	.0759536	-0.37	0.709	-.1773351	.1205842
region						
Walloniv'	.0233022	.0393873	0.59	0.554	-.0539439	.1005484
lrscale	.0237051	.0080607	2.94	0.003	.0078966	.0395137
_cons	.9440821	.504415	1.87	0.061	-.0451732	1.933337

# Model 5:

Efficacy	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
SES						
2	.1201277	.0776694	1.55	0.122	-.032197	.2724524
3	.3548745	.0835	4.25	0.000	.1911148	.5186342
sex						
female	-.1147326	.0923168	-1.24	0.214	-.2957837	.0663186
interest	.3308384	.0242931	13.62	0.000	.283195	.3784818
talk	.1141163	.0308881	3.69	0.000	.0535387	.1746938
SES#sex						
2#female	-.0610557	.10515	-0.58	0.562	-.2672753	.1451639
3#female	-.1979348	.1043819	-1.90	0.058	-.402648	.0067784
age	.0163181	.0273696	0.60	0.551	-.0373591	.0699952
track						
2	-.2270951	.1277584	-1.78	0.076	-.4776542	.0234639
3	-.0888649	.0454292	-1.96	0.051	-.1779604	.0002306
4	-.0143976	.0726367	-0.20	0.843	-.1568524	.1280571
region						
Wallonia'	.010455	.0384837	0.27	0.786	-.0650191	.0859291
lrscale	.0236195	.0079916	2.96	0.003	.0079465	.0392925
_cons	1.000113	.4825133	2.07	0.038	.0538109	1.946415

Annex 4C: Predicted marginal values SES proxy 'books'

