

NEPS *SURVEY PAPERS*

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# POLITICAL PARTICIPATION AND POLITICAL ATTITUDES AS RETURNS TO EDUCATION IN THE NEPS: CONCEPTUAL FRAMEWORK AND MEASUREMENT

NEPS *Survey Paper* No. 70  
Bamberg, September 2020; Updated version available

**Survey Papers of the German National Educational Panel Study (NEPS)**

at the Leibniz Institute for Educational Trajectories (LIfBi) at the University of Bamberg

The NEPS *Survey Paper* series provides articles with a focus on methodological aspects and data handling issues related to the German National Educational Panel Study (NEPS).

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The *NEPS Survey Papers* are edited by a review board consisting of the scientific management of LIfBi and NEPS. The reviewing process is supported by Ellen Ebralidze, Daniel Fuß, and Lydia Kleine.

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# Political Participation and Political Attitudes as Returns to Education in the National Educational Panel Study (NEPS): Conceptual Framework and Measurement

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## **Bibliographic data:**

Bömmel, N., Gebel, M. & Heineck G. (2020). *Political Participation and Political Attitudes as Returns to Education in the National Educational Panel Study (NEPS): Conceptual Framework and Measurement*. (NEPS Survey Paper No. 70). Bamberg, Germany: Leibniz Institute for Educational Trajectories, National Educational Panel Study. doi:10.5157/NEPS:SP70:1.0

**Please note:** This LifBi Working Paper has been modified in August 2021. The updated paper can be found using <https://doi.org/10.5157/NEPS:SP70:2.0>

# **Political Participation and Political Attitudes as Returns to Education in the National Educational Panel Study (NEPS): Conceptual Framework and Measurement**

## **Abstract:**

Individuals' political participation and underlying political attitudes are important non-monetary returns to education covered in the National Educational Panel Study (NEPS). The data enables the scientific community to investigate the effect of education on political participation and political attitudes, and to trace corresponding mechanisms. In this paper, we provide an outline of the theoretical background behind the political participation elements of the NEPS survey program. We also present the measurement concept for the different NEPS starting cohorts, and provide some descriptive analyses of the NEPS items on political participation and political attitudes.

## **Keywords:**

Returns to education, political participation, political interest, political attitudes, NEPS

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## 1. Introduction

The theoretical framing concept of the National Educational Panel Study (NEPS) incorporates different interdisciplinary perspectives on education (Blossfeld et al., 2011). One of its focus points is returns to education across the life course, and the collection and provision of data relevant to this topic (for an overview, see Bela et al., 2018). The central aim is to provide data that enables the scientific community to analyze what purpose education serves in individuals' lives.

For the assessment of which factors are most important for the contribution of education to individuals' life courses, the typology of the functions of education by van de Werfhorst (2014) provides valuable orientation. According to this typology, education is supposed to serve four functions: (1) preparing individuals for the challenges of the labor market, (2) enabling citizens to engage in the pursuit of societal goals, (3) ensuring equal opportunities to children from diverse ethnic or socioeconomic backgrounds and (4) providing optimal sorting of students into educational tracks in order to improve the acquisition of skills and knowledge.<sup>1</sup>

The first two functions, because of their focus, are relevant to the survey program of the NEPS Working Unit "Returns to Education Across the Life Course". We develop and implement a suitable survey program covering economic/monetary and non-economic/non-monetary returns to education in different stages of the whole life course. We in particular address labor market outcomes, civic engagement, health, and subjective well-being (for details, see Bela et al., 2018). Regarding civic engagement, we distinguish political participation from social inclusion.<sup>2</sup> We broadly follow Verba et al. (1995, p. 38) and define political participation as all kinds of activities that have the effect—or at least the intent—of (directly or indirectly) influencing governmental actions or decision-making.

The positive relationship between education and political participation has been "one of the most robust findings in social science" (Frazer, 1999, p. 9) in recent decades. However, several social changes have taken place that prompt the need for continuous evaluation of the relationship between education and political participation. For example, despite substantial increases in educational attainment, many recent studies indicate that, at least for some time, younger generations seem to have lost interest in politics, they lack sufficient knowledge about political facts, feel unable to promote change, or simply do not care about what happens in politics (Helsper et al., 2006; Sondheimer and Green, 2010). Most recently, on the other hand, initiatives such as the global "Fridays for Future" movement show that there might be a resurgence of political interest and participation among young people, which may well result from digitization, which has enabled relatively low cost—in terms of money and time—access to information. It is therefore interesting and relevant for society as a whole to examine the effects of education on political participation and attitudes in a changing environment.

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<sup>1</sup> A similar classification of the central aims of the educational system is given in the National Educational Report for Germany (Autorengruppe Bildungsberichterstattung, 2018).

<sup>2</sup> Social inclusion—note that there will be another paper covering its concept and measurement—is defined as both actively partaking in society, as well as the individual perception of being part of the community or society.

In the following, we outline our theoretical framework for the questionnaire program on political participation and attitudes as returns to education in the NEPS, and present corresponding measures.<sup>3</sup>

## 2. Theoretical Background

The effect of educational attainment on political participation has been discussed extensively in several disciplines, including political science, sociology and economics. The literature therefore offers several theoretical approaches. Following Persson (2015), theories on the relationship between education and political participation can be classified as:

(1) theories on the causal effect of education on political participation. Causal theories include the *absolute education model*<sup>4</sup>, which postulates that education has a direct causal effect on political participation and the *relative education model*<sup>5</sup> (Nie, Junn and Stehlik-Barry, 1996), where the effect is indirect.

(2) theories on the spurious/non-causal association between education and political participation due to confounding. Confounding (bias) refers to spurious associations that result from common causes of the causal variable of interest (education) and the outcome variable (political participation/attitudes) (Elwert and Winship, 2014). For example, the *pre-adult socialization model* (Persson, 2015) suggests that education serves only as a proxy for other underlying (unobserved) factors (see chapter 2.4). From this perspective, education itself has no effect on political participation, but reflects self-selection processes.

Verba, Schlozman, and Brady (1995) provide a synthesis of conceptual thoughts from different disciplinary backgrounds. They emphasize that participation in political contexts depends on three factors: resources (including time, money and civic skills), psychological engagement with politics, and access to recruitment networks. Following Milligan, Moretti, and Oreopoulos (2004), we will focus on the *skill* dimension in Verba et al.'s (1995) resource factor as one of the key mediators in our theoretical model. The other two factors—psychological engagement with politics and recruitment networks—will be addressed in the following and referred to using the terms *political attitudes* and *social resources* as further key mediators in our theoretical model. Because Verba et al.'s (1995) *civic voluntarism model* is tightly linked to human capital theory<sup>6</sup> (see chapter 2.2) and social capital theory (see chapter 2.3), it fits well into our framework on returns to education in NEPS.

Figure 1 depicts the relationship between education<sup>7</sup>, and political participation and attitudes.

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<sup>3</sup> The information represents the status quo after a comprehensive consolidation in 2017. Where needed, we provide additional information on the program before 2017 in footnotes.

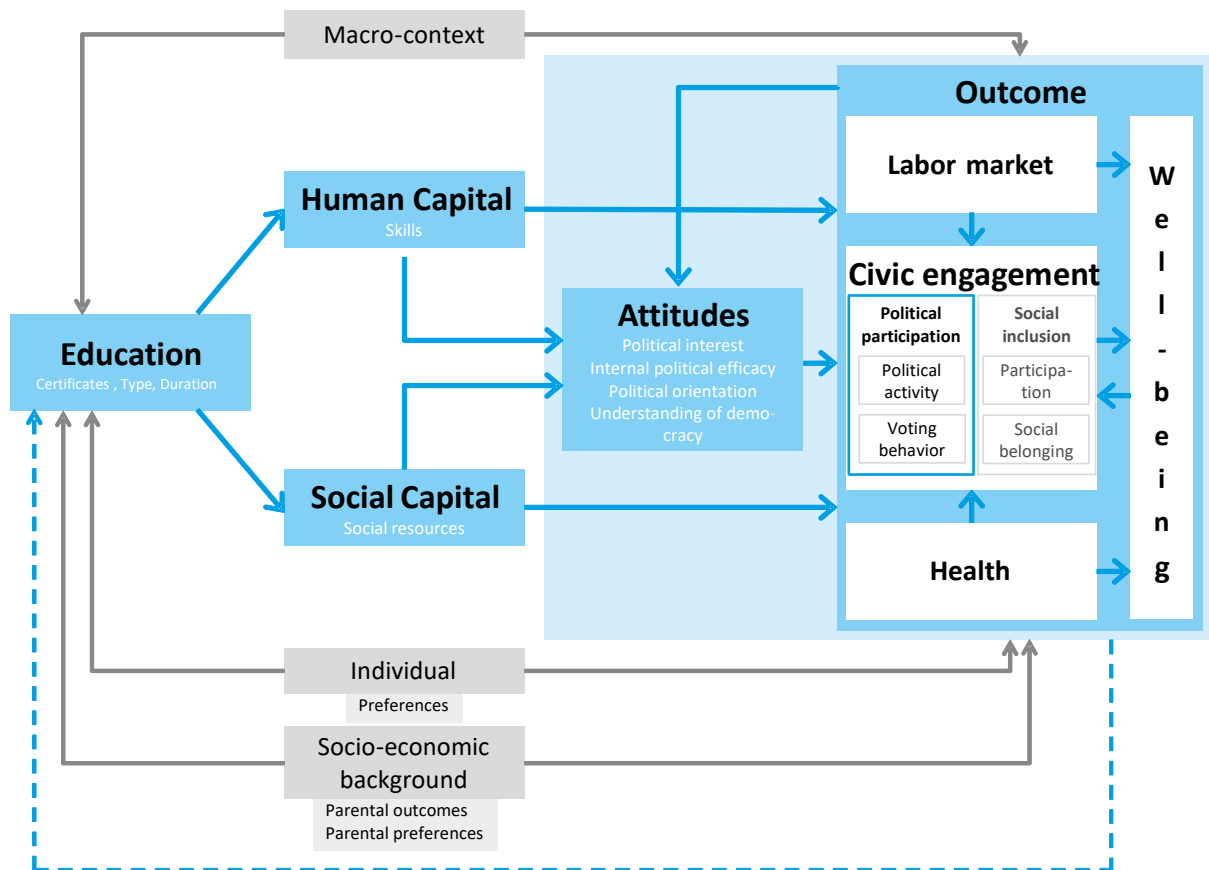
<sup>4</sup> It is called *absolute* education model because the effect of education is independent of the level of education in the individual's environment. Instead, educational effects are interpreted as processes at the individual level.

<sup>5</sup> Contrary to the absolute education model, the *relative* model interprets education as a positional good, which is only valuable for those possessing it when others do not. The effects of education therefore depend on the level of education in the individual's environment.

<sup>6</sup> As Milligan, Moretti, and Oreopoulos (2004, p. 1671) put it: "Verba et al. (1995) emphasize the 'resources' or 'civic skills' available to potential voters; concepts analogous to what economists think of as human capital."

<sup>7</sup> This covers all kinds of education outcomes, i.e. duration or type of schooling, certificates etc. but also refers to content taught.

Figure 1: Relationship between education and political participation



Source: own illustration.

## 2.1 Concepts and Definitions

In the following, we introduce concepts and definitions that are relevant for the NEPS-specific theoretical framework of *political participation* and *political attitudes* as return to education.

As outlined above, we adopt Verba et al.'s (1995) definition of political participation as any activity that has the goal of (directly or indirectly) influencing governmental actions or decision-making processes. We consider *political activities* and *voting behavior* as forms of political participation. For *political activities*, we survey participation in petitions, in online petitions and in authorized demonstrations.<sup>8</sup> *Voting behavior* captures whether the individual voted in the last elections to the German Bundestag.

As indicators for individuals' political attitudes, we cover *political interest*, *internal political efficacy*, *political orientation*, and *understanding of democracy*. These political attitudes serve as important mechanisms linking education and political participation.

*Political interest* can be defined in terms of curiosity (van Deth, 1990) or as attentiveness to politics (Zaller, 1992).<sup>9</sup> It is further described as an attribute tied to individual citizens and explained by the individual endowment with resources and skills (van Deth and Elff, 2004). It is also a crucial prerequisite for most forms of political activity, as without a minimum level of

<sup>8</sup> Party memberships of respondents are also surveyed in NEPS, but are not part of the returns to education concept, because the focus here is on active participation in politics, whereas political parties often consist of a substantial number of non-active members.

<sup>9</sup> In this context, politics refers to objects, subjects, processes or activities in the political sphere.



interest, individuals cannot even be aware of political processes, let alone their opportunities to influence these processes and contribute to societal decisions (van Deth and Elff, 2004).

The next term *political efficacy* is “a perceptual, subjective and psychological construct” (Rasmussen and Norgaard, 2018, p. 26) reflecting a psychological feeling of competence when it comes to being able to understand politics and participate effectively. While the concept incorporates both an external and an internal perspective (Jackson, 1995), the NEPS survey program focuses on individuals’ internal political efficacy. It captures individuals’ perceived competence in terms of understanding and participating in politics.<sup>10</sup> According to van Deth (1990), political internal efficacy and political interest correlate positively, as people who feel more competent in understanding political issues also show enhanced interest in those topics.

*Political orientation* measures an individual’s ideological preferences, often illustrated using a left to right continuum. Typically, left-wing political ideology is related to equality, solidarity, progressiveness, system change, more liberal orientations, less commitment to traditional authorities and an enhanced tolerance of diversity (Dunn, 2011; Meyer, 2017; Fuchs and Klingemann, 1990). The political right, on the other hand, relates to individualism, freedom, conservatism, and system maintenance, which results in people of this political leaning supporting a traditional, generally more hierarchical social order, and opposing change towards greater equality (Fuchs and Klingemann, 1990).

Lastly, *understanding of democracy* can be characterized as the ability of decoding fundamental principles according to which democratic political systems operate. In line with Fend (1991), Thomassen (2007) states that the degree to which citizens agree to these basic principles of democracy is essential, because the legitimacy of a system recharges through the conformity of its values with its citizens values (Lipset, 1966).

## 2.2 Human capital

As outlined above, the *civic voluntarism model* by Verba et al. (1995) has similarities to human capital theory when referring to civic skills. From human capital theory itself, we can argue that education—as investment in human capital—has an impact on skills<sup>11</sup> and knowledge, which diminish the costs of participating in political activities, empower citizens to engage effectively and, hence, facilitate political participation (Dee, 2004). According to the *absolute education model*, which is in line with the skill based approach of human capital theory, educational attainment promotes the development of individuals’ cognitive skills (Persson, 2015), as well as their competence in gathering and processing information (Brade and Piopiunik, 2016). It is important for understanding the abstract content of politics, and for enabling individuals to follow political campaigns and politicians (Delli Caprini and Keeter, 1996). From this perspective, better educated people perceive themselves as more competent in understanding political processes, in being able to participate (Vetter, 2000; Hadjar and Becker, 2007), and, consequently, are more likely to participate, for example, in a political party and in nonviolent political activities (Uehlinger, 1988).

Klosko (2000) argues that the higher cognitive abilities of the higher educated have an impact on (democratic) political values. More highly educated people are more able to trace the logical implications of democratic principles and make connections between specific

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<sup>10</sup> Individuals’ external political efficacy aims at capturing the individual’s belief that their actions influence what the government does.

<sup>11</sup> Socialisation and developmental aspects also play a role in the relationship between education and political orientation (see for example Dunn, 2011), but this is beyond the scope of this paper.

situations and the corresponding abstract principle. They therefore tend to show higher levels of tolerance in specific cases. Moreover, education is not only key for the formation of general, superordinate skills, but also—thanks to courses on politics or citizenship at school—conveys factual knowledge about the political system, its institutions and its mode of operation (Brade and Piopiunik, 2016; Persson, 2015). This body of knowledge provides a basis for the sound evaluation of political issues. According to Dee (2004), education reduces the costs of civic participation and increases an individual's perceived benefits by promoting democratic principles.

School curricula (in Germany) also include elements of civic education, so that schools themselves become labs in which students are exposed to the shared social norms and values of a society and can practice democracy.<sup>12</sup> Education is thought to cultivate preferences for being politically active, for instance, when discussions on political subjects are integrated into lessons, or political awareness is encouraged. Lewis-Beck et al. (2008) adds that schooling could also promote individuals' political awareness by highlighting the importance of elections, encouraging individuals to adopt being well-informed politically as a social norm, and granting them confidence in their role as a well-informed citizen. Schmid (2003) finds a positive association between civics lessons at school and the level of political interest among students. Furthermore, Claes and Hooghe (2017) show that receiving politically oriented classroom instruction and being a member of a school board (as an opportunity to practice democratic principles) are associated with a higher political interest on the part of students. Political interest serves as a "switch from passivity to participation" (Armingeon, 2007, p.363) and is crucial for generating a willingness to participate in political life (Claes and Hooghe, 2017).

Finally, indirect effects of education on political participation via the skill mechanism should be considered. Increased skills due to education should positively affect labor market outcomes, health and well-being, which should in turn have an effect on political participation.

### **2.3 Social capital**

Along with human capital, social capital is the second major mediator in the causal relation between education and individuals' political participation and attitudes. Granovetter (1973) and Lin (1999) define social capital as access to resources through social networks<sup>13</sup>, which individuals can use to achieve their goals. Helliwell and Putnam (2007) outline the connection between education and social capital, and Huang, van den Brink, and Groot (2009) summarize existing empirical literature in a meta-analysis. The importance of education for network formation becomes apparent if homophily is taken into account that individuals are more likely to connect with others who are rather similar to themselves, and schools or other educational institutions provide such opportunities.

However, education may not only determine the composition of someone's peer group, but also the individual's status, operating as a social and political sorting mechanism as it "[...] places citizens either closer or further from the center of critical social and political networks that, in turn, affect levels of political participation" (Hillygus, 2005, p. 28). Individuals holding

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<sup>12</sup> The specific societal context of educational (school) systems are highly relevant, as these systems can be (mis-)used to nurture and reinforce behavior that is in line with shared attitudes, norms and values of the particular society. Thus, the prediction of the effect of higher educational attainment depends on the normative frame of the society (Meyer, 2017).

<sup>13</sup> Networks refer to both institutionalized networks, like civic associations or clubs, and informal or loose networks, like neighborhoods or peer groups.

higher (or more central) positions are more likely to be recruited by political organizations because they are more able to contribute to the organization for example by creating a positive public image or attracting potential new members. Moreover, individuals with higher status know how to mobilize their (also high status) social network partners, who may also be a valuable source of members or volunteers. High status positions are associated with an -at least subjectively perceived- higher scope for action within society and the political system (Hadjar and Becker, 2007), and provide other important resources, like income. This may be used to pay membership fees, and flexible working hours may enhance individuals' opportunities to engage in the political field.<sup>14</sup>

Network composition and structure are furthermore not only important for the availability of useful information as well as for shared opinions, values and norms, but can also affect or motivate behavior (Klandermans and Oegema, 1987; McPherson, Smith-Lovin, and Cook, 2001). Franklin (2004) uses a group pressure argument, and states that the benefits of voting (or the costs of not voting) are higher for socially connected people because members of their network care about whether they vote or not.

Finally, there exist indirect effects of education on political participation via the social resources mechanism. Increased access to social resources due to education should positively affect labor market outcomes, health and well-being, which in turn, should have an effect on political participation.

### **2.3 Confounding variables**

Both human capital theory and social capital theory establish more or less straightforward notions about the causal effect of education on political participation and political attitudes. Empirical studies based on non-experimental observational data face the challenge that observed associations between education and political variables are composed of both causal and non-causal associations (Elwert and Winship, 2014). Non-causal associations can be due to confounding variables, i.e. common causes of the causal variable of interest (education) and the outcome variable (political participation/attitudes). Confounding variables can take the form of macro-level context factors, or, in line with the *pre-adult socialization model*, individual-level factors, such as individual's socioeconomic background characteristics and further individual attributes.

Examples for relevant confounding factors at the macro level are regional differences in the institutional setting that influence individual education according to the local education system characteristics (e.g. varying curricula or policies for the duration of secondary schooling), but also political outcomes (e.g. due to differences in the political systems).

Some individual characteristics may also affect both educational attainment and political participation. Such characteristics include, for example, socio-demographic variables like gender, age, and ethnic origin.

When it comes to educational attainment, an individual's personality traits represent another important individual level characteristic, often approximated by the so-called *Big Five*

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<sup>14</sup> Van der Meer et al. (2009) as well as Martin and van Deth (2007) argue that the probability of participating in political life increases with the degree of political polarization in a society, because preferences for changing or preserving the societal status quo are stronger for individuals with extreme political orientations. Empirically, van der Meer et al. (2009) found that ideological preference serves as a determinant for political activities. Other studies focussing on similar questions include, for example from Armingeon, 2007 or Teorell, Torcal, Montero, 2007.

personality traits.<sup>15</sup> Personality has an impact on education because certain traits, like conscientiousness, are crucial for educational attainment (O'Connor and Paunonen, 2007; Poropat, 2009; Richardson et al., 2012). Moreover, according to Gallego and Oberski (2012, p. 428) “[t]he general intuition is that personality shapes cognitive, emotional, and behavioral responses to a range of daily situations, which influence the acquisition of politically relevant attitudes.” Thus the Big Five personality traits are correlated with political attitudes, like political orientation (Dunn, 2011) or internal political efficacy (Rasmussen and Norgaard, 2018), as well as with a range of political activities like voting, engaging in local and national politics or participating in protest activities (see Mondak and Halperin 2008; Mondak et al. 2010, 2011; Mondak 2010).

Stating that “[c]uriosity towards politics is a learned and not an inborn quality”, Koskimaa and Rapeli (2015, p. 146) emphasize the importance of families as socializing agents alongside schools and peers for the transmission of several basic political orientations. The authors argue that parents represent the greatest source of political influence on an individual, because they are the first to exert influence, when their children are at a young and impressionable age, and during this time they represent the closest social relationship for the child. Parents also influence the educational pathways of their children to a great extent. Moreover, following Grob (2006), parents act as role models for their children, with “social influence and learning processes operating within the home” (Jennings, Stoker, and Bowers, 2009, p. 783) resulting in a resemblance between parents’ and children’s attitudes towards politics. As a consequence, Koskimaa and Rapeli (2015) further argue that political interest is, in a broader sense, heritable and transmitted from parents to children. Following Jennings et al. (2009), the strength of transmission varies with the intensity of cues and level of reinforcement by the socializing agent. Families may thus tend to converge politically because they also share other influences, such as their socioeconomic status or their local political environment. Jennings et al. (2009) found that the transmission of political attitudes depends on the level of political interest in the family, and that children of highly politically engaged parents are more likely to adopt similar attitudes. Verba et al. (1995) found that adults’ level of political interest was influenced by their memories of political discussions with their parents. Analyzing the formation of political interest early in life, Neundorff, Smets, and Garcia-Albacete (2013) showed that the effects of parental socialization are particularly pronounced in adolescence. Koskimaa and Rapeli (2015) found similar patterns. Their results indicate that a major proportion of the variance in political interest is explained by the presence of politics at home and among peers.

### **3. The measurement concept in NEPS**

The NEPS survey program includes several indicators that allow the theoretical notions to be examined, as previously outlined. This section describes in detail the items included in the NEPS and provides the exact wording, names, sources, and where needed, necessary adjustments. An overview of all NEPS starting cohorts of is provided in tables 1, 2 and 3.

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<sup>15</sup> These are: openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism (see, for example, Costa and McCrae, 2008).

Table 1: Overview starting cohorts 1 &amp; 2

	starting cohort 1										starting cohort 2									
	Wave										Wave									
	2012	2013	2014	2015	2016	2017	2018	2019	2020		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Outcomes</b>																				
Political activities																				
Voting behavior																				
<b>Attitudes</b>																				
Political interest							P										P	T		
Internal political efficacy																			T	
Political orientation																				
Understanding of democracy																				

Key: P=Parents; T=Targets

Table 2: Overview starting cohorts 3 &amp; 4

	starting cohort 3											starting cohort 4										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Outcomes</b>																						
Political activities							T T <sub>ind</sub>	T	T	T <sub>ind</sub>				T T <sub>ind</sub>							T <sub>ind</sub>	T <sub>ind</sub>
Voting behavior									T T <sub>ind</sub>											T <sub>ind</sub>		
<b>Attitudes</b>																						
Political interest			T T <sub>ind</sub>				T T <sub>ind</sub>	T	T T <sub>ind</sub>	T <sub>ind</sub>	T <sub>ind</sub>			T T <sub>ind</sub>						T <sub>ind</sub>	T <sub>ind</sub>	T <sub>ind</sub>
Internal political efficacy							T T <sub>ind</sub>	T	T	T <sub>ind</sub>				T T <sub>ind</sub>							T <sub>ind</sub>	T <sub>ind</sub>
Political orientation							T T <sub>ind</sub>			T <sub>ind</sub>				T T <sub>ind</sub>								T <sub>ind</sub>
Understanding of democracy										T <sub>ind</sub>										T <sub>ind</sub>		T <sub>ind</sub>
<b>Youth specific items on attitudes</b>																						
Talk about politics			T																			
Political discussion			T <sub>ind</sub>				T T <sub>ind</sub>							T T <sub>ind</sub>								
Follow political issues			T T <sub>ind</sub>				T T <sub>ind</sub>							T								
Formation of political opinion							T <sub>ind</sub>							T								

Key: P=Parents; T=Targets, T<sub>ind</sub>=individually followed Targets

Table 3: Overview starting cohorts 5 &amp; 6

	starting cohort 5										starting cohort 6											
	Wave										Wave											
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Outcomes																						
Political activities		T							T					T					T		T	T
Voting behavior		T				T		T						T						T		
Attitudes																						
Political interest		T	T			T		T	T	T				T					T	T	T	T
Internal political efficacy		T	T			T			T					T					T		T	T
Political orientation		T	T			T			T					T					T			T
Understanding of democracy										T										T		T

Key: T=Target

### 3.1 Political outcome variables

We measure political participation using *voting behavior* and *political activities*. First, a large body of research (e.g. Borgonovi, d'Hombres, and Hoskins, 2010; Dee, 2004; Denny and Doyle, 2008; Milligan et al., 2004; Siedler, 2010; Tenn, 2007) posits that *voting behavior* is possibly the most important expression of political participation. The NEPS item is borrowed from the European Social Survey (2018c)<sup>16</sup> and asks whether the respondent voted in the last Bundestag election.<sup>17</sup> To support respondents, the date of the last election is either provided by the interviewer, or given in the form of an explanatory text. After 2017, the voter turnout question is always asked in the wave following the Bundestag election. This is to prevent the date that interviews are conducted from leading to respondents referring to different elections, which previously had occurred when Bundestag elections and NEPS interviews had taken place at roughly the same time.

Table 4: Measurement of voting behavior

SUF-File	Variable	German wording	English wording
pTarget	t516300	Manche Menschen gehen heutzutage aus verschiedenen Gründen nicht zur Wahl. Wie ist das bei Ihnen? Haben Sie bei der letzten Bundestagswahl gewählt?	Some people do not vote nowadays for various reasons. What about you? Did you vote during the last Bundestag election?
		1 - Ja	1 - Yes
		2 - Nein	2 - No
		-20 - Nicht wahlberechtigt	-20 - Not eligible to vote
		-97 - Verweigert	-97 - Refused
		-98 - Weiß nicht	-98 - Don't know

As measures for *political activities*, we survey participation in authorized demonstrations and whether interviewees have signed (online) petitions.<sup>18</sup> This selection of activities is inspired by items from the European Value Study (2011)<sup>19</sup> where an extensive range of participation activities is surveyed. From 2017 on, there is a timeframe for repeated measurements, referring to the past two years in which the activities occurred. This means that there are different items for the first respondent interview and the following panel interviews. This strategy insures that (1) respondents will not repeatedly report the same activities and (2) we are able to identify who is currently politically active.<sup>20</sup>

<sup>16</sup> This item can be found for example in the questionnaire of 2014.

<sup>17</sup> In starting cohorts 5 and 6, there are items on which party the respondent voted for (SC5: until 2016; SC6: until 2013).

<sup>18</sup> Until 2013, respondents were also asked if they had ever participated in an occupation of a building. The item was abandoned because response variance for this item was too low.

<sup>19</sup> These items can be found for example in the questionnaire of 2008.

<sup>20</sup> Note that before the revision of the survey program, respondents were also asked if they could imagine participating in these politically motivated activities.



*Table 5: Measurement of political activities (first interview)*

SUF-File	Variable	German wording	English wording
pTarget	t516005	Bitte sagen Sie mir, ob Sie sich jemals an einer Unterschriftensammlung oder Online-Petition beteiligt haben.	Firstly, please tell me if you ever have participated in a collection of signatures or online petition.
		1 - Ja	1 - Yes
		2 - Nein	2 - No
		-97 - Verweigert	-97 - Refused
		-98 - Weiß nicht	-98 - Don't know
SUF-File	Variable	German wording	English wording
pTarget	t516009	Haben Sie jemals an einer genehmigten Demonstration teilgenommen?	Have you ever participated in an authorized demonstration?
		1 - Ja	1 - Yes
		2 - Nein	2 - No
		-97 - Verweigert	-97 - Refused
		-98 - Weiß nicht	-98 - Don't know

*Table 6: Measurement of political activities (panel interviews)*

SUF-File	Variable	German wording	English wording
pTarget	t516050	Bitte sagen Sie mir, ob Sie sich in den letzten zwei Jahren an einer Unterschriftensammlung oder Online-Petition beteiligt haben.	Firstly, please tell me if you have participated in a collection of signatures or online petition in the past 2 years.
		1 - Ja	1 - Yes
		2 - Nein	2 - No
		-97 - Verweigert	-97 - Refused
		-98 - Weiß nicht	-98 - Don't know

SUF-File	Variable	German wording	English wording
pTarget	t516051	Haben Sie in den letzten zwei Jahren an einer genehmigten Demonstration teilgenommen?	Have you participated in an authorized demonstration in the past 2 years?
		1 - Ja	1 - Yes
		2 - Nein	2 - No
		-97 - Verweigert	-97 - Refused
		-98 - Weiß nicht	-98 - Don't know

### 3.2 Political attitudes

Complementing the questionnaire modules referring to the outcome dimension, NEPS also provides multiple items covering individuals' political attitudes (political interest, internal political efficacy, political orientation, understanding of democracy) as important mechanisms. A measure that is available in every starting cohort is *political interest*. The corresponding question was adopted from the European Social Survey (2018c)<sup>21</sup> with only slight changes. Respondents are asked to assess their own levels of interest in political issues. In the children's cohorts (to date, SC1 and SC2<sup>22</sup>), we also ask parents about their interest in political issues, using the same question as for other adults.

*Table 7: Measurement of political interest*

SUF-File	Variable	German wording	English wording
pTarget	t516105	Wie sehr interessieren Sie sich für Politik? Sind Sie sehr interessiert, ziemlich interessiert, wenig interessiert oder überhaupt nicht interessiert?	How much are you interested in politics? Are you very interested, rather interested, little interested or not interested at all?
		1 - Sehr interessiert	1 - Very interested
		2 - Ziemlich interessiert	2 - Rather interested
		3 - Wenig interessiert	3 - Little interested
		4 - Überhaupt nicht interessiert	4 - Not at all interested
		-97 - Verweigert	-97 - Refused
		-98 - Weiß nicht	-98 - Don't know

<sup>21</sup> This item can be found for example in the questionnaire of 2014.

<sup>22</sup> Data on parental interest in political issues is not available in starting cohorts 3 and 4 yet, but will likely be included in new starting cohorts in the future.

Another contribution to NEPS data is a subjective measure of the respondent's *internal political efficacy*. Following the European Social Survey (2018a)<sup>23</sup>, the NEPS asks respondents how often they are not able to follow current political debates properly. According to Rasmussen and Norgaard (2018), the potential analytical use for this kind of information is twofold: the self-evaluation of, first, internal political efficacy (as an attitude in our concept) and second, the actual levels of political knowledge. It may therefore be used as a subjective competence indicator, representing the human capital component.

*Table 8: Measurement of internal political efficacy*

SUF-File	Variable	German wording	English wording
pTarget	t516106/ t516101	Wie oft erscheint Ihnen Politik so kompliziert, dass Sie gar nicht richtig verstehen, worum es eigentlich geht?	How often do politics seem so complicated to you that you don't really understand what it's all about?
		1 - Nie	1 - Never
		2 - Selten	2 - Rarely
		3 - Manchmal	3 - Sometimes
		4 - Ziemlich häufig	4 - Rather often
		5 - Häufig	5 - Often
		-97 - Verweigert	-97 - Refused
		-98 - Weiß nicht	-98 - Don't know

The NEPS surveys individuals' *political orientation* using a well-established instrument from the European Social Survey (2018c)<sup>24</sup> to measure respondents' self assessment on their political orientation. The item uses a scale from 0 to 10, where 0 represents orientations that are associated with the "left-wing" political spectrum, and where 10 captures "right-wing" political orientations. Responses between 0 and 10 allow respondents to adjust their position within the political spectrum (left, right or middle). According to van der Meer et al. (2009), the distance from the middle of the scale can be interpreted as the degree of ideological extremism.

<sup>23</sup> This item can be found for example in the questionnaire of 2008.

<sup>24</sup> This item can be found for example in the questionnaire of 2014.

Table 9: Measurement of political orientation - left-right-scale

SUF-File	Variable	German wording	English wording
pTarget	t516200	In der Politik spricht man manchmal von „links“ und „rechts“. Wo auf der Skala würden Sie sich selbst einstufen, wenn ‚0‘ für links steht und ‚10‘ für rechts?	In politics you sometimes talk about 'left' and 'right'. Where on a scale from 0 to 10 would you grade yourself, if '0' is left and '10' is right?
		0 - links	0 - left
		1 - 1	1 - 1
		2 - 2	2 - 2
		3 - 3	3 - 3
		4 - 4	4 - 4
		5 - 5	5 - 5
		6 - 6	6 - 6
		7 - 7	7 - 7
		8 - 8	8 - 8
		9 - 9	9 - 9
		10 - rechts	10 - right
		-97 - Verweigert	-97 - Refused
		-98 - Weiß nicht	-98 - Don't know

Respondents are also asked about their *understanding of democracy*. In particular, they assess how important different basic democratic issues are for democracy in general. For example, the NEPS asks how important it is that elections to national parliament are free and fair, that the rights of minorities are secured, and that courts treat everybody equally. The selection of NEPS items are taken from a Principal Component Analysis on items from the German version of the European Social Survey (2018b)<sup>25</sup> item battery. For details, see table A4 in the Appendix.

<sup>25</sup> These items can be found for example in the questionnaire of 2012.

Table 10: Measurement of understanding of democracy

SUF-File	Variable	German wording	English wording
pTarget	t516400	<p>Ich möchte Ihnen nun einige Fragen zur Demokratie stellen. Es gibt dabei keine richtigen oder falschen Antworten. Bitte sagen Sie mir einfach, was Sie persönlich denken.</p> <p>Wie wichtig ist es aus Ihrer Sicht für die Demokratie im Allgemeinen, dass Wahlen zum nationalen Parlament frei und fair sind?</p> <p>Bitte antworten Sie auf einer Skala von 0 bis 10. ‚0‘ bedeutet „überhaupt nicht wichtig für die Demokratie im Allgemeinen“ und ‚10‘ bedeutet „äußerst wichtig für die Demokratie im Allgemeinen“. Mit den Zahlen dazwischen können Sie Ihr Urteil abstufen.</p>	<p>I would like to ask you some questions about democracy. There are no right or wrong answers. Please tell me what you think personally.</p> <p>How important you think is it for democracy in general that the elections of the national parliament are free and fair?</p> <p>Please answer on a scale from 0 to 10. ‚0‘ means „not at all important for democracy in general“ and ‚10‘ means „extremely important for democracy in general“. You can gradate your answer with the numbers in between.</p>
	t516401	Und wie wichtig ist es aus Ihrer Sicht für die Demokratie im Allgemeinen, dass Oppositionsparteien das Recht haben, Kritik an der Regierung zu üben?	And how important you think is it for democracy in general that opposition parties are free to criticize the government?
	t516402	Und wie wichtig ist es aus Ihrer Sicht für die Demokratie im Allgemeinen, dass die Medien das Recht haben, Kritik an der Regierung zu üben?	And how important you think is it for democracy in general that the media are free to criticize the government?
	t516403	Und wie wichtig ist es aus Ihrer Sicht für die Demokratie im Allgemeinen, dass die Rechte von Minderheiten geschützt werden?	And how important you think is it for democracy in general that the rights of minority groups are protected?
	t516404	Und wie wichtig ist es aus Ihrer Sicht für die Demokratie im Allgemeinen, dass die Gerichte alle Menschen gleich behandeln?	And how important you think is it for democracy in general that the courts treat everyone the same?
	t516405	Und wie wichtig ist es aus Ihrer Sicht für die Demokratie im Allgemeinen, dass die Gerichte die Regierung daran hindern können, ihre Befugnisse zu überschreiten?	And how important you think is it for democracy in general that the courts are able to stop the government acting beyond its authority?

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0 - Überhaupt nicht wichtig für die Demokratie im Allgemeinen	0 - Not at all important for democracy in general
1 - 1	1 - 1
2 - 2	2 - 2
3 - 3	3 - 3
4 - 4	4 - 4
5 - 5	5 - 5
6 - 6	6 - 6
7 - 7	7 - 7
8 - 8	8 - 8
9 - 9	9 - 9
10 - Äußerst wichtig für die Demokratie im Allgemeinen	10 - Extremely important for democracy in general
-97 - Verweigert	-97 - Refused
-98 - Weiß nicht	-98 - Don't know

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### 3.3 Specific items for adolescents

As outlined in Chapter 2, adolescence is a crucial period for the development of political attitudes and preferences and in order for young people to become politically active citizens. Young people are therefore considered a special group within NEPS, and are thus targeted with a questionnaire that differs slightly from that directed at adult respondents. The following section outlines the specific questions that are tailored to adolescents in starting cohort 3 and 4.

Two of the specific youth items cover the presence of politics in the respondents' *social networks*. In particular, the NEPS asks how often the respondent talks about political issues beyond the context of his or her school class with different groups of people, including parents, friends or classmates. The groups represent the socializing agents that are considered important for individuals' perspectives on political issues during their adolescence. The NEPS further surveys the frequency of political discussions when meeting friends.

Both items follow the same rationale, but differ in wording according to the adolescent's age. The item in table 11 (*talking about politics*) is an adaptation from the youth survey of the German Youth Institute (2010)<sup>26</sup>. In all NEPSs, this item is meant for younger children who are questioned in the institutional context of their schools, and for whom it is plausible to assume that their parents are still very influential in shaping their children's views. The item in table 12 (*political discussion*) is borrowed from the World Values Survey (Inglehart, 2014).<sup>27</sup> This item is directed at older adolescents and young adults, who may already have left the

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<sup>26</sup> This item can be found for example in the questionnaire of 2003.

<sup>27</sup> This item can be found for example in the questionnaire of 1997.

educational system and thus may not have classmates, and for whom their parents may have ceased to be particularly influential in shaping their views.

*Table 11: Measurement of talking about politics*

SUF-File	Variable	German wording	English wording
pTarget	t516107	Wie oft sprichst du außerhalb des Unterrichts mit anderen Personen über Politik (z. B. mit deinen Eltern, im Freundeskreis oder mit Mitschülerinnen beziehungsweise Mitschülern)?	How often do you talk about politics with other people outside of class (e.g. with your parents, with your friends or with fellow students)?
		1 - nie	1 - never
		2 - manchmal	2 - sometimes
		3 - oft	3 - often
		4 - sehr oft	4 - very often
		-97 - Verweigert	-97 - Refused
		-98 - Weiß nicht	-98 - Don't know

*Table 12: Measurement of political discussion*

SUF-File	Variable	German wording	English wording
pTarget	t516104	Wenn Sie sich mit Freunden treffen, wie oft diskutieren Sie über politische Fragen?	When you meet with friends, how often do you discuss political issues?
		1 - nie	1 - never
		2 - selten	2 - seldom
		3 - manchmal	3 - sometimes
		4 - oft	4 - often
		5 - sehr oft	5 - very often
		-97 - Verweigert	-97 - Refused
		-98 - Weiß nicht	-98 - Don't know

In line with the human capital perspective on political participation, the NEPS surveys how often the adolescent gathers information, i.e. acquires knowledge about political developments. In particular, the NEPS asks about the adolescent's frequency of following political issues via TV, Internet, radio, or newspapers. The item is borrowed from the European

Values Study (2011)<sup>28</sup> and covers the frequency of following politics in the media from *never*, to *less than once a week* to *several times a week*, and to *every day*.

*Table 13: Measurement of following politics*

SUF-File	Variable	German wording	English wording
pTarget	t516103	Wie oft verfolgst du die Politik in den Fernsehnachrichten, im Internet, im Radio oder in der Zeitung?	How often do you follow political issues, for example on the TV news, on the Internet, on the radio and in newspapers?
		1 - nie	1 - never
		2 - seltener als einmal pro Woche	2 - less than once per week
		3 - einmal pro Woche	3 - once per week
		4 - mehrmals pro Woche	4 - several times a week
		5 - jeden Tag	5 - every day
		-97 - Verweigert	-97 - Refused
		-98 - Weiß nicht	-98 - Don't know

To gain more insights on adolescents' political interest and their political opinion, NEPS asks if they perceive difficulties in forming their own opinions on political matters. The item is borrowed from the European Social Survey (2018a)<sup>29</sup>.

*Table 14: Measurement of forming a political opinion*

SUF-File	Variable	German wording	English wording
pTarget	t516102	Wie schwer oder leicht fällt es Ihnen, sich über politische Themen eine Meinung zu bilden?	How difficult or easy is it for you to form an opinion on political issues?
		1 - sehr schwer	1 - very difficult
		2 - schwer	2 - difficult
		3 - weder noch	3 - neither nor
		4 - leicht	4 - easy
		5 - sehr leicht	5 - very easy
		-97 - Verweigert	-97 - Refused
		-98 - Weiß nicht	-98 - Don't know

<sup>28</sup> This item can be found for example in the questionnaire of 2008.

<sup>29</sup> This item can be found for example in the questionnaire of 2008.



Two more items about *political interest* and *internal political efficacy* are provided in the youth cohorts. The items correspond to the respective items for adults, but slightly differ in wording.

*Table 15: Measurement of political interest in starting cohort 3 and 4*

SUF-File	Variable	German wording	English wording
pTarget	SC3/4: t516100	Wie sehr interessieren Sie sich für Politik? Sind Sie sehr interessiert, ziemlich interessiert, wenig interessiert oder gar nicht interessiert?	How much are you interested in politics? Are you very interested, fairly interested, hardly interested or not interested at all?
		1 - Sehr interessiert	1 - Very interested
		2 - Ziemlich interessiert	2 - Fairly interested
		3 - Wenig interessiert	3 - Hardly interested
		4 - Gar nicht interessiert	4 - Not at all interested
		-97 - Verweigert	-97 - Refused
		-98 - Weiß nicht	-98 - Don't know

*Table 16: Measurement of internal political efficacy in starting cohort 3*

SUF-File	Variable	German wording	English wording
pTarget	SC3: t516108	Wie oft erscheint Ihnen Politik so kompliziert, dass Sie gar nicht richtig verstehen, worum es eigentlich geht?	How often do politics seems so complicated to you that you don't really understand what it's all about?
		1 - Nie	1 - Never
		2 - Selten	2 - Rarely
		3 - Manchmal	3 - Sometimes
		4 - Oft	4 - Often
		5 - Sehr oft	5 - Very often
		-97 - Verweigert	-97 - Refused
		-98 - Weiß nicht	-98 - Don't know

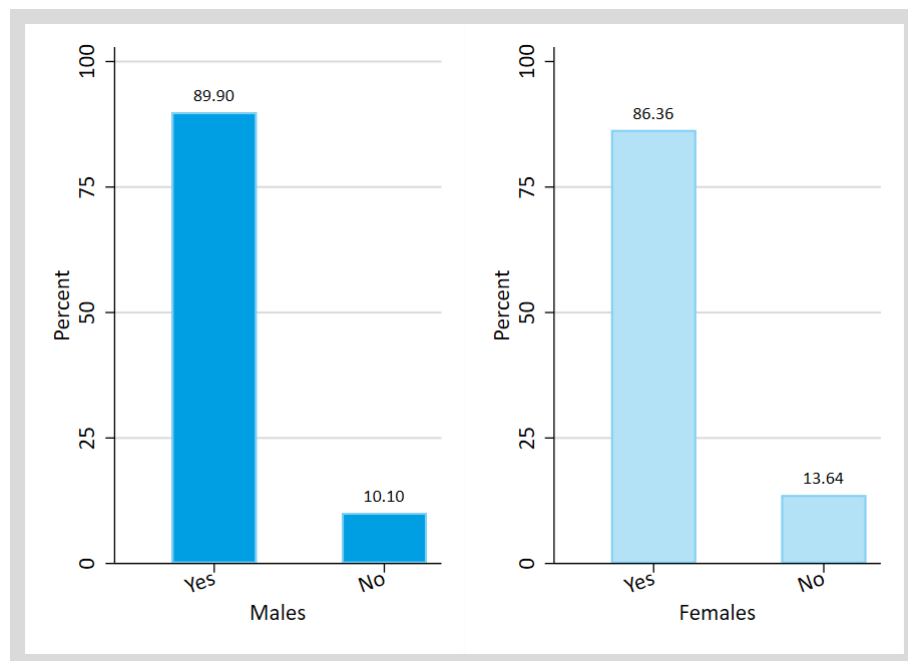
## 4. Descriptive empirical results

In the following, descriptive analyses of the survey items outlined previously are presented, using NEPS data from scientific use files from different starting cohorts.<sup>30</sup> We look at differences mainly by gender and by age to provide an overview of the data. Analyses for adolescents are based on data from starting cohort 3, for highly educated adults on data from starting cohort 5 and for adults on data from starting cohort 6.<sup>31</sup> Counts for missing values for the respective starting cohorts are given in table A1, A2 and A3 in the Appendix. Overall, missing values based on item nonresponse are very low for the items analyzed here (less than 1% in most cases). Although missing values are higher for more sensitive questions, like political orientation, they are no cause for concern.

### 4.1 Political outcome variables

In the NEPS, information on voting behavior is available for the elections to the Bundestag in 2009 and 2013 (SC5 and SC6).

*Figure 2: Voting Behavior (Bundestagswahl 2009) in starting cohort 5, wave 2012*

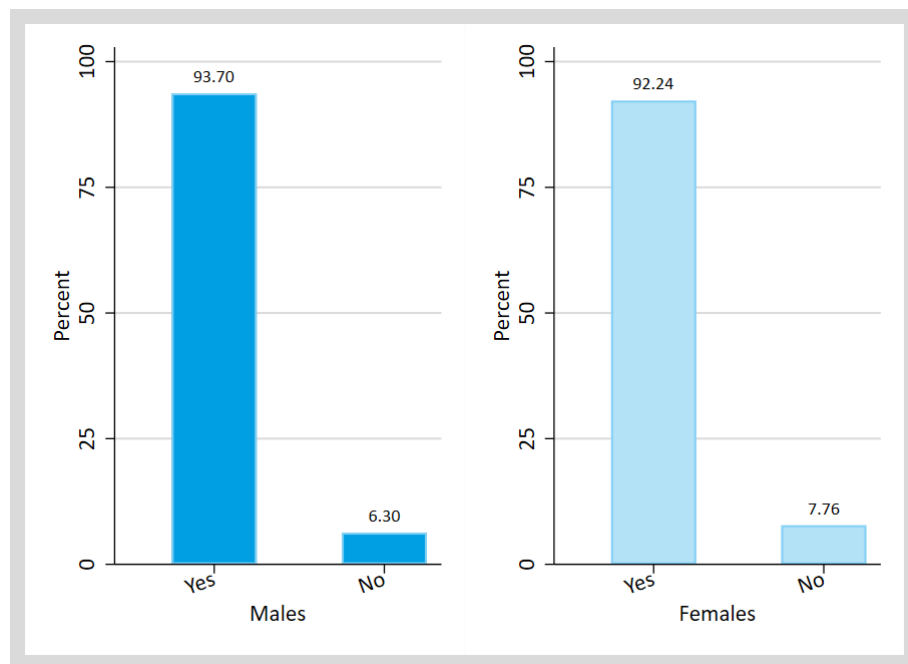


Source: NEPS SC5 doi: 10.5157/NEPS:SC5:12.0.0; N=12460 (Male=4972; Female=7488); own calculations.

<sup>30</sup> Note that scientific use files are continuously being published and new data is available regularly. The analyses here represent the state of the art at the time these were mainly conducted.

<sup>31</sup> This paper uses data from the National Educational Panel Study (NEPS): starting cohort Grade 5, doi:10.5157/NEPS:SC3:8.0.1, starting cohort Adults, doi:10.5157/NEPS:SC6:9.0.1, and starting cohort First-Year Students, doi:10.5157/NEPS:SC5:12.0.0. From 2008 to 2013, NEPS data was collected as part of the Framework Program for the Promotion of Empirical Educational Research funded by the German Federal Ministry of Education and Research (BMBF). As of 2014, NEPS is carried out by the Leibniz Institute for Educational Trajectories (LifBi) at the University of Bamberg in cooperation with a nationwide network.

Figure 3: Voting Behavior (Bundestagswahl 2013) in starting cohort 5, wave 2016



Source: NEPS SC5 doi: 10.5157/NEPS:SC5:12.0.0; N=8945 (Male=3558; Female=5387); own calculations.

According to data from starting cohort 5, waves 2012 and 2016, more than 85% of respondents claimed to have voted in the last elections. Voter turnout is slightly higher for male than for female respondents but the difference decreased in 2013 (Bundeswahlleiter, 2010, 2014).

It should be noted that self-reported voter turnout is higher than official counts, which indicate a voter turnout in the election of 2009 of 59.1% in the corresponding age group of 21 to 25 (Bundeswahlleiter, 2010).<sup>32</sup> For the 2013 election, official statistics report a voter turnout of 62.4% for voters aged 25 to 30 (Bundeswahlleiter, 2014).<sup>33</sup>

Differences between self-reported voting behavior and official counts can occur because of selection, misreporting, or both: (1) the NEPS Sample in starting cohort 5 includes only young adults enrolled in tertiary education. More highly educated people are more likely to vote, meaning that the differences may be driven by the specific sample composition. (2) Another possibility is misreporting. Respondents may not remember if they actually voted or not (Stocké 2007), which leads to incorrect information in our data. As voting is a socially desirable behavior, it seems likely that respondents may overreport in surveys to present themselves in a positive way. (3) According to Bernstein, Chadha, and Montjoy (2001) (1) may even lead to a higher occurrence of (2). The authors indicate that educated, partisan and religious people are those who overreport the most. This is because the highly educated are aware of what constitutes socially acceptable behavior and are keen on acting conform to social norms. Therefore, “not voting is psychologically stressful; telling people you did not vote is even more stressful.” (Bernstein et al. 2001, p. 26)

The differences between official records and self-reported data in NEPS are not a NEPS specific problem, but rather one that applies to survey data in general. Kühnel (2001), for example,

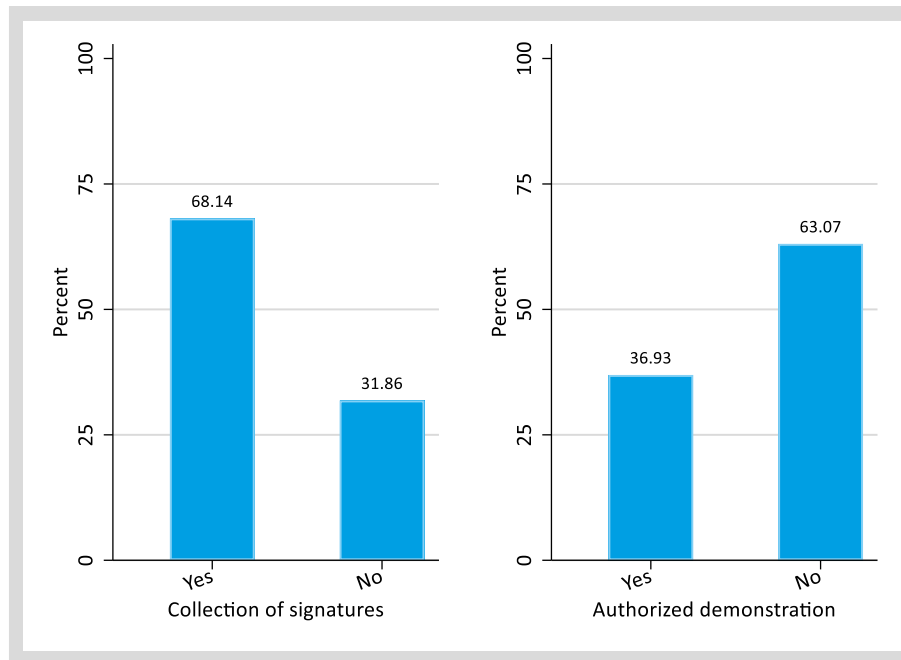
<sup>32</sup> Mean age of respondents in starting cohort 5 in wave 2012 was 23.3.

<sup>33</sup> Mean age of respondents in starting cohort 5 in wave 2016 was 27.2.

points to the overestimation of voter turnout of about 5 to 10 percentage points in ALLBUS data.

Next, turning to participation in politically motivated activities, figure 4 provides frequencies of respondents' replies to items on the collection of signatures or the signing of petitions, and on participation in authorized demonstrations.

*Figure 4: Participation in politically motivated activities in starting cohort 6, wave 2013*



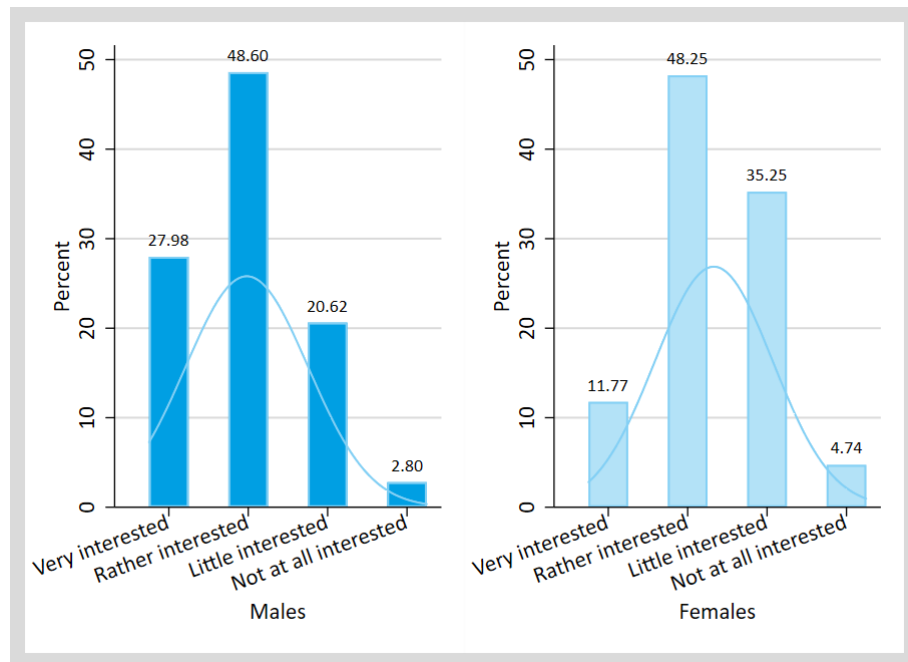
Source: NEPS SC6 doi: 10.5157/NEPS:SC6:9.0.1; N=10639; own calculations.

Figure 4 shows that more than two thirds of respondents of starting cohort 6 (wave 2013) had participated in a collection of signatures or signed an online petition. In contrast, almost two thirds of respondents had never participated in an authorized demonstration.

## 4.2 Political attitudes

Individuals' political interest is the most frequently surveyed item in the NEPS on political attitudes. This information is available for the starting cohorts 3, 4, 5, and 6 for target persons, and will be available in the future for parents for starting cohorts 1 and 2.

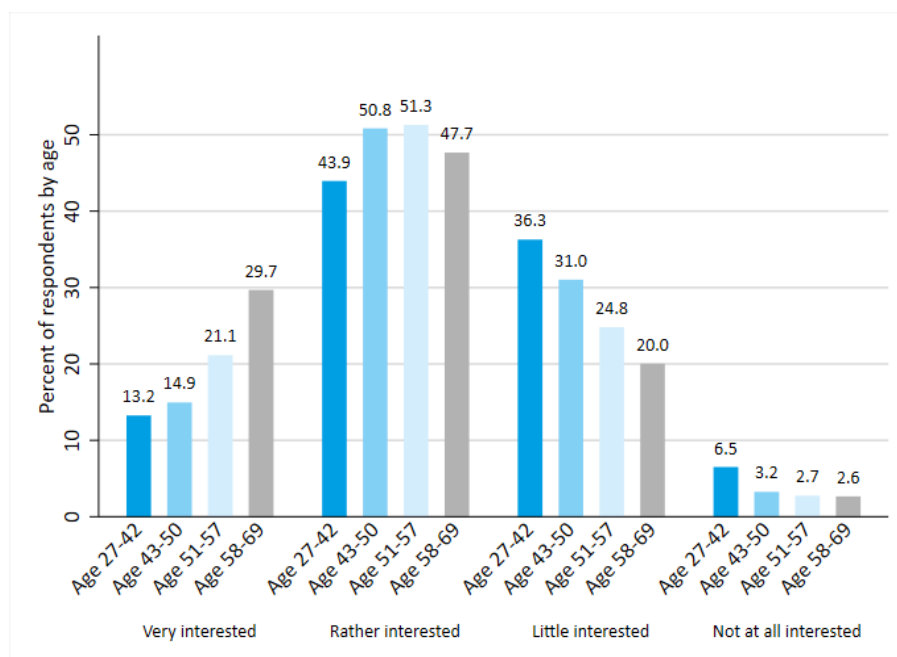
Figure 5: Political interest in starting cohort 6, wave 2013 by gender



Source: NEPS SC6 doi: 10.5157/NEPS:SC6:9.0.1; N=10636 (Males=5251, Female=5385); own calculations.

Figure 5 shows the distribution of political interest in starting cohort 6, wave 2013, by gender. On average, men report themselves to be more interested in political issues than women: although most respondents say that they are rather interested in politics, more than twice as many men as women reply that they are very interested. This pattern appears plausible, as politics is still a field dominated by men (for a review of empirical research, see Paxton, Kunovich and Hughes 2007).

Figure 6: Political interest in starting cohort 6, wave 2013 by age

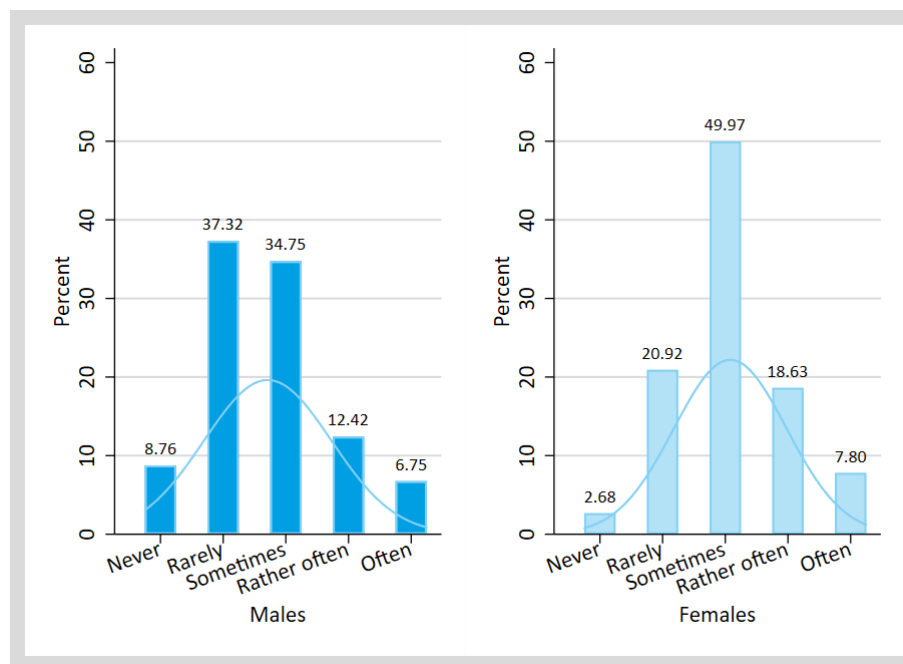


Source: NEPS SC6 doi: 10.5157/NEPS:SC6:9.0.1; N=10634; own calculations.

Figure 6 provides distributions of individuals' political interest across age (starting cohort 6, wave 2013). The general pattern indicates that older respondents are more interested in political issues. In the 58 to 69 age group, almost 30% of respondents report being very interested in politics, compared to about 13% in the 27 to 42 age group. The share of respondents indicating that they are rather interested does not vary so much between the age groups. For the categories *little interested* and *not interested at all*, the patterns are reversed. In particular, some 36% (20%) of the 27-42 (58-69) year old respondents state that they are little interested in politics. The pattern repeats for the *not interested at all* reply, with about 7% agreement among younger respondents and less than half of that among the older ones (2.6%).

As outlined earlier, individuals' internal political efficacy as included in the NEPS program aims at measuring respondents' perception of being competent in following political debates.

Figure 7: Internal political efficacy in starting cohort 6, wave 2013 by gender

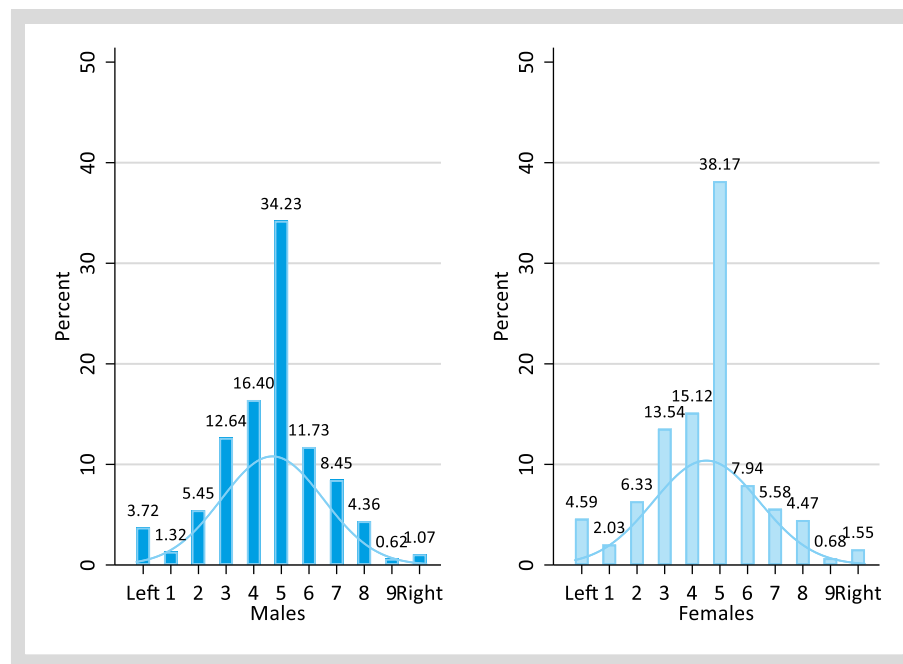


Source: NEPS SC6 doi: 10.5157/ NEPS:SC6:9.0.1; N=10624 (Male=5241; Female=5383); own calculations.

Similar to the distributions of political interest by gender, male respondents report a higher level of internal political efficacy than females (figure 7). Men assess their own ability to follow political issues as considerably higher, and report less difficulties in doing so.

Frequencies of NEPS respondents' political orientation, as measured on a left-right scale from 0 (left wing) to 10 (right wing) is shown in figure 8.

Figure 8: Political orientation on left-right scale in starting cohort 6, wave 13 by gender



Source: NEPS SC6 doi: 10.5157/ NEPS:SC6:9.0.1; N=10321 (Male=5157; Female=5164); own calculations.

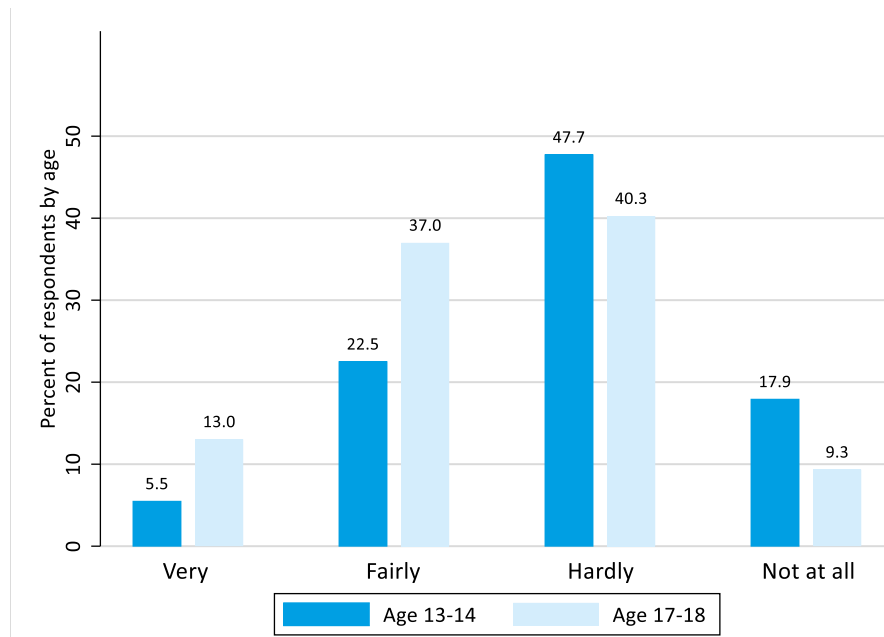
Most of the NEPS respondents of starting cohort 6 place themselves in the middle of the scale. Also, a majority somewhat prefers left wing or moderate political positions. The patterns for men and women are very similar, but fewer women than men rank themselves on the right-wing side of the scale.<sup>34</sup>

Asking for the political orientation touches upon sensitive information, so socially accepted answering behavior may occur. As some orientations are more accepted than others in society, some respondents might fail to report their true orientations. Another issue resulting from the sensitivity of this question is that the share of missing values is somewhat higher than for questions about less sensitive information, at around 3%. Still, considering the kind of information asked for, this appears acceptably low.

### 4.3 Specific items for adolescents

In addition to a set of similar items surveyed in both adults and adolescents, the NEPS further provides items that are particularly tailored to adolescent respondents (see Chapter 3.3). These items are available in starting cohorts 3 and 4 only.

<sup>34</sup> Note that ALLBUS 2014 responses for almost the same scale results in a quite similar pattern of men having a slightly more right-wing political orientation, while women are more left-wing oriented (GESIS 2018, own calculations).

*Figure 9: Political Interest in starting cohort 3, waves 2013 and 2016*

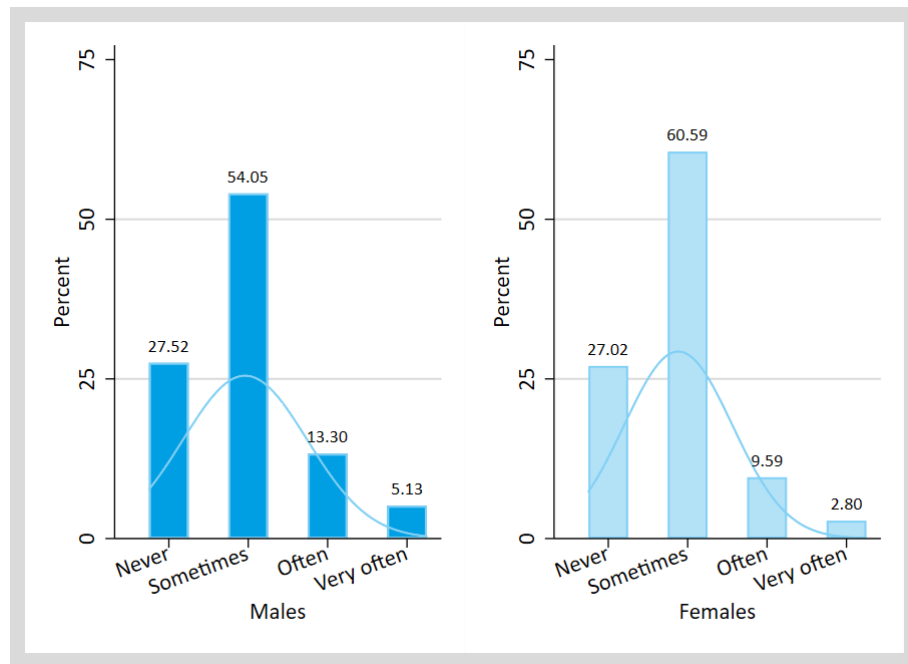
Source: NEPS SC3 doi: 10.5157/NEPS:SC3:8.0.1; N=11435; own calculations

In figure 9, data from wave 2013 of starting cohort 3, in which respondents were 13-14 years old, is compared to corresponding data from wave 2016, when respondents were 17-18. It shows that interest in political issues increases. At age 13-14 half of the respondents say that they are barely interested in politics, which decreases to about 40% three years later. At the same time, the share of those saying that they are very interested more than doubles, and the share of respondents who are not interested at all decreases from 18% to about 9%. This increase in political interest is in line with the political life cycle model, which presumes that the level of an individual's political interest rises with age and especially in adolescence (Neundorff et al. 2013; Russo and Stattin 2017).

One of the adolescent-specific items in the NEPS concerns the frequency with which respondents talk about politics.



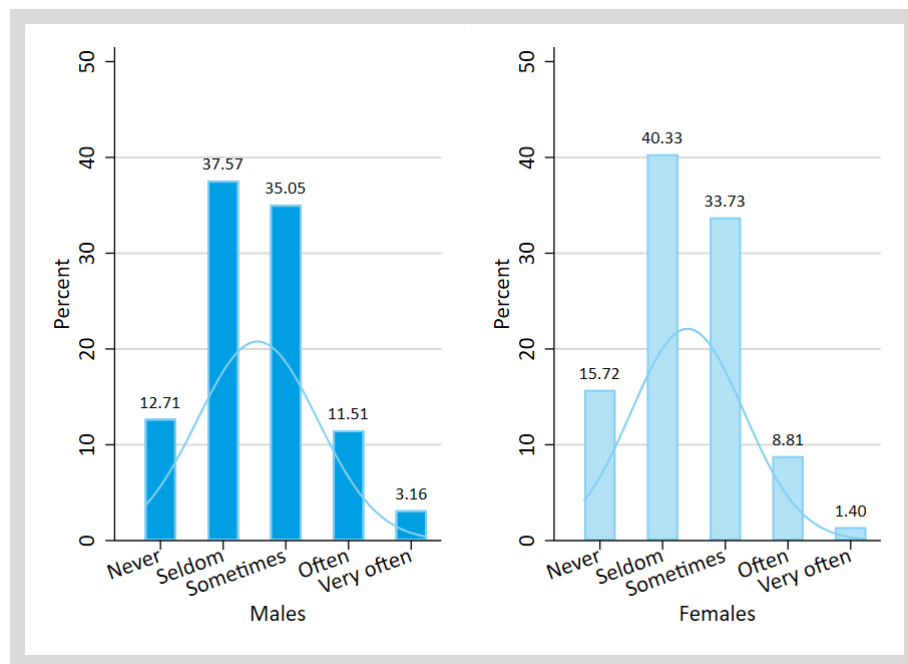
Figure 10: Talking about politics in starting cohort 3, wave 2013



Source: NEPS SC3 doi: 10.5157/NEPS:SC3:8.0.1; N=6211 (Male=3136; Female=3075; own calculations).

Comparing male and female adolescent respondents, it is revealed that more than a quarter of boys and girls at the age of 13-14 never talk about politics (figure 10). Some other gender differences also become apparent. Boys are more likely to talk about politics either often or very often. Overall, gender differences are not that large at the age of 13-14. A similar question was included in starting cohort 3 in wave 2016, when respondents were about 17-18 years old. The stimulus is slightly different, with a context reference to meeting friends. Instead, the reference to school was removed, the circle of people to talk to was limited to friends and respondents were not asked whether they talked about politics, but whether they discussed political issues.

Figure 11: Discussing political issues in starting cohort 3, wave 2016

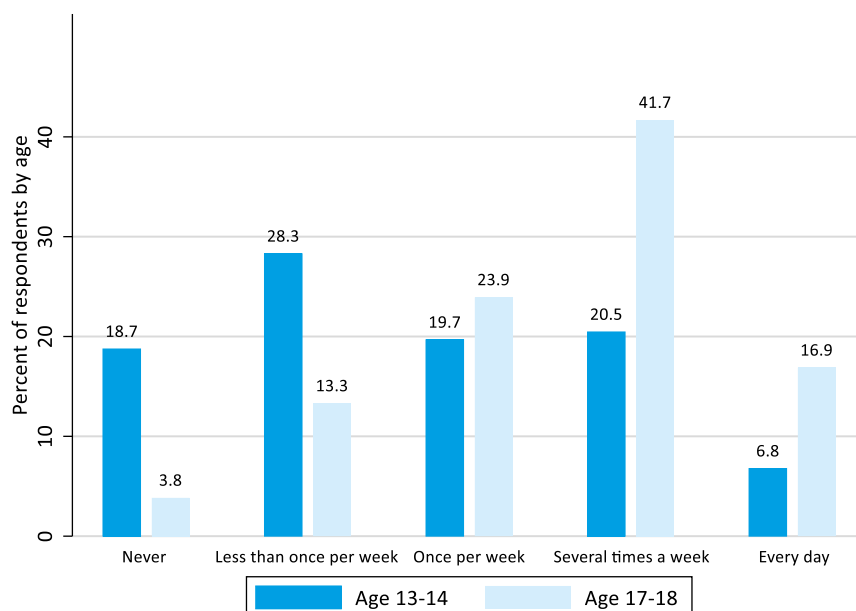


Source: NEPS SC3 doi: 10.5157/NEPS:SC3:8.0.1; N=5235 (Male=2659; Female=2576; own calculations).

Figure 11 again compares male and female respondents and shows a similar pattern as before. At the age of 17-18, females are still less likely to discuss political issues than males.

Another youth-specific NEPS item concerns gathering information and staying briefed about political developments. The item surveys how often adolescents follow political issues via different multimedia channels.

Figure 12: Following political issues in starting cohort 3, waves 2013 and 2016

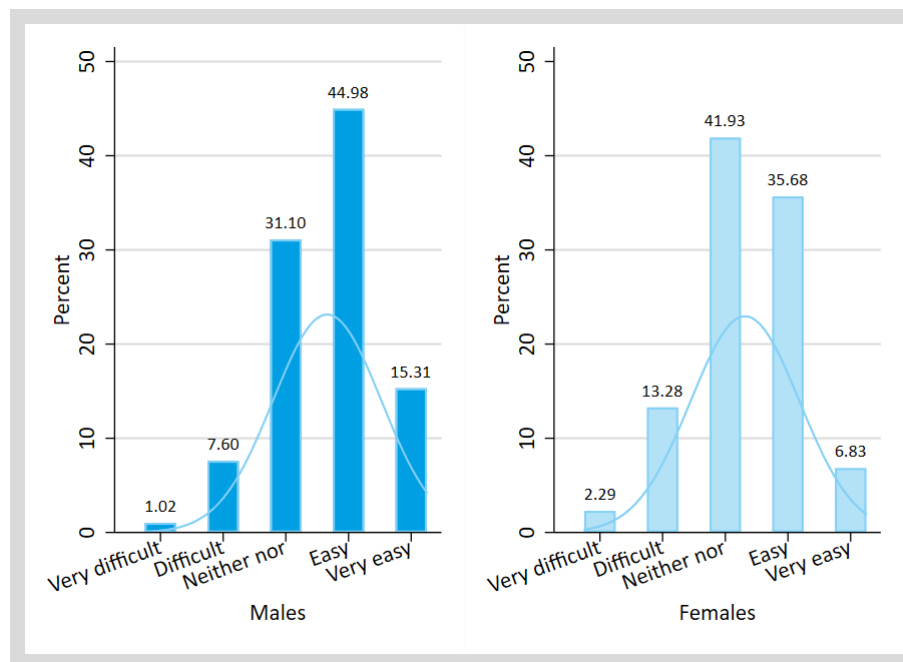


Source: NEPS SC3 doi: 10.5157/NEPS:SC3:8.0.1; N=11456; own calculations.

Figure 12 provides evidence from waves 2013 (at age 13-14) and 2016 (at age 17-18). On average, respondents report following political issues more frequently as they become older.

Only 3.8% at age 17-18 reply that they never follow political news in the media, whereas almost 20% reported this at age 13-14. An equally notable drop is given for following political issues less than once per week. At age 13-14, 30% of the respondents agreed to this. At age 17-18, only 13% remain in this category. Compared to the other categories, the share of students reporting that they follow politics in the media once per week changed the least for students at age 13-14 and 17-18. The fraction of those who follow political news several times a week doubled from about 20% at age 13-14 to almost 42% at age 17-18. The same is observable for the category *every day*. The share of students who report informing themselves daily about politics more than doubles, from 6.8% to 16.9%.

Figure 13: Difficulties in forming political opinions in starting cohort 3, wave 2016



Source: NEPS SC3 doi: 10.5157/NEPS:SC3:8.0.1; N=5235 (Male=2659; Female=2576); own calculations.

As difficulties adolescents experience in forming a political opinion, figure 13 shows girls on average report having more difficulties than boys: whereas only 1% of males state that reaching an opinion is very difficult for them, some 2% of girls agree to this statement. Furthermore, almost twice as many girls as boys say that it is difficult for them (13% and 8%, respectively). On the upper end of the scale, the share of students who report that forming a political opinion is very easy is more than twice as high among boys than among girls (15% of boys, and less than 7% of girls, respectively).

## 5. Conclusion

Investigating monetary and non-monetary returns to education is not only an intellectually challenging, research topic that can further our understanding of individuals' behaviors and life outcomes, but it also has general implications for society. This is especially true for political participation, as a non-monetary educational return. Authors like Helsper et al. (2006), for example, have asked if youths have become apolitical, and whether younger generations are disillusioned with politics. Another observable tendency in Western societies that manifested in recent elections is the shift to the political right. How these trends may be addressed is of critical importance for democratic societies. Investigating whether, for example, promoting civic education in the educational system would be a useful policy instrument is a question

that research on the relationship between education and political participation should answer, ideally following a design that addresses causality and the underlying mechanisms.

We enable such research by developing adequate measures of political attitudes and participation as part of the NEPS questionnaire programs. We also address a call for research by de Rijke (2009), who emphasized the temporal aspects of adolescents' political behavior and stressed the importance of panel surveys and repeated measurements. With the available instruments, NEPS data contributes to the production of knowledge in the field of political participation as a return to education by enabling the scientific community to conduct relevant, high-quality longitudinal research.

At the end we have to highlight the limitations of our survey program. The key focus of the NEPS is on education in a longitudinal perspective and not on political participation and attitudes. Given the very limited interview time available for measurements of non-education aspects in the NEPS we had to select policy indicators for the longitudinal measurement but could not cover all nuances. Thus, we cover fewer aspects than cross-sectional surveys on political participation and attitudes. However, the key strength of the NEPS is its longitudinal design, which offers more opportunities for causal inference on the effect of education on political participation and attitudes than conventional cross-sectional designs. By implementing a survey program that focuses on the longitudinal measurement of few selected variables we decided to focus on this unique feature of the NEPS.

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## Appendix

*Table A1: Missing values in starting cohort 6, wave 2013*

		Missings (%)				
		Im- plausible missing	Unspecific missing	Don't know	Refused	Not entitled to vote
<b>Outcomes</b>	Political activities					
	Has signed (online) petitions	-	-	0.23	0.01	-
	Participated in authorized demonstration	-	-	0.14	0.02	-
	Occupy Buildings	-	-	0.08	0.06	-
	Voting behavior	-	-	0.07	0.04	2.27
<b>Attitudes</b>	Political interest	-	-	0.02	0.01	-
	Internal political efficacy	-	-	0.11	0.03	-
	Political orientation	-	-	1.99	1.00	-
	Understanding of democracy	-	-	-	-	-

Source: NEPS SC6 doi: 10.5157/ NEPS:SC6:9.0.1; own calculations.

Table A2: Missing values in starting cohort 3, waves 2013 and 2016

		Missings (%)			
		Implausible missing	Unspecific missing	Don't know	Refused
<b>Outcomes</b>	Political activities				
	Has signed (online) petitions	-	0.49	0.02	-
	Participated in authorized demonstration	-	0.51	0.04	-
	Voting behavior	-	-	-	-
<b>Attitudes</b>	Political interest				
	Wave 2013	0.14	0.61	-	-
	Wave 2016	0.04	0.34	-	-
	Internal political efficacy	0.04	0.4	-	0.02
	Political orientation	0.11	2.43	3.25	0.25
	Understanding of democracy	-	-	-	-
<b>Youth specific items</b>	Talking about politics	0.1	0.24		
				-	-
	Political discussion	-	0.38	0.02	-
	Follow political issues				
	Wave 2013	0.11	0.3	-	-
	Wave 2016	-	0.36	0.02	-
	Formation of political opinion	0.02	0.38	-	-

Source: NEPS SC3 doi: 10.5157/NEPS:SC3:8.0.1; own calculations.

Table A3: Missing values in starting cohort 5, waves 2012, 2013 and 2016

		Missings (%)					
		Im- plausible missing	Un- specific missing	Don't know	Re- fused	Not entitled to vote	Does not apply
Outcomes	Political activities						
	Has signed (online) petitions	-	-	0.13	0.03	-	-
	Participated in authorized demonstration	-	-	0.05	0.04	-	-
	Occupy buildings	-	-	0.06	0.06	-	-
	Voting behavior						
	Wave 2012	-	-	0.31	0.04	3.61	-
	Wave 2016	-	-	0.42	0.08	-	1.10
Attitudes	Political interest						
	Wave 2012	-	-	-	0.01	-	-
	Wave 2013	-	-	0.01	0.01	-	-
	Wave 2016	-	-	0.02	0.04	-	-
	Internal political efficacy						
	Wave 2012	-	-	0.02	0.02	-	-
	Wave 2013	-	-	0.03	0.02	-	-
	Wave 2016	-	-	0.02	0.04	-	-
	Political orientation						
	Wave 2012	-	-	0.94	0.8	-	-
	Wave 2013	-	-	0.83	0.98	-	-
	Wave 2016	-	-	0.48	0.69	-	-

Source: NEPS SC5 doi: 10.5157/NEPS:SC5:12.0.0; own calculations.



## Selecting items to measure understanding of democracy

As a first step in the process of selecting items to measure understanding of democracy, an extensive investigation of the existing literature and a transformation of the information gained into survey instruments was conducted. In the end, the 16 items from the German Round 6 version of the European Social Survey seemed most useful as a basis for the selection of items for the NEPS. A principle factor analysis showed that the 16 items form three factors with an eigenvalue >1. The first factor dimension relates to basic characteristics of democracy, the second covers aspects of the welfare state and direct forms of democracy, and the third is, broadly speaking, about political deliberation. Results of varimax rotation are shown in table A4. As the purpose of this was to identify items that measure understanding of democracy, we proceeded with items that load on factor 1.<sup>35</sup>

*Table A4: Rotated factor loadings on the importance of different aspects for democracy in general*

	Factor 1	Factor 2	Factor 3
...that national elections are free and fair?	<b>0.7140</b>		
...that voters discuss politics with people they know before deciding how to vote?			0.6750
...that different political parties offer clear alternatives to one another?			0.6764
...that opposition parties are free to criticize the government?	<b>0.7365</b>		
...that the media are free to criticize the government?	<b>0.6490</b>		
...that the media provide citizens with reliable information to judge the government?	0.7340		
...that the rights of minority groups are protected?	<b>0.6464</b>		
...that citizens have the final say on the most important issues by voting on them directly in referendums?		0.5432	
...that immigrants only get the right to vote in national elections once they become citizens?			
...that the courts treat everybody the same?	<b>0.6826</b>		
...that the courts are able to stop the government acting beyond its authority?	<b>0.6753</b>		
... that governing parties are punished in elections when they have done a bad job?	0.4234	0.4533	
...that the government protects all citizens against poverty?		0.7980	
...that the government explains its decisions to voters?	0.4011	0.6017	
...that the government takes measures to reduce differences in income levels?		0.7652	
...that politicians take into account the views of other European governments before making decisions?		0.4500	0.4320

(blanks represent abs(loading)<.4)

Source: ESS Round 6 doi:10.21338/NSD-ESS6-2012; own calculations.

<sup>35</sup> If an item loaded on more than one factor, our strategy was twofold. When both loadings were (almost) equal in size we ceased to consider the respective items because they could not be further disentangled. If one loading was clearly larger, we assigned the respective item to the larger loading factor.