

The democratic lessons learned—How experiences of (un-)equal treatment in school influence satisfaction with democracy in later life

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Abstract Previous studies have shown that economic and political experiences influence the level of satisfaction with democracy; however, they fail to explain whether these experiences have the same effect for everyone, whether there is interindividual variance and where these differences might be rooted. In this article, we investigate these roots of interindividual variance and base our argument on the observation that early experiences in school are formative and influence the effect of economic and political experiences on satisfaction with democracy. We analyze an original representative dataset on the German population to test how school experiences, more precisely equal treatment in school, interact with economic and political experiences in later life and thereby influence satisfaction with democracy. We find that school experiences play a significant role here. Voting for the governing parties especially increases satisfaction with democracy if respondents were treated equally in school. Similarly, past experiences of unemployment in particular decrease people's levels of satisfaction with the political system if they were not treated equally in school. The findings highlight that early experiences made in school can have a relevant influence on satisfaction with democracy in later life.

Keywords Satisfaction with democracy · School · Equal treatment · Impressionable years · Cumulative effects of marginalization

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1 Introduction

When children start school, they often hear from their parents that now the serious side of life begins. Spending years of their lives in school, they not only learn the content of various subjects, but they also experience how others, especially authorities, treat them and how democracy works. In the process, they develop an idea of their own position in the society and a lens through which they perceive their environment and the society as a whole. Although this period is defined as formative by previous research (e.g. Pretsch and Ehrhardt-Madapathi 2018), it remains unclear how school experiences affect satisfaction with democracy later on in life. This study addresses this research gap by asking whether equal treatment in school influences satisfaction with democracy and whether these early experiences interact with economic and political experiences citizens make in later life.

When democratic institutions are put to the test—e.g. in the form of rising populism, political polarization, and fake news—relevant influences on how satisfaction with democracy is shaped are all the more relevant to study. Thus, over the past decades the interest of policy makers and politicians to learn how to promote and sustain support of, and participation in democratic processes and practices, have increased (Biesta 2011; Norris 1999). Generally speaking, it can be stated that democracies are required to provide its citizens with legitimate reasons for the necessity of authoritative decisions, be they procedural or instrumental factors (Easton 1965). Recent research has found that aspects related to the output dimension of a political system are the most important for understanding why people support the political system in which they live, since citizens tend to care more about the substance of results than about how they are produced (Strebel et al. 2018). For example, stable economies, common welfare, and effective policies increase satisfaction with the underlying political system (Arnesen 2017; Hibbing and Theiss-Morse 2002; Shore 2019). As a result, for instance, those who cast a vote for a party that ends up in government and those who are themselves in a good economic position are more satisfied with democracy than those who have/are not (Anderson et al. 2005; Dahlberg and Linde 2016; Singh et al. 2012; Van der Meer and Steenvoorden 2018).

Existing research thus provides insights into the factors influencing adult citizens' satisfaction with democracy. They also show that the effects vary across individuals, although an explanation of where this variance is rooted is still missing. An important aspect in this context is, however, the fact that individuals do not come into the world with existing attitudes toward democracy, but that these are learned and experienced over the course of growing up. The further expectation is that these basic orientations acquired during childhood and youth can influence later learning and adoption of beliefs, attitudes and behavioral patterns (Wasburn and Covert 2017).

We argue that experiences of fairness in school are part of these early experiences and thus have an impact on satisfaction with democracy. These experiences occur during the formative years of youth and therefore usually represent the first experiences with public institutions and actors (Abdelzadeh et al. 2015). Since later experiences in life are perceived in the light of these initial experiences, they have a moderating effect on satisfaction with democracy. We argue that if somebody who experienced unequal treatment in school and, later in life, faces economic or

political disappointment, (s)he traces this back to the political system and is thus less satisfied with democracy. Conversely, if someone was treated equally in school, (s)he considers his/her political and economic position later in life to be a “fair” winning position and, as a result, is more likely to be satisfied with how democracy works. As a result, we make the argument that early experiences in school is a crucial factor to explain interindividual variance on the importance of economic and political variables on satisfaction with democracy. By showing this, we contribute to the literature that investigates the role of experiences on satisfaction with democracy and enable a more differentiated examination of the hitherto commonly investigated influences of economic and political experiences.

The paper is structured as follows: The first section presents the current state of research and its shortcomings. Next, we develop the theoretical framework by establishing the moderating role of equal treatment in school on economic and electoral outputs, which in turn influences satisfaction with democracy. We test our theoretical argument using a unique, representative dataset ($n = 1790$) on Germany (GESIS 2019), estimating linear regressions with interaction terms. The paper closes with a discussion of the main findings.

2 State of research: Economic and electoral explanations for satisfaction with democracy

What explains satisfaction with democracy and which experiences in a citizen’s life influence it? Public attitudes towards democracy have become a major topic of research in recent years. Since the research by Anderson and colleagues (2005), many studies on public behavior and elections have underscored the importance of the electoral winner-loser status for public satisfaction with democracy (Han and Chang 2016; Loveless 2020; Martini and Quaranta 2019; Singh et al. 2012). Recent studies have assessed the between- and within-country variation of winner-loser gaps as well as its dependence on procedural fairness (Martini and Quaranta 2019; Peffley and Rohrschneider 2014; Singh 2014). They found that the winner-loser gap varies between countries, between different types of winners and government constellations and that the gap also depends on the rule of law, absence of corruption, and other institutional characteristics.

The underlying theoretical argument is mostly that citizens who voted for the political party/candidate that has access to government power, commonly referred to as “winners”, are more satisfied with how democracy works because they like and trust the party/candidate that was elected. Moreover, they are more likely to benefit from adopted policies (Curini et al. 2011). Conversely, citizens who voted for parties/candidates that form the opposition or do not enter parliament, commonly referred to as “losers”, are less likely to like and trust the winning party/candidate and are therefore less satisfied with the way democracy works (Blais and Gélinau 2007). Electoral losers are expected to feel less represented and are therefore neither satisfied with executive decisions, nor with the political system in general (Blais and Gélinau 2007; Dahlberg and Linde 2016). This so-called instrumental mechanism states that citizens are very likely to judge system performance according to the

delivery of political goods and the related benefits and utility (Anderson et al. 2005; Christmann 2018). The experience of winning or losing results in being part of either the majority or the minority of the society, what drives people to adopt a lens through which they view political life (Anderson et al. 2005). Some studies in this context show that the difference between winners and losers is not necessarily due to an increase in the satisfaction of the winners and a decrease in the satisfaction of the losers. Instead, they show that winners typically become more supportive whereas losers retain their level of support from before the election (Esaiaasson 2011). Thus, the electoral boost is stronger for electoral winners and the winner-loser gap is stronger among confident voters (Van der Meer and Steenvoorden 2018).

Based on these substantial findings, however, the question arises as to how temporally salient elections and their results are for individual satisfaction with democracy. Indeed, the important aspect of duration of these effects has only been taken up by few, recent studies. Loveless (2020), for example, shows that the effect of the winner-loser gap is durable over time: both the level of satisfaction and the gap in the level of satisfaction between winners and losers are maintained over many years. He thus concludes that this challenges the literature, as it suggests that voters' satisfaction with democracy is less responsive to electoral outcomes than assumed by other authors. Electoral outcomes therefore cannot be the primary origin for satisfaction and instead must be part of a larger link between individual experiences and deeper orientations to the functioning of democracy (Loveless 2020).

In addition to electoral outcomes, recent research has dedicated more attention to economic factors. The economic output legitimization can be divided into different perspectives and temporal horizons (see e.g. Singh et al. 2012). On the one hand, satisfaction with democracy might be influenced by egotropic economic evaluations, meaning that individuals are especially interested in their own economic well-being. On the other hand, individuals might be satisfied with democracy if the overall economy is doing well, which is known as a sociotropic economic evaluation. Regarding different temporal horizons, research divides retrospective and prospective economic evaluations. Past economic assessments might have different effects on satisfaction with democracy than expectations about the future (Lacy and Christenson 2017). The differentiation into these four dimensions of economic factors derives from the research on economic voting that analyzes how economic factors shape candidate and party preferences. This large body of literature focuses mainly on retrospective egotropic and sociotropic economic evaluations (Gomez and Wilson 2001; Godbout and Bélanger 2007).

Regarding sociotropic explanations, economic growth and low levels of income inequality have been shown to have a positive effect on satisfaction with democracy, as more citizens can benefit from the improving economic situation (Armingeon and Guthmann 2014; Han and Chang 2016; Quaranta and Martini 2016). Conversely, they also demonstrated that satisfaction decreases when unemployment rises and purchasing power declines. The argument is also related to political responsiveness: while a prosperous economic situation facilitates the political ability to be responsive to the demands of the citizens and thus can increase their satisfaction, economic recessions tend to lead to the opposite (Schäfer and Streeck 2013). In general, former studies have come to the consensus that the evaluation of the national economy

matters more than personal economic well-being (see summary in Singh et al. 2012) since many individuals cannot attribute changes at the national level to personal economic well-being (Gomez and Wilson 2001). However, recent studies cast doubt the superiority of sociotropic factors. For instance, Martini and Quaranta (2019) find that personal feelings about income have a significant effect on satisfaction with democracy, while a macroeconomic performance index comes to mixed results. Regarding egotropic explanations, it is argued that higher individual resources lead to better opportunities to participate in democracy and those who participate regularly and actively are also shown to be more satisfied with democracy (Dalton 2004; Delgado 2016). Individuals that have lost their jobs, e.g. due to the downsizing of certain sectors, are likely to be dissatisfied with how the political system works.

The methodological problem is that many studies rely on egotropic and sociotropic indicators that are not comparable since the former is measured on the individual level and the later on the national level. Most studies that use sociotropic explanations make cross-country comparisons as they cannot test whether national economic performance is perceived accordingly by individuals. However, this indicator is needed to explain interindividual differences. An exception is the study by Singh et al. (2012) that uses retrospective egotropic and sociotropic economic indicators at the individual level. In their article, neither the evaluation of the personal nor national economic development influence satisfaction with democracy at the regional and national level, but egotropic explanations correlate with higher satisfaction with the EU democracy.

To summarize, different economic indicators are likely to influence satisfaction with democracy. Even though other factors relating to procedural fairness, such as the rule of law or good governance, also influence satisfaction with democracy positively, due to pragmatic reasons, we focus here on electoral and economic factors and how they interact with earlier experiences in school.

It is not yet fully known whether economic and electoral factors affect everyone in the same way or whether there is interindividual variance (e.g. Bellucci and Memoli 2012). Individuals may differ in whether they attribute the experience of economic or political disappointment internally or to the political system. So what affects the link between individual experiences and attitudes about the functioning of democracy? To better understand this link, we must account for the situation of both winners and losers. For example, voting for an electorally (un-)successful party is not an isolated political experience (Loveless 2020); instead it is important to consider what influences successive or cumulative experiences of being a winner or loser have on satisfaction with democracy.

3 The missing origins? Experiences of fairness with state institutions

While the abovementioned studies on political behavior and economy emphasize the importance of democracy's outputs, public administration research brings everyday experiences with the state into focus. Lipsky (1980) made the argument that the direct interaction of individuals with street-level-bureaucracy shapes their political attitudes. This has been confirmed by more recent studies on employment offices

(Shore and Tosun 2019a, b) or public administration (Ariely 2013). This research strand analyzes whether experiences with policies and state actors shape political behaviors and attitudes (Bruch and Soss 2018:37). Local state institutions thereby represent places in which policies structure political relations and policies themselves are remade through daily political decisions and practices (*ibid.*). Depending on how individuals are treated by the authorities, they then recognize their own standing and value in public life. These experiences, in turn, influence the individual's long-term expectations of procedural justice by the state.

A place of interaction between the individual and the state, which is increasingly attracting attention in this context, is the school (Hoskins et al. 2017). In comparison to other local institutions, such as employment offices, the school makes the state directly tangible and is an institution with which every citizen comes into contact, provided there is a state school system as in Germany (Abdelzadeh et al. 2015). Furthermore, experiences with and in school last for several years (Cullingford and Morrison 1995), as education is completed at a certain age and experiences with school cannot be overlaid by new ones (Ariely 2013). This again distinguishes school from other state institutions with which individuals only occasionally come into contact during their lifetime (Pretsch and Ehrhardt-Madapathi 2018). Thus, school is particularly suitable to be studied as place in which individuals both experience political relations and develop an idea of their own position in society.

Along with the academic role of teaching knowledge and skills, and based on interpersonal experiences made in school, schools are important in the formation of civic identity. Both Resh and Sabbagh (2014), and Pretsch and Ehrhardt-Madapathi (2018) find that relational justice in school has a positive impact on liberal democratic orientation and on trust in formal institutions. They argue that a "sense of being treated justly by others—people and institutions—is necessarily an important component of students' interpersonal experiences at school and in the development of the 'social map' that they begin to draw in their minds about the world around them and their ideas about that world" (Resh and Sabbagh 2014:52). In general, children develop understandings of fairness and justice around the age of six (Mendes et al. 2018). A school climate of "fairness", being an essential component of a democratic system, is an important factor which affects students' liberal democratic orientation (Parth et al. 2020; Torney-Purta et al. 2004, 2008). Fair treatment in this context means that students perceive their teachers applying fair standards and treating all students in the same way. This includes for example challenging all students rather than privileging only the high achievers (Flanagan et al. 2007). Hence, other studies have also shown that the opposite, namely being treated unfairly in school, can result in the delegitimization of both teachers and the school system in general as well as of formal authorities in the wider society (Chory-Assad 2002; Chory-Assad and Paulsel 2004). For instance, if children were bullied in school, they are more likely to become criminals (Cullingford and Morrison 1995). Following these studies, it becomes clear that individuals through their daily experiences of the school and classroom, learn a "hidden curriculum" of position and power (Bruch and Soss 2018). Being treated as equal is linked to the democratic principle of fair equality of opportunities (Satz 2014). Education is considered as a relevant public good for individuals' integration in the labour market, thus, school institutions should ensure

fair competition conditions by offering equal opportunities (Brighouse and Swift 2014). This guiding principle of fairness in school can be traced back to Rawls who argued that public offices generate a structure of power resources citizens need to have equal and fair access to.

Teachers play an important role for the fair equality of opportunities since they are the primary agents of reward and punishment allocation within schools (Cherng 2017; Resh and Sabbagh 2014). Teachers can be sources of support, respect and encouragement. At the same time, they assign grades and evaluate students' performance, thus deciding which educational path to take. Any teacher who abuses this power can have a negative impact on students' social development, especially in terms of attitudes towards reciprocity, and attitudes towards society and its institutions (Pretsch and Ehrhardt-Madapathi 2018). These negative effects of school experiences have already been demonstrated by existing studies. Bruch and Soss (2018), for example, find that negative experiences with school authorities decrease youth political engagement and political trust. This underlines that experiences made in school, being sites of political learning, can affect visions and ideas about the democratic society as such (Resh and Sabbagh 2014).

Thus schools, as places that make the state tangible, demonstrate to students how public institutions work and how they can expect to be treated by authorities. In doing so, they define critical experiences during the "impressionable years" of youth (Bruch and Soss 2018). Imprinting the students for when they reach adult life thus can have far-reaching effects. Following this, equal treatment and interpersonal experiences in school are considered important for the formation of civic identity (Resh and Sabbagh 2014). Education systems train abilities that are required for being an equal citizen in a democracy (Anderson 1999). Therefore, we expect equal treatment in school to be accompanied by increasing satisfaction with democracy. From this follows the first hypothesis on the fundamental influence of school experiences on satisfaction with democracy:

H1: The perception of having been treated equally in school increases satisfaction with democracy.

4 How experiences in school influence electoral and economic determinants of satisfaction with democracy

As outlined earlier, studies conclude that the impact of electoral and economic explanations for satisfaction with democracy varies (Anderson et al. 2005). While part of the variation traces back to different systemic inputs, such as procedural fairness (Van der Eijk and Rose 2020; Zhang and Yang 2020), some proportion of variation between individuals remains unknown. How is "winning" and "losing" related to early experiences in life? Under which conditions do individuals consider the economic state as fair and trace this fairness back to the system? We expect that direct interactions with the state apparatus in school as a formative and lasting heuristic. More precisely, we argue that these direct individual interactions in school influence how systemic variables, such as the economic state, are evaluated. As a result, we posit that input legitimization should be conceptualized more directly

and must be “experienceable” (here: equal treatment in school) if it is to affect system outputs.

Educational years are often considered as formative (e.g. Pretsch and Ehrhardt-Madapathi 2018), since individuals learn different forms of behavior and the ability to understand social phenomena while in education (Parth et al. 2020). As later experiences are perceived in the light of these initial experiences, we expect a persisting effect over the course of a lifetime. In addition, we expect a moderating relationship between experiences in school and later economic and electoral experiences on satisfaction with democracy. We argue that later experiences are perceived in light of these initial experiences, and thus the moderating effect is expected to persist over the course of a lifetime. Experiences of fairness in school therefore influence whether economic and electoral factors play a role. If, for example, an individual experiences economic disappointment and has had negative experiences in school, then that individual externalizes this and holds the political system responsible, which in turn leads to a low level of satisfaction with democracy. Likewise, if the individual voted for a party that lost the election and has had negative experiences in school, this is externalized and results in low satisfaction with democracy. Being treated unfairly in childhood and youth thus might lead to a lasting low level of satisfaction with democracy that cannot be improved with system outputs. In contrast, individuals who experienced equality in school attribute this experience to the political system and consider their electoral winning and economic status as fair. Having learned in school how equality and fairness work in practice, they do not attribute poor economic performance and voting for losing parties to the political system. Poor outputs do not directly lead to significantly lower satisfaction with democracy, because they have a higher capability to accept them. Thus, if an individual has experienced equality in school, (s)he traces positive and negative electoral outcomes to the fairness of the system and, as a result, satisfaction with democracy does not vary. The link between personal experiences and satisfaction with democracy thus consists of early formative experiences made at school, to which later experiences in life are added. Experiences of winning and losing electorally or economically are therefore seen through the lens of early experiences made with public institutions, more precisely at school.

Based on these considerations, we formulate further hypotheses concerning the economic and political aspects that have been identified in the literature and the moderating role of school experiences.

H2: Experiences of (un)equal treatment in schooling moderate the effect of electoral winner/loser experiences on satisfaction with democracy.

H3: Experiences of (un)equal treatment in schooling moderate the effect of economic winner/loser experiences on satisfaction with democracy.

5 Methods and data

The hypotheses presented above are tested within linear OLS regressions using cross-sectional data. The survey data come from a representative sample of Germany. Rather than using an existing dataset with several countries, we collected original

data with specific variables that help us to answer our research questions. Germany represents a special case in this research field, as it has a comparatively weakly developed gap between electoral winners and losers (Anderson et al. 2005), which the data also reflect. Here, winners (Mean 6.54; SD 1.97) and losers (Mean 5.50; SD 2.55) show similar levels of satisfaction with democracy (Scale 0–10). This makes Germany a least likely case and helps us to test our argument robustly: the absence of large effects through electoral outcomes makes it more difficult for school experiences to influence the winner-loser gap. Large contextual differences between East and West Germany also aggravate our endeavor to find an effect of school experiences, since one could assume that other factors are maybe more influential than educational experiences.

General responsibilities regarding education in Germany are defined in the Basic Law (“Grundgesetz”) and any further legislation, unless otherwise stated, lies with the individual federal states (Weiss et al. 2020). Education in Germany is universal and school attendance is compulsory for at least 9 years from the age of 6¹. This begins with primary school, which lasts 4–6 years depending on the regulation of the federal state². This is followed by an early division into the pathways of lower secondary education, middle secondary education, and higher secondary education (Weiss et al. 2020).

After primary school and depending on the federal state, several types of schools are available from the lower secondary level (grades 5 to 10) to the upper secondary level (grades 11 to 13). Even though a different selection of these school types is offered in each of the federal states, their structural features can be summarized in general terms (Edelstein 2016; van Ackeren et al. 2015): First, there is the “Hauptschule” (lower secondary school), which runs from grades 5–9 or 5–10, depending on the federal state, and provides a basic general education. A diploma from such a school, the “Hauptschulabschluss”, represents the first general school-leaving qualification. Alternatively, one can attend a “Realschule” (medium secondary school), which goes up to grade 10 and provides an extended general education leading to a middle school diploma. There is also the “Gymnasium” (higher secondary school), which provides a more in-depth general education and leads to a general university entrance qualification. This type of school can be attended from the 5th grade and lasts until the 12th or 13th grade, depending on the federal state. In addition to these three separate types of school, there is also the so-called “Gesamtschule” (general secondary school). Here, all three of the aforementioned

¹ The description of the German school system presented here serves as an orientation and is therefore roughly formulated and exclusively related to more recent times, i.e., the school system of the 21st century in the period in which the respondents of the survey went to school. It should be noted that 303 of the respondents spent their school years in the German Democratic Republic (GDR) which makes up 17% of the sample. In the GDR, students were taught together from grades 1–10 in so-called polytechnic secondary schools. 38 of our respondents left the polytechnic school with grade 8 or 9, 265 of the respondents finished school with grade 10. We grouped the former to the main school in Western Germany and the later to the middle school in Western Germany. We find the ones schooled in GDR slightly more satisfied with equal treatment in school (equal treatment fully applied 28% vs. 20% and 33% vs. 28%). These differences cancel each other out in the distribution and are not significant. After 1989, the main features of the GDR’s school system were adapted to those of the states of the German Federal Republic.

² In Berlin and Brandenburg, the primary school period comprises 6 years.

educational qualifications are offered and students are commonly taught together, regardless of which of the three qualifications they are aiming for.

Once pupils have completed compulsory schooling, they can attend a range of courses, from full-time general education to vocational schools, as well as vocational training within the dual system (Eurydice 2020). In sum, the German education system presents itself as highly socially stratified with little educational mobility (Alda et al. 2020; Schindler 2017).

The data used for this article stems from the Gesis Panel (GESIS 2019). Within this probability-based, mixed-mode access panel (Bosnjak et al. 2017), we fielded a unique questionnaire on experiences in school in wave ff (December 2018–January 2019). The sample is representative of the population in Germany and is comprised of 1790 survey respondents. In contrast to other studies (e.g. Resh and Sabbagh 2014), our sample is not drawn from youths, but from adults aged from 23 to 75. Thus, we strive to demonstrate that school experiences are remembered in later life too, and that these past experiences still affect one's current evaluation of democracy. We are not aware of any panel studies which include detailed questions on school experiences. Therefore, we expect our empirical strategy, which is based on a cross-sectional, representative sample of the German population, to represent a new and appropriate way of studying the effect of school experiences on political attitudes.

Following the previous section, the variables used in this study can be divided into four areas. First, the variable used to survey the influence of school experiences was adapted from existing studies (e.g. Flanagan et al. 2007). Here we asked for experiences of treatment from one's teachers (Parth et al. 2020). Specifically, respondents were asked to indicate, on a scale ranging from agree (4) to disagree (1), whether they were treated by teachers in the same way as all other students. The majority of the respondents agreed with this statement, but some of them did not feel they were treated in the same way as the other students (see Table 1, a description including the question wording can be found in appendix Table 2). The response behavior to this question does not vary greatly between age groups (see appendix Table 3). This underlines the usability of the variable, since a distorting effect of age, in the sense of the respondent's answer being affected by the length of time since they went to school, is not to be expected.

Second, the influence of economic factors on satisfaction with democracy is operationalized via sociotropic and egotropic factors (see Hypothesis 3). Regarding sociotropic evaluation, we used a retrospective time perspective, asking respondents if they would say that the economic situation in Germany has improved in the last twelve months, measured on a 5-point Likert scale. The egotropic economic evaluation is measured by a retrospective and present perspective. The current individual economic situation is measured by household income in nine categories, ranging from 900€ to 5000€ and more. The retrospective evaluation of the egotropic economic well-being is measured with unemployment experiences. Here, we use a binary variable of whether or not someone had contact with the unemployment agencies in the last two years. Individuals that do not receive unemployment benefits do not look actively for work, which might have various reasons. Therefore, we use contact with the unemployment agencies here to have a more homogenous group of unemployed.

Table 1 Descriptive statistics

Variables	Range	Frequencies (absolute/ relative)	Mean (standard deviation)
Satisfaction with democracy	0–10		6.07 (2.3)
Equal treatment in school	1–4	1 = 56 (3.13%) 2 = 235 (13.13%) 3 = 970 (54.19%) 4 = 529 (29.55%)	3.10 (0.7)
Elected governing parties	0–1		0.49 (0.5)
Evaluation of economic state	1–5		3.30 (0.7)
Previous unemployment	0–1		0.05 (0.21)
Household income (in categories)	1–9		5.59 (1.98)
Sex (1 = male)	0–1		0.52 (0.5)
Age	23–75		53.2 (13.4)
<i>Education</i>	1–4	1 = 9 (0.5%) 2 = 279 (15.59%) 3 = 609 (34.02%) 4 = 893 (49.89%)	3.33 (0.75)
1 = Primary education			
2 = Lower secondary education			
3 = Medium secondary education			
4 = Higher secondary education			
Left-right orientation	0–10		4.70 (1.97)
Region (1 = East Germany)	0–1		0.20 (0.40)
Number of observations			1790

Source: Own calculations based on Gesis Panel data (2019)

Third, we include a variable that covers the voting decision in the last parliamentary election. We generated a dichotomous variable with the value “1” if the respondent voted in the last national election for parties that came into government (here, the Christian Democratic Party and the Social Democratic Party), and “0” if the casted vote went to a political party that formed the opposition (here, the Alliance 90/the Greens, the Left, the Liberal Democratic Party, the Alternative for Germany, and others).

Lastly, age, sex, left-right orientation and education are included as controls in the analysis. We expect a positive relationship for education and age (see Anderson et al. 2005; Han and Chang 2016). To measure education, we use the highest general educational diploma the respondent received. Our tests showed that education level and equal treatment in school are not significantly correlated (Pearson’s $r=0.06$), which is why we do not expect multicollinearity between these variables. Since women have been found to be less satisfied with how democracy works (Dahlberg and Linde 2016), we expect men to be more satisfied. With regard to left-right orientation, people on the very far left and the very far right are usually less satisfied with democracy as they do not feel represented by the centrist government (e.g. Hillen and Steiner 2019). To account for this, we use a quadratic term of the left-right orientation within our models. Furthermore, we check for the place of residence in terms of East and West Germany. Previous studies found that citizens of the former East Germany still evaluate the political system worse (Bellucci and Memoli 2012; Kluth 2005).

6 Empirical results

In the first step of the analysis, we test for the direct influence of experiences in school. The results are presented in the confidence interval plot in Fig. 1, where models with and without controls are presented. We find the expected effect for equal treatment in school that is postulated in the first hypothesis: If individuals remember being treated equally in school, they are more likely to be satisfied with how democracy works. The coefficient shows that if the perception of equal treatment increases by one point on a scale from one to five, satisfaction with democracy increases by 0.21. This highlights that experiences in school are a significant factor for explaining satisfaction with democracy, also when controlling for other factors. It is not the socio-economic status (e.g. household income) that drives the varying level of satisfaction with democracy because school experiences are still significant when including household income, education and other socio-economic characteristics.

The effect of the winner-loser gap is also confirmed: If individuals have voted for a governing party, they are statistically more likely to be satisfied with the political system. This variable has the highest positive effect size in our model, with a coefficient of 0.89.

Concerning economic aspects, two of the three variables show a positive and significant effect. If the national economic situation is perceived positively, satisfaction with democracy increases, *ceteris paribus*. This relationship is statistically significant at a 1% level. In contrast, household income has a smaller positive effect on satisfaction with democracy, but also at a 1% significance level: If individuals

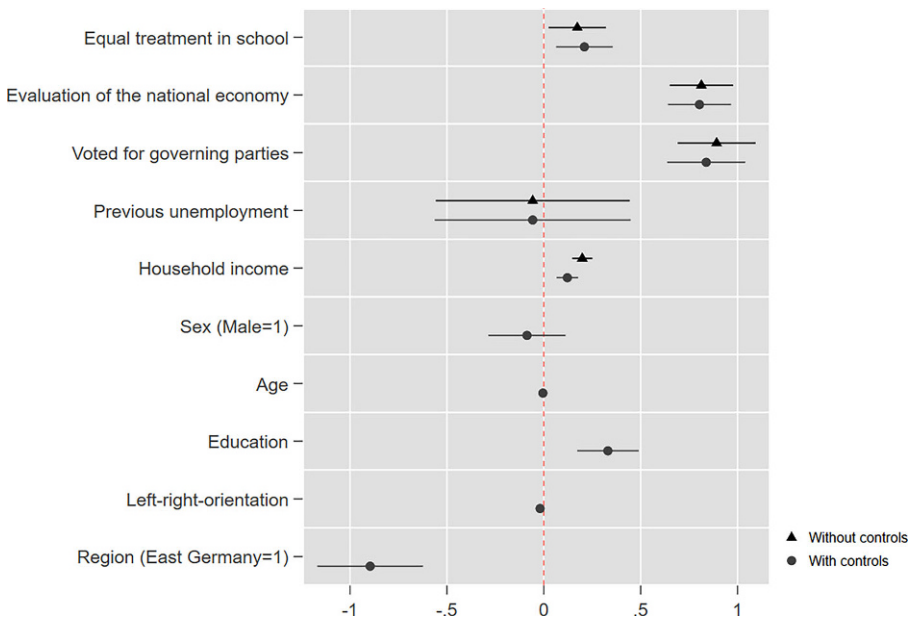


Fig. 1 Confidence interval plot: linear regression for satisfaction with democracy. (Source: Calculated from Gesis Panel data (2019))

increase their household income by one category, satisfaction with democracy increases by 0.19 on a scale from 0 to 10. For past economic experience in the sense of previous unemployment, there is no statistically significant effect on satisfaction with democracy. The confidence intervals are very large for past unemployment, which could be explained by the low number of cases: Only five percent of our respondents reported having had contact with the unemployment agencies in the last two years. In summary, except for experience with unemployment, it follows that a good economic position is related to higher individual satisfaction with democracy.

Fig. 1 (see also appendix Table 3) shows that higher education and lower age are related to higher satisfaction. The individual left-right orientation does not have a significant influence on how satisfied one is with the democracy in Germany. Individuals living in former East Germany are much less likely to be satisfied with the political system in Germany. Sex has no effect.

To find out whether the effect of school experiences varies between the ages of respondents, we additionally calculated its predictive values by age categories (see appendix Table 2). The results show that respondents who were treated equally (mean value = 3.1, on a scale from 1 to 4) have a satisfaction value of at least 6. The experiences in school do not lose their effect to a significant degree as age increases. Thus, experiences in school do not only influence individuals who have just left school, but also individuals who left several decades earlier. This finding is supported by the literature, which states that experiences in school are formative (Bruch and Soss 2018; Cullingford and Morrison 1995).

Introducing control variables does not change the direction and size of the core variables. The R^2 is 0.193 for the full model and 0.156 for the basic model without controls, which demonstrates that our main independent variables explain nearly the same amount of variance as a model where sociodemographic characteristics are excluded. To summarize, the linear regressions demonstrate that perceived equal treatment in school has a significant effect on satisfaction with democracy, even when economic and electoral factors are considered. This confirms our first hypothesis.

In the next step, we focus on the moderating role of school experiences. We argue that the effect of the macroeconomic evaluation and the individual economic situation, as well as of the electoral winner-loser-position, interacts with how one was treated in school. We assume that if someone experiences economic disappointment or belongs to the “loser side” of the electoral winner-loser gap and has had negative experiences in school, (s)he externalizes this and blames the political system, which in turn is expressed in low satisfaction with democracy. First, we investigate the extent to which the electoral winner-loser gap is mediated by school experiences. Fig. 2 (see also table in appendix Table 4) illustrates that having voted for the governing parties has a greater effect on satisfaction with democracy if someone was treated equally in school. At the same time, it shows that the satisfaction gap between winners and losers is further increased by the experiences made in school. This finding clearly underlines the importance of experiences as moderating factors for common explanations for satisfaction with democracy. With regard to the second hypothesis, it also shows that individuals who voted for parties which did not get elected to government and who report bad experiences in school have the lowest level of satisfaction with democracy. Therefore, we can confirm the second hypothesis.

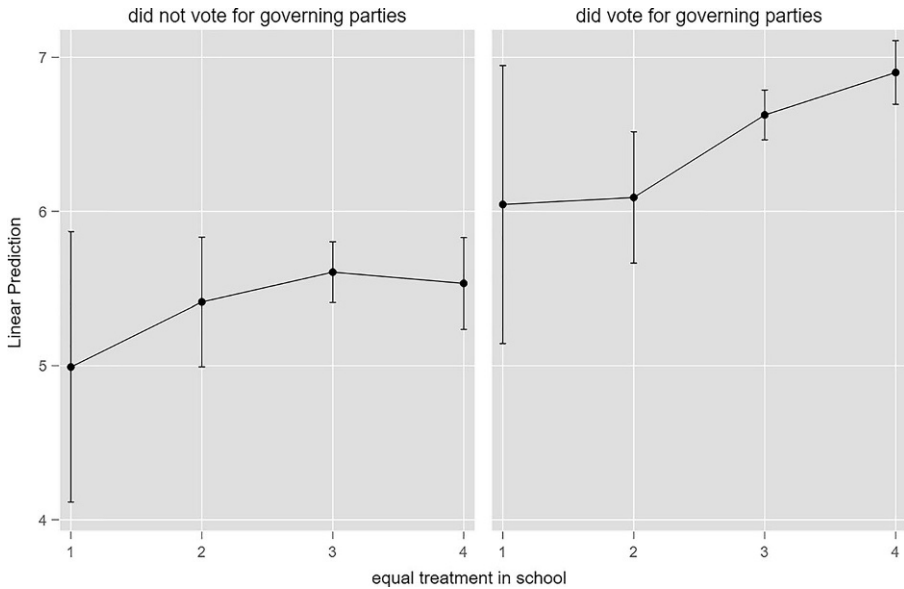


Fig. 2 Predictive values for satisfaction with democracy by did (not) vote for governing parties and equal treatment in school. (Source: Calculated from Gesis Panel data (2019))

The results indicate that individual experiences of fairness moderate the effect of the electoral winner-loser gap.

In the final step and with regard to the third hypothesis, we examine the influence of economic disappointment on satisfaction with democracy moderated by fairness experiences made in school. Experiences of economic loss are operationalized in three forms: the perceived sociotropic evaluation of the macroeconomic situation in the country, the current egotropic economic situation in terms of household income, and the retrospective egotropic assessment in terms of experiences with unemployment. We expect that negative experiences in school further exacerbate the negative effect of economic disappointment on satisfaction with democracy.

Regarding the evaluation of the national economic situation, the empirics only partly confirm the third hypothesis (see Fig. 3, regression table in appendix Table 5). Generally, those who assess the macroeconomic situation as bad and have had negative experiences in school show the lowest satisfaction with democracy. However, satisfaction with democracy is equally low for those who see the economic situation as bad but have had positive experiences in school. Hypothesis 3 therefore cannot be confirmed regarding sociotropic economic factors. However, for those respondents who stated that the economy improved greatly, the effect size is influenced by one's school experience. Individuals who were not treated equally have a predicted value of satisfaction with democracy of around 5, whereas a person who was treated equally has a predicted value of 7.5. Thus, among those who assess the economic situation as good, those who have had bad experiences in school show the lowest satisfaction with democracy. This underscores the moderating effect of experiences in school, albeit in a different form than previously expected.

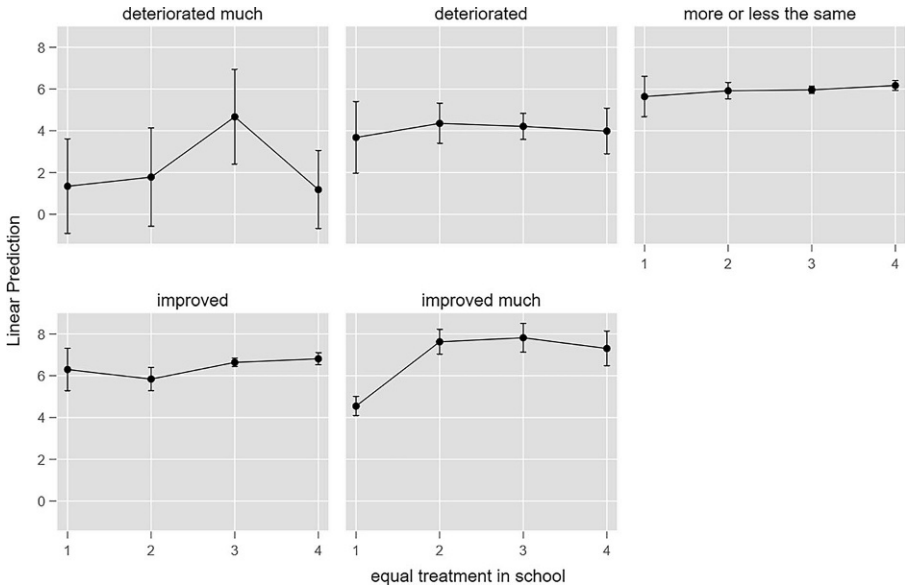


Fig. 3 Predictive values for satisfaction with democracy by evaluation of the economy and fairness in school. (Source: Calculated from Gesis Panel data (2019))

Next, we seek to examine whether the effect of egotropic economic factors is moderated by school experiences. Fig. 4 (see also regression table in appendix Table 6) shows that increasing household income leads overall to a higher level of satisfaction with democracy; this relationship, however, is not moderated by school experiences. Low household income does not lead to lower satisfaction with democracy if respondents were treated unequally in school, and high household income does not lead to higher satisfaction with democracy if respondents were treated equally in school. As a result, we must also reject the third hypothesis with regard to the current personal economic well-being.

Last but not least, we test for the retrospective egotropic evaluation (see Fig. 5, and appendix Table 7). We find that experiences of fairness in school have a moderating function: Unemployment leads to low satisfaction with democracy if an individual was not treated equally in school. However, if a respondent had positive experiences in school, unemployment is no longer a deciding factor for satisfaction. Individuals who have had experiences with unemployment in the last two years are relatively comparable to individuals who have not been unemployed in this time, providing they experienced fairness in school. Therefore, unemployment only results in low satisfaction with democracy when individuals have already had negative experiences with state institutions in their youth. Thus, we can confirm hypothesis 3 with regard to past experiences of unemployment. This interesting finding may indicate that retrospective personal economic downturns do not necessarily result in a low level of trust satisfaction with the system, but that experiences of unfair treatment in school are possibly responsible for being frustrated with the political system.

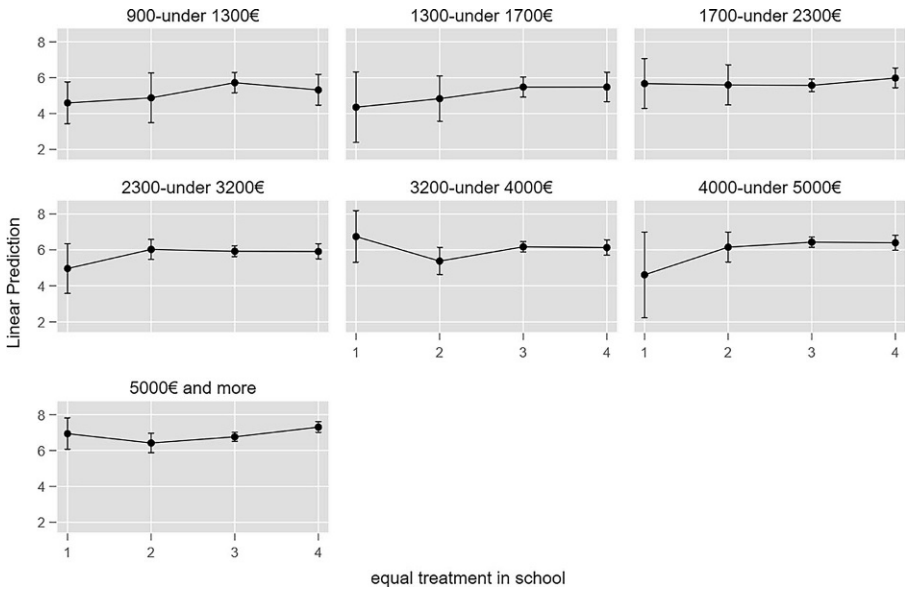


Fig. 4 Predictive values for satisfaction with democracy by household income and fairness in school. (Source: Calculated from Gesis Panel data (2019))

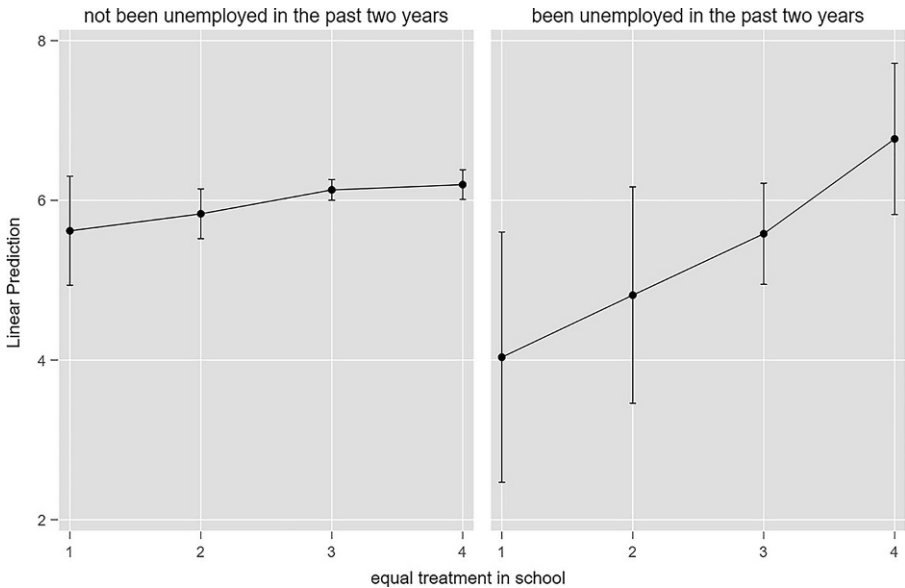


Fig. 5 Predictive values for satisfaction with democracy by past unemployment and fairness in school. (Source: Calculated from Gesis Panel data (2019))

7 Discussion and conclusion

Individual satisfaction with democracy and factors influencing it have been thoroughly discussed and empirically tested in recent decades. Research in this domain has mainly targeted two groups of explanatory factors on the individual level. These are, on the one hand, economic aspects and, on the other, factors related to political representation. While studies with this focus have shown that the influence of these factors can vary greatly between individuals (Anderson et al. 2005; Dahlberg and Linde 2016; Singh et al. 2012; Van der Meer and Steenvoorden 2018), they have not been able to explain this variation, especially not on the individual level. We target this research gap by highlighting the relevance of early experiences with the state and show that school experiences have central explanatory power that has a lasting effect throughout one's life. By combining three research strands—electoral behavior, socio-economic, and socio-psychological studies—we demonstrate how core variables of different research fields can be brought together in order to develop a better understanding of democratic political support.

More precisely, the influence of economic and electoral factors on satisfaction with democracy is significantly influenced by individuals' experiences in school. Concerning political factors, we show that individuals who experienced political disappointment and unequal treatment in school have the lowest level of satisfaction with democracy. Further, our results demonstrate that the satisfaction gap between winners and losers is further increased by the experiences made in school. While we do not find a moderating effect of household income and the evaluation of the national economy, with regard to experiences of unemployment, we show that previous experiences of unemployment lead to low satisfaction with democracy if an individual experienced unequal treatment in school.

Our findings contribute to recent studies (e.g. Bruch and Soss 2018) showing that negative experiences in school are formative of civic identity and political trust. For those who consider state institutions, including schools, to be characterized by equality and fairness, voting for the winning parties in elections counts as a particularly influential form of system legitimization. Our findings further indicate that single personal economic downturns do not necessarily result in low levels of satisfaction with the system. At the same time, our results indicate that not only system characteristics moderate the effect of the electoral winner-loser gap, but also individual perceptions and experiences of fairness. Overall, it is apparent that ongoing and persistent experiences with marginalization and exclusion are, at least to a certain extent, responsible for frustration with the political system.

We do not want to claim that school experiences alone condition the economic and political factors influencing satisfaction with democracy, but we are able to demonstrate the central influence of it. Experiences with the state in early life stages are an important indicator of how individuals in later stages of life will think and behave (Shore and Tosun 2019b). The evidence presented, namely that equal treatment in school reinforces other factors that are positively associated with or are even able to reverse factors that are negatively associated with satisfaction with democracy, reinforces the argument that “school matters” (Resh and Sabbagh 2014:67). While institutional differences are suitable for explaining differences in

satisfaction with democracy between countries, experiences in school offer valuable insights into the interindividual differences within a country.

Our findings also have practical implications for the role of schools and teachers in democracy. Not only are teachers tasked with ensuring that students meet defined learning goals, they have the equally important responsibility of cultivating an environment where all students are fairly treated and, in doing so, provide students with the feeling that they are responsive to their needs and interests (Maurissen et al. 2020). This is of central importance when it comes to promoting democratic support and preventing the cumulative effects of marginalization.

Unlike other studies, we base our analysis on a representative sample of the German population. This shows that the effect of school experiences is present among different age groups. This is a central strength of our study, since previous studies used samples of students and thus could not draw any conclusions on possible long-term effects. Furthermore, asking retrospectively how respondents were treated during their time in school has the advantage of avoiding overestimated memories of individual situations. This is of central importance, as the general set of attitudes one develops towards the state presumably affects the various factors influencing satisfaction with democracy, and individual situations or experiences, e.g. with specific teachers, do not likely play a central role here (Pretsch and Ehrhardt-Madapathi 2018).

Nevertheless, our study also has limitations. Concerning the relation between equal treatment in school and the subsequent economic and political factors that influence satisfaction with democracy, a different relationship is conceivable: Political/economic “losers” might retrospectively rate their school experience worse than they would have if they have had good experiences later in life. Based on the theoretical expectations, we have reason to be confident in the observed relationships. Future research should however strive to develop an empirical approach that controls for this question of the direction of the causal relationship, for example with appropriate panel data. The study presented here can be linked to, for example, the German National Educational Panel Study (NEPS), which enables studies on how educational attainment develops from childhood into adulthood and what effects education has on further life (Blossfeld et al. 2009). This panel data includes a capture of the students’ own perceptions of teachers’ interactions with students (Rathmann et al. 2018) and in the future, it would be even more profitable if NEPS respondents were asked about their attitudes toward the political system in adulthood, as it was done within the presented study, thus also making it possible to investigate the still unexplored causal mechanism.

Moreover, and focusing on the present study again, since this is a single country study, it is not possible to state whether the results can be generalized to other national contexts. Thus, future research should examine whether the findings of the present study can also be found in country-comparative approaches. Especially the effect of different education systems on satisfaction with different regime types should be given attention, considering that we even found small differences between those schooled in the former GDR and West Germany.

8 Appendix

Table 2 Descriptive statistics with question wording

Variables	Question	Range	Mean (standard deviation)
Satisfaction with democracy	“On the whole, how satisfied are you with the way democracy works in Germany?”	0–10	6.07 (2.3)
Equal treatment in school	“In the following, we would like to know how you perceived your own school years and education as a whole. To what extent do the respective statements apply to you?” “The teachers treated me the same way as all other pupils.”	1–4	3.10 (0.7)
Elected governing parties	“In the last parliamentary elections on 24 September 2017 you were able to cast two votes—the first vote for a candidate from your constituency, the second vote for a party. What did you mark on your ballot?” (Second vote)	0–1	0.49 (0.5)
Evaluation of economic state	“Would you say that in the last twelve months the economic situation in Germany has improved considerably, has improved, has remained more or less the same, has deteriorated or has deteriorated significantly?”	1–5	3.30 (0.7)
Previous unemployment	“How often have you had personal contact with the Jobcenter in the last 2 years?” “How often have you personally been in contact with the employment office during the last 2 years?”	0–1	0.05 (0.21)
Household income (in categories)	“And how high is the average net income of your household, meaning the sum of all net incomes and social security/welfare benefits of people living inside your household?”	1–9	5.59 (1.98)
Sex (1 = male)	“Are you male or female?”	0–1	0.52 (0.5)
Age (23–75)	“When were you born?”	1–6	53.21 (13.35)
Education	“What is your highest degree of education?”	1–4	3.33 (0.75)
Left-right orientation	“In politics people sometimes talk of ‘left’ and ‘right’. Where would you place yourself on this scale, were 0 means ‘left’ and 10 means ‘right’?”	0–10	4.70 (1.97)
Region (1 = East Germany)	“In which federal state do you live?”	0–1	0.20 (0.40)
Number of observations			1790

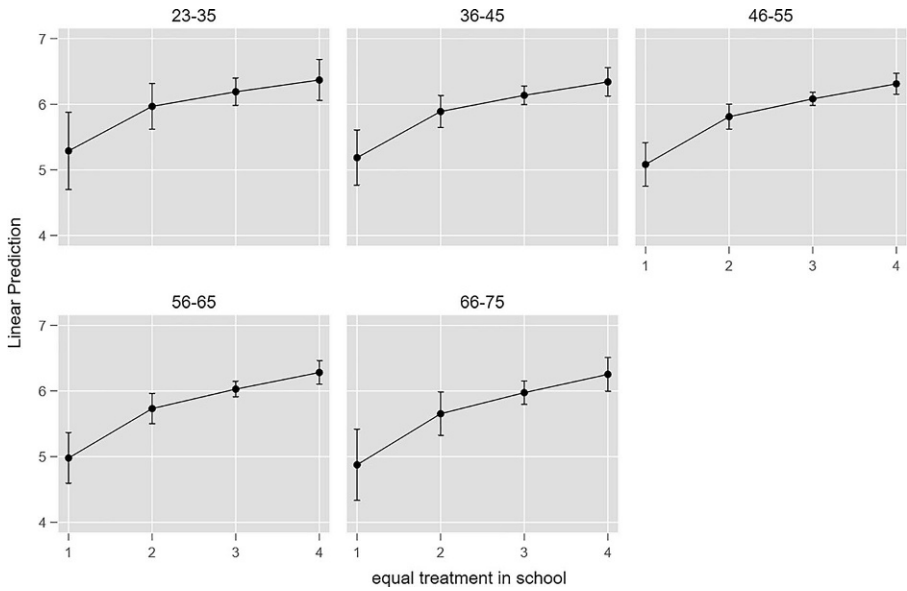


Fig. 6 Predictive values for equal treatment on satisfaction with democracy by age categories. (Source: Calculated from Gesis Panel data (2019))

Table 3 Regression table for Fig. 1

	Without controls	With controls
Equal treatment in school	0.173* (0.075)	0.210** (0.074)
Evaluation of the national economy	0.813*** (0.083)	0.803*** (0.083)
Voted for the governing parties	0.892*** (0.103)	0.838*** (0.103)
Previous unemployment	-0.057 (0.255)	-0.057 (0.258)
Household income	0.199*** (0.026)	0.121*** (0.028)
Sex (male = 1)		-0.087 (0.102)
Age		-0.005 (0.004)
Education		0.331*** (0.081)
Left right orientation (squared)		-0.019 (0.012)
Region (East Germany = 1)		-0.896*** (0.139)
Constant	1.305*** 0.370	1.134* (0.491)
Observations	1790	1790
R-squared	0.156	0.193

Source: Calculated from Gesis Panel data (2019)

OLS regression, standard errors in parentheses; +0.10, *0.05, **0.01, ***0.001

Table 4 Regression table for Fig. 2

	Satisfaction with democracy
Voted for the governing parties	0.0750 (0.463)
Equal treatment in school	0.0994 (0.110)
Voted for the governing parties##Equal treatment in school	0.245* (0.144)
Evaluation of the national economy	0.807*** (0.0830)
Previous unemployment	-0.0642 (0.259)
Household income	0.121*** (0.0282)
Sex (male = 1)	-0.0807 (0.102)
Age	-0.00442 (0.00410)
Education	0.329*** (0.0807)
Left right orientation (squared)	-0.0191 (0.0119)
Region (East Germany = 1)	-0.894*** (0.139)
Constant	1.454*** (0.542)
Observations	1790
R-squared	0.195

Source: Calculated from Gesis Panel data (2019)

OLS regression, standard errors in parentheses; +0.10, *0.05, **0.01, ***0.001

Table 5 Regression table for Fig. 3

	Satisfaction with democracy
Evaluation of the national economy	0.561* (0.327)
Equal treatment in school	-0.0482 (0.359)
Evaluation of the national economy ## Equal treatment in school	0.0794 (0.104)
Voted for the governing parties	0.839*** (0.103)
Previous unemployment	-0.0657 (0.259)
Household income	0.122*** (0.0283)
Sex (male = 1)	-0.0875 (0.102)
Age	-0.00456 (0.00411)
Education	0.332*** (0.0808)
Left right orientation (squared)	-0.0192 (0.0119)
Region (East Germany = 1)	-0.897*** (0.139)
Constant	1.901* (1.130)
Observations	1790
R-squared	0.194

Source: Calculated from Gesis Panel data (2019)

OLS regression, standard errors in parentheses; +0.10, *0.05, **0.01, ***0.001

Table 6 Regression table for Fig. 4

	Satisfaction with democracy
Household income	0.0833 (0.122)
Equal treatment in school	0.149 (0.192)
Household income ## Equal treatment in school	0.0147 (0.0382)
Evaluation of the national economy	0.806*** (0.0834)
Previous unemployment	-0.0689 (0.258)
Voted for the governing parties	0.836*** (0.103)
Sex (male = 1)	-0.0866 (0.102)
Age	-0.00456 (0.00409)
Education	0.336*** (0.0807)
Left right orientation (squared)	-0.0190 (0.0119)
Region (East Germany = 1)	-0.901*** (0.139)
Constant	1.383* (0.741)
Observations	1790
R-squared	0.192

Source: Calculated from Gesis Panel data (2019)

OLS regression, standard errors in parentheses; +0.10, *0.05, **0.01, ***0.001

Table 7 Regression table for Fig. 5

	Satisfaction with democracy
Previous unemployment	-2.205** (0.928)
Equal treatment in school	0.167** (0.0765)
Previous unemployment ## Equal treatment in school	0.747** (0.301)
Evaluation of the national economy	0.795*** (0.0830)
Voted for the governing parties	0.839*** (0.103)
Household income	0.122*** (0.0282)
Sex (male= 1)	-0.0905 (0.101)
Age	-0.00473 (0.00409)
Education	0.336*** (0.0806)
Left right orientation (squared)	-0.0198* (0.0118)
Region (East Germany= 1)	-0.888*** (0.139)
Constant	1.274*** (0.493)
Observations	1790
R-squared	0.196

Source: Calculated from Gesis Panel data (2019)

OLS regression, standard errors in parentheses; +0.10, *0.05, **0.01, ***0.001

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