CAN INSTITUTIONS PAVE THE WAY FOR THE YOUNG?

Electoral systems and age representation in parliament

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ABSTRACT

Middle-aged to senior men of the ethnic majority and higher income groups are generally overrepresented in parliaments. While research on group representation has examined issues of gender, economic standing and, more recently, ethnicity, few studies examine age groups. We argue that the design of political institutions influences the average age of parliamentarians across nations and suggest that, compared to majoritarian systems, PR systems should grant younger politicians entry. Analyzing an original dataset we corroborate this argument in a global cross-national sample. After controlling for a range of potential explanatory factors, we find that PR systems produce, on average, a parliament with younger representatives.

Keywords; political representation; parliaments; comparative politics; election systems; age groups

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Introduction

In many countries, the social and political elite is mainly conceived of rather wealthy and educated middle aged to senior men of the dominant ethnicity (Verba and Nie 1972). The parliamentary arena fits this description (Kenny 2013). According to Norris (1997, p. 6), "legislatures worldwide include more of the affluent than the less well-off, more men than women, more middle-aged than young, and more white-collar professionals than blue-collar workers." Substantiating Norris' claim, research on the social composition of parliaments has examined the presence of gender (Paxton et al. 2007; Wängnerud 2009), economic standing (e.g. Carnes 2013; Bernauer et al. 2015) and, more recently, the issue of ethnicity (see Hughes 2011; 2013). However, relatively absent from the representation literature is a discussion of age representation, despite the fact that there are similar normative claims as for the representation of women, social classes or minority groups to be made.

Both from a normative and from a policy point of view, the young cohorts of the population should be represented in elected assemblies (Mansbridge 1999; Young 1997). Normatively, the dominant presence of the elderly in legislatures cannot be justified on the basis of their "natural superiority of talent" (Phillips 1995, p. 65). When it comes to policy, various age cohorts may have contrasting views on political issues concerning welfare spending and budgeting priorities (i.e. middle-aged citizens may favor lower taxes, whereas younger cohorts of the population might favor high spending on education and welfare). In fact, in relation to the political sphere, young citizens have been described as an "excluded majority" (IPU 2014). Yet, as recently noted by Tremmel and colleagues (2015), the literature on representation has rarely examined the standing of younger age groups in parliaments.

If the representation of different age groups in parliament matters, then it is important to determine why some parliaments are constituted by younger representatives than others. In this article, it is our aim to explore this variance across countries. We hypothesize that proportional representation (PR), because it incites parties to diversify their electoral slates, leads to younger parliaments than majoritarian electoral system types. We test this argument in a multivariate framework based on a large-scale dataset comprising around hundred countries. After controlling for a host of possible covariates we find support for our hypotheses; that is, PR systems decrease the average age of elected assemblies by more than three years.

The paper proceeds as follows. In the next section, we review the existing literature and build our theoretical argument. In the third part, we describe and operationalize our variables. We then present and discuss our findings. The final section concludes and discusses avenues for future research.

Existing Literature

Driven by the concern that "the narrow social composition of legislatures suggests either that certain groups within society are less capable of representing others, or that something has gone awry in the recruitment process" (Murray, 2014, p. 520), several literatures (e.g. the women's representation literature and the literature on ethnic minorities) highlight that the composition of parliaments matters. First, the feminist strand of research illustrates that a high presence of women in parliament can transform legislatures and influence policy. For one, the level of women's presence in the legislature shapes the degree to which women are able to be spokespersons for other women (Childs 2004). Equally importantly, female parliamentarians differ from male parliamentarians in terms of agenda setting and the introduction of women friendly policies. In addition, high women's presence in parliaments often leads to changing political discourses both inside and outside the parliament (Celis 2008). Second, research on the parliamentary representation of ethnic and religious minorities highlight that representation of these minority groups helps foster their emancipation in other areas of society (Hero and Tolbert 1995). According to the minority empowerment theory, the presence of minorities in legislatures strengthens the representational links of these groups, fosters more positive attitudes toward government of the minority, but also the majority group, and increases government responsiveness, in particularly, toward demands from disadvantaged groups (Banducci et al. 2004).

There is also a host of theoretical and empirical research investigating how issues of ethnicity and social group composition intersect with political representation (see Hughes 2011; 2013). For example, Htun (2004) notes that gender is different from ethnicity since the latter more often coincides with existing political cleavages in comparison to the former. Focusing more on quotas, Krook and O'brien (2010) highlight that reservation schemes and quotas for social groups in parties and parliaments influence the saliency of different identities (be it gender or ethnicity) differently. Bjarnegård and Zetterberg (2014) confirm this finding. While the literature on women's and eth-

nicity representation is quite advanced, the same cannot be said for the literature looking at the representation of various age cohorts. For sure, age representation cannot be compared one by one to the representation of ethnic minorities or that of women. Gender and ethnicity are features that are normally stable, across an individual's life span, but age is not: Individuals inevitably become older and therefore leave the category of being young. Yet, this does not make the study of age representation less important. To the contrary, the share of young people is increasingly growing in low-income societies and so are their claims for influence (UNDP 2013).

To defend the interests of younger individuals, citizens in their 20s and 30s must be represented in parliament. This applies even more so, considering that age is an important predictor of political agendas ranging from government financing of public education to defense spending (Shin 2001). Preferences in social security matters, health care and pensions are also influenced by the age of the citizens (Metz 2002). Aside from this direct influence on individual preferences, age has an indirect influence on political partialities: the impact of age on preferences is more likely to emerge in how these groups respond to variations in economic situations. In particular, traditional economic variables, such as income and tax price, appear to affect the preference patterns of the elderly differently from than those of non-elders (Duncombe et al. 2003, p. 71)

The problem of unequal age representation becomes increasingly important the more there is a discrepancy between the average or median age in parliament and the average or median age in the population. Throughout the world the difference in age patterns in parliament and in society are immense. In the sample of 102 countries that serve as the basis for this study (see appendix 1) the mean age in the population is around 35 years.[1] This is contrasting to the age distribution among parliamentarians in our dataset, with an average age slightly above 52. In fact, there is no country in this sample in which the age of parliamentarians is representative of the age of populations. In particular, in low-income countries with a demographic distribution that render young people to be in the majority in the population, the gap between the average age of parliamentarians and the average age of the population is very large. For instance, in India, the mean age in the population is below 28 years. However, the average age of members in the lower house of the Indian Parliament, the Lok Sabha, is roughly 57 years, which constitutes a nearly 30 year gap (The ballot 2015).

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[1] The data is taken from the CIA World Factbook, the year 2014. While we ideally would have liked to find figures on the mean age of populations, such data is currently not collected in this publication.

The policy sphere and political actors have started to react to the discrepancy between the mean or median age in the population and the mean or median age in parliaments. For example, several high-level reports issued by the United Nations have called attention to the lack of participation and representation in politics of young adults around the world and warned of the growing apathy among the young (see UNDP 2013, 2014). More concrete, some countries have enacted policies to counter traditional recruitment traditions to political posts that tend to benefit the middle-ages and the elderly. For instance, a smaller number of countries including Rwanda and Uganda have created reservation schemes for "youths", where a quota ensures a certain percentage of the seats in parliament for candidates under a certain age (see Tremmel et al. 2015). More indirect, another response by political actors has been the rise of youth wings within the political structures of established parties and even more pronounced the emergence of so-called youth parties such as the UK Youth Party or the Youth Party of India that are composed of young adults and that fight for the demands of the younger generations (Hooghe et al. 2004).

However, the academic literature on youth representation has not kept up with these new developments. While age is given importance in the literature on political behavior of citizens when analyzing voter turnout (see e.g. Bhatti et. al 2012; Bhatti and Hansen 2012), or in political theory when discussing the lack of influence for young in decision-making (van Parijs 1996), the study of political representation has rarely focused on the social category of age groups. Aside from single-nation studies on related topics that note in passing that the middle-aged and the elderly are overrepresented in national parliaments, there is less than a dozen studies on age representation particularly (e.g. Norris and Franklin 1997; Joshi 2013; Kissau et al. 2012; IPU 2014).

Existing work can be divided into four types of analyses: First, without providing any solid proof for this claim, introductory handbooks to the study of government frequently state that legislators are normally middle-aged to senior (e.g. Blondel 1995, p. 257). Second, several case studies either explicitly or implicitly mention that there is an overrepresentation of middle-aged and senior individuals among legislators, in a larger perspective (see Norris 1997) but also in specific countries, including France (Murray 2008), Sweden (Burness 2000), or Switzerland (Kissau et al. 2012). In more detail, these studies all confirm that the age group between 50 and 60 constitutes the largest share of elected legislators. Third, there is one edited book by Tremmel et al. (2015) that discusses the normative and empirical implications of the installation of quotas for youths in parliaments (see Hainz 2015; Karnein and Roser 2015). Yet, the volume also establishes that there is a gap in empir-

ical research on representation where few comparative studies take the issue of age group representation seriously.

Fourth, there are less than a handful of comparative studies that explicitly discuss the representation of various age cohorts in parliament. For example, Narud and Valen (2000), compare age representation in the legislatures in the Nordic countries and find that is, individuals in their fifties and sixties are the strongest age cohorts in terms of representation. Broadening the number of cases to 70, a report on age representation published by the Inter Parliamentary Union (IPU) in 2014 confirms the underrepresentation of young adults. According to the IPU two thirds of single and lower houses of parliament have two per cent or fewer young parliamentarians (defined at age 30 or younger). All upper houses have less than six per cent young adults in their ranks, with three quarters electing no young person at all. Finally, Joshi (2013) focusing on the representation of distinct age groups in 14 Asian countries. Joshi finds that proportional representation fosters the representation of young adults in the 14 Asian parliaments under consideration. In this study, we build on Joshi in two ways. (1) Theoretically, we offer a theory why proportional representation (PR) should foster the representation of young individuals. (2) Second, using a large scale dataset that includes data for more than 100 countries, we confirm the hypotheses that parliaments elected under PR trigger younger parliamentarians, on average.

Theory

Institutions are central to the political representation literature. For example, more than 50 years of research on women's representation have confirmed that the two institutional factors – quota provisions and the electoral system type – are strong predictors of cross country variation in women's representation (Tripp and Kang 2008; Paxton et al. 2010). In terms of quotas, there is strong support that legislative quotas, and, to a lesser extent, voluntary party quotas are an effective means to boost the representation of women in parliament (Krook 2009). In terms of the electoral system type, proportional representation is generally found to boost the representation of women by several percentage points (Matland 2005). In this article we argue that what applies to women's representation should also, to a large extent, apply to younger individuals, since these are both groups that are generally marginalized in politics dominated by middle-aged men. More specifically, we hypothesize that, compared to majoritarian systems, proportional systems should render parliaments younger. There are at least four theoretical arguments to substantiate this hypothesis.

First, first past the post systems create a zero sum game for parties. Each district is like a separate election. In order to win, any party faces some strong incentive to put forward the candidate that, on average, can garner the most votes. In most districts, middle aged to senior men of the dominant ethnicity with high education fulfill this profile best (Henig and Henig 2001). In contrast, the same zero sum mentality does not exist in PR systems. Rather contrary, parties have an incentive to diversify their slates to appeal to as many constituencies as possible (Rule 1987). Party gatekeepers must also think in terms of appeal; in order to appeal to the young electorate and entice young citizens aged 18 and up to vote it is beneficial if parties have somebody in the age group 18 to 35 on the electoral slate; somebody whom these young citizens can directly relate to. Hence, in terms of vote gains, adding young candidates to the list can be seen beneficial rather than disadvantageous for parties. This implies that instead of the uniformity of candidates, which should be the main feature in majoritarian systems, PR systems – especially in large districts – should be characterized by balanced tickets Matland (2005, p. 101).

Second, PR systems are party centered. This means that party elites can push forward certain types of candidates such as the young (Norris 2006). In contrast, majoritarian systems are candidate centered. However, a candidate centered party system disfavors young candidates in two ways. First, in order to win the primary of a major party, candidates need a political record, name recognition, as well as financial and organizational resources to run a campaign (Ashe and Stewart 2012); all qualities that senior and more experienced candidates rather than young candidates are likely to have. In PR systems there are normally no primaries, which eliminate one hurdle that young individuals must overcome in order to gain candidate status. Second, the incumbency advantage, which is more pronounced in first past the post systems, is likely to hurt young individuals. For example, in single member district countries such as the United States of America, with a retention rate of 90 percent from one election to the next, there are few seats open for young individuals (Ashworth and Bueno de Mesquita 2008). In contrast, in PR systems turnover rates are higher, which increases the chances of outgroups or underrepresented groups such as the young to access candidate lists (Matland and Studlar 2004)

Third, the mechanical effects of PR and plurality are different. PR normally tends to generate multiparty systems whereas plurality favors two party systems. Multiparty systems could indirectly benefit young individuals (Joshi 2013). Because the barriers to gain representation are lower, progressive

parties such as Green parties can gain sizeable representation in PR countries (for example, see Germany and the Nordic countries). In terms of policy these progressive parties push post-materialist values such as the environment, gender equality or direct democracy. In terms of political appeal, these parties are not only most popular among young voters, they also represent a new generation of representatives: MPs that are younger, less traditional and more geared towards issues interesting to young voters, such as the abolishment of the draft or decreasing the minimum voting age (Siaroff 2000).

Fourth, PR systems are more prone to a contagion effect; that is, if one party starts to nominate more young candidates other are parties are likely to follow suit. In other words and more generally, under PR a party can likely respond positively to calls to nominate more young contestants (Fawcett 2002). For one, it does not have to convince incumbents or other senior parties to step aside, as there might still be space on the party list to also nominate young voters (Joshi 2013). In addition, the gains for diversifying the electoral slate might be larger under PR. Adding just a few young candidates to the list could give the party a younger and more dynamic output. The same would not necessarily happen in first past the post systems, even if a party was to nominate some young candidates to districts (Matland and Studlar 1996).

Control Variables

While it is the main goal of this article to evaluate the relationship between electoral systems and age representation in parliament, we still have to control for other possibly relevant factors, which might also account for why some parliaments are younger than others. The control variables are age quotas, age of candidacy law, regime type, development, corruption, median age of the population and the share of Muslims in the population. We mainly derived the rationale for inclusion of these variables from the women's representation literature.

Age quotas

The women's representation literature nearly unanimously agrees that legislative gender quotas are effective in increasing the share of elected women (Krook 2009). Guaranteeing women a set percentage of the seats in parliament or on electoral lists is an efficient means to boost the representation of female representatives (Paxton and Hughes 2015). The same rationale should apply for the representation of the young. If there are reserved seats or legal provisions in a country forcing par-

ties to nominate young candidates, the younger cohorts of the population should be more highly represented and the national parliament, in general, should be younger (Krook and O'brien 2010). According to recent publications (UNDP 2013; IPU 2014; Quota Project 2016) there are four countries with reserved seats for youths in the parliament and seven countries with political parties using youth quotas.[2] In the analysis we account for possible effects from such age quotas.

Age of candidacy law

For some countries, the voting age and the age at which you can become a candidate are not the same (UNDP 2013). To illustrate, while the voting age is 18 years in countries such as Brazil, Indonesia and Pakistan, people cannot stand for election to the national legislative assembly in such countries until they are 21 years old (IPU 2014). We believe that having an age limit for candidacies that is higher than the age limit to vote could influence the cross-national variance of age among representatives in legislatures directly and indirectly; directly since such rules effectively could hinder the youngest candidates to gain entrance to parliamentary seats and indirectly since it sends the signals to potential candidates that politics is not a business for young people. We therefore include this as a control in our model.

Regime Type

Democracies are the only regime type that guarantees procedural and constitutional equality to all citizens. In theory, a democratic state ought to strife to include individuals of all genders, backrounds, religions and ages in positions of power (Sartori 1992). In practice, this ideal is questioned when it comes to women's representation. While, Paxton et al. (2010) find that democracy levels have an influence on the share of elected women in parliament, even after controlling for a host of other factors, other analyses (e.g. Stockemer 2009; 2011) disconfirm this link. In this study, we test whether democratic systems are more responsive than non-democracies to claims for a more balanced representation in terms of age.

Development

According to Inglehart's (1997) influential post-materialism thesis, economic development is accompanied by changing values. In particular, the transformation from industrial to post-industrial

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[2] The countries with age quotas in parliament are Kenya, Morocco, Rwanda and Uganda. The countries with parties having reservation schemes for youths are Croatia, Egypt, Germany, Netherlands, Nicaragua, Senegal and Tunisia. Moreover, Peru and Sri Lanka has age quotas on elected seats at the sub-national level for local councils.

or service sector societies should trigger a change in dominant values (Inglehart and Welzel 2008). Whereas in agrarian and, to a lesser degree, in industrial societies, traditional and materialist values ought to prevail, service sector societies should be characterized by post-materialist values including attitudes among most people promoting gender equality, environmental protection, and increased participation in decision making (Norris and Inglehart 2003). This post-materialist shift should be beneficial to outgroups, such as, minorities, women and the youth. In particular, and because this transformation of societies is pushed by younger generations, we hypothesize that higher levels of economic development should be conducive to younger parliaments.

Corruption

We believe that young candidates may face obstacles in becoming elected in highly corrupt contexts. Besides formal political institutions such as the electoral system type or the regime type, there are also informal procedures, which might influence the representation of various groups in parliament. One of these procedures might be corruption. "Corruption "indicates the presence of 'shadowy arrangements' that benefit the already privileged" (Sundström and Wängnerud 2014, p. 2), which very seldom are the younger cohorts in society. According to this reasoning, the existence of corruption or clientelism should benefit candidates that are within the dominant norm: "Only those with access to networks, those with connections within the local or national elite, those with resources to finance corrupt behavior, and those who are already influential in society are in positions to be considered assets in clientelist networks and are the only ones who will be trusted with the sensitive nature of the exchange" (Bjarnegård 2013, p. 37). For this reason, we believe that the middle-aged and the elderly should be overrepresented in parliament when corruption is widespread.

Share of Muslim in the population

In particular, in its traditional form, Islam as a religion is characterized by a traditional life style, patriarchy, and hierarchical power structures (Weiffen 2004). To support this claim, research also shown that a strict and traditional interpretation of Islam inhibits outgroups such as women, religious minorities and the young (Blaydes and Linzer 2008). For example, Norris (1999) indicates that societies with a high share of Muslim populations tend to have a poor record of including women in their legislatures. We believe that Muslim dominant countries may also be more reluctant than others to welcome young cohorts in their parliaments: this should apply even more so considering that recruitments to elite positions are frequently made by seniority.

Median Age in the Population

The age distribution in society may be an important predictor of the average age in parliament. If voters are seeking representatives that reflect their own interests, they may choose candidates that are roughly their age (Henn and Foard 2012). For the individual level, this would imply that adults in the 20s and 30s should be more inclined to vote for candidates, who are roughly their age, either by selecting certain candidates or supporting parties with more young candidates on their party lists. For the macro-level, this would then entail that populations that are younger ought to have younger parliaments.

Operationalization of variables

Dependent variable

In contrast to other measures of group representation such as women's or minority groups' representation, the operationalization of different representational age categories or young parliamentarians is somewhat tricky. This applies even more so, considering that previous studies operationalize age groups in different ways. Joshi (2013), for instance, discusses that the meaning of age varies across cultures: what is "youth" may differ in say Japan compared to Nigeria. After careful consideration, Joshi (2013, p. 7) opts for a rather broad operationalization and includes in the category the "young generation" all individuals of 40 years and below. Similarly, the descriptive report on age representation by the IPU (2014, p. 2) notes that the group young parliamentarians can include people below 30, 35, 40 or even 45 years of age. In the end, the IPU uses the rules and working modalities of the IPU Forum of Young Parliamentarians, and considers "'young' anybody under the age of 45" (p. 2). More restricted, Norris and Franklin (1997) talk about "the younger generation", that is, people of 35 years of age and below.

We believe that rather than setting any arbitrary benchmark for young parliamentarians, we just calculate the average age. The idea is that the more young representatives are in parliament, however one defines this category, the lower the average age in parliament should be. To calculate the average age in parliament, we normally retrieved the age of any parliamentarian from her or his personal bibliography, which we normally found on parliamentary website of any given country. For several countries statistical authorities provided a figure of the average age of members in the parliament. Having retrieved the age from every parliamentarian, we then calculated the average age of the parliamentarians per country. In total, we could retrieve data for the average age of parlia-

mentarians for 102 countries (i.e. 13 countries in Africa, 15 in the Americas, 26 in Asia, 41 in Europe, and 7 in Oceania (for a list of countries, see Appendix 1).[3] In cases where there is a bicameral parliament we focused on the lower house. The distribution of this novel variable is given in appendix 1, for each of the countries in the analysis. Similarly, Figure 1 reports the univariate distribution of this variable in a histogram.

Independent variable

To measure the electoral system type, we use two dummy variables, one for *PR electoral systems* and anther one for *mixed electoral systems*. The category of PR electoral systems also includes countries with a mixed member-proportional electoral system as the vote distribution in this type of system follows the logic of PR. The reference category is plurality or majoritarian systems. We collected the data for electoral system types from the website of the International Institute for Democracy and Electoral Assistance (IDEA) (2014).

Control variables

The first institutional control variable, *age quotas*, is a dummy variable coded 1 for countries with youth quotas in parliament or in political parties and 0 otherwise.[4] The variable gauging the *age of candidacy law* in a country measures the threshold on age in which persons are eligible for being elected to national parliament (lower house where applicable). The indicator is a continuous variable denoting the age in which citizens may run for such positions. The data was collected from the UNDP (2013) as well as national websites for a small number of additional countries. We operationalize *regime type* as the second institutional variable by two dummy variables (i.e. one for hybrid regimes and one for autocracy, with democracies serving as the reference category). To distinguish these three regime types, we use Polity IV data (Marshall et al. 2014). Following Polity's recommendations, we code a country that has a democracy ranking of 6 or higher as a democracy, countries with a ranking between -5 and +5 as a hybrid regime or anocracy, and countries with a ranking of -6 or lower as an autocracy. We gauge *development* by the GDP per capita in a country. Because we cannot necessarily assume a linear relationship between increases in material wealth and decreases in the average age of the parliament, we log transform the GDP variable. The data source is

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[3] We have data for age in 102 countries. When introducing control variables in our analysis, we loose three cases (Monaco, People's Republic of Korea and San Marino) for which no data on corruption exists and thus include 99 nations in our final models)
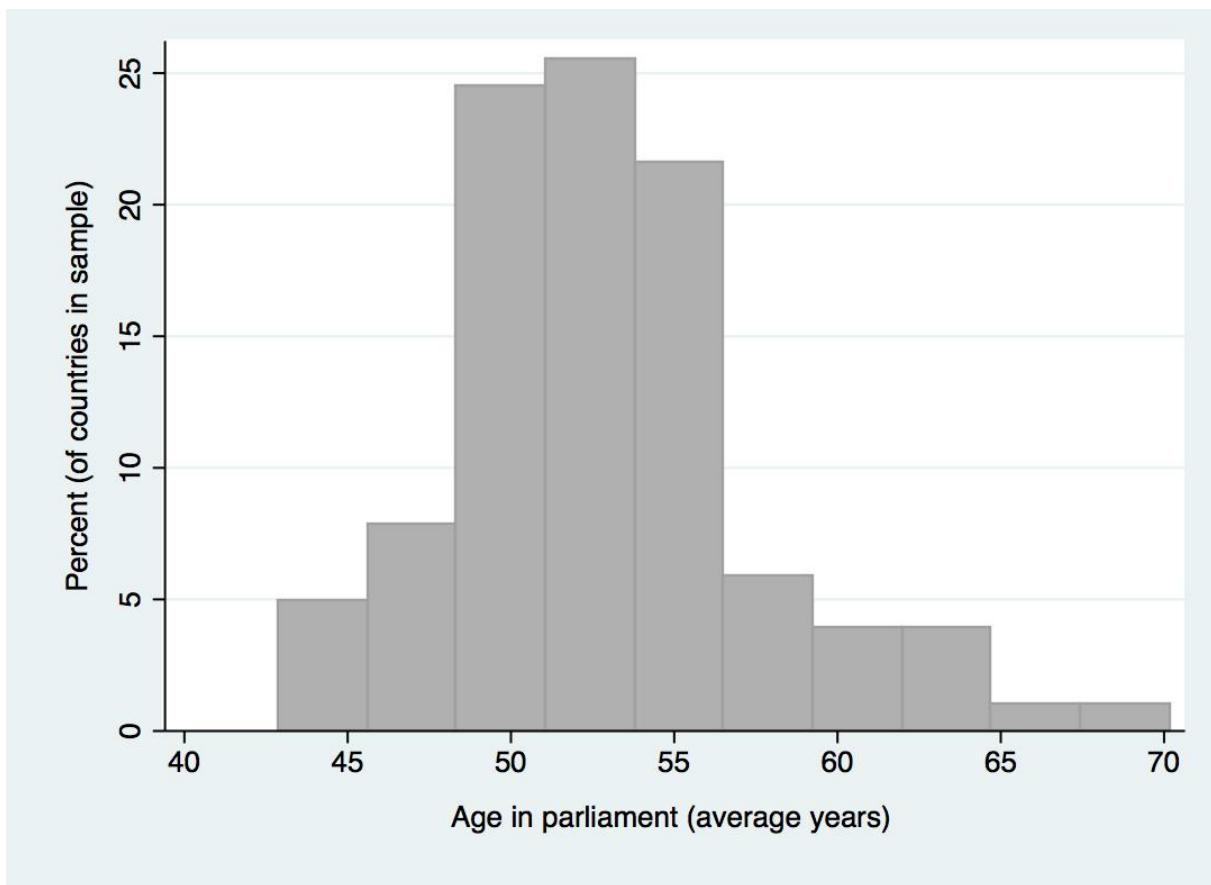
[4] In this variable 11 countries receive the value one. We also created a narrower variable, only including the four countries with reserved seats in the legislature. No matter which one of the two variables we use, the main results of our models remain the same.

the United Nations (2014). We include a measure of *corruption* in a country, which we operationalize by using the 2014 Control of Corruption Indicator from the Worldwide Governance Indicators (WGI) project, run by the World Bank. Their variable Control of Corruption, ranges from -2.5 to + 2.5 and captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests (World Bank 2014). Moreover, we measure the *share of Muslims* in a country, which we collect from CIA World Factbook (2014) as well as figures from national authorities from a limited number of cases. The final variable measures the *median age in the population* as calculated by the CIA World Factbook (2014).

Methods

To gauge the influence of the electoral system type on the average age of the parliament, we collected cross-national data for 102 countries (i.e. all countries for which data on the age of parliamentarians is available), as well as data for all the covariates. We use these data for two types of analysis. First, we compare the average age of parliamentarians per country across PR systems and non-PR systems. Second and even more importantly, we gauge PR's effect on the average age in a multivariate framework via an OLS regression analysis. On the left hand side is our dependent variable, the mean age of parliamentarians, and on the right hand side are the two dummy variables for proportional and mixed systems, as well as the seven theoretically informed control variables. Before running the model, we test for normality. The information in Figure 1 suggests that the dependent variable is normally distributed. This indicates that OLS provides unbiased and efficient estimates.

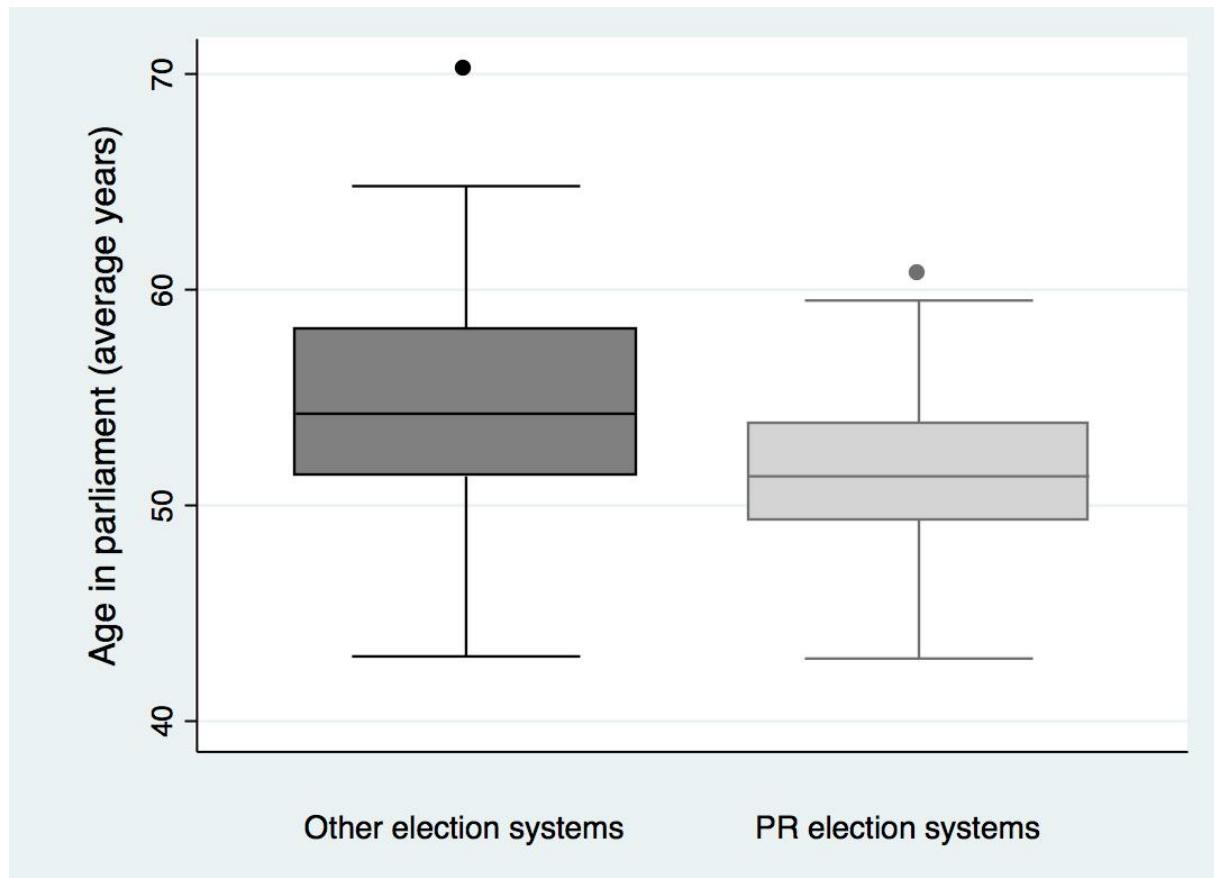FIGURE 1, HISTOGRAM OF THE DISTRIBUTION OF AVERAGE AGE IN PARLIAMENT

Results

The summary statistics reported in Table 1 indicates that the average age of parliamentarians in our dataset is 52.91, or nearly 53 years of age. If we calculate the age of parliamentarians in PR systems and in non-PR systems, countries without PR systems have a mean age of 54.7 years, while the ones with a PR system have a mean age of 51.6 years (see Figure 1). If we split the age of the parliamentarians in the three electoral system types our results indicate that the average age in parliaments is 51.56 years in PR systems, 52.06 in mixed systems and 54.36 in plurality and majority systems. As such these bivariate statistics already lent support for our hypothesis that PR systems, on average, trigger younger parliaments.

TABLE 1, SUMMARY STATISTICS OF THE DEPENDENT VARIABLE AND THE INDEPENDENT VARI-ABLES

	Mean	Std.	Min	Max
Average age in parliament	52.91	4. 18	42.90	70.20
PR elections system	0.57	0.50	0	1
Mixed elections system	0.09	0.29	0	1
Autocracy regime type	0.12	0.32	0	1
Hybrid regime type	0.17	0.37	0	1
Corruption	0.28	1.06	-1.43	2.41
Muslim share of population	16.08	29.53	0	99.8
Median age in population	33.18	8.58	15.50	51.1
Log GDP/cap	9.64	1.10	7.25	11.42
Age quotas	0.02	0.14	0	1
Age of candidacy law	18.46	1.32	18	25

FIGURE 2, BOXPLOT OF THE AVERAGE AGE IN PARLIAMENT DISTRIBUTED BETWEEN ELEC-TORAL SYSTEM TYPES

When proceeding to a regression analysis framework, the multivariate analysis confirms this finding. The effect of having a PR election system is negative and significant (p = 0.022). In detail, and holding everything else constant, the model suggests that countries with a PR election system have a 3.1 years lower average age compared to countries with plurality. Given a mean age of nearly 53 and standard deviation of slightly above 4, this difference in the age of parliamentarians between PR and plurality systems is quite substantial. This applies even more so considering that the dummy variable is the only statistically significant variable in the model. It is also worth noting that even if the coefficient is not statistically significant, mixed systems also seem to have younger parliaments than majoritarian systems.

TABLE 2, DETERMINANTS OF THE AVERAGE AGE OF MEMBERS IN PARLIAMENT. RESULTS OF THE MULTIVARIATE REGRESSION ANALYSIS

	Coefficient	Std. Error	Sig.
PR elections system	-3.14	1.35	.022
Mixed elections system	-2.42	1.82	.187
Autocracy regime type	0.37	2.75	.892
Hybrid regime type	-2.21	1.54	.159
Corruption	-0.58	0.76	.468
Muslim share of the population	0.02	0.02	.317
Median age in population	-0.03	0.11	.812
Log GDP/cap	0.92	1.04	.394
Age quotas (widely defined)	-1.41	2.17	.513
Age of candidacy law	0.42	0.24	.501
Constant	44.30	7.38	.000
Rsquared	.22		
Root MSE	4.45		
N	99		

In this study we find support for our initial hypothesis; that is, it is true that electoral systems change the composition of the legislature. Proportional representation not only increases women's and minority representation, it also makes parliaments younger; thus decreasing the gap between the average age in the population and the average age in parliament. PR systems do both; they render it easier for parties to add young candidates on their lists and they provide an incentive for political actors to nominate younger deputies. The implications of this study therefore echoes Matland's (2005) assessment that electoral systems are more malleable than other factors that affect recruitment to the legislature, such as development. In terms of policy, our study is hence a plea for

PR. If political actors care about having a parliament that is (more) representative of the population they should consider implementing PR.

Conclusions

Explicitly focusing on proportional representation, our study is one of the first to analytically assess the representation of age groups in parliaments in a comparative large N perspective. Our finding, that PR election systems render parliaments by more than three years younger than majoritarian systems, on average, reinforces the notion that such systems are more open to "newcomers" in politics. We also contribute to the ongoing discussion on the relationship between electoral system design and the representation of social groups. Adding to the results of previous research on representation we can say that not only many traditional outgroups to the political and parliamentary process – be it women, poorer segments of the citizenry, and ethnic or religious minorities, but also young individuals – have a higher change of getting representation in a proportional list system as compared to a single member systems. PR systems might face challenges in terms of accountability, but they allow for a proportional translation of votes into seats and create parliaments that are more representative of the population.

We believe that this study informs future research in two directions. First, we hope that this research entices others to look into the fascinating topic of the representation of various age cohorts in parliaments and other elective and non-elective political bodies. If we want inclusive parliaments it is not enough to represent minorities, various social classes and the two genders, it is also important to have the voices of the young, the middle aged and the elderly heard in parliament. Second, and relatedly we hope that our study encourages more work on age representation. Are there other factors than the ones included in this study that influence the representation of various age cohorts or that influence the average age in parliaments? What is the socio-economic profile of young parliamentarians? For what type of elections do young candidates get elected in higher number? While we have asked some important questions, that hopefully future research will address, we nevertheless hope that this study pushes the still scarce literature on the representation of various age cohorts in parliament forward.

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APPENDIX 1: THE 102 COUNTRIES IN THE ANALYSIS AND THEIR AVERAGE AGE IN PARLIAMENT

Country	Age	Country	Age	Country	Age	Country	Age
Afghanistan	48.5	Cyprus	58.4	Kyrgyzstan	51.7	San Marino	46
Albania	49.5	Czech Republic	51.95	Latvia	51.2	Saudi Arabia	62.8
Andorra	47.04	Denmark	48	Lebanon	62.4	Serbia	48.72
Angola	42.9	Dominica	56.5	Liechtenstein	50	Seychelles	45.1
Armenia	51	Dominican Republic	55	Lithuania	55.8	Singapore	51.9
Australia	53	Estonia	53	Luxembourg	52.7	Slovakia	52.2
Austria	49.3	Finland	52	Macedonia	46.8	Slovenia	49
Azerbaijan	58.7	France	62.25	Madagascar	51	Solomon Islands	51.7
Bahamas	56.31	Georgia	50.8	Mexico	52.1	South Africa	51
Bahrain	47	Germany	51.1	Moldova, Republic of	51.5	Spain	56
Bangladesh	59	Ghana	52.6	Monaco	54.5	Sri Lanka	56.4
Belarus	55.4	Greece	54	Montenegro	53.2	Suriname	52.9
Belgium	47.15	Guatemala	50	Myanmar	60	Sweden	45.4
Benin	59.5	Haiti	47.5	Namibia	60.7	Switzerland	54
Bolivia	43.86	Hungary	48.7	Nauru	49	Syria	54.7
Botswana	55.4	Iceland	50.1	Nepal	52.7	Timor Leste (East Timor)	52
Brazil	51.8	India	55.5	Netherlands	48.4	Tonga	54
Brunei Darussalam	70.2	Ireland	52.5	New Zealand	53.8	Tunisia	50
Bulgaria	48.3	Israel	54.96	Nigeria	51.8	Turkey	55.6
Burkina Faso	56	Italy	50.9	Norway	48.4	Uganda	43
Canada	53.21	Japan	54	Palau	64.5	United Kingdom	54.8
Chile	50.9	Kazakhstan	58.9	Paraguay	49	United States	59
China	64.8	Korea, People's Republic of	61	Poland	53.2	Uzbekistan	51.8
Costa Rica	50.5	Republic of Korea	57.6	Portugal	49.4	Vanuatu	55
Croatia	56	Kuwait	53	Romania	50.1		
Cuba	50			Russian Federation	54.6		
				Rwanda	49.5		