



Article

The Political Significance of Overeducation: Status Inconsistency, Attitudes towards the Political System and Political Participation in a High-Overeducation Context

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Abstract: This article examines the impact of overeducation on attitudes towards the political system and political participation. Using survey data from Spain, diagonal reference models were estimated to contrast hypotheses based on the theory of status inconsistency. The evidence links overeducation to political attitudes (lower satisfaction with the functioning of democracy, lower external political efficacy) and political participation (greater participation in protests, higher membership in associations). Most of these effects are modest and some of them are moderated by age. Overall, the findings indicate that overeducation has relevant political consequences, mainly among young, university-educated workers doing jobs with low educational requirements. However, overeducation does not pose a major threat to political stability.

Keywords: overeducation; politics; status inconsistency; mismatch; political participation; political attitudes



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1. Introduction

1.1. Overview and Theoretical Background

Our purpose in this article is to analyze the relationship between overeducation and attitudes towards the political system and political participation in Spain.

The development and expansion of national education systems is a central aspect of social modernization processes that entails a general increase in the educational level of the population. Despite the undisputable positive consequences, some social scientists warned early on that the process could also have undesirable effects because the supply of mid-level and higher degree-holders would outpace the demand for highly qualified labor (Berg 1971; Freeman 1976; Dore 1976). This would result in a great contingent of overeducated workers whose feelings of frustration and discontent might spill over from personal and work environments into the political sphere. Some authors predicted that increased overeducation would translate into negative attitudes towards the political system, radicalism, and social unrest. These predictions have persisted and multiplied, especially in times of economic or political crisis (Turchin 2010; Alonso 2012; Campante and Chor 2012; Mason 2013; Milkman 2017; Standing 2014).

The idea of overeducation having political consequences is grounded in the classical theory of status inconsistency. Ever since Lenski (1954) introduced this concept to designate the lack of congruence between positions that an actor occupies in different status hierarchies (a “horizontal dimension” of social stratification), the mismatch between educational level and employment has been recognized as one of the most important forms of inconsistency. Based on functionalist role theory, Lenski argued that the inconsistency would produce stress and cognitive dissonance, an idea that later re-surfaced in work psychology with the theory of “lack of person-job fit”: a situation that may induce stress,

anxiety and loss of self-efficacy as well as negatively affecting work attitudes and behaviors (Edwards et al. 1998; Ueno and Krause 2018).

Initially, this approach did not imply that overeducation would necessarily have distinct political consequences. On the one hand, the effects of inconsistency might be limited to personal and work spheres. On the other hand, if inconsistency generates stress, the same consequences can be expected regardless of the direction of the inconsistency; thus, overeducation and undereducation would have symmetrical effects. However, early status inconsistency theorists proposed two ideas about why and how overeducation could have a distinctive political significance. First, a probable response to inconsistency-derived stress would be a preference for changing the social environment accompanied by actions to bring it about (Goffman 1957). Second, inconsistency among status dimensions associated with high investment and low reward (such as employment below one's educational level) are especially important as they tend to generate feelings of frustration and injustice (Geschwender 1967). In our case, this means that overeducated workers perceive that the effort invested in acquiring education has not paid off in the way they legitimately expected it would, they compare themselves to others with the same educational level but having a job that corresponds to it, and feel that the occupational expectations built during their socialization at the educational system have not been fulfilled, experiencing a contradiction between aspirations and achievements (Jones-Johnson and Johnson 2000; Vaisey 2006; Ferrante 2017). The outcome will not be simply stress or cognitive dissonance, which undereducated people could also suffer, but feelings of injustice and relative deprivation that affect overeducated individuals specifically and have greater political potential. This line of reasoning led, among other things, to predict an association of overeducation with negative attitudes towards the political system, distrust in public institutions and low political efficacy. It also led to diverse and sometimes incompatible predictions concerning social and political participation, ranging from high involvement in protest actions to withdrawal from participation.

1.2. Literature Review

Research on the political consequences of overeducation is relatively scant, at least in comparison with the huge amount of effort that has been invested in studying its effects on other, non-political variables, such as job satisfaction and work attitudes (e.g., Verhaest and Omev 2008; Peiró et al. 2010; Steffy 2017; Ueno and Krause 2018; Erdogan et al. 2018; Mateos-Romero and del Mar Salinas-Jiménez 2018; Sloane and Mavromaras 2020; García-Mainar and Montuenga-Gómez 2020; Bodemariam and Ramos 2021) or different facets of subjective well-being (e.g., Bracke et al. 2013; Artés et al. 2014; Piper 2015; Salinas-Jiménez et al. 2016; Zhu and Chen 2016; Frank and Hou 2017; Erdogan et al. 2018; Ilieva-Trichkova and Boyadjieva 2021). However, research that sought to empirically evaluate the political effects of status inconsistency has sometimes included education and employment along with other status dimensions, and there are also specific references to the political dimension in research assessing the consequences of overeducation in different domains. This research has yielded mixed but predominately negative results. We will focus on findings on core political attitudes and political participation.

The first studies on status inconsistency found evidence linking it to lower social participation (Lanski 1956; Geschwender 1968) and attitudes favoring changes in the distribution of power in society (Goffman 1957). However, these early analyses made simple comparisons between situations of consistency and inconsistency. When researchers began to use more refined methods and attempted to separate the effects of inconsistency from the principal effects of the status dimensions, the results were largely negative. Thus, no relationships were found between status inconsistency and social participation and feelings of powerlessness (Blocker and Riedesel 1978). A classical study by Burris (1983) concluded that overeducation was not related to a scale of political alienation or to other political variables. Similarly, Herring and Jones-Johnson (1990) did not find the expected relationship in a study on the political participation of African American workers in the

United States, nor did Amoretti (1999) in an analysis of underemployment and political interest, political trust, and ideology in the European Union. In contrast, Vaisey (2006) found some of the predicted effects in the United States, but they were only strong and statistically significant for men. Neither were systematic relationships found between status inconsistency (or, more specifically, education/occupation mismatch) and political variables in studies that included a broad range of attitudes and behaviors and covered several communities (e.g., Jackson and Curtis 1972, on formal and informal social participation, anomie and perceptions of responsibility and legitimacy in the United States) or several countries (see Brown et al. (1988), on electoral participation, confidence in the government, political efficacy and anomie in the United States and opinions on diverse political themes in seven European countries). These authors concluded that there was a solid “body of negative evidence” and that studying the consequences of status inconsistency was “more trouble than it’s worth”.

This idea remained dominant for decades, but more recently it has been suggested that some of the negative results of previous research could be due to methodological deficiencies, and new research has provided some positive findings. By applying new estimation models, Zhang (2008) found a relationship between status inconsistency and socio-political variables such as social trust, participation in social groups and organizations, and institutional trust). A combined analysis of data from 22 OECD countries found a positive relationship with political efficacy and social trust (Fregin et al. 2017). More recently, Wiedner (2022) studied the relationship between overeducation and a broad range of socio-political variables (satisfaction with democracy, social trust, the importance attributed to politics, associationism, support for the extreme right and intent to vote for the left) in Germany and the United Kingdom. He found a negative influence on associationism (in both countries) and a positive effect on the intent to vote for the left (only in the UK) but overeducation did not affect the other variables.¹ Finally, in a study on Spain, Voces and Caínzos (2021b) found a positive relationship between overeducation and a global index of political efficacy (which combines internal and external efficacy) in workers aged 30-55, but no relation to satisfaction with democracy, trust in institutions or political participation.

To summarize, research on the political effects of overeducation has yielded mixed results.

Given the inconclusiveness of the empirical literature, in this paper we will test a series of hypotheses about the political consequences of overeducation, drawn from status inconsistency theory and the empirical literature on the effects of overeducation.

1.3. Hypotheses

These hypotheses refer to both basic orientations towards the political system and civic and political participation.

Basic political orientations generally correspond to the notion of political support developed by Easton (1965, 1975), who drew the distinction between “diffuse” and “specific” support and identified three “levels” or “objects” of political support (political community, political regime, and political authorities). The ambiguity of this framework and the controversies about its operationalization have given rise to alternative interpretations and proposals. Following Montero et al. (1997) (see also Gunther and Montero 2006), we will distinguish three clusters of attitudes: democratic support (belief in the legitimacy of democracy and ranking it as the preferable system of government), political disaffection (a syndrome of citizen estrangement from the political sphere, encompassing disinterest, personal inefficacy, cynicism, lack of trust in institutions and a perception that the political elites are not concerned with the citizens) and political discontent (dissatisfaction with how the political process actually works).² According to the theory of status inconsistency, two facets of political disaffection (H1 and H2) as well as political discontent (H3) would be expected to increase with overeducation:

H1. *Overeducation (i.e., having an educational level that exceeds what is required for one’s current job) is associated with reduced political trust.*

H2. *Overeducation is associated with lower levels of external political efficacy.*

H3. *Overeducation is negatively related to satisfaction with the functioning of democracy.*

The second set of hypotheses addresses the relationship between overeducation and social and political participation. Status inconsistency theory generates distinct expectations about conventional and non-conventional political participation. Hence, we expected that overeducation would inhibit conventional (electoral) participation and elicit greater implication in non-conventional activities (protests):

H4. *Overeducation is associated with lower likelihood of voting.*

H5. *Overeducation is associated with higher levels of involvement in political protests.*

Concerning civic participation, here understood as membership in associations, there are grounds for opposing predictions. On the one hand, inconsistency could disincentive participation because the role ambiguity that it entails increases the probability of negative experiences in social interaction, leading to reduced social participation (Lenski 1956; Geschwender 1968). On the other hand, overeducated individuals can cope with work-related dissatisfaction by redefining status and elevating the importance of non-work activities, such as those related to leisure or community life (Burris 1983). This adaptive strategy could involve increased associationism. The increased participation in protests predicted by H5 could also be linked to a greater probability of belonging to some types of associations. These contradictory expectations are expressed in Hypotheses 6a and b:

H6a. *Overeducation is associated with lower levels of membership in associations.*

H6b. *Overeducation is associated with higher levels of membership in associations.*

These hypotheses assume that the potential effects of overeducation are homogeneous throughout the entire population studied, but there are reasons to think that age might be a moderating factor. Smith (1969) plausibly suggested that the inconsistency between education and employment would become politically relevant only when the positions of the individuals in these dimensions were weakly crystallized, but not when they were largely settled. He also indicated that the structural crystallization of the status dimensions increases with age. Taking this into account, we modified our hypotheses to include the possibility that the political consequences of overeducation diminish with age and may even be limited to younger individuals. The moderating role of age is also plausible for context-related reasons. Burris (1983) and other authors have argued that the presence of political effects from overeducation could depend on the existence of a movement that articulates the discontent of overeducated people. In Spain, this condition has only been met for young people. A political discourse that calls attention to the contrast between the high education and low work opportunities of Spanish youth gathered strength during the Great Recession and was assimilated by protest movements, such as Indignados, and by new political parties with very different ideological leanings, such as left-wing Podemos or liberal Ciudadanos. In light of these arguments, we tested two versions of our hypotheses: the initial version, assuming homogeneous effects, and a modified version in which the effect of overeducation was moderated by age.

2. Materials and Methods

We used data from post-electoral surveys done by the Centro de Investigaciones Sociológicas (CIS), the most reliable source of public opinion data in Spain, for the general elections of 2015 and 2016.³ After the December 2015 elections, no candidate obtained the parliamentary support necessary to form a government. New elections were called, which took place in June 2016. The fieldwork for the two surveys was done in a time window of scarcely six months (January–March and July 2016) using the same sampling design. Each survey had a sample size of around 6200 individuals and was representative of the population with the right to vote. We combined the data to work with a larger sample.

From the initial sample, we selected interviewees who were salaried workers. We also limited our analysis to people born after 1960, to include only informants who might have studied under the two educational systems established by the 1970 Ley General de Educación (LGE) and the 1990 Ley de Ordenación General del Sistema Educativo (LOGSE). In this way we avoided problems related to harmonizing the measurement of educational level (and therefore overeducation) that would have arisen from including individuals who had studied under prior educational systems (on changes in the Spanish educational system, see [Martínez-Usarcalde \(2007\)](#) and [Pérez-Díaz and Rodríguez \(2003\)](#)). We ended up with a sample of about 3600 cases, with small variations according to the variables included in each analysis.

Our independent variable was formal objective overeducation, or the mismatch that occurs when a person does a job that requires an educational level inferior to what that person has acquired. This differs from the notions of over-skilling (mismatch between a person's competences or skills and those required for their work) and subjective or perceived overeducation.

Formal objective overeducation can be measured using either the job analysis method or the statistical method of realized matches ([Capsada-Munsech 2017, 2019](#)). We applied the job analysis approach, which attributes to each occupation or job the level of education considered normative for doing that job and compares it with the educational level of each subject. We used the occupation-required education correspondences developed by [Ramos \(2016\)](#) to classify occupations into four levels according to the education they require: basic secondary education, vocational training or less; baccalaureate studies or advanced vocational training; university diploma (short-cycle, 2–3 years); and university degree (long-cycle, 4–6 years).⁴ By crossing this variable with the educational level of the individual, which we had previously re-codified using the same categories, three distinct situations emerge: consistency or match between the two, undereducation (acquired education lower than that required for the occupation) and overeducation. We used two definitions of overeducation: “aggregate overeducation”, which denotes all individuals whose educational level exceeds what is required for their occupation and “high overeducation”, which occurs when acquired education is two or three “levels” above what is required for the occupation. Table A1 (in Appendix A) shows the situations resulting from all combinations of acquired and required education.⁵

Our dependent variables covered orientations towards the political system (disaffection and discontent), civic participation (associationism) and political participation (voting and protests).

Our objective was to determine whether the mismatch between an individual's acquired education and the education required for a job has a significant net effect on these dependent variables that is analytically distinguishable from the effects of either education variable. This implies unravelling three potential sources of variation in the dependent variable, rather than simply comparing overeducated and non-overeducated employees or the return on required and additional education. Their disentanglement poses an important methodological challenge and there has been great controversy on how to tackle it ([Duncan 1964](#); [Blalock 1966, 1967](#); [Kalleberg and Sorensen 1973](#); [Hope 1975](#); [Duncan and Hoffman 1981](#); [Sobel 1981](#)).

Recent research on the effects of overeducation and status inconsistency has used several alternative procedures that try to solve this identification problem, each of them depending on different assumptions. [Zhang \(2008\)](#) has proposed a model that includes the interaction among status variables along with the absolute value of their difference, in order to separate the effect of inconsistency from interaction effects stemming from any other process (such as the “substitution effect” mentioned earlier). This model requires working with variables measured at the interval level and assumes that the effects of inconsistency are symmetrical (i.e., overeducation and undereducation have the same effects). [Wiedner \(2022\)](#) has proposed using a bounding approach drawn from Age-Period-Cohort analysis, which assumes that the relative magnitudes of the effects of the two educational variables

will be within certain limits. Finally, [Voces and Caínzos \(2021a, 2021b\)](#) have applied to the study of overeducation the Diagonal Reference Model (DRM) developed by [Sobel \(1981, 1985\)](#); see also [Hendrickx et al. 1993](#)). These models constrain the effects of required education to be positive linear transformations of the effects of acquired education, thus assuming that relative differences between two specific educational levels are the same for acquired and required education, while their absolute magnitude may differ ([Kaiser and Trinh 2021](#)).

In this paper we will follow the last modelling strategy, using DRMs. We estimated multivariate DRMs controlling for gender, age, employment situation (temporary or permanent contract), hours worked (part-time or full-time) and employment sector (public or private).⁶

Applied to our study, the DRM without mismatch effects is expressed by Equation (1):⁷

$$Y_{ijk} = w \mu_{ii} + (1 - w) \mu_{jj} + \sum \gamma C_{ijk} + \epsilon_{ijk} \quad (1)$$

where Y_{ijk} is the value of the dependent variable for the individual k , pertaining to the cell ij of the table resulting from crossing the two status variables (here, acquired and required education). Y_{ijk} has three components, two of them systematic (the mean of the cell ij , μ_{ij} and the effects of a set of individual covariates) and one random (individual error, ϵ_{ijk}); μ_{ij} is the weighted sum of μ_{ii} and μ_{jj} , which are the estimated means of Y in the cells ii and jj , located along the diagonal of the table. Thus, the mean of the dependent variable in an “inconsistent” cell is a compromise between the estimated means of two “consistent” cells, while w and $(1 - w)$ are the estimated weights that reflect the importance of acquired and required education in the calculation of μ_{ij} . C is a covariable vector and γ designates the coefficients that capture their effects.

This model only considers the influence of acquired and required education but does not include an effect of inconsistency between them. To test the existence of that effect, the first model can be compared to an alternative model expressed as

$$Y_{ijk} = w \mu_{ii} + (1 - w) \mu_{jj} + \sum \gamma C_{ijk} + \sum \beta D_{ijk} + \epsilon_{ijk} \quad (2)$$

where D is a set of dichotomous variables that measure the mismatch between acquired/required education and β designates the coefficients that capture the effects of each of these variables. These β s are interpreted as regression coefficients.

If the model that includes terms for capturing the effect of inconsistency between acquired and required education has a better fit than the basic model, we can conclude that inconsistency has an independent impact beyond that of the two education variables. To our understanding, this is the only case in which we can accurately speak of overeducation effects.

Our baseline model (Equation (1)) includes covariables but no term for overeducation. To this, we compared four models derived from Equation (2) (models 2 through 5), to evaluate the effects of education/employment mismatch. Models 2 and 3 introduced two different overeducation measures (aggregate and high overeducation); models 4 and 5 replicated models 2 and 3 but added an extra term to identify undereducated individuals. In the final step of our analysis, we re-estimated the four models that included effects of education/employment mismatch, adding to them the interaction between mismatch and age (models 2A through 5A).

We used these models to test the hypotheses listed in Section 1, which are supported if: (1) the addition of variables for inconsistency between acquired and required education improves the model fit, and (2) statistically significant coefficients of the expected sign are obtained for these variables. We applied two complementary criteria to evaluate the model goodness of fit: reduction of the residual sum of squares (or residual deviance when estimation is made by maximum likelihood) with respect to the base model, discarding models with no statistically significant reduction ($p < 0.10$); and the Akaike Information Criterion (AIC), which measures the balance between goodness of fit and the parsimony of the model.

3. Results

3.1. Homogeneous Effects Models

Table 1 shows the results of the goodness-of-fit statistics for all the Diagonal Reference Models that the overeducation effects are homogeneous across all age levels. Table 2 displays the estimated parameters for the selected models for each dependent variable.

The first set of variables that we analyzed included two types of basic orientation towards the political system. One was political discontent (the level of satisfaction with the functioning of democracy on a scale of 0 to 10). The other involved two indicators of political disaffection: trust in political institutions (mean of trust in parliament and trust in political parties, from 0 to 10) and external political efficacy (mean level of agreement with the phrases “politicians don’t care much about what people like you think” and “whoever is in power always looks out for their own interests”, re-scaled for variation from 0 to 10).

Table 1. DRM models assuming homogeneous effects of overeducation on attitudes towards the political system and political participation. Goodness-of-fit statistics.

	Model	RSS/−2LL ^a	Δdf	Prob.	AIC
A. Confidence in political institutions	1	15,351.46			15,371.46
	2	15,350.41	1	0.3059	15,372.41
	3	15,349.39	1	0.1499	15,371.39
	4	15,349.07	2	0.3029	15,373.07
	5	15,349.16	2	0.3163	15,373.16
B. External political efficacy	1	15,355.23			15,375.23
	2	15,355.23	1	0.9872	15,377.23
	3	15,353.69	1	0.2145	15,375.69
	4	15,355.12	2	0.9468	15,379.12
	5	15,353.58	2	0.4389	15,377.58
C. Satisfaction with democracy	1	16,254.55			16,274.55
	2	16,254.32	1	0.6288	16,276.32
	3	16,251.46	1	0.0786	16,273.46
	4	16,254.16	2	0.8235	16,278.16
	5	16,251.42	2	0.2090	16,275.42
D. Electoral participation	1	2989.04			3009.04
	2	2988.21	1	0.3628	3040.22
	3	2987.70	1	0.2474	3009.71
	4	2988.04	2	0.6051	3012.04
	5	2987.41	2	0.4420	3011.41
E. Participation in protests	1	15,639.78			15,659.78
	2	15,638.64	1	0.2857	15,660.64
	3	15,636.96	1	0.0931	15,658.96
	4	15,638.62	2	0.5587	15,662.62
	5	15,636.85	2	0.2309	15,660.85
F. Associational membership	1	10,986.88			11,006.88
	2	10,986.88	1	0.9663	11,008.88
	3	10,986.10	1	0.3757	11,008.10
	4	10,980.73	2	0.0461	11,004.73
	5	10,983.06	2	0.1478	11,007.06

^a−2LL for electoral participation (estimation through maximum likelihood) and RSS for all other variables (estimation through nonlinear least squares regression).

Table 2. DRM models assuming homogeneous effects of overeducation on attitudes towards the political system and political participation. Estimated parameters and standard errors from the selected models.

		(A) Confidence in Political Institutions	(B) External Political Efficacy	(C) Satisfaction with Democracy	(D) Electoral Participation (<i>logit</i>)	(E) Participation in Protests	(F) Associational Membership
		Model 1	Model 1	Model 3	Model 1	Model 1	Model 4
Weight (attained educational level)	w	0.912 0.139	0.704 0.085	1 <i>constr.</i>	0.860 0.134	0.796 0.062	0.297 0.176
Estimated means	Basic secondary education or vocational training or less	2.872 0.207	3.141 0.222	3.826 0.229	−0.597 *** 0.094	1.323 0.211	0.199 0.116
	Baccalaureate studies or advanced vocational training	3.348 0.203	3.825 0.218	4.015 0.231	−0.007 0.098	2.216 0.208	0.394 0.114
	University diploma (short-cycle, 2–3 years)	3.443 0.220	4.174 0.244	4.215 0.250	0.304 * 0.139	2.699 0.229	0.707 0.128
	University degree (long-cycle, 4–6 years) or higher	3.649 0.210	4.382 0.228	4.146 0.244	0.300 * 0.118	3.114 0.216	0.996 0.117
	Overeducation	High			−0.332 0.169		
Undereducation							−0.166 * 0.067
Covariates	Age	0.007 + 0.004	0.000 0.004	0.019 0.005	0.022 *** 0.005	0.014 ** 0.004	0.012 *** 0.002
	Public sector	0.082 0.094	0.074 0.100	−0.117 0.106	0.402 ** 0.144	0.528 *** 0.096	0.388 *** 0.051
	Temporary work	−0.066 0.083	−0.257 ** 0.088	0.017 0.094	−0.205 * 0.103	−0.021 0.084	−0.066 0.045
	Part-time work	−0.003 0.093	0.104 0.099	−0.275 0.106	0.096 0.118	0.217 * 0.095	0.120 * 0.051
	Female	−0.056 0.074	−0.402 *** 0.079	−0.003 0.084	−0.062 0.096	−0.179 * 0.075	−0.173 *** 0.040
Constant					0.886 *** 0.252		

*** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ + $p < 0.1$.

For indicators of political disaffection, none of the models that included terms for overeducation improved the fit of the basic model (see Table 1, panels A and B). Accordingly, Table 2 (columns A and B) shows the estimated parameters of Model 1 for these variables. Institutional trust was positively related to acquired education (weight near one, mean trust increased with educational level, 0.8 difference between highest and lowest educational level) but not to education required for the occupation. Trust in institutions was not affected by any covariable except age (greater age, greater trust), in a marginally significant way. Outcomes differed for external political efficacy: though education itself mattered more than education required for the job (indicated by respective weights of 0.7 and 0.3), both had a positive relationship with feelings of efficacy (1.2 points difference between the means of the highest and lowest levels). The two covariables of temporary work and sex presented significant negative coefficients.

In contrast, for the political discontent indicator (satisfaction with the functioning of democracy), one of the models that included overeducation fits the data somewhat better than the basic model (Table 1, panel C). In Model 3, which includes high overeducation (acquired education at least two levels above education required for the job), the *p*-value on the goodness-of-fit test was below 0.10 and the AIC value was below that of the basic model (see Table 1). The coefficients for this model⁸ are presented in Table 2 (column C), indicating that high overeducation was associated with a decrease of 0.3 in satisfaction with democracy (which is statistically significant, $p < 0.10$). Also, there were significant coefficients for two covariables: age, which was positively related to satisfaction with democracy, and part-time work, which was accompanied by a 0.3 decrease in satisfaction. The reduced satisfaction with the functioning of democracy that accompanies high overeducation is similar in magnitude to that which accompanies doing part-time work.

We analyzed the relationship between overeducation and three indicators of civic and political participation. The first was related to conventional political participation: having voted or not in the most recent general elections prior to the survey. The second assessed non-conventional political participation using a scale of involvement in protests, based on four items⁹ and re-scaled to vary from 0 to 10. The third covered civic or social participation by looking at associational membership: how many types of associations the interviewees belonged to (up to a maximum of 13).

Taking overeducation into account improved the fit of the models for association membership, while the basic model provided the best fit for the other two variables (Table 1, panels D, E and F).

Table 2 (column D) displays the estimated parameters of Model 1 for electoral participation. Since the dependent variable was binary, it we have estimated a DRM logit model. Both achieved and required education have a positive relationship with electoral participation, though the weight of acquired education was found to be greater. Significant positive relationships also appeared between voting and age and the public sector, while a negative relationship occurred with temporary work (employees with temporary contracts voted somewhat less than those with permanent contracts).

The coefficients of the models selected for participation in protests and associationism are shown in Table 2 (columns E and F). In the first case, the basic model provided again the best fit. The relationship between our two education variables and protest behavior follows the same pattern found for voting: there is a positive gradient (greater participation in protests with higher education) and completed education had a larger weight than education required by the occupation. It also became clear that greater age, being employed in the public sector and working part-time were associated with higher participation, while being female was associated with lower participation.

Finally, Model 4 was selected for associational membership. It included a term for aggregate overeducation (acquired education higher than what is required for the job) and another for undereducation (acquired education below what is required for the job). The estimated means for the diagonal cells indicate that belonging to associations increased with higher achieved or required educational levels, with a difference of 0.8 between the

means of the highest and lowest levels. In descriptive terms, required education had a greater weight than achieved educational level, but none of them is significantly different from 0.5. Over and above these differences, being overeducated entails a small increase in the number of association memberships (0.15, $p < 0.10$), while being undereducated brought a decrease of a similar magnitude (0.17). Additionally, being older, being a public employee and working part-time increased associationism, while being female decreased it.

Summing up, our analyses associated overeducation with somewhat lower satisfaction with democracy and slightly higher levels of associationism. The magnitude of both relationships was similar to that which exists between these variables and having part-time work. However, overeducation did not affect attitudes of political disaffection or participation in protests or elections.

These results come from analyses assuming that the potential effects of overeducation are homogenous across all workers. However, as we pointed out when formulating the hypotheses, there are good reasons to think that the experience of overeducation could affect workers differently based on age. For this reason, we replicated all the analyses presented so far, adding the interaction between overeducation and age.

3.2. Models Allowing Heterogenous Effects (Age-Based Variations)

We estimated the interactive models (2A to 5A) for all the dependent variables, but only present the results for two of them (external political efficacy and participation in protests), those for which there is an interactive model that fits the data better than the basic model. Table 3 displays goodness of fit statistics for these models. Model 3A, which included a term for the interaction between high overeducation and age, was selected for external political efficacy and participation in protests; the estimated parameters can be found in Table 4.

For external political efficacy (Table 4, column A), the coefficient for high overeducation and interaction with age were statistically significant while the results for the other variables remained the same as those of the basic model (cfr. Table 2). When the coefficients for overeducation, age and their interaction are interpreted together, high overeducation is linked to a decrease in external political efficacy for the youngest workers. The effect fades with advancing age until the sign eventually reverses. Figure 1 represents the predicted change in the degree of external efficacy associated with high overeducation at different ages. With high overeducation, external political efficacy diminished by one point at age 25, by 0.7 at age 30, by 0.4 at age 35, then disappeared somewhere around age 40 and the sign subsequently inverted. Differences in efficacy associated with overeducation were only statistically significant for ages 35 and below.¹⁰

Table 3. Heterogeneous effects models (variations by age). Goodness-of-fit statistics.

	Model	RSS	Δ df	Prob.	AIC
A. External political efficacy	1	15,355.23			15,375.23
	2A	15,352.51	2	0.2567	15,376.51
	3A	15,346.37	2	0.0119	15,370.37
	4A	15,348.67	4	0.1610	15,376.67
	5A	15,343.31	4	0.0179	15,371.31
B. Participation in protests	1	15,639.78			15,659.78
	2A	15,636.11	2	0.1595	15,660.11
	3A	15,633.82	2	0.0508	15,657.82
	4A	15,635.07	4	0.3187	15,663.07
	5A	15,632.40	4	0.1171	15,660.40

Table 4. Heterogeneous effects models (variations by age). Estimated parameters and standard errors from the selected models.

		(A) External Political Efficacy	(B) Participation in Protests
		Model 3A	Model 3A
Weight (attained educational level)	w	0.767 0.101	0.733 0.070
Estimated means	Basic secondary education or vocational training or less	3.245 0.225	1.230 0.215
	Baccalaureate studies or advanced vocational training	3.922 0.220	2.148 0.210
	University diploma (short-cycle, 2–3 years)	4.275 0.245	2.591 0.235
	University degree (long-cycle, 4–6 years) or higher	4.505 0.233	3.012 0.222
	Overeducation	High	−2.316 ** 0.793
Covariates	Age	−0.002 0.004	0.016 *** 0.004
	Public sector	0.063 0.101	0.539 *** 0.096
	Temporary work	−0.251 ** 0.088	−0.023 0.084
	Part-time work	0.102 0.099	0.220 * 0.095
	Female	−0.398 *** 0.079	−0.178 * 0.075
Interactions	High overeducation × age	0.056 ** 0.021	−0.035 + 0.020

*** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ + $p < 0.1$.

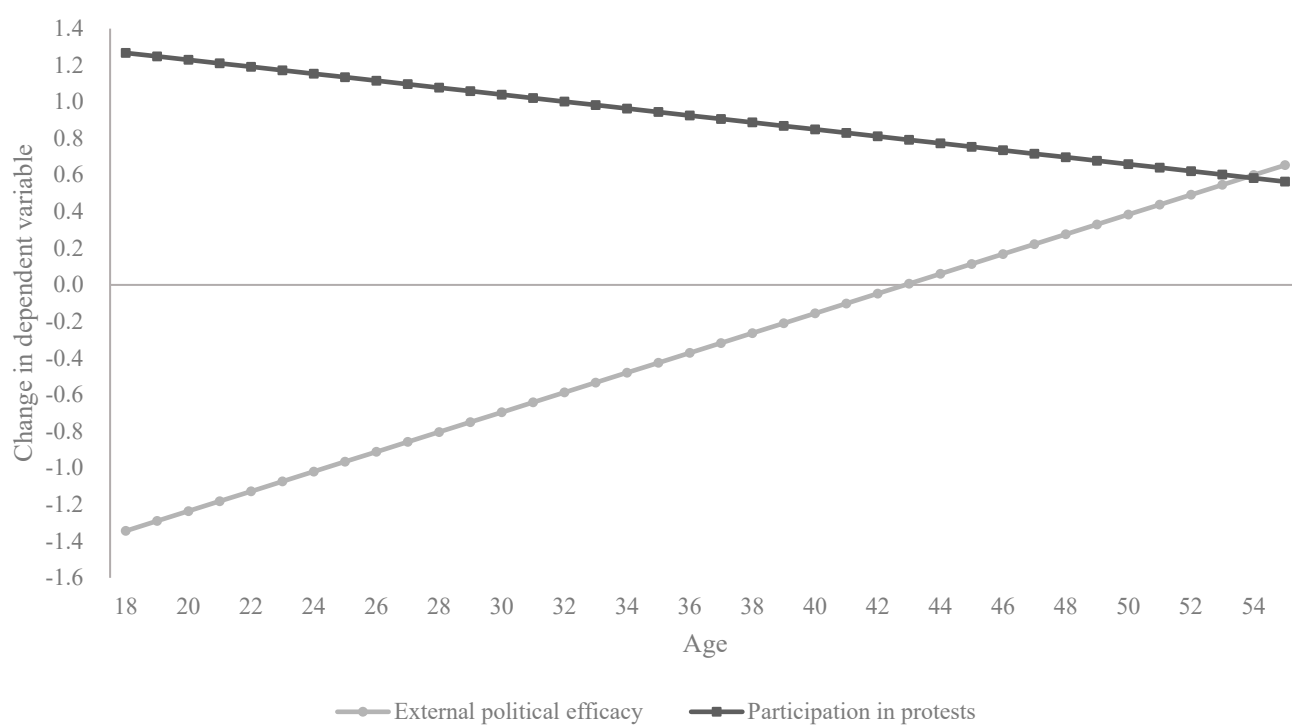


Figure 1. Change in dependent variable as a function of overeducation and age. Calculations made from coefficients in DRM models with interactions (Table 4).

In Table 4 (column B) and Figure 1, the same information is presented for participation in protests. Again, we have selected model 3A. Being highly overeducated was positively related to involvement in protests, but the intensity of this relationship varied with age: the mean value of the participation scale increased by 1.2 points at age 25, 1 point at age 30 and 0.9 points at age 35, with progressively smaller increases down to 0.6 at age 50, after which it was no longer statistically significant.

4. Discussion

We have estimated diagonal reference models to test several hypotheses about the possible effects of overeducation, over and above the effects of completed education and the education required for the occupation.

Assuming that the effects of overeducation are homogeneous, we did not find evidence favorable to our hypotheses about two facets of political disaffection: institutional trust (H1) and external political efficacy (H2). When we contemplated the possibility of the effects being conditional on age, we found the expected negative association between (high) overeducation and external political efficacy, but not for institutional trust. On the other hand, the results supported the original form of hypothesis H3, which predicted that overeducation would be linked to decreased satisfaction with democracy (an indicator of political discontent) for all age levels.

We have also encountered disparity in the results for the hypotheses about how overeducation related to different forms of participation. There was no relation to institutional participation (voting, H4). However, the data supported the positive relationship predicted between (high) overeducation and non-institutional participation (protests) (H5), though intensity varied with age. Finally, the positive, age-invariant effect of (aggregate) overeducation on civic participation corroborated hypothesis H6b on associationism, going against hypothesis H6a. These findings fit rather well with the predictions stemming from status inconsistency theory and with the expectation that the effects of overeducation are conditional on the degree of structural crystallization of the status dimensions. They also make an addition to our knowledge of the relationship between, on the one hand, occupational and educational inequalities and, on the other hand, political attitudes and political participation (e.g., Gallego 2007; Caínzos and Voces 2010; Caínzos 2010; Martini and Quaranta 2020; Madden 2020; Ugur-Cinar et al. 2020; Giugni and Grasso 2021).

Given the arguments underlying each of our hypotheses on the relationship between overeducation and belonging to associations, the fact that our evidence supports H6b rather than H6a has a straightforward theoretical implication. Our confidence in the idea that there is a causal chain connecting inconsistency, role ambiguity, and withdrawal from social interaction or civic participation—a tenet of some classic versions of status inconsistency theory (Lanski 1956; Geschwender 1968)—becomes weaker. Instead, our results lend credence to the view that a plausible adaptive response to the frustration aroused by overeducation is to give more importance to, and spend more time in, non-work activities, including social participation or membership in associations (Burris 1983). However, overeducated workers could also be more prone to belong to associations as a by-product of their greater involvement in protest activities.

On the other hand, the absence of relationship between overeducation and some of our dependent variables raises several questions and requires some post-hoc interpretation. Overeducation may have influenced one facet of disaffection (external political efficacy) but not the other (trust in institutions) because, although both belong to the same cluster of attitudes towards the political system, there are some relevant differences between them. External political efficacy has greater semantic proximity to political discontent and is more correlated to it than trust in institutions. As Montero et al. (1997, p. 143) (see also Craig et al. 1990) pointed out, this “reflects the tendency for incumbent authorities to be evaluated in terms of whether the political process is considered open, and the political system responsive. One would, therefore, expect that respondents who are dissatisfied with economic and/or political conditions might both blame the incumbent government

(. . .) and ultimately associate that poor performance with the belief that politicians do not care what people think". Accordingly, it makes sense that (high) overeducation would affect both dissatisfaction with how democracy works and external political efficacy, but not the level of trust in institutions.

Finally, we can give two complementary interpretations for the absence of any link between overeducation and electoral participation. First, it could be simply seen as part of a constellation of results indicating that being overeducated does not lead to withdrawal from political or social participation. Second, to the degree that voting is a participative mechanism that can serve to express both satisfaction and dissatisfaction, the discontent and negative attitudes towards the political system that are generated by overeducation could be channeled into voting for specific political options rather than abstention. In this case, overeducation might influence the orientation of voting and not the probability of voting or abstaining, something that will be tested in another paper on the relationship between overeducation and political preferences and vote choice.

The general orientation of our work coincides with that of other researchers who have applied estimation methods intended to isolate the effect of overeducation (or inconsistency in general) with respect to those of acquired and required education (or status dimensions in general) to precisely evaluate the political consequences of overeducation and overcome the limitations of the predominant analytical procedures for empirical research in this area (Zhang 2008; Wiedner 2022). However, our findings differ from theirs. Wiedner (2022) observed no relationship between overeducation and dissatisfaction with how democracy works, Zhang (2008) found a significant relationship with trust in institutions, and both authors reported a significant negative association between overeducation and associationism. These discrepancies could reflect variations among the countries studied (United States, United Kingdom, Germany and Spain), but they may also be attributable to differences in measurement and estimation procedures. Finally, our results digress from those of Voces and Caínzos (2021b) for Spain, but this can be easily explained because their analysis excluded younger workers, the age interval where we have found that the effects of overeducation are stronger. Furthermore, none of these studies took into account the moderating role of age.

5. Conclusions

A rather coherent view emerges from our results, linking overeducation to political discontent (decreased satisfaction with how democracy is working), a certain degree of disaffection (diminished external political efficacy), and behaviors such as increased participation in protests and greater associationism. These findings fit with literature that has established a positive interrelationship between these political variables (e.g., Dalton 2004; Schussman and Soule 2005; Ferrer et al. 2006; Quaranta 2015; Vrábliková 2017; but see also Bartiromo and Ivaldi 2021) and can be integrated intuitively into a two-step causal narrative. The first step connects frustration and feelings of injustice generated by overeducation with attitudes that are critical towards the political system. The second links these attitudes to greater implication in non-conventional political activities.

However, to this overall image we must add two important nuances. First, as we have seen, some of the relationships that were discovered have variable intensity depending on age (participation in protests) or are even limited to young adults (external political efficacy). As we suggested when we formulated the hypotheses, this may be due to structural reasons (after a certain age, occupational mobility is improbable; the overeducated tend to accept that their situation will not change, and they adapt to it) or to contextual factors (in Spain, the public discourse on the contrast between educational level and work opportunities has focused on young people). Focusing on structural reasons would suggest an interpretation in terms of life cycle effects, while reference to the contextual factors would be compatible with an interpretation in terms of either cohort effects or the interaction between age and period; our data do not allow us to adjudicate among these alternative interpretations. Second, in some cases the effects of overeducation only appear when

there is a drastic mismatch between acquired and required education. All this implies that the political relevance of overeducation is largely circumscribed to young people with university degrees.

Altogether, our conclusions give some support to status inconsistency theory and call into question the extremely negative diagnosis of this theory that dominated the literature for several decades. However, the effects of overeducation on political attitudes and behaviors are neither great and unconditional, as some classical authors believed, or indicative of potential risk to political stability in democracies. Except in the case of participation in protests, the impact of overeducation was modest, similar to that of the effects observed for other forms of underemployment or precariousness, such as temporary or part-time work. Furthermore, the effects were generally limited to situations of extreme mismatch between education and occupation (such as people with university degrees in occupations requiring basic education at most) and were age-dependent (more intense in younger workers). This fits with the prediction that inconsistency will only be politically relevant at ages in which the degree of structural crystallization of the status dimensions is low (Smith 1969). Finally, the scope of the political consequences of overeducation is also limited because it does not seem to affect some attitudes towards core elements of the political system, such as trust in institutions. This leads us to conclude that overeducation is politically significant but does not necessarily put at stake the legitimacy and stability of the democratic system.

The strength of our study lies in three points. Firstly, we have focused on a very relevant case, Spain, a country with a high overeducation rate and where overeducation has been a highly politicized issue. Secondly, our analysis employs analytical methods that are especially suitable for assessing the effects of status inconsistency, solving the identification problem posed by their estimation. Thirdly, we have added an innovative aspect, exploring the role of age as a possible moderator of the relationship between overeducation and political variables.

However, our analyses have also some limitations. On the one hand, we have used cross-sectional data because of the lack of availability of longitudinal data; this means that the evidence presented in the paper is associational and does not allow causal statements. On the other hand, the fact that our results come from a single country leaves open the question of whether the empirical relationships we have found respond to a general pattern or are specific to the case studied. This points to the need for comparative research on the political effects of overeducation in different countries.

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Appendix A

Table A1. Definition of education/employment mismatch variables.

Educational Level Attained by Employee	Educational Requirements of Occupation			
	Basic Secondary Education or Vocational Training or Less	Baccalaureate Studies or Advanced Vocational Training	University Diploma (Short-Cycle, 2–3 years)	University Degree (Long-Cycle, 4–6 years) or Higher
Basic secondary education or vocational training or less	Consistency	Undereducation	Undereducation	Undereducation
Baccalaureate studies or advanced vocational training	Overeducation	Consistency	Undereducation	Undereducation
University diploma (short-cycle, 2–3 years)	(High) Overeducation	Overeducation	Consistency	Undereducation
University degree (long-cycle, 4–6 years) or higher	(High) Overeducation	(High) Overeducation	Overeducation	Consistency

Notes

- ¹ [Gobernado \(2009\)](#) reports significant positive relationships between overeducation and several socio-political variables (political participation and interest in politics) in Spain; [Green and Henseke \(2016\)](#) found effects on social trust, civic participation, and political efficacy in 22 OECD countries. However, these results come from direct comparisons between overeducated and non-overeducated persons and could simply reflect the effect of education rather than overeducation.
- ² Here we depart from an influential reinterpretation of Easton that merges his two distinctions, identifying five objects of evaluation on a continuum from maximum diffusion to maximum specificity ([Norris 1999](#); [Van Ham et al. 2017](#)). Despite the interest it has garnered, we have some doubts about this approach, concerning both the level of generality of each object (especially regime performance and political institutions) and the possibility to settle a priori questions that are actually empirical, such as the force and direction of the eventual relationships among attitudes towards various political objects and the weight of cultural and rational-evaluative factors in support of each ([Torcal and Montero 2006](#)). However, our hypotheses could also be phrased in terms of this framework, as predictions about the relationship between overeducation and attitudes towards political objects located at intermediate levels of generality.
- ³ Data, information on sample design and the questionnaires of these surveys can be found at URL: http://www.cis.es/cis/opencv/EN/2_bancodatos/estudios/listaTematico.jsp?tema=9&todos=si.
- ⁴ In post-electoral surveys, occupations are identified using the three-digit version of the Spanish Official Occupational Classification, CNO-11 (adaptation of ISCO-08).
- ⁵ In our sample, 19.8% were overeducated and 5.7% fit the category of ‘high overeducation’. Similar figures are reported by [Ramos \(2014\)](#) using the Adult Education Survey (2007 and 2011) and by [Voces and Cainzos \(2021b\)](#) who analyzed the Survey on Quality of Life at Work (2006–2010) and the Survey of Income and Life Conditions (2018).
- ⁶ Estimation was done with the Stata *drm* package ([Kaiser 2018](#)), using non-linear least squares estimation for interval dependent variables and maximum likelihood estimation for binary dependent variables.
- ⁷ For dichotomous dependent variables, a logit version of the same model was applied.
- ⁸ The weight of achieved education was constrained to 1. Following [Sobel \(1981\)](#), we constrained weights when estimates fell outside the interval [0, 1]. Otherwise, the estimation would produce a negative weight for required education.
- ⁹ Frequency of participation in authorized protests, strikes, occupying buildings, sit-ins or blocking traffic, and ‘political consumption’ (purchasing or boycotting products for political reasons).
- ¹⁰ The probability of high overeducation is small among people under age 25. Hence, the negative effects of overeducation on external political efficacy are in fact limited to people aged 25 to 35. Results of the calculation of the effects of overeducation for different ages and significance tests can be provided by the authors upon request.

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