Power and the passion: Inherited culture, individualism and worker satisfaction with power*

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Abstract

Job satisfaction is an important determinant of health outcomes like depression and morbidity, as well as employee turnover and engagement. Using unique employee-establishment data, we focus on a particular aspect of job satisfaction – an individual's satisfaction with their workplace decision-making power. Consistent with our prediction, we find a casual relationship between an employee's ethnic/culturally inherited preference for individualism, their authority and how satisfied they are with their power at the workplace. To account for potential endogeneity, we instrument for decision authority using equivalent workers in a different but similar country. Our estimates also account for establishment random effects, a worker's earnings and other individual characteristics. A placebo test, using overall job satisfaction, provides reassurance we have identified a specific relationship between an individual's inherited individualism, their decision authority and satisfaction with their power.

Key words: power, decision-making authority, autonomy, job satisfaction, individualism, inherited preferences

JEL classifications: D23, L22, L23.

1 Introduction

Given so many of us spend so much of our time at work, it is not surprising that job satisfaction is a significant determinant of well-being (Tait et al., 1989; Bowling et al., 2010).[1] Job satisfaction has been linked to mental and physical health (Fischer and Sousa-Poza, 2009; Faragher et al., 2005) as well as measures of job performance like turnover (Clark et al., 1998; Clark, 2001), engagement (Saridakis et al., 2020) and productivity (Faragher et al., 2005). As part of their overall job satisfaction, it seems obvious – even natural – that an employee would want the power to make or influence decisions at work.[2] Decision-making power can help an employee shape an organization

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[1] A large literature has developed in economics on subjective well-being (happiness) and its relationship to factors such as income (Stevenson and Wolfers, 2008) and inequality at work (Card et al., 2012). The OECD has developed reporting guidelines for measures of happiness (OECD, 2013) and countries such as the UK report national well-being statistics.

[2] As evidence of this, scientists even seem to forgo some financial remuneration to retain research autonomy (Stern, 2004). Pugsley and Hurst (2011) argue non-pecuniary benefits, such as decision-making power, is a major motivation for self employment. Similarly, Hamilton (2000) finds that entrepreneurs pay in terms of lower earnings relative to their expected wages as employees. Owens et al. (2014) find experimental evidence that subjects are willing to forgo expected returns in order to retain control.

so that it better matches their preferences. In this way, the utility of power is *instrumental* in that an individual derives benefits, not from the authority itself, but from the outcomes that it can help implement. However, for some people there is also an *intrinsic* benefit from power – that is, some individuals derive a direct benefit from power itself, not just for what it can delivery. While the instrumental benefit of authority will depend on the outcomes it can facilitate, the intrinsic benefit of power may well depend on an individual's attitudes and beliefs, and these attitudes could well be shaped by an individual's cultural and ethnic background. In this paper, we empirically examine workers' satisfaction with their power in the workplace and its relationship to their socially inherited attitudes to individualism.

Using the British Workplace Employment Relations Survery (WERS) 2011 – a cross-industry survey of over 20,000 employees drawn from 2680 medium and large places of work – we are able to identify both an employee's authority, captured by their ability to control aspects of their job, and their satisfaction with their power (or influence) at work. Confirming our prior, employees with greater authority are on average more satisfied with their power at work (Table 3). This result is robust to the inclusion of individual characteristics, such as education and occupation controls, gender, age, the worker's tenure at the workplace and even their pay.

While some people revel in the opportunity to make decisions, this is not true for all. While there are no doubt many different influences on someone's preference, it is likely that an individual's cultural background and upbringing helps shape their intrinsic preference for power. This accords with Bisin and Verdier (2001) who argued that an individual's preferences are partially inherited from their cultural heritage, instilled by their family, social networks and surrounds.[3] Following this, we posit that an employee's preference for power will be partly determined by their ethnic and cultural background. Some cultures highly value individual autonomy and having the power to make one's own choices; other cultures place greater emphasis on the collective. This has the implication that a worker from a cultural background that values individualism will be more satisfied with their power the more authority they have, relative to others from a different background.

Table 1: Satisfaction with Power and Decentralization by ethnic group ($N = 12950$)[a]

	Satisfaction with power	Authority
White	2.215	0.057
Mixed	2.173	0.072
Asian	2.162	0.251
Black	2.021	0.029
Other	1.825	-0.035

[a] Source: WERS2011. *Satisfaction with power* is measures as integers between 0 and 4 for: very satisfied; satisfied; neither satisfied or dissatisfied; dissatisfied; very dissatisfied. *Authority* measured as a z-score of six aspects of a worker's authority.

As shown in Table 1, the relationship between ethnic background, satisfaction with power and an employee's authority is nuanced. Workers identifying themselves as white are more satisfied on

[3] Also see Rice and Feldman (1997), Guiso et al. (2008), Algan and Cahuc (2010), Tabellini (2010) and Blau et al. (2013).

average with their power at work, reporting an average satisfaction score of 2.215, compared with Asians, for example, who had an average satisfaction with power score of 2.162.[4] However, employees identifying themselves to be white had on average less authority than their Asian counterparts; mean *Authority* for whites was 0.057 as compared with 0.251 for Asians, where authority is measured by a z-score, with higher numbers representing greater decision authority. Furthermore, those identifying as of mixed-ethnic background have higher levels of authority than whites but less overall satisfaction with their power. This suggests that satisfaction with power is not driven purely by an employee's authority; how an employee perceives their workplace power could be influenced somewhat by their ethnic background. In this paper we explore this relationship in more detail.

To capture inherited preferences for power, we utilize the seminal cross-country study of Hofstede (2001) that develops a measure for cultural preferences for individualism. We use this measure to capture an employee's inherited preferences for power, using the distribution of place-of-birth for the individual's ethnic group in Britain. To test the hypothesis above, we interact this measure of culturally-inherited individualism with an employee's authority. Consistent with our prediction, the estimated coefficient on this interaction term is significantly related to an employee's satisfaction with their power.

As discussed further in Section 3.3, there is potential endogeneity relating to a worker's authority and their power satisfaction. There could be, for example, some omitted variable. Alternatively, given the subjective nature of the dependent variable, our results are subject to survey bias. To mitigate these issues, we follow the identification approach adopted in Bloom et al. (2012) and Meagher and Wait (2020), using average levels of worker autonomy in equivalent occupations in a similar country, namely Australia, as an instrument for authority.[5] This instrument performs well, and the key empirical findings continue to hold; namely a worker's satisfaction with their power is positively related to culturally inherited preferences for individualism, authority and the interaction between culturally inherited preferences for individualism and authority.

One advantage of the study is that our prediction is quite specific – it relates an individual's inherited individualism to their satisfaction with their power. We do not make any predictions about preferences for power and satisfaction with other aspects of the job, or even overall job satisfaction, which is likely to be affected by many other factors. This creates the opportunity for a placebo test. To do this, we examine the relationship between employee authority interacted with their inherited preference for individualism and job satisfaction, excluding measures of an employee's authority. Consistent with the placebo test hypothesis, we find no significant relationship, providing us with some additional confidence of the validity of our estimated relationship between authority, culturally-inherited preferences for individualism and satisfaction with power.

Related literature. We draw on several rich streams of literature. Power can be an illusive concept. Previously, Hart and Moore (1990) related power – residual rights of control – with asset ownership. Similarly, Williamson (1985) considered power in the context of the make-or-buy decision. In Rajan and Zingales (1998) power in a firm is driven by access to critical resources. We study a very particular, and complementary, aspect of power. Our focus is on an employee's localized authority to make choices related to various aspects of their own work, and their subjective power satisfaction.

[4]Satisfaction with power is measured as an ordinal variable from 0 to 4, with 4 being the most satisfied. Section 2 provides details of how the variables are constructed.

[5]This data on occupational levels of autonomy in Australia is derived from the Australian Workplace Industrial Relations Survey 1995.

In many ways our focus parallels the notion of real authority – or effective decision-making power – in Aghion and Tirole (1997). In the Aghion and Tirole (1997) framework, decision-making power can arise from either formal/legal decision-making authority or from being better informed about what do do than others in the organization. While we are largely agnostic about its explicit source, consistent with Aghion and Tirole (1997), power is a limited resource; if one party has decision-making power in an organization, someone else does not.

As noted previously, some individuals might enjoy power for its own sake. Indeed, Fehr et al. (2013) find experimental evidence that some individuals are were willing to give up some expected income in order to be the decision maker. Moreover, it seems that participants were particularly keen to avoid being overruled by a superior when they made a recommendation. Bartling et al. (2014) design an experiment to determine the intrinsic value of decision making rights, in contrast to their instrumental value. They find that the intrinsic value of decision-making power is increasing in the stake of the decision at hand but decreasing in the potential conflict (even though the instrumental value is increasing). Drawing on this, we note that, while individual personality traits and workplace context no doubt matter, it is unlikely that intrinsic preferences for power evolve in a vacuum. Rather, a preference for power could be at least partially shaped by a person's social context and ethnic background.[6] Our focus here is on an individual's attitudes inherited from their antecedents; that is, there is a transmission of cultural values and beliefs to an individual. Empirical studies such as Rice and Feldman (1997) and Putnam (2000) show a correlation between the social capital of immigrants to the United States and those found in their countries of origin. Similarly, Guiso and Zingales (2006) shows that trust of immigrants, again to the United States, is related to trust in their country of birth and that of their parents.[7] Meagher and Wait (2020) find that trust in management has an inherited component based on country of birth. In different contexts, both Uslaner (2008) and Nunn and Wantchekon (2011) find persistent group social norms across time. Theoretical modelling – Bisin and Verdier (2001) and Guiso et al. (2008) – outline potential mechanisms for inter-generational transfer of social norms.

We also contribute to the job-satisfaction literature, of which Freeman (1978) is a notable early contribution. Berg (1999) examines the impact on job satisfaction from the use of high performance work practices in the US steel industry. Hamermesh (1999) links job satisfaction (or lack thereof) to pay inequality. Using the 1997 WERS data, Gazioglu and Tansel (2006) examine the co-factors associated with employee satisfaction associated with their influence over job, pay, their sense of achievement and the respect they receive from supervisors. Saridakis et al. (2020) explore the relationship between employee overall job satisfaction and their commitment to the organization. We are able to control for many of the previously highlighted individual traits that might affect an individual's satisfaction. We are also able to control for establishment random effects. As indicated by our placebo results, what underlies an employee's satisfaction is potentially complex. One of our contributions is identifying a mechanism to a particular aspect of an employee's attitudes about their work – satisfaction with power. This suggests that job satisfaction is most likely multifaceted and care is needed not to overly simplify these relationships.

[6] Moreover, some individuals might at times prefer not to make decisions (Bartling and Fischbacher, 2012).
[7] Also see Bidner and Francois (2011) and Bloom et al. (2012).

2 Data Set and Variables

For this study we use the UK Workplace Employment Relations Survery (WERS) 2011, a cross-industry sample of 2680 British establishments, particularly its Survey of Employees, a representative sample of over 20 000 employees of up to 25 employees drawn from each of these establishments. This survey has some unique information on employee authority and attitudes, as well as the standard human capital and demographic characteristics. To avoid other confounding factors, we focus on full-time prime-age employees.

2.1 Dependent Variable: *Satisfaction with power*

In the survey, each employee was asked '[o]verall, how satisfied are you with the amount of involvement you have in decision-making at this workplace?' The possible answers to each question were: (5) Very satisfied; (4) Satisfied; (3) Neither satisfied nor dissatisfied; (2) Dissatisfied; and (1) Very dissatisfied. We use this ranking to generate the ordered variable *Satisfaction with power*; this is our main dependent variable. As a robustness check, we also generate a binary variable *Satisfaction with power (binary)*, which is coded as: 1 if an employee is either very satisfied or satisfied; and 0 if they are neither satisfied or dissatisfied, dissatisfied or very dissatisfied.

We interpret an employee's involvement in decision making as a measure of their decision power in the workplace. While involvement could entail different things – providing input, proposing, vetoing, deciding unilaterally, amongst other possibilities – it suggests that an employee has some power or influence over the decisions being made.[8] As shown in Figure 1, there is a range of opinions amongst employees regarding how satisfied they are with their decision power. The modal group of employees are relatively neutral about their involvement in decision making at work. Just under one quarter of all employees report that they are satisfied or very satisfied with their decision power. At the other end of the spectrum, approximately 8% of employees are very dissatisfied.

Table 2: Summary Statistics ($N = 12950$)[a]

	(1)	
	mean	sd
Sat. Overall Involve Decisions	2.21	1.01
z-Authority	0.06	0.97
Individualism	0.84	0.15
Pay (Weekly, '00's)	5.57	3.01
Incomplete High School	0.34	0.47
High School	0.13	0.33
Degree	0.37	0.48
Tenure	6.75	4.45
Male	0.55	0.50
Age	41.93	11.10
Aus. Authority	0.13	0.43
Count Sat. Other	4.81	2.45
Observations	12950	

[a] Source: WERS2011. Sat. Power an abbreviation for *Satisfaction with Power*

[8] See Katayama et al. (2018) for a taxonomy of different authority/communication/input structures adopted by firms.

Table 3: Spearman Rank Order Correlations[a]

	spearstats r_qb8	decentralization	idv1_ethnic_v2	payconte2	sed2	sed3	sed4	tenure_cnt	emale	age_cnt	iv_decen_awirs_esoc4	cntsatall
Sat. Overall Involve Decisions	1.00	0.40	0.02	0.16	-0.04	-0.03	0.08	-0.06	-0.03	-0.03	0.22	0.60
z-Authority	0.40	1.00	-0.03	0.24	-0.05	-0.02	0.09	0.03	-0.03	0.05	0.28	0.44
Individualism	0.02	-0.03	1.00	0.02	0.14	0.05	-0.10	0.11	0.02	0.09	0.00	0.01
Pay (Weekly, '00's)	0.16	0.24	0.02	1.00	-0.22	-0.03	0.41	0.13	0.16	0.17	0.38	0.15
Incomplete High School	-0.04	-0.05	0.14	-0.22	1.00	-0.27	-0.55	0.05	0.01	-0.03	-0.15	-0.05
High School	-0.03	-0.02	0.05	-0.03	-0.27	1.00	-0.30	-0.02	-0.04	-0.03	-0.00	-0.03
Degree	0.08	0.09	-0.10	0.41	-0.55	-0.30	1.00	-0.12	-0.04	-0.13	0.31	0.06
Tenure	-0.06	0.03	0.11	0.13	0.05	-0.02	-0.12	1.00	0.07	0.42	-0.04	-0.03
Male	-0.03	-0.03	0.02	0.16	0.01	-0.04	-0.04	0.07	1.00	0.07	-0.10	-0.05
Age	-0.03	0.05	0.09	0.17	-0.03	-0.03	-0.13	0.42	0.07	1.00	0.00	-0.02
Aus. Authority	0.22	0.28	0.00	0.38	-0.15	-0.00	0.31	-0.04	-0.10	0.00	1.00	0.14
Count Sat. Other	0.60	0.44	0.01	0.15	-0.05	-0.03	0.06	-0.03	-0.05	-0.02	0.14	1.00

[a] Source: WERS2011. Spearman rank-order correlation used given some of the variables ordinal. Sat. Power is the abbreviation for *Satisfaction with Power*

2.2 Explanatory variables

Authority. Our measure of an employee's authority again comes from WERS. Every employee surveyed was asked: '[i]n general, how much influence do you have over the following? The tasks you do in your job; The pace at which you work, How you do your work, The order in which you carry out tasks, The time you start or finish your working day.' The possible answers to these questions were captured in the four-point Likert scale: A lot (4), Some (3), A little (2), None (1).[9] In many ways, these questions capture aspects of an employee's *real authority* – their ability to make these choices even if the formal rights still reside with a superior (Aghion and Tirole, 1997). Moreover, it is likely that an employee with this authority will also have more power over decision making more generally at their establishment.

To produce our z-score *Authority* we average and standardize the numerical answers to each of these six questions. Using a z-score as a measure delegation has been used by Bloom et al. (2012) and Meagher and Wait (2020), amongst others.[10] Also notably here, and unlike the aforementioned studies on centralization/delegation, our focus is on the relationship between an employee's authority, inherited preferences for individualism and satisfaction with their decision power.

Employee characteristics. From WERS, we generate controls for educational attainment, with dummies for *Incomplete High School*, having completed *High School* and for workers with a *Degree* or equivalent (less than high school is the omitted category). We also include controls for *Age*, Age^2, *Tenure* (total years working at the establishment), $Tenure^2$ and a dummy variable for *Male*.[11] In some estimates we include employee *Pay* (average weekly earnings before tax).[12] See Table 2 for the summary statistics.

Culture. As noted, an employee's preference for power is likely shaped by a variety of factors, including their cultural background and beliefs. The landmark study of Hofstede (2001), which established quantitative inter-cultural analysis, shows that there are important differences between citizens in different countries relating to their attitudes about culture and values, including attitudes about the role of supervisors and subordinates in firms.[13]

To capture an employee's inherited attitudes we make use of the country-level measure of Individualism in Hofstede (2001), which captures the extent to which individuals in a society believe that they are responsible for themselves and their immediate families, rather than having a more collectivist attitude that members of a group are expected to look after each other (in return for loyalty). In this way, a country's score on this index reflects how much a typical member of a particular

[9]The first four questions have their origin in Hackman and Oldham (1975) and have been extensively used over the last four decades. The statistical validation of these questions as a single measure (of authority), and their distinctness from empowerment, is covered in Spreitzer (1995). Flores-Fillol et al. (2017) and Meagher and Wait (2020) use a similar set of questions to analyze autonomy. Hong et al. (2017) consider the allocation of decision-making rights between principals, senior managers and non-managerial employees relating to 12 operating tasks with some similarities to those considered here.

[10]While there is some subjectivity in these questions, previous studies have also relied on surveys with subjective questions. For example, Acemoglu et al. (2007) use subjective answers on establishment's autonomy regarding investment, and on manager's autonomy/authority regarding employment decisions. Similarly, the measure of delegation in Colombo and Delmastro (Colombo and Delmastro) is based on subjective answers from the establishment manager. Also see the subjective measures used in Guiso et al. (2015) and Brown et al. (2015).

[11]For the age and tenure variables, years are taken as the midpoints of the categories in the survey, and more than 10 years of ten is coded as 12.5 years.

[12]Entered as the midpoints of the categories from the survey, with the top category coded as approximately one-third above the final threshold.

[13]Inter-country, firm level studies in economics, such as Bloom et al. (2012) and La Porta et al. (1997), have utilized this study's Power Distance Index (PDI).

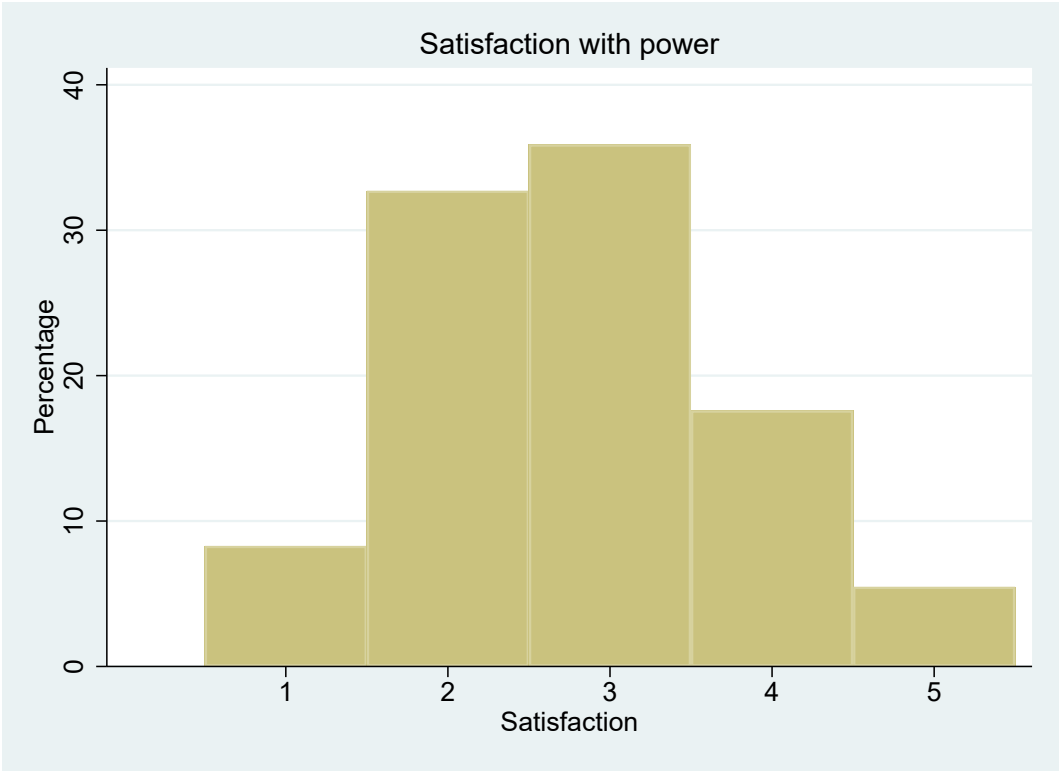

Figure 1: Power satisfaction. Key: 1 - Very dissatisfied, 2 - Dissatisfied, 3 - Neither satisfied or dissatisfied, 4 - Satisfied. 5 - Very Satisfied.

society thinks of themselves as being either 'I' (higher scores) or 'we' (lower scores). For example, the Individualism index is higher for countries such as the USA, suggesting stronger preferences for individualism, and lower for countries like Italy and Japan.

Using the Hofstede (2001) index described above, we generate a variable *Individualism*, which is the score attributed to each country by Hofstede, rescaled to be between 0 and 1 (from 0 to 100). We match the country-level indexes from the study of Hofstede using one of the 17 ethnic groups identified for each worker in WERS on the basis of the country of birth for that ethnic group in Britain. For the first set of ethnic categories – British, Irish, Indian, Pakistani, Bangladeshi, Chinese, African and Arab – there is a close corresponding country index in the Hofstede (2001). The second group of ethnic categorizations in WERS consists of multi-country clusters, namely: (i) Any other white background; (ii) Any other Asian background; (iii) Caribbean; and (iv) Any other Black background. For these categories we use the available country measures of *Individualism* in Hofstede (2001), taking a weighted average of the country of births according to UK population data from the 2011 UK Census for countries related to the various ethnic groupings. 'Any other ethnic group' is allocated the country British index number as this does not require implying a difference between this group's preferences to the UK average. The final batch of ethnic groupings are people of mixed backgrounds: (i) White and Black Caribbean; (ii) White and Black African; (iii) White and Asian; and (iv) Any other mixed background. The first three categories are binary combinations of individual groups scored above. We impute a score for each binary combination as the 50:50 average of the scores of the component categories. For the last category, 'Any other mixed background', is allocated the British country score, which would be the largest constituent country associated with this grouping.

3 Empirical results

The key relationship in this study is between *Satisfaction with power* and *Authority*, by ethnic group. This unconditional relationship is captured in Figure 2, which plots the relationship between *Authority*, measured as four (aggregate) categorical groups, and employee *Satisfaction with power*, by five broad ethnic groupings.[14] The Figure shows that for each of these five ethnic categories there is a positive relationship between *Authority* and *Satisfaction with power*. There seems to be some differences between the groups though too, not just in satisfaction levels but also the gradient of these relationships. Our multi-variable analysis below explores these issues further.

3.1 Multivariate analysis

To do this we estimate *Satisfaction with power* as an ordered probit, as detailed in Table 4.[15] The first estimation model, shown in Column 1, contains only *Authority*.[16] The significant coefficient confirms positive the relationship between an employee's *Authority* and their *Satisfaction with authority*. To this, Model 4(2) includes occupational controls. Controlling for their authority, managers and

[14]The z-score for *Autonomy* was converted into four groups: a z-score below -1, a *z*-score greater than or equal to -1 and less than 0; greater than or equal to 1 but less than 1; and a z-score greater than or equal to 1. Following UK Office of National Statistics guidelines the broad ethnic categories classified in WERS are White, Asian, Black, Mixed and Other. As outlined in Section 2, our econometric estimates below use a finer classification of ethnicity.

[15]Standard errors are clustered at the establishment level.

[16]We adopt the numbering convention for the different estimation models of Table number (column number).

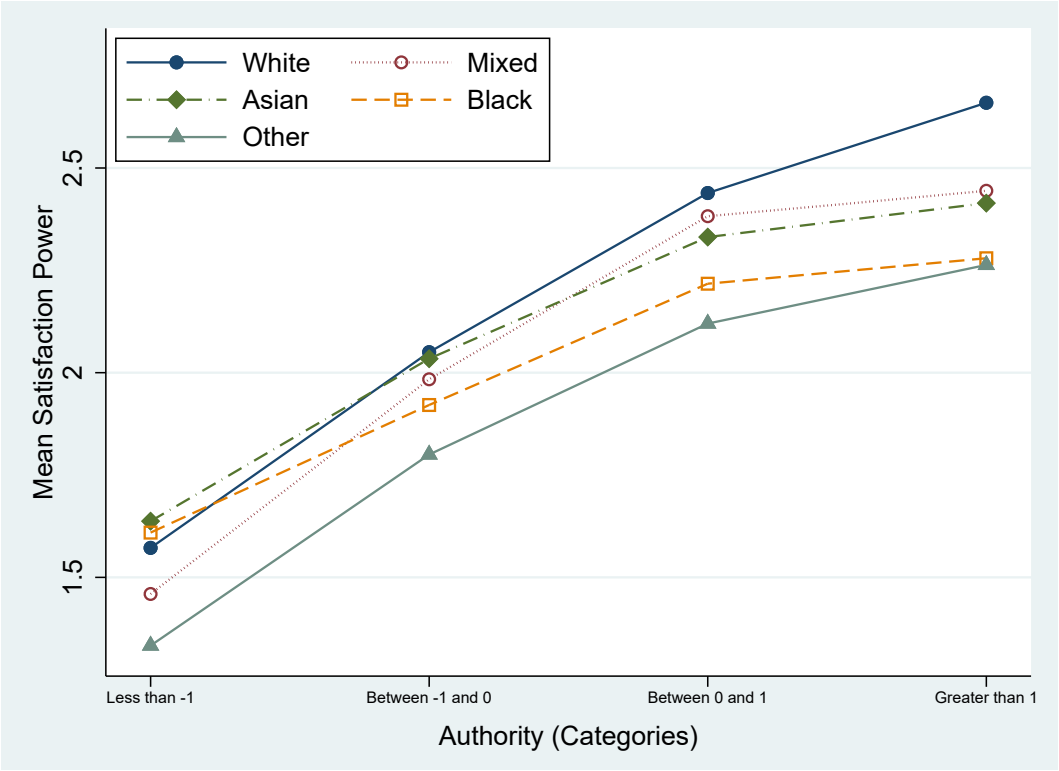

Figure 2: Worker authority and power satisfaction by ethnicity

professional are overall more satisfied with their power, whereas plant operators are less satisfied, relative to laborers. Model 4(3) includes educational dummy variables, *Tenure*, $Tenure^2$, *Male*, *Age* and Age^2. Both an employee's age and tenure have a convex relationship with *Satisfaction with power*, although for almost all employees *Satisfaction with power* is decreasing with their age and job tenure. Notably, older and longer serving employees are less satisfied with their power despite, on average, having higher levels of authority.

Model 4(4) further includes employee weekly pay, which is positive and significantly related to *Satisfaction with Power*. Finally, Model 4(5) also incorporates both *Individualism* and the interaction of *Individualism* with *Authority*. These results show that workers from backgrounds that value individualism more highly are more satisfied with their power. From the interaction term *Authority* $\times$ *Individualism*, employees from more individualistic cultural backgrounds experience an additional benefit in terms of satisfaction with their power when they have greater authority. This suggests that not all workers are the same in terms of their preference for decision-making power, and that part of this difference relates to their cultural background.

A few other results are worth noting. In Model 4(5) the estimated coefficient for *Male* is negative and significant – males are less satisfied with their authority, other things equal. The educational dummy variable coefficients are also significant and negative. Again, despite having higher levels of authority on average, more educated employees are less satisfied with their power at work.

Table 4: *Satisfaction with power*: Ordered Probit results (establishment-level clustered standard errors in parentheses)[a]

	(1) Sat. Influence	(2) Sat. Influence	(3) Sat. Influence	(4) Sat. Influence	(5) Sat. Influence
main					
z-Authority	0.484***	0.451***	0.455***	0.443***	0.325***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.062)
Individualism					0.300***
					(0.071)
z-Authority × Individualism					0.144**
					(0.073)
Pay (Weekly, '00's)				0.045***	0.045***
				(0.005)	(0.005)
Incomplete High School			-0.035	-0.061*	-0.077**
			(0.031)	(0.031)	(0.031)
Degree			-0.018	-0.104***	-0.107***
			(0.035)	(0.036)	(0.036)
Tenure			-0.079***	-0.080***	-0.080***
			(0.010)	(0.010)	(0.010)
Tenure^2			0.005***	0.005***	0.005***
			(0.001)	(0.001)	(0.001)
Male			-0.020	-0.063***	-0.063***
			(0.021)	(0.022)	(0.022)
Age			-0.016**	-0.027***	-0.026***
			(0.007)	(0.007)	(0.007)
Age^2			0.000**	0.000***	0.000***
			(0.000)	(0.000)	(0.000)
Managers		0.725***	0.731***	0.556***	0.544***
		(0.054)	(0.055)	(0.058)	(0.058)
Trades		0.127**	0.127**	0.078	0.069
		(0.053)	(0.053)	(0.053)	(0.053)
Sales		0.373***	0.346***	0.315***	0.313***
		(0.068)	(0.067)	(0.068)	(0.067)
Other Service		0.269***	0.243***	0.234***	0.232***
		(0.057)	(0.057)	(0.057)	(0.057)
Plant Operators		-0.088	-0.084	-0.114**	-0.120**
		(0.058)	(0.057)	(0.058)	(0.058)
Professional		0.227***	0.208***	0.068	0.063
		(0.047)	(0.050)	(0.051)	(0.051)
Assoc. Prof.		0.127***	0.107**	0.009	0.002
		(0.046)	(0.047)	(0.048)	(0.048)
Admin		0.050	0.036	0.001	-0.004
		(0.046)	(0.047)	(0.047)	(0.047)
High School			-0.103***	-0.146***	-0.160***
			(0.039)	(0.039)	(0.039)
-					
-					
-					
Observations	12950	12950	12950	12950	12950

[a] *** significant at 1% level, ** significant at 5% level, * significant at 10% level. Establishment-level clustered standard errors in parentheses.

3.2 Establishment random-effects estimates

To control for, at least partially, the impact that a particular workplace might have on an employee's *Satisfaction with power*, we include establishment-level random effects. These results are shown in Table 5. Model 5(1) contains the full set of explanatory variables from the previous estimates, including the interaction of *Authority* × *Individualism* and an employee's weekly pay. As a robustness check, Model 5(2) includes two-digit rather than one-digit occupational dummy variables. Finally, in column 3, Model 5(3) uses the binary measure of power satisfaction *Satisfaction with power(binary)*, coded as 0 if a worker is very dissatisfied or dissatisfied, and 1 otherwise (neither dissatisfied or satisfied, satisfied or very satisfied). The first two models are estimated using an ordered probit, whereas Model 5(3) is estimated as a probit.

Table 5: *Satisfaction with power*: Ordered-Probit and Probit Results with establishment-level random effects (establishment-level clustered standard errors in parentheses).[a]

	(1) Sat. Infl. (Oprobit)		(2) Sat. Infl. (Oprobit) (2d Occ.)		(3) Sat. Infl (Probit)	
main						
z-Authority	0.325***	(0.064)	0.329***	(0.064)	0.309***	(0.086)
Individualism	0.289***	(0.071)	0.276***	(0.071)	0.235***	(0.089)
z-Authority × Individualism	0.157**	(0.074)	0.151**	(0.074)	0.243**	(0.101)
Pay (Weekly, '00's)	0.051***	(0.005)	0.052***	(0.005)	0.057***	(0.006)
Incomplete High School	-0.078**	(0.032)	-0.076**	(0.033)	-0.101**	(0.041)
High School	-0.149***	(0.041)	-0.149***	(0.041)	-0.175***	(0.051)
Degree	-0.109***	(0.037)	-0.124***	(0.037)	-0.144***	(0.046)
Tenure	-0.087***	(0.010)	-0.087***	(0.010)	-0.079***	(0.013)
Tenure^2	0.005***	(0.001)	0.005***	(0.001)	0.005***	(0.001)
Male	-0.057**	(0.022)	-0.037	(0.023)	0.004	(0.028)
Age	-0.022***	(0.007)	-0.022***	(0.007)	-0.027***	(0.009)
Age^2	0.000**	(0.000)	0.000**	(0.000)	0.000**	(0.000)
Managers	0.529***	(0.059)			0.608***	(0.073)
Professional	0.039	(0.053)			0.069	(0.067)
Assoc. Prof.	0.003	(0.049)			-0.002	(0.064)
Admin	-0.007	(0.048)			-0.061	(0.065)
Trades	0.009	(0.054)			-0.000	(0.073)
Sales	0.317***	(0.070)			0.367***	(0.091)
Other Service	0.187***	(0.058)			0.291***	(0.074)
Plant Operators	-0.154***	(0.059)			-0.171**	(0.075)
Constant					0.144	(0.207)
Observations	12950		12950		12950	
No. establishments	1600.000		1600.000		1600.000	
σ_u	0.317		0.305		0.323	

[a] *** significant at 1% level, ** significant at 5% level, * significant at 10% level. Establishment-level clustered standard errors in parentheses. Model 5(1) and (2) are estimated as an ordered probit. Model 5(2) includes 2-digit occupational controls. Model 5(3) is estimated using a probit.

Focusing on Model 5(1), the positive and significant relationship between *Authority* and *Satisfaction with power* persists. Similarly, an employee's inherited preference for *Individualism* is positively associated with higher levels of *Satisfaction with power*. Consistent with our key prediction the interaction *Authority* × *Individualism* remains positive and significant; an increase in authority for an employee with a inherited preference for individualism has a larger positive impact on their *Satisfaction with power* than would otherwise be the case. In terms of occupational controls, *Managers* and *Sales* are significantly more satisfied, *Plant Operators* are significantly less so, whereas there is no significant difference between the estimated coefficients for other occupational groups and the omitted category (Laborers). Very similar results are obtained in Model 5(2), indicating the occupational

categories used as controls are not driving the estimated results.

Sometimes there is an advantage of using a binary variable, particularly for subjective responses, as broader categories create a well defined distinction between the alternatives. Providing some reassurance of robustness, the estimates in Model 5(3) with *Satisfaction with Power (Binary)* as the dependent variable are very similar from our order-probit model. Specifically, all of the key results remain, including the significant and positive coefficient on the interaction term *Authority* × *Individualism*.

3.3 Instrumental variable: *Autonomy (AUS)*

There is potentially an endogeneity issue between *Satisfaction with power* and *Authority*. It could be the case that there is an omitted variable or that there is some measurement error. As detailed below, we use an instrumental-variables (IV) approach to mitigate these issues (Angrist and Pischke, 2008; Wooldridge, 2000).

Omitted variables could result in a biased estimate of the satisfaction-authority relationship. For example, if an individual manager and worker have a particularly good working relationship, the omitted factor might have a positive affect on both a worker's *Satisfaction with authority* and their *Authority*. Similarly, a positive working relationship between a particular manager and an employee might facilitate higher levels of an employee's satisfaction with their decision involvement as well as facilitating an environment in which delegation is possible. One driver of this might be the proximity of the manager and the employee in the workplace; closer proximity might facilitate effective communication and understanding between the parties, aiding management's ability to delegate and an employee's satisfaction with their power.[17] In any of these scenarios, the omitted variable could influence both employee power satisfaction with their level of decision authority, and this might not be fully accounted for with the establishment-level random effects.

Measurement error could also impact our estimated results in several ways. First, there could be noise in the reporting of the questions making up *Satisfaction with power*. The impact of the residual noise in the dependent variable is to decrease the goodness-of-fit in our estimation, biasing us against finding statistically significant results. Secondly, any noise in the reporting of *Authority* would produce attenuation, biasing its coefficient towards zero. Thus in both of these cases the potential bias works against finding a significant relationship between delegation and employee trust.

A measurement-error issue that could arise in relation to our subjective variables is common-methods or survey bias. Survey bias can occur if there exists a common factor that distorts individual responses to the key subjective questions in the survey. This might be due to the survey itself, or because of idiosyncratic factors like feeling tired or sick. Another possibility is that an individual may exhibit the psychology trait of making their responses unrealistically consistent.[18] Survey bias as a common-factor measurement-error problem follows immediately from classical errors in variables models; see for example Wooldridge (2000).

Our instrumental variable is *Autonomy (AUS)*. Here, we rely on an analogous identification strategy as to the one adopted by Acemoglu et al. (2007) and Meagher and Wait (2020). Acemoglu et al. (2007) instrument for French-industry productivity heterogeneity at the four-digit industry

[17] Newton et al. (2019) build a model in which closer informal interactions aid coordination in the workplace.

[18] This last effect is often referred to as the 'halo effect' because positive assessments of one characteristic typically spill over into positive assessments of unrelated characteristics (Kahneman, 2011).

level using their UK-industry counterparts. Meagher and Wait (2020) instrument for worker trust in Australia using four-digit occupational counterparts from the UK. In this paper we do something very similar, only in reverse. Here we instrument for employee *Authority* in the UK using the average autonomy of employees in equivalent four-digit occupational categories in Australia.

The data for *Autonomy (AUS)* comes from the Australian Workplace and Industrial Relations Survey 1995 (AWIRS95). AWIRS95 is an equivalent survey of establishments, employees and worker representatives to the UK WERS. In the survey, employees were asked '[i]n general, how much influence or input do you have about the following? The type of work you do; How you do your work; When you start and finish work; The pace at which you do your job; The way the workplace is managed or organised; Decisions which affect you at this workplace.' The first four of these questions are directly related to the authority questions asked in WERS. For each of the six questions, the possible responses were: (1) a lot; (2) some; (3) a little; or (4) none.[19] To generate our instrument *Autonomy (AUS)* we reverse code these variables, sum the scores across all six questions and create a z-score with a mean of 0 and a standard deviation of 1. This z-score is then averaged for each four-digit occupational category, and matched to its equivalent four-digit occupation in the UK. As with our measure of worker *Authority* in the UK, higher values of this variable indicate greater decentralization or employee influence.

The intuition underlying this instrument is that the UK and Australia are similar countries, sharing a common history and sufficiently similar industrial relations institutions as to yield occupations which are operationally similar. Thus employees in equivalent jobs are conjectured to face similar working conditions (observability, technology etc) and social norms/institutions that influence their decision-making authority. Adapting the argument of Acemoglu et al. (2007), while an Australian worker's authority might be affected by a good relationship with management or some other omitted variable, this will be exogenous to worker authority in their UK occupational counterpart, making *Autonomy (AUS)* a valid instrument.

The instrumental-variable estimates are displayed in Table 6. Firstly, we estimate an ordered probit for *Satisfaction with power* with a full set of controls, establishment-level random effects and clustered standard errors (at the establishment level). The estimates are shown in Model 6(1). Secondly, as shown in Model 6(2), we estimate a probit for *Satisfaction with power (Binary)*, with establishment random effects and all controls. In each model the endogenous variable is *Authority*, and its interaction term with *Individualism*. As noted, the instrument used is *Autonomy (AUS)*.

For both of these models, the errors in the first and second equations are significantly related at the 5% level, suggesting the IV approach is warranted. Accounting for the potential endogeneity, the results are very similar for the results above; employeer satisfaction with their power (in both the ordered probit and probit) is positively related to *Authority*, inherited *Individualism* and higher levels of pay. On the contrary, *Satisfaction with power* is negatively associated with both worker age and tenure. The coefficient on the key interaction term *Authority* $\times$ *Individualism* remains significant and positive; again, there is a significant increase in a employee's satisfaction with their workplace power with higher levels of autonomy given that they have a stronger culturally-inherited preference for individualism. The marginal effects for Model 6(1) are shown in Table 7 for five different levels of *Individualism* corresponding to Pakistan, China/Bangladesh, Any Other Black Background, India and British, calculated at three levels of *Authority* (-1, 0, and 1).

[19] 0.1 percent of employees responded 'Don't know'.

Table 6: Random Effects IV estimate results for *Satisfaction with power*, *Satisfaction with power (Binary)* and the placebo *Job Satisfaction*[a]

	(1) Sat. Infl. (Oprobit)		(2) Sat. Infl (Probit)		(3) Placebo:Job Sat. (Oprobit)	
stage2						
z-Authority	0.529***	(0.111)	0.537***	(0.142)	0.099	(0.121)
Individualism	0.331***	(0.074)	0.281***	(0.091)	0.117	(0.081)
z-Authority × Individualism	0.144**	(0.073)	0.227**	(0.099)	-0.006	(0.078)
Pay (Weekly, '00's)	0.039***	(0.008)	0.043***	(0.010)	0.062***	(0.006)
Incomplete High School	-0.059*	(0.034)	-0.080*	(0.041)	-0.155***	(0.033)
High School	-0.119***	(0.043)	-0.140***	(0.054)	-0.212***	(0.041)
Degree	-0.075*	(0.041)	-0.104**	(0.050)	-0.259***	(0.039)
Tenure	-0.086***	(0.010)	-0.078***	(0.013)	-0.054***	(0.010)
Tenure^2	0.005***	(0.001)	0.005***	(0.001)	0.003***	(0.001)
Male	-0.037	(0.024)	0.024	(0.029)	-0.158***	(0.023)
Age	-0.020***	(0.007)	-0.025***	(0.009)	-0.060***	(0.007)
Age^2	0.000**	(0.000)	0.000*	(0.000)	0.001***	(0.000)
Managers	0.372***	(0.092)	0.430***	(0.117)	0.296***	(0.084)
Professional	-0.044	(0.063)	-0.025	(0.080)	0.210***	(0.064)
Assoc. Prof.	-0.086	(0.063)	-0.104	(0.080)	0.066	(0.066)
Admin	-0.073	(0.057)	-0.136*	(0.074)	-0.043	(0.062)
Trades	-0.035	(0.056)	-0.049	(0.074)	0.048	(0.063)
Sales	0.288***	(0.073)	0.330***	(0.093)	0.089	(0.072)
Other Service	0.159***	(0.058)	0.256***	(0.075)	0.268***	(0.061)
Plant Operators	-0.136**	(0.059)	-0.150**	(0.074)	0.067	(0.060)
stage1						
Aus. Authority	0.397***	(0.035)	0.397***	(0.035)	0.401***	(0.035)
Individualism	-0.239***	(0.060)	-0.235***	(0.060)	-0.226***	(0.062)
Pay (Weekly, '00's)	0.057***	(0.003)	0.057***	(0.003)	0.057***	(0.003)
Incomplete High School	-0.069**	(0.028)	-0.069**	(0.028)	-0.064**	(0.029)
High School	-0.126***	(0.034)	-0.126***	(0.034)	-0.125***	(0.035)
Degree	-0.173***	(0.031)	-0.173***	(0.031)	-0.167***	(0.031)
Tenure	0.007	(0.008)	0.007	(0.008)	0.007	(0.008)
Tenure^2	-0.000	(0.001)	-0.000	(0.001)	-0.000	(0.001)
Male	-0.084***	(0.018)	-0.084***	(0.018)	-0.082***	(0.019)
Age	-0.007	(0.006)	-0.007	(0.006)	-0.009	(0.006)
Age^2	0.000	(0.000)	0.000	(0.000)	0.000	(0.000)
Managers	0.171***	(0.064)	0.176***	(0.064)	0.177***	(0.066)
Professional	0.110**	(0.053)	0.114**	(0.053)	0.121**	(0.055)
Assoc. Prof.	0.262***	(0.050)	0.265***	(0.050)	0.273***	(0.051)
Admin	0.138***	(0.050)	0.140***	(0.050)	0.148***	(0.052)
Trades	0.112**	(0.053)	0.116**	(0.054)	0.125**	(0.055)
Sales	0.008	(0.070)	0.010	(0.070)	0.026	(0.071)
Other Service	-0.088	(0.059)	-0.082	(0.059)	-0.080	(0.061)
Plant Operators	-0.064	(0.058)	-0.061	(0.058)	-0.048	(0.061)
tests						
var(e.decentralization)	0.753***	(0.013)	0.754***	(0.013)	0.744***	(0.013)
corr(e.decentralization,e.r_qb8)	-0.194**	(0.083)				
var(r_qb8[serno])	0.093***	(0.011)				
var(decentralization[serno])	0.087***	(0.009)	0.086***	(0.009)	0.087***	(0.009)
corr(decentralization[serno],r_qb8[serno])	0.069	(0.120)				
corr(e.decentralization,e.br_qb8)			-0.214**	(0.102)		
var(br_qb8[serno])			0.096***	(0.013)		
corr(decentralization[serno],br_qb8[serno])			-0.017	(0.140)		
corr(e.decentralization,e.cntsatother)					0.277***	(0.077)
var(cntsatother[serno])					0.128***	(0.012)
corr(decentralization[serno],cntsatother[serno])					0.390***	(0.085)
Observations	12950		12950		12526	
No. establishments	1600.000		1600.000		1600.000	

[a] *** significant at 1% level, ** significant at 5% level, * significant at 10% level. Establishment-level clustered standard errors in parentheses. All columns 1-digit occupations controls at Stage 1 and 2. Establishment-level random effects at both stages. Model 5(1) and Model 5(3) estimated as an ordered probit. Model 5(2) estimated as a probit model.

Table 7: *Satisfaction with power*: Marginal effects for *Authority* for different levels of *Individualism*[a]

Power satisfaction	0	1	2	3	4
IND = 0.14					
Authority					
-1	-.133	-.079	.084	.111	.015
	(.038)	(.006)	(.028)	(.009)	(.001)
0	-.0688	-.112	-.008	.143	.046
	(.015)	(.017)	(.009)	(.022)	(.008)
1	-.026	-.089	-.096	.110	.101
	(.003)	(.010)	(.024)	(.009)	(.028)
IND = 0.2					
Authority					
-1	-.134	-.081	.085	.114	.016
	(.037)	(.006)	(.028)	(.009)	(.001)
0	-.068	-.113	-.011	.145	.048
	(.015)	(.017)	(.008)	(.022)	(.008)
1	-.025	-.088	-.100	.109	.106
	(.002)	(.009)	(.023)	(.008)	(.028)
IND = 0.275					
Authority					
-1	-.135	-.084	.085	.117	.017
	(.036)	(.005)	(.027)	(.009)	(.001)
0	-.067	-.116	-.016	.148	.051
	(.014)	(.016)	(.007)	(.021)	(.008)
1	-.024	-.087	-.106	.106	.112
	(.002)	(.008)	(.023)	(.007)	(.028)
IND = 0.48					
Authority					
-1	-.138	-.092	.085	.126	.019
	(.033)	(.004)	(.025)	(.008)	(.001)
0	-.064	-.121	-.029	.156	.059
	(.012)	(.015)	(.005)	(.019)	(.008)
1	-.021	-.085	-.120	.097	.130
	(.001)	(.006)	(.021)	(.005)	(.029)
IND = 0.89					
Authority					
-1	-.144	-.108	.084	.144	.023
	(.031)	(.003)	(.023)	(.008)	(.001)
0	-.058	-.129	-.057	.167	.078
	(.009)	(.014)	(.005)	(.017)	(.010)
1	-.015	-.077	-.145	.068	.170
	(.000)	(.003)	(.018)	(.012)	(.032)

[a] *** significant at 1% level, ** significant at 5% level, * significant at 10% level. Establishment-level clustered standard errors in parentheses. Marginal effects for Model 6(1)

3.3.1 Overall job satisfaction: A placebo test

The idea we examine in this paper is that employees will have difference preferences for power depending on their cultural backgrounds. We do not, however, have a specific hypothesis relating an employee's inherited preferences for individualism and their overall job satisfaction. This creates the opportunity for a placebo test of our results.

Specifically, we re-estimate the model using an employee's overall job satisfaction measured using the following six questions: the sense of achievement you get from your work; the training you receive; the opportunity to develop your skills in your job; the amount of pay you receive; your job security; the work itself. The response to each question was coded as: 0 if the worker was neither satisfied or dissatisfied, dissatisfied or very dissatisfied; and 1 if they were satisfied or very satisfied. These scores were then summed producing a ordered measure of *Job satisfaction* with eight categories, with higher scores associated with higher levels of overall worker job satisfaction.[20] This measure of job satisfaction has the advantage that it requires the minimum amount of precision in terms of each worker's response. Moreover, this count measure does not require us to impute a tradeoff between the intensity of responses across the different aspects of a worker's job satisfaction.

Job satisfaction captures a worker's overall subjective evaluation of their job, excluding notions of autonomy and influence. Consequently, estimating the relationship between a worker's authority, their inherited attitudes to individualism and *Job satisfaction* is a type of placebo test of our key prediction. An insignificant relationship would be consistent with the idea that, while higher levels of authority are associated with higher levels of satisfaction with power (moderated by an individual's inherited individualism), the broader measure of *Job satisfaction* (excluding authority) will not necessarily be affected in the same way by *Authority*×*Individualism*.

The IV estimates with *Job satisfaction* are shown in Model 6(3). They include the full set of controls and establishment-level random effects. The results suggests that some factors, such as *Age*, a worker's *Tenure* and their gender, are significantly (and negatively) related to *Job satisfaction*. For example, consistent with Clark (1998) and Gazioglu and Tansel (2006), women tend to have higher levels of job satisfaction than men. However, the estimated coefficients for *Individualism* and the interaction *Authority*×*Individualism* are both insignificant. While we posit a casual relationship between an employee' inherited individualism and their power satisfaction, we do not have an equivalent mechanism linking preferences for *Authority*, *Individualism* and overall *Job satisfaction*. The placebo test estimates outlined here are consistent with this. This non-result for *Individualism*/*Job satisfaction* in our placebo model provides us with some confidence that the estimated relationship between *Satisfaction with power* and *Individualism* and its interaction is not just reflecting some relationship to overall job satisfaction.

4 Concluding comments

As noted, job satisfaction, broadly defined, is a key driver of both job performance and worker health. There are many factors that could affect job satisfaction, but one of the fundamental aspects of an individual's job is their decision-making power. From the popular business press it seems that no one likes a micromanager and that everyone wants to be their own boss. While even

[20] Saridakis et al. (2020) use a similar measure of overall job satisfaction.

a cursory glance at Glassdoor or some equivalent forum suggests that many employees value their independence (or bemoan the lack thereof), ceding some power is a fundamental element of taking the role of a subordinate in the employer-employee relationship. After all, principals and supervisors need to manager and coordinate activities within a firm. Herein lies a balancing act that each firm needs to grapple with. In this paper we examine how their delegated authority affects a worker's satisfaction with their influence or power in an organization. These issues of power and independence are particularly pertinent in the current work environment with increasingly pervasive monitoring with software and AI technologies of employees and contractors alike.

We examine how different workers respond to their respective levels of decision authority, given their culturally inherited preferences for power. While workers are on average more satisfied with their decision power when they have more real authority, this is particularly true for individuals that come from backgrounds that value individualism more highly. These results are robust to controlling for individual characteristics, establishment-level random effect and the possible endogeneity of authority. This paper contributes more evidence that culture has important economic impacts inside the firm.

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