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Fischer, Ronald, Ferreira, Maria Christina, Van Meurs, Nathalie, Gok, Kubilay, Jiang, Ding-Yu, Fontaine, Johnny R. J., Harb, Charles, Ciecuch, Jan, Achoui, Mustapha, Mendoza, Ma Socorro D., Hassan, Arif, Achmadi, Donna, Mogaji, Andrew A. and Abubakar, Amina (2019) Does organizational formalization facilitate voice and helping organizational citizenship behaviors? It depends on (national) uncertainty norms. *Journal of International Business Studies*, 50 (1). pp. 125-134. ISSN 0047-2506

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**Does organizational formalization facilitate voice and helping organizational citizenship behaviors? It depends on (national) uncertainty norms**

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**Does organizational formalization facilitate voice and helping organizational citizenship behaviors?**

**It depends on (national) uncertainty norms**

**ABSTRACT**

Prosocial work behaviors in a globalized environment do not operate in a cultural vacuum. We assess to what extent voice and helping organizational citizenship behaviors (OCB) vary across cultures, depending on employees' perceived level of organizational formalization and national uncertainty. We predict that in contexts of uncertainty, cognitive resources are engaged in coping with this uncertainty. Organizational formalization can provide structure that frees up cognitive resources to engage in OCB. In contrast, in contexts of low uncertainty, organizational formalization is not necessary for providing structure and may increase constraints on discretionary behavior. A three-level hierarchical linear modeling analysis of data from 7,537 employees in 267 organizations across 17 countries provides broad support for our hypothesis: perceived organizational formalization is weakly related to OCB, but where uncertainty is high; formalization facilitates voice significantly, helping OCB to a lesser extent. Our findings contribute to clarifying the dynamics between perceptions of norms at organizational and national levels for understanding when employees may engage in helping and voice behaviors. The key implication is that managers can foster OCB through organizational formalization interventions in uncertain environments that are cognitively demanding.

Keywords: organizational citizenship behavior, culture, uncertainty, formalization, multilevel analysis

Organizational citizenship behavior (OCB) is central for the survival of modern businesses (Organ, Podsakoff & MacKenzie, 2006). Voice and helping behaviors are two types of OCB (Van Dyne & LePine, 1998) that allow for more efficient and smooth functioning of the organization and more innovation and creativity (Organ et al., 2006). Helping is defined as proactive interpersonal behavior directed towards others that strengthens existing relationships (Van Dyne, Cummings & Parks, 1995; Tröster & van Knippenberg, 2012). Voice behavior involves speaking up with suggestions for change, challenging work routines that hinder effectiveness and acting on one's own initiative to make changes to one's own task routines. OCB is essential for organizations to thrive, but they can be risky for individuals (especially voice, due to its potentially challenging nature), and therefore only flourish in certain contexts.

Compared with the wealth of research on individual-level predictors of OCB, such as motivation and personality, there has been less exploration of organizational and national-level predictors of OCB (Carpenter, Berry & Houston, 2014; Eatough, Chang, Miloslavic & Johnson, 2011). This relative neglect is problematic, because the contribution of organizational factors may be contingent on the larger context, making one-size-fits-all recommendations inappropriate for international businesses (Beugelsdijk, Kostova & Roth, 2017; Clark & Shepherd, 2017; Mahajan & Toh, 2017; Tsui, Nifadkar & Ou, 2007). Understanding the interaction of contextual variables at organizational level and in a cultural context at the national level for facilitating OCB is important for business (Smith, Peterson & Thomas, 2008; Troester & van Knippenberg, 2012; Tsui et al., 2007). Our objective is to examine the joint influence of organizational formalization and national uncertainty on OCB to deepen our understanding of when and how culture matters for international business (Kirkman, Lowe & Gibson, 2017; Beugelsdijk et al., 2017).

Uncertainty negatively affects work behavior at multiple levels of analysis (Cheng & Chan, 2008; Eatough et al., 2011; Griffin, Guedhami, Kwok, Li, & Shao, 2017). Discretionary behaviors such as OCB require cognitive resources and higher levels of cognitive control: uncertainty is cognitively taxing and reduces both feelings of control and the ability of individuals to pay attention to discretionary behaviors

(e.g. Eatough et al., 2011; Paas, van Gog, & Sweller, J, 2010; Qian, Cao, & Takeuchi, 2013; Shin, Taylor & Seo, 2012). Uncertainty is a powerful motivator to engage in coping behavior to re-establish certainty, but this motivation may interfere with discretionary work behaviors (van den Bos & Lind, 2002). People prefer certainty about how to behave and what to expect in one's immediate and extended social and physical environment for reasons of social survival (Burns & Stalker, 1961; Hogg, 2007; Van den Bos & Lind, 2002) but environments differ in their overall predictability (House, Hanges, Javidan, Dorfman & Gupta, 2004; see also Doh, Rodrigues, & Saka-Helmhout, 2017). We focus on nation-level processes that characterize perceptions of uncertainty within nations, due to institutional, political and economic forces that shape everyday routines and practices (Beugelsdijk et al., 2017; House et al., 2004; for institutional approaches to uncertainty, see also Schubert, Baier, & Rammer., 2017; Young, Welter, & Conger., 2017).

At the organizational level, formalization is likely to influence levels of OCB. One standard assumption in management is that increasing formalization, in the sense of rules and procedures, reduces employee freedom by prescribing and enforcing procedures and regulations about appropriate actions – constraining employees' ability to engage in discretionary behaviors and risking the alienation of employees, which is likely to decrease motivation to engage in OCB (Adler, 2012; Hirst, van Knippenberg, Chen & Sacramento, 2011; Juillerat, 2010; Organ et al., 2006; Organ & Greene, 1981). At the same time, formalization enables efficiency in production through standardizing work procedures, which helps to overcome role ambiguities and allows individuals to understand better what is expected of them (Organ & Greene, 1981). This clarification of roles and responsibilities reduces conflict and role stress, and promotes cooperation, which in turn is likely to set conditions that facilitate OCB (Adler, 2012; Kahn, Wolfe, Quinn & Snoek, 1964). Therefore, the empirical links between formalization and OCB have been mixed (see also Raub, 2008), suggesting that the extent to which formalization is conducive for OCB may depend on the larger context within which a business is operating (Hirst et al., 2011; Jiang, Colakoglu, Lepak, Blasi & Kruse, 2014).

Bringing the two lines of research together via perceived norms, we argue that organizational formalization has compensatory effects on OCB (cf., Kristof, 1996), depending on the level of national



uncertainty. Importantly, we argue that perceptual representations of uncertainty and formalization are driving these effects. Normative perceptions play a crucial role for understanding how contextual features influence work behavior (Leung & Morris, 2015; Morris, Hong, Chiu & Liu, 2015). Employees form impressions of what people around them typically do, both within their organization and their larger national context. These perceptions then form descriptive norms that function as ‘social autopilots’, allowing effort-free and tactical navigation of the social environment (Leung & Morris, 2015; Morris et al., 2015).

We predict that in contexts of perceived national uncertainty, employees use their cognitive resources to cope with the perceived uncertainty and regain a sense of control, and therefore, they are unlikely to engage in discretionary behaviors that require additional cognitive demands. OCB is therefore reduced due to limited levels of available cognitive resources. In these environments, perceived organizational formalization can compensate by increasing employees’ sense of control through providing structure and clarity and thereby reducing the needs of organizational members to expend cognitive resources on coping with uncertainty. Clear normative perceptions of rules and procedures (‘I know what others around here do and therefore, I know what is expected of me’) allow employees to rely on these norms as a form of ‘social autopilot’ (Morris et al., 2015). Therefore, by freeing up cognitive resources and reducing levels of anxiety due to uncertainty, organizational formalization can facilitate higher levels of OCB in countries with high uncertainty. In contrast, when nation-level uncertainty is low, employees have sufficient cognitive resources to perform OCBs. Here, organizational formalization constrains members to engage in discretionary behavior and decreases degrees of freedom. Therefore, formalization reduces levels of OCB (see Kahn et al., 1964).

In summary, we propose that organizational and cultural context interact across levels in facilitating OCB (Jiang et al., 2014). We hypothesize that perceived formalization is positively associated with both voice and helping behavior in nations with higher perceived uncertainty, whereas these relationships are weakened or negative in nations with higher perceived certainty.

## METHODS

### Sample

We sampled 7,537 employees from 267 organizations (average  $N = 27.7$ ) in 17 countries recruited through professional networks with the aim of achieving a cross-section of locally relevant and representative organizations. Given the diversity of industries and business forms globally, we explicitly decided not to sample matched organizations, as this would result in locally unrepresentative samples. We targeted medium and large local organizations that represent typical employers in the particular region of the nation (see Table 1). We controlled for demographic and organizational variables, and we found that they do not change any of the main findings reported.

INSERT TABLES 1 AND 2 HERE

### Measures

#### Dependent Variables

For Organizational Citizenship Behavior, we used five voice items and seven helping items from Van Dyne and LePine (1998). The answers were recorded on a scale ranging from 1 (Strongly disagree) to 7 (Strongly agree). Reliability overall was good (voice:  $\alpha = .89$ ; helping:  $\alpha = .91$ ). Self-report measures of OCB have been found to provide valid estimates of OCB effects (Carpenter et al., 2014). We conducted a series of pilot studies with employees in the UK, US, Germany, Turkey, Argentina, Brazil, Malaysia, and NZ (total  $N = 2,213$ ), which suggested that voice and helping scales captured behaviors that a) are important for businesses, b) are empirically distinct and provide non-redundant information, and c) show better validity and reliability across the cultural samples studied compared to other instruments measuring OCB (Podsakoff et al., 1990) or in-role vs extra-role behavior (William & Anderson, 1991; further details about our pilot studies testing the helping and voice constructs across cultural samples are included in the online supplementary material for this manuscript).

## Independent Variables

For perceived organizational formalization, we adapted five formalization items (Fischer, Ferreira, Assmar et al., 2014) from the Competing Value Framework of Organizational Culture (Cameron & Quinn, 1999) that captures central elements of formalization (Fry & Slocum, 1984). An example item is: "The jobs are performed according to previously defined procedures". Perceived norms were measured on a scale ranging from "never" (1) to "always" (7). Cronbach's alpha was adequate (total sample:  $\alpha = .78$ ). The intraclass correlation (ICC) for formalization at the organization level was .10 (.12 for organizational support, a control variable discussed below), and the average agreement  $r_{wg}$  (James, Demaree & Wolf, 1984) for formalization within organizations was .92 (.90 for organizational support); both indicators justify aggregation to the organization level. Multi-level fit between individual and organizational level (constraining loadings to be equal) was acceptable:  $\chi^2(82) = 908.31, p < .0001, CFI = .94, TLI = .94, RMSEA = .042, SRMR_{within} = .042, SRMR_{between} = .083$ .

For perceived uncertainty, we adopted four items measuring normative perceptions of nation-level uncertainty (Sully de Luque & Javidan, 2004), with an example item being: "Most people lead highly structured lives with few unexpected events" measured on five-point scales (reversed scored, 1 "very typical" to 5 "not at all typical"). These items are phrased in terms of observable behaviors, therefore, allowing us to capture perceptions of descriptive norms using a referent-shift consensus model (Chan, 1998). Higher scores indicate more uncertainty. Reliability at the nation-level was .87, showing acceptable measurement properties at the intended theoretical level. The average ICC(1) was .054, justifying aggregation. A multi-level confirmatory factor analysis (CFA) testing metric invariance across levels demonstrated acceptable fit:  $\chi^2(12) = 695.42, p < .0001, CFI = .95, TLI = .92, RMSEA = .025, SRMR_{within} = .018, SRMR_{between} = .074$ . Hence, the structure fits well at both levels.

All variables were translated using an expert committee approach with adjudicators (Harkness, Pennell & Schoua-Glusberg, 2004). A simultaneous confirmatory factor analysis including all measures showed good fit:  $\chi^2(289) = 4057.19, p < .0001, CFI = .96, TLI = .95, RMSEA = .044, SRMR = .033$ . Testing cross-cultural measurement invariance, we found acceptable fit for configural invariance:  $\chi^2$

(4913) = 12,628,  $p < .0001$ , CFI = .91, RMSEA = .063; and metric invariance:  $\chi^2$  (5249) = 13,493,  $p < .0001$ , CFI = .91, RMSEA = .063,  $\Delta$ CFI = .006,  $\Delta$ RMSEA = .000.

### **Control Variables**

In order to isolate the effect of formalization on OCB in the context of (un)certainty, we conducted an array of sensitivity tests to analyze the effect of control variables at the individual, organizational and national level. For further information on these sensitivity tests, please see the online supplementary material for this manuscript.

At the individual level, we controlled for age and managerial position, because these variables correlated with OCB in previous studies (e.g. Carpenter et al., 2014; O'Driscoll & Roche, 2015). No gender differences were found, and therefore gender is not included in our models.

At the organizational level, organization-based support (from leaders, co-workers, general perceptions of support) is one of the strongest predictors of OCB, exceeding other theoretically important predictors such as personality and leadership perceptions (Carpenter et al., 2014), and one of the most effective organization-level facilitators of voice behavior specifically (Chiaburu, Lorinkova, & Van Dyne, 2013). Controlling for broad organizational support as one of the empirically strongest predictors of OCB makes our analyses conservative. We measured organizational support with six items (Fischer et al., 2014, for example: "Employees are supported by their superiors"). We also controlled for industry, comparing primary, retail and sales, finance and education with a residual category.

At the nation-level, we controlled for economic development using Gross National Income (GNI) per Capita adjusted for Purchasing Power Parity. We also controlled for power distance, which refers to the extent to which cultures are hierarchically differentiated, and is conceptually related to formalization (Lee & Antonakis, 2014): more hierarchical cultures rely more on formalized rules and authority (Huang & Van de Vliert, 2003). It is important to control for power distance to differentiate uncertainty management dynamics from cultural socialization effects (individuals prefer formalization because they are socialized into a hierarchical system). We created a composite score, averaging Hofstede's (1980) and

GLOBE's (House et al., 2004) power distance scores with Schwartz's (2006) Hierarchy index. This index showed good validity and reliability (see Supplementary Material for more information).

### **Analytical Strategy**

We used a three-level model in HLM6.01 (Raudenbush & Bryk, 2002) to predict variability in helping and voice behavior at level 1. Age as a control variable at level 1 was centered on the national mean. At level 2, we entered formalization (and organizational support as a control variable) centered on the national mean. Industry effects at level 2 were dummy-coded. At level 3, we entered grand-mean centered uncertainty to examine the theoretically predicted interaction effect of uncertainty on formalization slopes. Nation-level control variables were also grand-mean centered.

Common method variance and response styles are a major concern in self-report measures (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). To control for method variance, we randomly split our sample, with one random half used for estimating the individual-level effects (voice and helping behavior) and the other random half used for estimating the organization-level effects (formalization norms). The evaluation of organizational norms is therefore independent from the responses to the self-report behaviors, ruling out common method explanations for our pattern of findings. This method is equivalent to obtaining peer reports of the environmental context variables (organizational norms at level 2) and has been used successfully in previous research (Ostroff, Kinicki & Clark, 2002).

## **RESULTS**

Our hypothesis predicted an interaction between perceived formalization at the organizational level and perceived uncertainty at the nation-level. For voice, we found a significant effect, which explained 99.57% of the variability in slopes across countries (see Table 3). Supporting our hypothesis, the effect of formalization is stronger in contexts of higher uncertainty norms and is weaker for lower uncertainty norms (see Figure 1). For helping behavior, the interaction was in the predicted direction, but only marginally significant ( $p = .07$ ), explaining 31.12% of the conditional variance in slopes between countries. In the supplement, we report additional analyses in which we controlled for age and occupation

(level 1); organizational support and dummy-coded industry effects (level 2), as well as rival explanatory variables at the nation-level (wealth and power distance, level 3). For control variables, managers reported higher levels of voice behavior. Among organization-level control variables, organizational support showed a strong and positive effect on both helping and voice. Greater organizational support was associated with increased levels of OCB. Importantly, the interaction effect of uncertainty by formalization on voice remained significant when controlling for all these variables:  $\gamma_{011} = .65, p < .001$ . The interaction effect for helping was in the predicted direction, but not significant:  $\gamma_{011} = .08, p > .05$ .

INSERT FIGURE 1 HERE

## DISCUSSION

We found that perceived organizational formalization is more strongly associated with increased voice (and also to some extent helping) OCB in highly uncertain cultural environments at the nation-level. Organizations operating in uncertain macro-level environments can benefit from clearly specified rules and procedures to foster voice and helping OCB. Our research clarifies the conflicting results of both formalization and uncertainty at organizational level on OCB, when nation-level uncertainty is not being considered (Hirst et al., 2011; Mahajan & Toh, 2017). Our results contextualize previously noted negative effects of formalization (Adler, 2012; Juillerat, 2010; Organ & Greene, 1981; Organ et al., 2006) by identifying under what circumstances such effects are subverted.

Normative perceptions play a crucial role for understanding how contextual features influence work behavior (Leung & Morris, 2015; Morris et al., 2015). We expand previous work on antecedents of OCB by examining the interplay of perceived norms at organizational and cultural levels, adopting a poly-contextual meso-level approach (Tsui et al., 2007). The results show that organization-level findings alone shed light on only part of the context of international business. Businesses operating in countries with higher uncertainty and with less stable institutional, political and economic forces that shape everyday routines and practices (House et al. 2004) are advised to rethink their organizational practices to provide the necessary support and structure for local employees (see also related work on institutional voids, e.g., Doh et al., 2017). Our study provides one specific case study which demonstrates these compensatory

effects on OCB. Importantly, we demonstrated that shared normative perceptions are important for statistically predicting OCB. This is an important avenue for further research as more and more businesses move into national contexts that are culturally, economically and institutionally different from Western societies and norms vary from Western expectations.

In terms of limitations, the diversity of business and economic environments did not allow us to match organizations across cultures, which may increase the error variance at the organizational and nation-level, reducing the likelihood of significant findings (Schmitt, Allik, McCrae & Benet-Martinez, 2007). Thus, the fact that we nevertheless obtained significant results supports the robustness of the observed effects. We did not include individual difference variables in our study beyond the demographic control variables; future research could test the relative importance of organizational versus individual variables in a multi-level framework.

Perceived norms have significant managerial implications, especially for understanding differences between cultures (Morris et al., 2015). Managers can help employees to free up energy and cognitive resources by providing clear guidelines on how to perform their work. To the extent that these formalization norms provide normative guidance without being coercive (Adler, 1992), the levels of certainty that such norms may encourage can motivate employees to help their co-workers and to come forward with ideas for improvement of work procedures. The provision of formal rules and guidelines can be particularly effective in those contexts where employees are faced with uncertainty on a daily basis. For example, if there is uncertainty about employability laws at government level (e.g. due to political changes), a company that makes a clear statement about their roles and procedures can instill trust and confidence among staff to voice their opinions. Our exploration of whether employees' voice and helping behavior are facilitated or obstructed through formalization allows for a more balanced understanding of how and in which cultural contexts formalization creates value for organizations.

## ACKNOWLEDGMENTS

The research was supported by various grants by Victoria University of Wellington, New Zealand and the School of Psychology at Victoria University of Wellington. Ronald Fischer was supported by a Marie-Curie Cofund Senior Fellowship while resident at the Aarhus Institute of Advanced Studies, Denmark. The work of Jan Ciecuch was supported by Grant 2011/01/D/HS6/04077 from the Polish National Science Centre. We are grateful for comments and suggestions by Anne-Wil Harzing, Paul Griseri, Jonathan Searle, Peter Smith, Mark Peterson, Diana Boer and Melanie Vauclair during various stages of the preparation process as well as the editor Mary Zellmer-Bruhn and three anonymous reviewers who provided constructive feedback.

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**TABLE 1****Sample Information and Nation-Level Variable Means**

	<b>N</b>	<b>Age</b>	<b>Age (SD)</b>	<b>% Male</b>	<b>% Managers</b>	<b>Uncer- tainty</b>	<b>Forma- lization</b>	<b>Voice</b>	<b>Helping</b>
Belgium	222	36.5	10.90	60.20	15.80	2.37	4.77	5.08	5.22
Brazil	794	34.6	18.00	51.00	9.60	3.44	4.60	5.49	5.74
Canada	664	38.4	12.50	46.50	21.70	2.58	4.61	5.30	5.51
Egypt	98	31.4	8.10	44.60	18.40	3.61	4.23	5.47	5.91
Indonesia	214	34.9	9.80	61.50	26.20	3.03	4.88	5.23	5.45
Kenya	427	34.2	9.10	53.00	24.10	3.20	4.82	5.08	5.26
Lebanon	478	33.2	9.70	51.80	14.90	3.52	4.60	5.24	5.39
Malaysia	220	33.5	7.70	41.70	36.80	2.90	4.91	5.12	5.31
NZ	1546	35.6	12.20	52.60	20.10	2.80	4.75	5.22	5.39
Nigeria	35	31.6	5.70	90.60	37.10	2.78	5.24	5.30	5.30
Philippines	694	35.9	9.50	53.70	31.80	2.98	5.00	5.37	5.54
Poland	893	33.8	10.70	39.70	6.80	2.86	4.59	4.85	5.22
Saudi Arabia	286	32.1	7.90	86.00	10.10	3.13	4.48	5.30	5.59
Taiwan	423	32.3	7.80	55.30	7.10	3.06	4.51	4.81	5.07
Turkey	316	36.5	8.50	49.60	7.00	3.37	4.79	5.11	5.31
UAE	32	36.6	8.90	56.30	34.40	2.91	4.58	5.37	5.57
UK	195	45.2	9.70	32.80	NA	2.81	4.58	5.40	5.63

**TABLE 2**  
**Descriptive Statistics**

	Mean	SD	Voice	Helping	Age	Manager	Forma- lization	Employee Support
Voice	5.20	1.21	-					
Helping	5.43	1.11	.72*	-				
Age	35.18	11.69	.12*	.09*	-			
Manager	0.17	0.38	.11*	.07*	.12*	-		
Forma- lization	4.69	0.43	.09*	.09*	.03*	.06*	-	
Employee Support	4.45	0.61	.17*	.17*	.04*	.11*	.44*	-
Uncertainty	2.99	0.30	.05*	.06*	-.09*	-.06*	-.08*	-.22*

NOTE:

\*  $p < .05$

Formalization and Employee Support are disaggregated from the organizational to the individual level; Uncertainty is disaggregated from the nation-level to the individual level.

**TABLE 3****Results of the Three-Level Multi-Level Analysis**

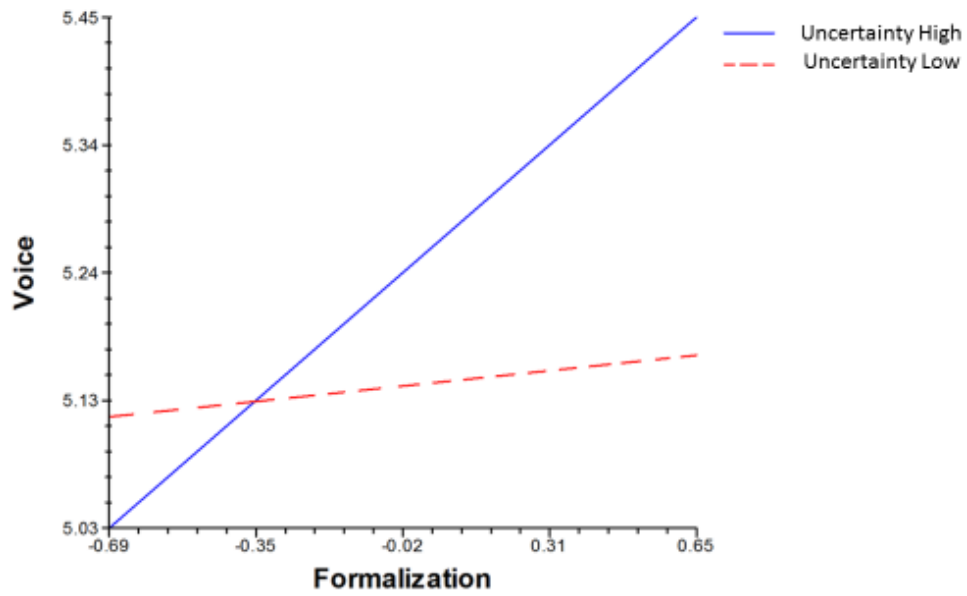
	Voice			Helping		
	Random Intercept Model	Level 2 Model	Level 3 Model	Random Intercept Model	Level 2 Model	Level 3 Model
Intercept $\gamma_{000}$	5.20**	5.20**	5.20**	5.44**	5.44**	5.44**
Formalization $\gamma_{010}$		0.17#	0.19**		0.19**	0.20**
Uncertainty $\gamma_{001}$			0.25			0.31#
Formalization x Uncertainty $\gamma_{01}$			0.70**			0.36#
Variance components						
$e$ (level 1)	1.335	1.334	1.335	1.070	1.069	1.069
$r_0$ (level 2)	0.076	0.059	0.056	0.099	0.089	0.085
$U_{000}$ (level 3)	0.031	0.030	0.026	0.028	0.028	0.022
$u_{01}$ (level 3)		0.042	0.000		0.014	0.010

Note: \*\*  $p < .01$ ; \*  $p < .05$ ; #  $p < .10$



**FIGURE 1**

**Interaction between Perceived Formalization (Level 2) and National Uncertainty (Level 3) on Voice Behavior (Level 1)**



### **SUPPLEMENTARY INFORMATION**

This supplement reports the full results of the HLM analysis, adjusting for control variables at all three levels. All effects are estimated as random effects. We also provide additional information on the selection of our dependent and control variables.

#### **Control Variables at National Level**

At the national level, we controlled for economic development using Gross National Income (GNI) per Capita adjusted for Purchase Power Parity for the year 2004 (using different years across the sample period did not change the main results). This data was taken from the United Nations Development Programme (United Nations Development Programme, no date) and the CIA world fact book (Central Intelligence Agency, no date). We also controlled for power distance, which refers to the extent to which cultures are hierarchically differentiated and strong power differentials exist between the bottom and the top of society. Power distance is a theoretically closely related variable to formalization (Lee & Antonakis, 2014): individuals in high-power distance cultures do not expect a large degree of autonomy and choice and they are more likely to rely on formal rules and authority (Hofstede, 2001). In more power distant societies, organizations are more formalized (Huang & Van de Vliert, 2003). Controlling for power distance will therefore differentiate our certainty management process from a general preference for formalization due to general preferences acquired through cultural socialization.

We created a new composite power distance index, averaging Hofstede's (2001) power distance, the power distance index used in the GLOBE study (House et al., 2004) and the Hierarchy value index by Schwartz (2006). Missing data for African and Middle Eastern countries in our sample were replaced with regional estimates provided by Hofstede (2001; missing data: Kenya, Nigeria, Egypt, UAE, Saudi Arabia & Lebanon), House et al. (2004; missing data: Kenya and UAE) and Schwartz (2006; missing data: Kenya, Saudi Arabia, Lebanon & UAE). Hofstede (2001) used data from Ghana, Nigeria, Sierra Leone (West African Region), Ethiopia, Kenya, Tanzania, and Zambia (East African Region) to estimate the

African mean, and from Egypt, Lebanon, Libya, Kuwait, Iraq, Saudi Arabia and the United Arab Republic to estimate Middle Eastern countries. House et al. (2004) used data from Egypt, Kuwait, Morocco, Qatar and Turkey for the Middle East cluster and Namibia, Nigeria, South Africa (Black sample), Zambia and Zimbabwe for Sub-Saharan Africa. We calculated the Sub-Saharan Africa mean for Schwartz (2006) with data from Zimbabwe, South Africa (Black sample), Uganda, Ghana, Namibia, Nigeria, Senegal, Cameroon and Ethiopia, and the Middle Eastern mean with data from Egypt, Yemen, Jordan, Iran and Turkey.

We ran a principal component analysis on the normalized scores. A single factor with an eigenvalue of 2.85 and explaining 71.23% of the variance emerged. The reliability of the composite power distance score was .85. Power distance correlated .34 with uncertainty and .69 with wealth. All data was grand-mean centered.

### **Control Variables at Organization Level**

At the organizational level, we included dummy-coded industry variables. The comparison category was all other industries. We also used an indicator of employee orientation (see the main manuscript). Support received from various sources within an organization (from leaders, co-workers, general perceptions of support) is a strong and consistent predictor of OCB. Importantly, the effect of organization-based support exceeds other core predictors of OCB including personality and leadership perceptions (Carpenter et al., 2014), and it is particularly important for facilitating voice behavior specifically (Chiaburu, et al., 2013). Therefore, controlling for organizational support tests whether our effects are important and independent of other core organizational processes. All dummy codes for industry were entered without centering.

### **Control Variables at Individual Level**

At the individual level, we controlled for age and managerial position (see Table 1 in main text for demographic information). Previous studies have shown that age and occupational position can have an

influence on OCB levels (e.g. Carpenter et al., 2014; O'Driscoll & Roche, 2015). Therefore, we need to control for these effects. No gender differences were found in our sample; therefore, gender is not included in our models.

### **Selection of Dependent Variables**

We conducted a number of pilot studies. First, we collected data from 334 full-time employees in Germany (N=184) and the UK (N=150). For a description of the sample, see Fischer and Smith (2004). We measured OCB with items from established scales (Frese, Kring, Soose, & Zempel, 1996; Frese, Fay, Hilburger, Leng, & Tag, 1997; Niehoff & Moorman, 1993; Moorman & Blakely, 1995; Podsakoff et al., 1990; Smith, Organ, & Near, 1983; Van Dyne, Graham, & Dienisch, 1994; William & Anderson, 1991). Exploratory factor analyses revealed that the most interpretable solution was a differentiation between pro-active and compliant OCB. The reliabilities in both samples for pro-active vs compliant behaviour scales were above .70.

To examine whether employees made distinctions between in-role versus extra-role behavior and whether there were further distinctions between particular OCB components, we collected data from 106 British employees, 179 German employees, 131 in the US, 91 in New Zealand and 153 employees in Brazil (for a description of the sample, see Fischer et al., 2007; Fischer, 2008). We included the in-role behavior items from William and Anderson (1991) as well as a number of items from established scales (Frese et al., 1996; Niehoff & Moorman, 1993; Moorman & Blakely, 1995; Podsakoff et al., 1990; Smith, Organ, & Near, 1983; Van Dyne et al., 1994). We found a clear distinction between in-role and extra-role behaviors, but inconsistent structures of the extra-role components of OCB across the different samples. In-role behavior showed reliabilities above .70 in all samples. The structures of the extra-role scales were not comparable across studies.

During the period when we conducted this study, the meta-analysis by LePine, Erez, & Johnson (2002) suggested that although employees make perceptual distinctions between different OCB

dimensions, there was no differential validity between the different OCB subscales. The distinction proposed by Van Dyne et al. (1995) between promotive vs challenging OCB was conceptually interesting from both a theoretical and management perspective. We therefore presented the items from Van Dyne and LePine (1998) to managers and business experts in Germany, NZ, Brazil and Argentina. The items were discussed in one-to-one interviews or in small focus groups. We decided to drop one item because of issues of clarity that were raised by managers (*'get involved in issues that affect the quality of work life here in this group'* – defining quality of work life was deemed too difficult across national and industry contexts). We then sampled 1239 employees from various organizations in Argentina (N=215), Brazil (N=275), Malaysia (N=81), New Zealand (N=310), Turkey (N=200), and the U.S. (N=158, the sample is described in Fischer et al., 2014). We administered the revised scale by Van Dyne and LePine (1998). Overall, the fit of the two-factor model in the combined sample was satisfactory:  $\chi^2(df=52, N=1056) = 528.52, p < .01, CFI=.94, TLI=.92, RMSEA=.093, SRMR=.049$ . Cronbach's alpha on average was .88 for helping and .89 for voice (minimum alpha was .81 for helping in Malaysia).

Based on these pilot studies, conversations with managers across a number of organizations and countries as well as the available evidence in the literature at the time of preparing the data collection (2005, in particular the meta-analysis by LePine et al., 2002), we selected the voice and helping scales developed by Van Dyne and LePine (1998)

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**Supplementary Table 1**

Full HLM analysis with control variables entered

	Voice	Helping
Individual level		
Intercept	5.201**	5.421**
Age	.005	.001
Manager	.276*	.124
Organizational Level		
Primary (vs other industries)	-.021	.047
Retail & Sales (vs other industries)	-.208*	-.151
Finance (vs other industries)	.062	.103
Education (vs other industries)	-.072	-.046
Formalization	.082	.060
Employee Orientation	.163**	.261**
National Level		
Gross National Income per Capita	.000	.000
Power Distance	-.023	-.134*
Uncertainty Norms	.428*	.680**
Uncertainty Norms * Formalization	.648**	.080

Note: \*\*  $p < .01$ ; \*  $p < .05$

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