



# Organizational Virtues and Organizational Anthropomorphism

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Received: 24 October 2019 / Accepted: 24 December 2020 / Published online: 19 January 2021  
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## Abstract

Anthropomorphism is the attribution of human features to non-human subjects. Anthropomorphized organizations acquire in the minds of their members a unique identity, which becomes capable of guiding members' motivations, with important managerial implications. Ashforth et al. (*Acad Manage Rev* <https://doi.org/10.5465/amr.2016.0496>, 2018) offered a theoretical model of anthropomorphism in organizations, including “top-down” and “bottom-up” processes of organizational anthropomorphism as antecedents, and sensemaking and the sense of social connection of the organization as outcomes. Using SEM, this study operationalizes Ashforth et al.'s (*Acad Manage Rev* <https://doi.org/10.5465/amr.2016.0496>, 2018) model using a two-trait scale of organizational virtue (Empathy and Courage) derived from Chun (*J Bus Ethics* 57:269–284, 2005), including measures of CSR and OCB as antecedents, and organizational justice and affective commitment as outcomes. The model is tested on survey data from seven UK managed service organizations in the hotels, logistics and legal sectors. As secondary contribution, moderation analysis is undertaken by industry, offering further insight into the evaluation of organizational anthropomorphism. Firstly, we note that high evaluations of Empathy influence evaluations of Courage through a halo effect. Secondly, we note that heuristic evaluation of the firm's CSR practice also influences perceptions of Empathy and Courage. The paper also includes a discussion of the critique of organizational virtues by virtue ethicists in an effort to advance the dialogue between the two traditions.

**Keywords** Organizational anthropomorphism · Organizational virtue · Halo effect · CSR · OCB · Organizational justice · Organizational affective commitment · Virtue ethics

## Introduction

It is common to speak of organizations as persons, with lifecycles, stages of youth and maturity (e.g. Van De Ven and Poole 1995). Organizations make decisions, are imbued with intentionality and agency, comprising a self-view, self-knowledge and self-meaning (Whetten 2006), all of which supports a notion of organizations as creators of meaning (Burke 1980). Organizations acquire in the minds of members a unique identity, akin to a human identity made up of attributes, features and characteristics that are most central, enduring and distinctive (e.g. Albert and Whetten 1985; Whetten and Mackey 2002). In this way, they guide members' motivations and influence their minds and decisions. Members act as the organization's agents, with a focus on what “we” as a collective should do (cf., Gold and Sugden

2007), supporting the psychological contract with the organization (e.g. Rousseau 1989). Organizations are anthropomorphized by both internal and external audiences, much like objects and brands.

Notwithstanding, only recently the psychological processes by which employees attribute personality features to organizations (“organizational anthropomorphism”) and their outcomes have been explored theoretically (Ashforth et al. 2018). Organizational anthropomorphism is a metaphorical device (Cornelissen 2002), which involves ascribing a “who it is/who we are” identity to the organization. Ashforth et al.'s (2018) study is the first to systematically examine the construct. Among the antecedents of anthropomorphism are “top-down” and “bottom-up” processes of attribution of personality features to the organization. The “top-down” processes (saying, showing and staging) involve the communications of organizational agents with the aim of presenting a favourable image of the organization. The “bottom-up” processes involve the interpretation by the members of stimuli they confront in everyday organizational life, in

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particular, how others whom employees encounter in the organization behave: “Together, these schemas of others-as-humans and self-as-human provide a ready “intuitive anchor or starting point”” (Ashforth et al. 2018, p. 38). In addition, Ashforth et al. (2018) propose that the outcomes of anthropomorphism are the employees’ sensemaking about the organization and the employees’ social connection with the organization. Sensemaking is “the process through which individuals work to understand novel, unexpected, or confusing events...to clarify what is going on by extracting and interpreting cues” (Maitlis and Christianson 2014, p. 58). Sensemaking enables the employees to predict the behaviour of the organization, and to interact better with it by establishing a social connection with it (Epley et al. 2007). The sense of social connection with the organization enables employees to turn a potentially anonymous bureaucracy into a relatable person so that it is a source of identification and commitment.

Whilst the clarity of Ashforth et al.’s (2018) theorizing is admirable, it must be operationalized for it to become meaningful for empirical researchers and managers. The empirical literature offers several organizational personality scales that can be used for this purpose. We selected Chun’s (2005) organizational virtues scale due to its focus on employee satisfaction, its parsimony and ease of use, its extensive validation in different industries as well as in research contexts associated with organizational anthropomorphism, such as organizational identification and commitment (see Chun 2017). In addition, this scale uses the metaphor of the organization as “friend” in order to elicit responses, which is highlighted by Ashforth et al. (2018) as example of organizational anthropomorphism. We examine the fitness of the organizational virtues scale to measure organizational anthropomorphism by testing its association against Ashforth et al.’s (2018) antecedents and outcomes discussed above.

Our measure of top-down processes of organizational anthropomorphism are the employee perceptions of the organization’s corporate social responsibility (“CSR”), since CSR is an important channel whereby the organizational leadership communicates shared meaning to stakeholders (e.g. Crane et al. 2008; Waldman et al. 2006; Galbreath 2010). Our measure of bottom-up processes of organizational anthropomorphism are the employee opinions concerning the practice of “organizational citizenship behaviours” (“OCB”). Our measure of sensemaking are the employee perceptions of organizational justice, and our measure of the employee’s sense of social connection with the organization is the employees’ organizational affective commitment (Allen and Meyer 1990).

We make a number of contributions. The first and main contribution is to validate the organizational virtues scale (Chun 2005) as measure of organizational

anthropomorphism by considering its antecedents and outcomes in the light of Ashforth et al.’s (2018) theoretical model. In this way, we operationalize Ashforth et al.’s (2018) notion of organizational anthropomorphism, making it accessible to empirical researchers and practitioners alike. As secondary contributions, through moderation analysis across industry sector (hotels, Law firms and logistic firms), we offer two specific insights into the evaluation of organizational anthropomorphism. Firstly, we note that judgements of organizations can be subject to preference biases much like human judgements. In particular, more empathetic organizations tend to be evaluated more positively than less empathetic organizations. Secondly, we note that heuristic reasoning on the evaluation of CSR practice can influence the perception of organizational anthropomorphism. Since these two contributions are extrapolated from the data rather than formally tested, they call for further confirmation in future studies. The paper also discusses the virtue ethicists’ critique of the organizational virtues in an effort to advance the dialogue between the two traditions (Bright et al. 2014).

The paper is structured as follows. Section “**Theory**” explains the theory. Section “**Sample Data**” describes the sample data. Section “**Method**” describes the method. Section “**Findings**” describes the findings. Section “**Discussion**” contains a discussion of the findings. Section “**Future Research and Limitations**” proposes considerations for future study and limitations. Section “**Conclusion**” offers a short conclusion.

## Theory

Before discussing our conceptual model, it is important to elaborate the meaning of the organizational virtues, which we adopt as measurement of organizational anthropomorphism, especially since, according to virtue ethicists, they are not virtues in a proper sense (Beadle et al. 2015). By entertaining these considerations, we depart from Ashforth et al. (2018, p. 32), who adopted a phenomenological perspective to avoid delving into philosophical and epistemological controversies.

We take as starting point Chun’s (2005) definition of the organizational virtues as “ethical character traits that are learnt from accumulative perception of a firm’s behavior in everyday business life and that have implications for strategic positioning through their impact on member and customer satisfaction” (Chun 2005, p. 272). Thus, organizational virtues are organizational behaviours that foster (rather than inhibit) the practice of virtue in the organization (“ethical character”). However, since organizations are not real persons (Sisón and Ferrero 2015), organizational virtues are only metaphors of virtue (Davies et al. 2001; Cornelissen 2002) and they are not subject to the requirement of the

unity of virtues (for a contrary view, see Moore 2015). The practice of virtue and the achievement of eudaimonia is the employee's (rather than the organization's) quest, extending beyond the organization to their personal and social lives (Sisón et al. 2019). The researcher's focus is to identify some organizational virtues that can further this quest.

Sisón et al. (2019) examined the possibility of virtue in the finance sector by identifying socially meaningful skills and practices (internal goods or goods of excellence) that could be explained apart from the pursuit of money or power (external goods or goods of efficiency) (MacIntyre 1984). The internal goods in the three industry sectors in our study (hotels, Law firms and logistics firms) are well understood as separate from external goods. Hotels meet customer needs for physical accommodation by providing high-quality services and experiences. Law firms meet customer needs for legal information and expertise by providing legal services in line with the norms of the profession. Logistic firms meet customer needs for effective resource management by providing logistical expertise. Thus, we expect well-established organizations in these sectors (such as those in our sample) to be capable of fostering some virtue, a condition further reinforced by their communal narrative with other organizations in the sector (MacIntyre 1984).

Chun's (2005) organizational virtues are six: zeal, courage, integrity, empathy, conscientiousness and warmth. Exploratory factor analysis of the data in this study reduced Chun's (2005) six organizational virtues to two, organizational courage ("Courage") and organizational empathy ("Empathy"). These are the organizational virtues most salient to the members and thus the most meaningful for the purpose of our quantitative analysis, which is based on statistical generalization; other organizational virtues may nonetheless also co-exist in the organization. Empathy's concern for the needs of others and Courage's decisiveness in action combine to deliver an intuitively balanced account of organizational anthropomorphism, as they do of human character (Eysenck 1996). Coincidentally, these are the same organizational virtues used by Chun (2017) in a study of the behaviour of American and European organizations.

The meaning of Courage is derived from the virtue of courage (or fortitude; Moore 2015). It implies commitment to a life of virtue, even in the face of pain or opposition, fear, discomfort, or even certain death (Miller 2002). Following Harris (2001), Chun (2005) describes courage as "success in *achieving* the desired outcome and effort by the agent"; however, following Solomon (1992), she notes that this cannot come at the expense of compassion, trust or fairness. The meaning of Empathy is derived from the virtue of empathy, which involves the ability to recognize someone else's plight seeing it from their perspective, as well as the desire to support suffering through action, which is the hallmark of virtue (Simmons 2014). The virtue of empathy stands as

the golden mean between meanness and lacking emotional self-control (Simmons 2014), resonating with the cardinal virtues of justice and temperance. Dutton et al. (1994, pp. 60–61) refer to empathy as compassion that "places emotion center stage as a collective capability... to improvise a process of organizing that provides help and assistance to members" and include "a movement to respond". Courage's pursuit of achievement must be balanced by Empathy (Solomon 1992), whilst Empathy can only deliver on its promise to relief suffering through Courage. Thus, Courage and Empathy are only virtuous when they complement each other in the organization, though their relative importance will vary in line with the organization's unique history and the characteristics of the sector.

### Antecedents of Organizational Anthropomorphism

Firstly, we consider CSR as expression of top-down processes of organizational anthropomorphism. CSR expresses the mutuality of interests between business and society expressed through the firm's concern for social causes (Wood 1991; McWilliams and Siegel 2001). Garriga and Melé (2004) reviewed multiple definitions of CSR along four dimensions, namely instrumental, political, integrative and ethical. They concluded that any definition of CSR must satisfy the following conditions: "(1) meeting objectives that produce long-term profits, (2) using business power in a responsible way, (3) integrating social demands and (4) contributing to a good society" (p. 65). Our definition of CSR revolves around the concept of the corporation as citizen within the political dimension, which includes CSR practices such as "a strong sense of business responsibility towards the local community, partnerships, which are the specific ways of formalizing the willingness to improve the local community, and for consideration for the environment" (p. 54). According to this view, the organization redirects some of its resources towards the support of the community that might otherwise be deployed in the pursuit of narrower organizational goals. This involves choices that can be analysed in terms of deontic versus utilitarian philosophical perspectives in CSR (Galbreath 2010; MacIntyre 1984; Rupp et al. 2006). The deontic perspective emphasizes management's commitment to social causes even when they do not deliver tangible business benefits to the firm. In the utilitarian perspective, the firm commits to social causes that can deliver tangible benefits to the firm (Premeaux and Mony 1993; Premeaux 2004). However, an extreme version of either perspective would fail to satisfy all the conditions for CSR stipulated by Garriga and Melé (2004). An extreme deontic position would involve a concern for social causes to the long-term detriment of the business, failing to generate long-term profits for the organization and demonstrate

responsible business practices. An extreme utilitarian position would result in the instrumentalization of social causes in the single search for tangible benefits (e.g. greenwashing) (Gond and Crane 2010), failing to properly integrate social demands and contribute to a good society. CSR is a dynamic and emergent process (Tetrault Sirsly and Lvina 2016) that lies somewhere along continuum between those two orientations.

Employee evaluations of the organization's CSR practice results in anthropomorphic judgements about the organization based on third-party justice perceptions (Bauman and Skitka 2012; Rupp et al. 2006). We propose that evaluations of CSR towards the deontic side of the continuum increase perceptions of Empathy (indicating concern for others), whilst evaluations of CSR towards the utilitarian side of the continuum increase perceptions of Courage (indicating concern for individual achievement). Thus, evaluations of CSR can increase both Empathy and Courage.

**Hypothesis 1a** CSR increases empathy.

**Hypothesis 1b** CSR increases courage.

Secondly, we consider OCB as expression of bottom-up processes of organizational anthropomorphism. OCB are discretionary or extra-role behaviours that demonstrate an unusual level of commitment to colleagues and the organization (Bateman and Organ 1983; Organ 1988; Williams and Anderson 1991) and have inter-personal, group and organizational wide effects (e.g. Ehrhart and Naumann 2004; Hart et al. 2016). Organ (1988, 1997) noted that OCB often contribute to increased rewards and promotions, so that they are perceived as in role behaviours or behaviours prescribed by the organization (Morrison 1994). Thus, observation of OCB will create associations in the minds of employees with the values of the organization, fostering attributions of anthropomorphism to the organization (c.f., Lavelle et al. 2007; Lavelle 2010).

OCB can be directed at individuals (e.g. courtesy and altruism) ("OCBI") or the organization (e.g. conscientiousness, civic virtue) ("OCBO") (Williams and Anderson 1991). Since OCBI manifest a concern for others, we expect that they will foster anthropomorphic associations of Empathy. Since OCBO manifest a concern for individual achievement, we expect that they will foster anthropomorphic associations of Courage. Based on this logic (which we do not test directly), we propose that a measure of OCB that includes both OCBI and OCBO (as is the case in this study) will increase both Empathy and Courage.

**Hypothesis 2a** OCB increase empathy.

**Hypothesis 2b** OCB increase courage.

CSR has important influences on employee attitudes and behaviours, resulting in increases in OCB as well as employee satisfaction, commitment and identification (e.g. Brammer et al. 2007). Using social information processing theory (Pfeffer and Salancik 1978), Evans et al. (2010) showed that employee's sense of accountability to others and the organization is influenced by the firm's behaviour towards social stakeholders. Zhang et al. (2014, p. 423) further showed that perceived CSR had a significant influence on OCB, "suggesting firms should place a premium on achieving a reputation as being socially responsible". Finally, Thornton and Rupp (2016) showed that perceptions of CSR, consistent with perceptions of justice climate, influence positively the pro-social behaviours of groups.

**Hypothesis 3** CSR increases OCB.

Following the findings of Chun (2005), we would expect that, when members are asked to evaluate their organization, Empathy and Courage would appear as independent, orthogonal, factors. Yet, Social Exchange Theory (Blau 1964) and Balance Theory (Heider 1983) indicate that perceptions of empathy are reciprocated through liking (Aron et al. 1989; Kenny 1988), and that liking increases overall evaluations of the person liked (Judd et al. 2005; Leisen and Hyman 2004; Casciaro and Lobo 2008). This "halo effect" effect has been observed in individual as well as group evaluations (Judd et al., 2005), so it can extend to organizations as groups of employees. Thus, we argue that perceptions of Empathy increase overall evaluations of the organization, including perceptions of courage.

**Hypothesis 4** Empathy has a positive effect on courage.

## Outcomes of Organizational Anthropomorphism

Organizational anthropomorphism increases organizational sensemaking and, with it, the employee sense of control and predictability about the organization's behaviour (Ashforth et al. 2018). By increasing the expectation of fair outcomes in dealings with the organization (Cropanzano and Greenberg 1997), organizational justice increases employee sensemaking (Cohen-Charash and Spector 2001) and the employee's sense of control and predictability about the organization's behaviour (Hubbell and Chory-Assad 2005).

Accounts of organizational justice focus either on equity norms, whereby employee performance is measured by reference to achievement at individual or group levels (Adams 1965), or equality norms, whereby employee performance is measured by reference to universal needs, regardless of performance (Deutsch 1975). Since Courage indicates

a concern for achievement, it will increase the perception of equity norms in the organization. Since Empathy indicates a concern for the needs of others, it will increase the perception of equality norms in the organization. Thus, the extent of association with equity and equality norms is a function of the relative importance of Empathy and Courage in the organization. Whilst high-performing employees prefer equity norms and low-performing employees prefer equality norms, the majority of employees find either to be fair (Conroy and Gupta 2019). Thus, Empathy and Courage increase overall perceptions of organizational justice in the organization and the accompanying sense of control and predictability over the organization.

**Hypothesis 5a** Empathy increases perceptions of organizational justice.

**Hypothesis 5b** Courage increases perceptions of organizational justice.

Organizational anthropomorphism also increases the sense of social connection with the organization, enabling employees to turn a potentially anonymous bureaucracy into a relatable person whereby it becomes a source of identification and commitment (Ashforth et al. 2018). By increasing the “emotional attachment to, identification with, and involvement in, the organization” (Allen and Meyer 1990, p. 67), and the desire to stay in the organization because they feel comfortable in it (Allen and Meyer 1990; Meyer and Allen 1991), affective commitment delivers the sense of social connection associated with organizational anthropomorphism. Affective commitment results from the satisfaction by the organization of employee’s social and achievement needs (Astakhova 2016; Gao-Urhahn et al. 2016; Lee and Peccei 2007). Empathy satisfies the employee’s social needs by directing their attention towards the needs of others

(Johnson 2008), whilst Courage satisfies the employee’s need for achievement by directing their attention to the importance of achievement (Duffy and Lilly 2013). The extent to which one or the other need is satisfied is then relative to the importance of Empathy and Courage in the organization. The employee reciprocates the satisfaction of these needs affectively (Blau 1964; Eisenberger et al. 1986), as with a friend (Ashforth et al. 2018). Thus, Empathy and Courage increase Affective Commitment, by satisfying employee’s social and achievement needs, resulting in a sense of social connection with the organization.

**Hypothesis 6a** Empathy increases affective commitment.

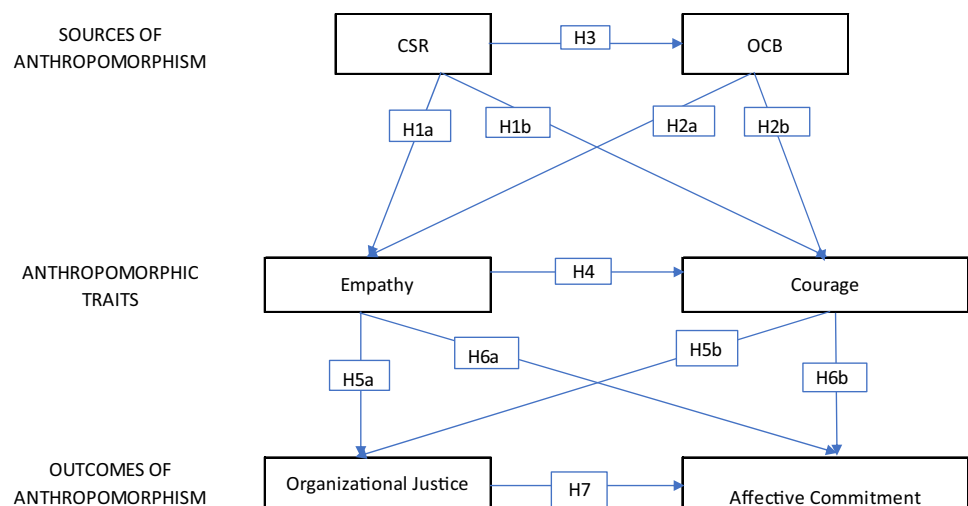
**Hypothesis 6b** Courage increases affective commitment.

The relationship between organizational justice and affective commitment is well established in the literature (Ohana 2014) and has implications for organizational performance (van Dierendonck and Jacobs 2012). It has been confirmed by a plethora of empirical studies, many of which have been reviewed in meta-analytic studies on organizational justice (Cohen-Charash and Spector 2001; Colquitt 2001; Viswesvaran and Ones 2002). It can be explained through processes of social exchange (Blau 1964), whereby the sense of fairness leads employees to think that the organization cares for them and to reciprocate by identifying with the organization (Lavelle et al. 2007). Based on this evidence, we can assume a positive connection between justice perceptions and affective commitment.

**Hypothesis 7** Organizational justice increases affective commitment.

Figure 1 summarizes Hypotheses 1–7. CSR and OCB, on one hand, and organizational justice and affective

**Fig. 1** Conceptual model



commitment, on the other, are, respectively, antecedents and outcomes of Courage and Empathy. The relationships among the variables are guided by our interpretation of Ashforth et al.'s (2018) theoretical account of the nature of organizational anthropomorphism, its antecedents and outcomes. In our model, CSR and OCB influence the formation of anthropomorphic attributes (Courage and Empathy) through top-down (management-led) and bottom-up (employee-led) psychological processes, whilst Organizational Justice and Affective Commitment are the effects of organizational anthropomorphism on employees associated with sensemaking and the sense of social connection with the organization.

### Moderation by Industry Sector

As hypothesized (H4), Empathy may influence perceptions of Courage through a halo effect. This effect is likely to be observed when Empathy is highly salient (Pfeffer and Salancik 1978) in the minds of employees. Service organizations emphasize empathy in the service relationship (e.g. Hochschild 1983; Kim 2008; Higgs 2004). Through their display of Empathy, they guide the employee's practice of empathy towards customers and reduce the likelihood of emotional exhaustion (Hochschild 1983). However, von Nordenflycht (2010) notes that professional organizations, such as Law firms, are distinct among service organizations by emphasizing knowledge-intensity and professionalism rather than empathy in the service relationship. Thus, we expect that Empathy will be less salient in the Law firms than in the hotels and logistic firms and, consequently, that the halo effect between Empathy and Courage will be less pronounced (or even non-existent) in Law firms.

**Hypothesis 8** The halo effect between empathy and courage will be weaker in the Law firms than in the hotels and logistic firms.

In Sect. “Antecedents of Organizational Anthropomorphism”, we proposed that CSR practice occurs along a deontic-utilitarian continuum. We further proposed that CSR practice influences perceptions of Empathy and Courage. Through moderation analysis, we now explore how these perceptions are realized across industry sectors, since industry sector is a key moderator of CSR practice (Tetrault Sirsly and Lvina 2016). We consider that people tend to evaluate complex or abstract information heuristically, by reference to simple categories that are readily accessible to their cognitions (Fiske and Taylor 1991; Tversky and Kahneman 1973). Thus, employees will evaluate CSR in simple deontic/utilitarian categories, overlooking the nuances of its precise position along the deontic-utilitarian continuum, thereby exaggerating the anthropomorphic associations of the firm. In other words, CSR that lies on the deontic side

of the continuum will be classified as “deontic” resulting in both strong attribution of Empathy and weak attribution of Courage to the organization, and vice versa. As a result, we expect that in each industry sector the relationship of CSR with Empathy will be significantly different from the relationships of CSR with Courage, reflecting the employee's heuristic evaluation of CSR practice.

**Hypothesis 9** In each industry sector, the association of CSR with Empathy is significantly different from the association of CSR with Courage.

### Conclusion

In this study, we set out to validate Chun's (2005) organizational virtues scale as measurement of organizational anthropomorphism, by testing it against the antecedents and outcomes proposed in Ashforth et al.'s (2018) theoretical model. Whilst no measurement can fully exhaust the complexity of that model, they are valid approximations that can be elaborated in future studies. In addition, our theorizing also tests a perceptual bias in the measurement of the organizational virtues and explores the role of heuristics on the evaluation of CSR practice, with implications for organizational anthropomorphism.

### Sample Data

Data from seven UK managed service organizations were collected through survey questionnaires distributed offline to organizational employees, after arranging with each organization's HR function for a method of distribution to all employees and later collection. Questionnaire completion was voluntary, and employees were informed of the purpose of the survey and ensured anonymity. The organizations surveyed include three quality business hotels, two commercial Law firms, and two logistics services firms. The choice of organizational sectors reflects an accommodation between the desire for contrast to facilitate moderation analysis and the accessibility of the relevant organizations to the researcher through personal contacts or through referrals. Table 1 presents the organizations, a brief description of their activity, sample size per-organization and percentage of employees included in the study. Whilst the call centre and Dairy carry out distinct activities, they are both concerned with the distribution of products or information in a highly routinized and monitored manner, characteristic of logistics firms (e.g. Frenkel et al. 1999). The data include at least 50% of the employees in each of the locations surveyed.

The database consists of 637 employee questionnaires, out of a total 687 questionnaires collected after discarding 38 substantially incomplete questionnaires and the elimination

**Table 1** Description of the sampled organizations

Industry sector	Organization type	Code (location)	Sample size (Total by Industry Sec- tor)	% of total employees
Hotels	Business hotel	Liverpool hotel (Liverpool, UK)	88	38
	Business hotel	Manchester hotel (Manchester, UK)	81	
	Business hotel	Country hotel (Manchester, UK)	73	
			(242)	
Law firms	Commercial	Law firm 1 (Manchester, UK)	87	34
	Commercial	Law firm 2 (Birmingham, UK)	129	
			(216)	
Logistics firms	Product distribution	Dairy Manchester (UK)	72	28
	Outsourcing	Call center Cork (Ireland)	107	
			(179)	
Total			<b>637</b>	100

of a further 12 through a process of outlier detection using a Z-score threshold value of 3.75 (Tabachnick and Fidell 2001). Missing data—which accounted for 3% of total observations—were treated through computer generated mean substitution (Peugh and Enders 2004). The sample data are evenly distributed by gender (male 47%/female 52%). Nearly three quarters (72%) are British with the next largest group being European (17–6% of which were Irish). The average tenure is 4.8 years (s.d. 3.8). The mean age of the respondents is 34.35 (Std = 10.85; max = 66; min = 15). Most respondents occupy non-managerial positions (69%). Supervisors (16%) and senior managers (7%) make up the remainder. This translates into a ratio of junior to middle and senior staff of 14:4:1, which is broadly in line with what might be expected in these types of organizations. 90% of the employees work full time and 8% part time. Unaccounted for percentages refer to missing data.

## Method

### Measures

All survey items were drawn from extensively validated measures using 5 point-Likert, ranging from 1 (strongly disagree) to 5 (strongly agree).

For the measure of organizational virtue, we adopted Chun's (2005) six-dimensional organizational virtue scale. In line with the original study, the question asked of the respondents was: "if your organization was a person it would be". The data were analysed through factor analysis with Varimax rotation using SPSS v. 22, delivering two

orthogonal factors (see Appendix 1), which correspond broadly to Chun's (2005) dimensions of Courage (ambitious, achievement oriented and competent) and Empathy (supportive, reassuring and sympathetic).

We measured CSR with three items from the philanthropic dimension of Maignan's (2001) corporate citizenship scale (e.g. "helps solve social problems"). This scale was developed to measure perceptions of CSR among consumers in Europe and US, following Carroll's (1979) four-fold categorization into economic, legal, ethical and philanthropic responsibilities. Yet, Maignan (2001) found that ethical and philanthropic responsibilities factored together and separately from the other two dimensions, which was also confirmed in our data analysis. Whilst philanthropy is typically understood as donations to social external stakeholders (Gardberg et al. 2017), Maignan's (2001) measurement includes a broader range of behaviours that broadly accommodates our definition of CSR (see Sect. "Antecedents of Organizational Anthropomorphism"). The question asked was the same as in Maignan's (2001) original study: "describe your organization's citizenship".

The measure of OCB was derived from a scale developed by Podsakoff et al. (1990) from Organ's (1988) five-trait taxonomy. The question asked was: "describe the typical colleague in your organization". The component items of each OCB trait were summated, and the result treated as an observed variable (Anderson and Gerbing, 1982; Bagozzi and Edwards, 1998). Confirmatory factor analysis resulted in the elimination of one item (sportsmanship) and the retention of the other four items (conscientiousness, civic virtue, courtesy and altruism). The fit indices for the composite model were calculated using Amos v. 22.0 ("Amos"):

( $n=637$ ) Chi-square: 271.205 (0.000) Df=98; CFI=0.965; RMSEA=0.053. Finally, affective commitment (“AC”) was measured with Allen and Meyer’s (1990) scale, and organizational justice (“OJ”) with Niehoff and Moorman’s (1993) distributive justice scale. The scale items used in the empirical model were derived through CFA of the overall model, resulting in the retention of four items for affective commitment and three items for organizational justice. Table 2 lists the constructs in the model and their component items.

Controls were tested for occupation, tenure and gender on all variables. Occupation was measured with five dummy variables: 1 = “support staff” ( $n=212$ ), 2 = “non-managerial

staff” ( $n=230$ ), 3 = “managerial staff” ( $n=102$ ), 4 = “senior staff” ( $n=43$ ) and 5 = “other” ( $n=49$ ). Gender was measured with two dummy variables: 1 = male, 2 = female. Tenure was introduced as a single variable ( $M 4.77$ ;  $SD=3.843$ ). Only controls that delivered a significant effect in the model are reported, namely (i) the effect of tenure on OCB; (ii) the effect of tenure on affective commitment; and (iii) the effect of gender on Courage. Age was not included as a control due to the high dispersion of the data.

**Table 2** Means and standard deviations of items in the model

Constructs	Items	Means (SD)
CSR	<i>My organization...</i>	
	Helps solve social problems	3.29 (0.961)
	Participates in the management of public affairs	3.35 (0.831)
OCB	<i>My typical colleague in my organization...</i>	
	Allocates resources to philanthropic/charitable activities	3.64 (0.820)
	<i>Conscient.</i>	
Civic Virtue	Does not take extra breaks	3.67 (1.01)
	Obeys rules and regulations even when no one is watching	3.70 (0.898)
	Believes in giving honest day’s work for honest day’s pay	3.88 (0.831)
Courtesy	Attend functions that are not required, but help the company image	3.39 (0.919)
	Keeps abreast of changes in the organization	3.62 (0.758)
	Reads and keeps up with org. announcements, memos, etc.	3.70 (0.819)
Altruism	Takes steps to try to prevent problems with other workers	3.69 (0.854)
	Does not abuse the rights of others	3.91 (0.795)
	Is mindful of how his/her behaviour affects other peoples’ jobs	3.57 (0.908)
Org. Courage	Tries to avoid creating problems for co-workers	3.83 (0.799)
	Consider the impact of his/her actions on co-workers	3.67 (0.844)
	Helps others who have been absent	3.29 (0.961)
Org. Empathy	Is always ready to lend a helping hand to those around	3.35 (0.831)
	Congratulates others on their achievement	3.64 (0.820)
	Helps orient new people even though it is not required	3.83 (0.845)
Affective Commit.	Assist each other with their work	3.716 (0.626)
	<i>If my organization was a person, it would be</i>	
	Achievement Oriented	4.21 (0.811)
Org. Justice	Ambitious	4.32 (0.757)
	Competent	4.02 (0.835)
	<i>If my organization was a person, it would be</i>	
Org. Justice	Supportive	3.70 (0.957)
	Reassuring	3.57 (0.900)
	Sympathetic	3.88 (0.950)
Org. Justice	I would be very happy to spend the rest of my career with this organization	3.31 (1.13)
	I really feel as if this organization’s problems are my own	2.94 (1.03)
	I feel emotionally attached to this organization	3.17 (0.970)
Org. Justice	This organization has a great deal of personal meaning for me	3.19 (0.991)
	Gives me a fair work-load	3.46 (1.02)
	Gives me rewards that are overall quite fair	3.44 (1.07)
Org. Justice	Gives me fair work responsibilities	3.69 (0.900)



**Table 3** Validity and reliability measures, average variance extracted (“AVE”) and correlation estimates (*Discriminant validity—HTMT*)

	Cronbach's $\alpha$ /rho_A/ Comp.Rel <sup>a</sup> /AVE	AC	C	CSR	E	OCB	OJ	Gender	Tenure
AC <sup>b</sup>	0.828/0.845/0.83/0.555	1							
C <sup>c</sup>	0.762/0.765/0.756/0.511	0.469 (0.464)	1						
CSR	0.792/0.796/0.792/0.561	0.601 (0.603)	0.469 (0.470)	1					
E <sup>d</sup>	0.869/0.881/0.871/0.695	0.652 (0.652)	0.464 (0.454)	0.531 (0.534)	1				
OCB	0.82/0.838/0.825/0.545	0.537 (0.546)	0.556 (0.560)	0.501 (0.505)	0.613 (0.612)	1			
OJ <sup>e</sup>	0.841/0.853/0.843/0.643	0.619 (0.617)	0.460 (0.452)	0.528 (0.525)	0.536 (0.536)	0.528 (0.531)	1		
Gender		- 0.028	0.159	0.077	0.035	0.072	0.039	1	
Tenure		0.118	- 0.031	0.043	- 0.046	-	- 0.087	- 0.031	1

<sup>a</sup>Composite reliability

<sup>b</sup>Affective commitment

<sup>c</sup>Courage

<sup>d</sup>Empathy

<sup>e</sup>Organizational justice

## Data Analysis

Table 3 shows the Cronbach  $\alpha$ , rho\_A, composite reliability, Average Variance Extracted (“AVE”) for the variables in the model. In addition, it shows the correlation estimates and discriminant validity assessed using the Heterotrait–Monotrait Ratio (HTMT). All the measures were calculated using SmartPLS vs. 3.2.7 (“Smartpls”).

The possibility of common method bias was assessed with SmartPLS, following Kock (2015). This requires the calculation of VIF at the factor level. If all factor-level VIFs resulting from a full collinearity test are equal to or lower than 3.3, common method bias is not an issue for the analysis of the data (Kock 2015, p. 7). As shown in Table 4, common method bias is not an issue as stated.

## Model Specification and Results

A measurement model of the hypothesized variables was created and tested using Amos v. 22: ( $n=637$ ) Chi-square:  $\times 2 = 355.427$  (0.000) Df = 154; CFI = 0.967; RMSEA = 0.045. Based on the measurement model, a structural model of the hypothesized relationships was created

and tested in Amos. The resulting fit indices for the structural equation model were ( $n=637$ ) Chi-square:  $\times 2 = 507.943$  (0.000) Df = 196; CFI = 0.950; RMSEA = 0.050. The model was then re-run in SmartPLS using consistent algorithm with complete bootstrapping of 5000 subsamples (Ringle et al. 2015), giving a SRMR of 0.054 (saturated model 0.037). Table 5 shows the path coefficients and path estimates for the relationships in the model.

## Moderation by Industry

Multi-group analysis of invariance was undertaken in Amos following the indications of Bollen (1989) and Kline (2010). First, the model for the total database (“Total”) was compared sequentially with the structural model for each industry sector: Logistics firms ( $n=179$ ;  $\times 2 = 303.021$ (df. 196); CFI = 0.942; RSMEA = 0.055); hotels ( $n=242$ ;  $\times 2 = 351.797$  (df. 196) CFI = 940; RMSEA = 0.057); Law firms ( $n=216$ ;  $\times 2 = 370.549$  (df. 196); CFI = 0.909; RMSEA = 0.062). The results in each case show invariance down to the level of the structural residuals, which enables theoretical comparison at the construct level (Hair 2018, p. 740). Secondly each industry sector database was compared against each other, showing a

**Table 4** Common method bias estimation (collinearity statistics)

	AC	C	CSR	OCB	OJ	E
AC		2.329	2.168	2.334	2.135	2.069
C	1.606		1.578	1.468	1.594	1.609
CSR	1.675	1.768		1.791	1.766	1.786
OCB	2.008	1.831	1.995		1.966	1.815
OJ	1.709	1.851	1.83	1.829		1.858
E	1.904	2.148	2.128	1.942	2.136	

**Table 5** Path coefficients (path estimates) for H1–H9

		Total sample Coeff. ( <i>p</i> value) <i>T</i> -stat	Hotels Coeff. ( <i>p</i> value) <i>T</i> -stat	Law firms Coeff. ( <i>p</i> value) <i>T</i> -stat	Logistics firms Coeff. ( <i>p</i> value) <i>T</i> -stat
H1a H9	CSR→E	0.299 (<0.001) 5.695	0.358 (<0.001) 4.830	0.183 (0.084) 1.731	0.360 (<0.001) 3.900
H1b H9	CSR→C	0.212 (<0.001) 4.017	0.197 (0.050) 1.957	0.344 (<0.001) 3.965	− 0.074 (0.435) 0.781
H2a	OCB→E	0.463 (<0.001) 9.798	0.518 (<0.001) 7.634	0.394 (<0.001) 3.643	0.450 (<0.001) 5.249
H2b	OCB→C	0.366 (<0.001) 6.116	0.254 (0.027) 2.214	0.225 (0.032) 2.143	0.432 (<0.001) 3.731
H3	CSR→OCB	0.509 (<0.001) 11.768	0.549 (<0.001) 9.833	0.484 (<0.001) 6.357	0.472 (<0.001) 5.262
H4 H8	E→C	0.123 (0.058) 1.898	0.317 (0.022) 2.298	0.067 (0.430) 0.789	0.378 (0.007) 2.708
H5a	E→OJ	0.411 (<0.001) 7.586	0.518 (<0.001) 5.465	0.443 (<0.001) 5.285	0.238 (0.057) 1.904
H5b	C→OJ	0.270 (<0.001) 5.118	0.182 (0.070) 1.813	0.212 (0.007) 2.696	0.399 (0.002) 3.164
H6a	E→AC	0.413 (<0.001) 9.052	0.430 (<0.001) 4.529	0.482 (<0.001) 6.884	0.329 (0.002) 3.102
H6b	C→AC	0.118 (0.018) 2.367	0.028 (0.760) 0.306	0.054 (0.494) 0.684	0.230 (0.060) 1.884
H7	OJ→AC	0.358 (<0.001) 7.508	0.431 (<0.001) 5.053	0.244 (0.001) 3.257	0.396 (<0.001) 5.249
	Gender→C	0.112 (0.003) 2.966	0.022 (0.711) 0.370	− 0.021 (0.765) 0.299	0.158 (0.011) 2.372
	Tenure→AC	0.172 (<0.001) 5.286	0.135 (0.009) 2.598	0.129 (0.045) 2.001	0.295 (<0.018) 5.337
	Tenure→OCB	− 0.164 (<0.001) 4.794	− 0.2 (0.002) 3.154	− 0.128 (0.081) 1.745	− 0.220 (0.006) 2.759

**Table 6** Multi-group analysis of invariance

	Probability of the Chi-square distribution (assuming model unconstrained to be correct)					
	Law firms vs. total	Logistics firms vs. total	Hotels vs. total	Law firms vs hotels	Law firms vs logistics firms	Hotels vs. logistics firms
Measurement weights	0.173	0.9	0.832	0.018	0.033	0.389
Structural weights	0.102	0.449	0.853	0.006	<0.001	0.04
Structural residuals	0.059	0.248	0.918	0.003	<0.001	0.039
Measurement residuals	0.042	0.162	0.899	0.002	<0.001	0.013

lack of structural invariance in every case. Table 6 shows the probability of the Chi-square distribution for the analysis of invariance, including comparison of each type of firm against Total and comparison across industry sectors.

The model was re-run in SmartPLS by industry sector, following the same procedure as for the whole sample. Table 7 compares Empathy and Courage across industry sectors for the purpose of testing Hypotheses 8 and 9. Our prediction of contrast among the organizations required for moderation analysis proved right in that the Law firms have significantly higher Courage than Empathy, the hotels have

similar levels of both, and the logistics firms have significantly higher levels of Empathy than Courage.

## Findings

The analysis of the results shows that Hypotheses 1–7 are met, except Hypothesis 4 (Empathy increases Courage). The non-significance of Hypothesis 4 (0.058) supports the theoretical independence of the two personality traits (Chun 2005; S. Fiske et al. 2002), though this conclusion must wait for the

**Table 7** Comparison by industry sector of Empathy vs. Courage

Means (Std)		
Hotels	4.126 (0.622)	3.857 (0.740)
Law firms	4.104(0.600)	3.467(0.727)
Logistics firms	3.90 (0.77)	3.851(0.810)
Independent Sample <i>T</i> -test (hotels vs. law firms)		
Courage	$F = 0.769(0.381)$	$t = -0.381(0.703)$
Empathy	$F = 0.080(0.777)$	$t = -5.677 (0.000)$
Independent Sample <i>T</i> -test (law firms vs. logistics firms)		
Courage	$F = 11.896(0.001)$	$t = -2.994(0.003)$
Empathy	$F = 0.968(0.326)$	$t = -4.916 (0.000)$
Independent Sample <i>T</i> -test (hotels vs. logistics firms)		
Courage	$F = 7.983(0.005)$	$t = -3.327(0.001)$
Empathy	$F = 0.569(0.451)$	$t = -0.075 (0.940)$
Summary: ranking by organization (stronger = 1)		
	Courage	Empathy
1	Law firms and hotels	Logistics firms and hotels
2	Logistics firms	Law firms

findings of the moderation analysis. Hypotheses 1–3 and 5–7 are all significant at the  $<0.001$  level, except for the effect of Courage on Affective commitment ( $p = 0.018$ ) (Hypothesis 6b). Based on the strength of the coefficients, OCB stands out as the key antecedent of anthropomorphism. CSR also contributes to the formation of anthropomorphic perceptions, but its greatest effect is indirect, through its positive effect on OCB. As regards the outcomes of anthropomorphism, although the effect of Courage on affective commitment is weaker than the other effects, Courage also impacts affective commitment indirectly through its positive effect on organizational justice.

The results for the multi-group analysis of invariance (Table 6) shows that the empirical model is valid for the three industry sectors, but that substantive differences exist among the industry sectors. Hypothesis 8 predicted that the strength of the halo effect between Empathy and Courage would be weaker in the Law firms than in the other two industry sectors. Table 5 shows the coefficients between Empathy and Courage across the three industry sectors. The effect of Empathy on Courage in the hotels and logistics firms is positive and significant, yet, in the Law firms the relationship between Empathy and Courage is not significant. Thus, Hypothesis 8 is supported. Finally, Hypothesis 9 predicted that the relationship of CSR with Empathy and Courage would be influenced by heuristic reasoning on the evaluation of CSR practice, resulting in significant differences in the relationship of CSR with Courage and Empathy in each industry sector. We note that when the path CSR—empathy is significant, the path CSR—Courage is

insignificant (or borderline significant in case of the hotels), and vice versa (Table 5).

## Discussion

The notion of anthropomorphism has received in recent years increasing attention from researchers in several areas, including branding (e.g. Aaker 1997), social psychology (e.g. Aggarwal and McGill 2007) and management (e.g. Ashforth et al. 2018). Anthropomorphism, or the attribution of human qualities to non-human objects and entities, facilitates the assimilation of information about those non-human objects or entities, either through analogy with the human characteristics or through emotional associations (Aggarwal and McGill 2007). When the latter are triggered, social and behavioural outcomes follow that involve a personal relationship with the anthropomorphized object (Hudson et al. 2016). Ashforth et al. (2018) noted that emotional anthropomorphic associations are also formed between employees and the organizations they work for, with important outcomes for managerial communications and organizational performance. The formation of such associations involves, on the one hand, management-led influences, and, on the other, cues from the work setting. When anthropomorphic associations are formed, employees feel a greater sense of control and understanding over the organizational

environment and develop a closer social connection with it as with a relatable human.

This paper has sought to make a number of contributions to the literature on organizational anthropomorphism. First, it has shown how a two-trait measurement of organizational virtue derived from Chun (2005) (Empathy and Courage) can be used as proxy measure of organizational anthropomorphism. To explain its antecedents and outcomes as outlined by Ashforth et al. (2018), a SEM model was created and tested against data collected from a sample of seven UK service industry organizations and was further moderated by industry sector. The results of the quantitative analysis show that the empirical model has a strong fit with the data. Thus, within the limitations of the measurement variables selected, the empirical model offers support for the theoretical model, with implications for theory and practice. Researchers of organizational anthropomorphism can draw inspiration from this model to further develop the practical implications of Ashforth et al.'s (2018) theoretical model. Second, it has offered two observations from the data that strengthen the organizational anthropomorphism metaphor. In the first place, we have identified a halo effect between Courage and Empathy that suggests that judgements of organizations can be subject to preference biases, much like human judgements. Further study is required to prove our contention that the halo effect identified in the moderation study reflects the role of reciprocation through liking. We have also noted that employees tend to simplify their judgement of CSR and argued that this can explain significant differences in the association of CSR with Empathy and Courage in each sector. These two observations have implications for the relationship between the employee and the organization and thus must be strategically managed. However, since they are extrapolated from the data rather than formally tested, they call for further confirmation in future studies. Finally, the paper has also sought to advance the dialogue between virtue ethicists and organizational virtue scholars by offering an account of the organizational virtues as metaphor which supports Ashforth et al.'s (2018) phenomenological perspective.

The findings suggest that the stimuli that employees receive from colleagues and the work context are more influential in the formation of anthropomorphic traits than broad managerial practices, such as CSR. Managers wishing to increase the salience of anthropomorphic traits must focus their attention first on the management of OCB, and evaluate managerial practices, such as CSR, primarily through the lens of their impact on OCB (and other contextual variables). Anthropomorphism delivers increased affective commitment and perceptions of organizational justice. However, the main effects are from Empathy. Thus, managers wishing to increase employee affective commitment and perceptions of organizational justice through anthropomorphism ought

to focus on making Empathy salient. On the other hand, the importance of Empathy is also supported by an interesting methodological observation. In a competitive market, low Courage firms should be relatively rare due to a survival bias (incompetent firms go bankrupt). We thus find in Table 2 lower standard deviations and higher means, as well as lower differential in means, for Courage than Empathy. It is possible that, in a business context, Courage may have a slightly lower explanatory power (due to its ubiquity) than in the context of social (individual or group) judgements.

When Empathy is high, it delivers employee outcomes directly and contributes to those effects indirectly through a halo effect on Courage. Whilst this is interesting from a theoretical perspective, it is likely to matter little in the examination of individual organizations since employee attributions are broad approximations. However, it can become relevant in comparisons of organizations which differ markedly on Empathy. In this case, data collection could be preceded by pre-survey experiments that target the employee's organization and a proximate competitor, since observations of the competitor are less likely to be subject to preference bias (Fiske et al. 2002; Judd et al. 2005). Finally, the results of Hypothesis 9 suggest that CSR practices have important strategic implications for the firm's relationship with employees, highlighting the importance of managing CSR internal communications in line with the desired organizational image (Vlachos et al. 2014; Pfeffer and Salancik 1978).

## Future Research and Limitations

The primary purpose of this study was to offer empirical support for Ashforth et al.'s (2018) theoretical model taken as a whole, and the variables were selected parsimoniously with this objective in mind. Future studies could complement the findings by differentiating among the dimensions of OCB (e.g. OCB<sub>I</sub> and OCB<sub>O</sub>), CSR (deontic vs. utilitarian) and organizational justice (e.g. equity vs. equality), as well as by integrating other aspects of Garriga and Melé's (2004) conceptualization of CSR. Future studies must also examine the contention that the halo effect reflects the importance of affect in the organization, and further test the claim that heuristic reasoning influences evaluations of Empathy and Courage through its impact on perceptions of CSR practice. Given the importance of the industry sector for CSR practice, further study is also needed to understand to what extent managers feel a sense of agency in CSR practice (c.f., Chun et al. 2019; Tetrault Sirsly and Lvina 2016), and its implications for employee evaluation of the organizational virtues. Finally, the discussion on the meaning of organizational virtues in Sect. "Theory" has highlighted the need for an ethical preamble to the investigation of organizational

virtue, involving an examination of the internal goods in the industry sector under consideration.

Future studies might include considerations about organizational design (cf., Gagné et al. 2019). Since the organizational virtues describe employee perceptions of the organization (Kim et al. 2016), we would expect the level of organizational virtue to reflect the relative ability of the organization to “speak with one voice” (Mintzberg 2009). As stated in the introduction, organizational anthropomorphism and the notion of “top-down” and “bottom-up” processes are not exhausted by the variables used in this study. Thus, we hope that this will inspire further empirical research on the topic. From a generalizability perspective, the findings would benefit from a wider range of organizations collected from a variety of industry sectors. Judd et al. (2005) note that cultural differences influence the size of the halo effect in social judgements of individuals. Accordingly, future studies should also include cross-cultural considerations.

From a methodological perspective, future studies ought to consider the relationship between the organizational virtue and the organizational identity orientation literatures, which manifests the organization’s self-understanding in its dealings with others. Organizational identity orientation can be described through personality traits, which are conceptually close to those used in this paper (Brickson 2013, p. 234). Examining these similarities opens interesting avenues for cross-disciplinary research that can help refine a scale of organizational anthropomorphism. Such a scale could include an additional trait of collectivism, in line with the organizational identity orientation literature. Any further additions must be built on a strong theoretical framework, for example, Schwartz’s (2012) theory of basic values. Scholars may also investigate the dark side of personality, which is not captured by low scores for Empathy or Courage (e.g. dangerous and socially psychopathic organizations).

## Conclusion

We set out to elaborate an empirical model of organizational anthropomorphism following the theoretical model developed by Ashforth et al. (2018). The measurement variables used in the model were CSR and OCB (as antecedents), Empathy and Courage (as measures of anthropomorphism) and organizational justice and affective commitment (as outcomes). The model was tested across a multi-organizational sample and moderated by industry sector. The results are congruent with Ashforth et al.’s (2018) framework and open many possibilities for future studies that can help advance the understanding of the meaning and practical implications of organizational anthropomorphism. The study also explored a halo effect between the two organizational virtues and the influence of heuristics on employee evaluations of

the organization; both observations strengthen the organizational anthropomorphism metaphor. Further possibilities for the development and extension of a measurement scale of organizational anthropomorphism were proposed. Finally, we offered some insights into the interpretation of CSR by employees, which can have implications for strategic positioning. Within the limitation of the sample and variables chosen, the study has shown that organizational anthropomorphism is a powerful lens to understand organizational dynamics and can be used by managers to guide organizational strategy.

## Appendix 1

Varimax rotation of Chun’s (2005) 24-item organizational virtues scale.

Rotated component matrix

	Component	
	1	2
SMEAN(OV23Sympathetic)	0.802	
SMEAN(OV22Supportive)	0.802	
SMEAN(OV18Sincere)	0.785	
SMEAN(OV15Reassuring)	0.778	
SMEAN(OV24Trustworthy)	0.778	
SMEAN(OV12Open)	0.742	
SMEAN(OV13Pleasant)	0.728	
SMEAN(OV21Straightforward)	0.699	
SMEAN(OV17Secure)	0.698	
SMEAN(OV16Reliable)	0.670	0.383
SMEAN(OV8Honest)	0.666	0.307
SMEAN(OV6Friendly)	0.642	
SMEAN(OV19Socially Responsible)	0.572	0.416
SMEAN(OV4Concerned)	0.504	0.386
SMEAN(OV2Ambitious)		0.842
SMEAN(OV1Achievement-oriented)		0.749
SMEAN(OV10Innovative)	0.401	0.652
SMEAN(OV3Competent)		0.617
SMEAN(OV7Hardworking)	0.348	0.614
SMEAN(OV5Exciting)	0.371	0.607
SMEAN(OV11Leading)	0.378	0.585
SMEAN(OV14Proud)	0.371	0.582
SMEAN(OV9Imaginative)	0.423	0.581
SMEAN(OV20Spirited)	0.505	0.530

Extraction method: principal component analysis

Rotation Method: Varimax with Kaiser Normalization

Rotation converged in three iterations

**Acknowledgements** I thank Prof. Stefano Puntoni (Rotterdam Management School) and Prof. Blake Ashforth (Arizona State University) for their detailed advice and encouragement on the compilation of this paper.

**Data Availability** The data are available anonymously at [https://osf.io/h3pme/?view\\_only=5258bf759f94457e8554d7689df4f8f7](https://osf.io/h3pme/?view_only=5258bf759f94457e8554d7689df4f8f7).

## Compliance with Ethical Standards

**Conflict of interest** The authors declare that they have no conflict of interest.

**Ethical Approval** Data collection received ethics approval from my institution's research ethics committee and has been performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

**Informed Consent** Informed consent was obtained from all individual participants included in the study, as detailed in the manuscript.

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