A Cultural Value Congruence Approach to Organizational Embeddedness

Emma Lei Jing (Corresponding)
Alberta School of Business, University of Alberta
ORCID: https://orcid.org/0000-0001-8870-6443
Address: 2-24 Business Building, University of Alberta,
Edmonton, Alberta, Canada, T6G 2R6
Email: ljing1@ualberta.ca
Number: 001-403-929-4398

Nathan C. Lupton
Lucas College and Graduate School of Business, San Jose State University
ORCID: https://orcid.org/0000-0001-5218-9616
Email: nathaniel.lupton@sjsu.edu

Mahfooz A. Ansari
Dhillon School of Business, University of Lethbridge
ORCID: https://orcid.org/0000-0002-7164-7499
Email: mahfooz.ansari@uleth.ca

A Cultural Value Congruence Approach to Organizational Embeddedness

Abstract

Drawing on the person-organization fit theory, we investigate how the value congruence between employees' collectivist values and their perception of organizational collectivism influences organizational embeddedness. Based on 515 working adults sample survey, the polynomial regression and response surface analysis results support that embeddedness is highest in the presence of both high individual and organizational collectivism. Additionally, the smaller the discrepancy between the two perceptions, the more embedded the employees. Our study contributes to the cultural perspectives in the organizational embeddedness research, by theorizing and measuring the impact of collectivism at the individual level. The findings also contribute to the person-organization fit theory by identifying a value congruence approach to organizational embeddedness.

Keywords: Organizational embeddedness, cultural values, organizational collectivism, value congruence

Organizational embeddedness describes a web of contextual and perceptual forces that explain why an employee stays with their current organization; these forces include interpersonal links, fit with the organization, and potential sacrifices (composite model of embeddedness; Mitchell et al., 2001). Unlike the composite model that delineates specific reasons for staying, embeddedness also represents a general attachment model that captures the overall extent to which people feel attached to their organizations (global model of embeddedness; Crossley et al., 2007). Recently, embeddedness researchers have started to emphasize cultural influences on embeddedness as promising theoretical and empirical extensions (Lee et al., 2014; Zhang et al., 2012).

Existing investigations of embeddedness from a cultural perspective, however, typically proxy individual-level cultural determinants with nationality, and have demonstrated that embeddedness is sensitive to the influence of national cultures (e.g., Jiang et al., 2012; Ramesh & Gelfand, 2010). Although culture is often assessed at the national level, a significant amount of within-country variance exists at the individual level (Taras et al., 2010; Thomas et al., 2016). For example, regardless of nationality, individuals may find themselves higher or lower on the spectrum of individualism-collectivism (Hofstede, 2001). Previous research has shown that such individual differences based on collectivism have implications to workplace outcomes, such as organizational commitment and citizenship behavior (e.g., Moorman & Blakely, 1995; Wasti, 2003). Considering that individualist and collectivist values entail contrasting worldviews and behavioral tendencies (Oyserman et al., 2002), we first ask how the variance in individual collectivist values influences the development of organizational embeddedness in this study.

Employees also form perceptions of their organization's cultural characteristics, such as collectivism (Parkes et al., 2001), but existing embeddedness research often overlooks the

implications of such perceptions. In this study, based on the person-organization (P-O) fit theory (Kristof-Brown & Guay, 2011), we use an interactionist perspective to predict that the congruence between perceived organizational collectivism and individual collectivism influences the degree of employee embeddedness. This prediction is consistent with those of other P-O fit researchers who have found that the congruence between individual and organizational cultural values, compared with congruence based on other criteria, has a stronger effect on many organizational outcomes, such as organizational commitment and job satisfaction (see Kristof-Brown et al., 2005). Hence, our second research question is, to what extent does P-O fit based on collectivism influence embeddedness?

We use polynomial regression and response surface analysis (Edwards, 1991) to capture the complexity of the interacting effects of individual and organizational collectivism. For example, this allows us to examine the impact on embeddedness when individual collectivism is deficient of or exceeds organizational collectivism. We find that embeddedness reaches an optimal level when individual and organizational collectivism are congruent and both high. When there is a discrepancy, a smaller discrepancy between these two perceptions leads to a higher degree of embeddedness.

This study contributes to the organizational embeddedness literature by investigating individuals' cultural values, as opposed to national cultures. First, our study extends embeddedness theory by demonstrating that individual cultural values are valid predictors of embeddedness. Second, by explicating the relationship between embeddedness and value congruence based on individual and organizational collectivism, we contribute to existing embeddedness literature by showing that both sets of cultural perceptions are important for understanding embeddedness because their effects are multiplicative. Third, our findings indicate

that higher embeddedness could also be a result of the congruence between levels of culture, rather than the characteristics of a culture per se. Our study suggests that personnel managers can influence embeddedness by designing organizational culture (Warrick, 2017). Managers should take into consideration the degree of employees' cultural collectivism in deciding whether to encourage a more collectivist (e.g., group-oriented), more individualistic (e.g., competitive) organizational culture, or both.

Organizational Embeddedness: A Global Model

Mitchell and colleagues (2001) introduced the construct of "organizational embeddedness," to conceptualize the factors that influence an employee's decision to stay in a job. Organizational embeddedness started a new paradigm in voluntary turnover research, and an accumulation of empirical evidence has since supported embeddedness as a theoretically meaningful concept distinctive from other existing job attitude concepts (Crossley et al., 2007; Lee et al., 2014; Mitchell et al., 2001). Organizational embeddedness was originally described as a multi-dimensional construct, comprised of workplace connections, degree of comfort within work and non-work environments, and benefits associated with the job (Mitchell et al., 2001). However, the validity of this composite conceptualization of embeddedness has been questioned, and researchers have since developed a unidimensional global embeddedness construct with better measurement properties (Crossley et al., 2007; Zhang et al., 2012). The global embeddedness model captures individuals' judgment of how they are embedded, instead of evaluating specific contextual or perceptual embedding forces. The global model is preferable when the research focus is on the latent construct of embeddedness, whereas the composite model is preferable if the study aims to explore the variances among the components of

embeddedness like work and non-work factors (Zhang et al., 2012). Hence, we use the global

conceptualization of organizational embeddedness in this study.

Organizational Embeddedness: A Cultural Perspective

Embeddedness is sensitive to the influence of national cultures (Zhang et al., 2012). For

example, Ramesh and Gelfand (2010) found evidence that the effects of embeddedness on

turnover can be generalized from an individualistic to a collectivist society (e.g., the United

States to India), but only to a limited extent. Findings in Japan (Peltokorpi, 2013) support that the

high level of collectivism in Japanese society makes individuals see interpersonal ties as a more

valuable asset compared with people in Western societies, such that workplace relationship is the

most embedding force. In these studies, however, cultural impact on embeddedness was

examined based on the variances among national cultures.

As an individual cultural characteristic, individualism and collectivism reflect contrasting

worldviews. The core assumption of individualism is that individuals prefer to see themselves as

independent of one another, whereas collectivism signifies a preference for interdependence

(Oyserman et al., 2002). Hofstede (1980) defined individualism as self-identity based on

personal achievements, prioritizing rights over duties, personal autonomy and self-fulfillment

over collective interest, and concerns for self and immediate family over collective needs.

Collectivists consider membership in strong and cohesive groups, such as family, clan, ethnicity,

as being more important than autonomy or self-fulfillment, and are more inclined to protect their

groups (House et al., 2001; Schwartz, 1994).

Plausible consequences of individual collectivism in workplace psychology include self-

views, motivation, and work-related attitudes and behaviors. Individualism entails the

maintenance of an independent self-view, whereas collectivist values emphasize a harmonious,

interdependent self-concept (Markus & Kitayama, 1991). The goals of the in-group are generally

more important for collectivists, while individualists prefer to pursue their own goals (Triandis,

1995). Studies consistently demonstrate that collectivists more highly value their relations with

coworkers *and* with their organization. As a result, collectivist employees are more likely to

engage in extra-role behaviors, such as organizational citizenship behavior (Moorman &

Blakely, 1995) and knowledge sharing with coworkers (Arpaci & Baloğlu, 2016), and are more

trusting of their peers (Huff & Kelley, 2003). Collectivists are also more committed to their

organizations when they have satisfying interpersonal relationships at work (Wasti, 2003). The

rationale for these observations is that collectivist values motivate group-oriented and

relationship-enhancing behaviors (Varela et al., 2010), and predicate social exchanges that

deepen interpersonal relationships (Thomas et al., 2016). These findings have been supported

through meta-analysis (Taras et al., 2010), but we know little about how individual collectivism

influences embeddedness.

In summary, we predict that collectivist employees are more likely to be embedded in

their organizations, due to their group-oriented self-views, organizational goal prioritization, and

motivation to have a close relationship with their organization. Given that individualism-

collectivism is conceptualized as a continuum, we predict:

Hypothesis 1: *Individual collectivism is positively associated with organizational*

embeddedness.

Organizational Embeddedness: A Value Congruence Approach

Although we propose a positive relationship between individual collectivism and

embeddedness, we also predict that the strength of this relationship depends on the extent to

which the perceived organizational collectivism is congruent with the focal employee's

collectivist values. First, collectivists have a strong in-group bias, in that their concern for the

group's interest and their loyalty to other group members is limited to what they consider the in-

group (House et al., 2004; Huff & Kelley, 2003). That is, collectivists are more likely to exhibit

positive attitudes and behaviors towards their organization when they perceive themselves and

their organization to be closely affiliated (i.e., in-group bias), a situation which is more likely to

occur when the organization promotes a collectivist culture. As a result, although collectivists

may generally exhibit more group-oriented attitudes and behaviors that could increase their

embeddedness, this effect is likely to be stronger when they perceive a high level of

organizational collectivism. This argument aligns with existing P-O fit findings: when the person

and organization elements are both at higher rather than lower levels, P-O fit has more positive

employee outcomes, such as job satisfaction and workplace helping behavior (e.g., Jansen &

Kristof-Brown, 2005). In Figure 1, such congruence between individual and organizational

collectivism is depicted in quadrants 2 (CC) and 4 (II).

> Hypothesis 2: *When individual and organizational collectivism are congruent, there is a*
>
> *positive relationship between the congruence and organizational embeddedness (i.e., CC*
>
> *> II).*

[Insert Figure 1.]

Unlike those cases discussed above, employees may experience a discrepancy between

their individual values and their assessment of the organization, resulting in a different set of

attitudinal and behavioral dynamics (Chatman & Barsade, 1995; Robert & Wasti, 2002). For

example, a discrepancy between individual and organizational values results in poorer employee

performance and decreased satisfaction, whereas congruence more often translates into more

effectiveness and psychological well-being at work (Diener, 1984). A collectivist organization

encourages more group-oriented attitudes and behaviors and individuals, who score high on the

collectivism continuum, would more readily adopt these behaviors than individuals who score

low on this continuum. Additionally, organizational embeddedness researchers often explain

why employees become embedded using conservation of resources theory (COR; Hobfoll,

1989). A central thesis is that individuals are motivated to acquire and protect resources (e.g.,

salaries, pensions, and other benefits) during their employment, and this motivation explains why

they become embedded in the organization (Kiazad et al., 2015). We argue that when

collectivism-based value congruence is present, such congruence constitutes a psychological (as

opposed to material) resource that employees are willing to preserve by remaining with the

organization. In the absence of congruence, these psychological resources would be less

abundant, and thus embeddedness would be lower. Here, we suggest that congruence between

individual and organizational collectivism results in more organizational embeddedness,

regardless of the degree of individual and organizational collectivism. Referring to Figure 1, we

are comparing quadrants 1 and 3, where individual collectivism either falls short of or exceeds

organizational collectivism (discrepancy present), with quadrants 2 and 4, where individual and

organizational collectivism are simultaneously high or low (congruence present). In other words,

how the degree of the discrepancy relates to embeddedness:

> Hypothesis 3: *Organizational embeddedness is higher when individual and*
>
> *organizational collectivism are congruent compared to when they are discrepant (i.e.,*
>
> *CC, II > CI, IC).*

We also examine how the direction of this discrepancy between individual and organizational collectivism influences embeddedness. At the extremes of the continuum, a discrepancy occurs when an individualistic employee works in a highly collectivist organization, or when individual collectivism greatly exceeds the degree of organizational collectivism (quadrants 1 and 3 in Figure 1). Based on these two extreme types of discrepancy, we develop the following arguments for how embeddedness varies with discrepancy directions. When employees believe that their organization endorses collectivist values, they may sense strong normative expectations to think and behave as a collectivist (e.g., spending time nurturing high-quality relationships with coworkers, putting organizational goals ahead of their own, or even sacrificing their private time for work). All these expectations are considered cumbersome to individualists (Hofstede, 2001), hence making embeddedness less likely for these individuals. In comparison, as previous studies suggest, when individuals themselves are intrinsically motivated by collectivist concerns but their organization is not (e.g., endorses individualistic values through rewards for individual performance), collectivists will tolerate such an ill-fitting environment by shifting their focus to personal development. For example, the "cultivation" theme identified by Chuang and colleagues (2015) suggests that collectivists are more likely to remain embedded in ill-fitting organizations for self-development. In summary, the evidence suggests that embeddedness suffers less when the discrepancy is such that individual collectivism exceeds organizational collectivism than vice versa. Referring to Figure 1, this impact of the discrepancy direction is shown by the comparison between quadrants 1 and 3. In technical terms, this means:

Hypothesis 4: *When individual and organizational collectivism are discrepant,*

organizational embeddedness is higher when individual collectivism exceeds

organizational collectivism, compared to when individual collectivism is deficient of

organizational collectivism (i.e., CI > IC).

Method

Participants and Procedure

We conducted a self-report survey study on Mechanical Turk and Prolific. We collected

data from both U.S. and U.K. samples (i.e., based on their reported country of residence). Since

we employed the forced response format, respondents who did not complete the survey (32 in

total) were not included in the final sample. Another nine responses were excluded because of

overly short response time or duplicate IP addresses (Aguinis et al., 2019). The final sample size

was 515 full-time employees, including 261 from the United States and 254 from the United

Kingdom. Among the participants, 46% are male and 54% are female. The majority of the

participants (79%) are between 25 to 55 years old, with the rest older than 55 or younger than 25.

Over half (59%) of the respondents had a Bachelor's degree or higher. The participants are also

from a variety of industries, such as manufacturing and service (but no one particular industry

dominates the sample).

In order to rule out any alternative explanations owing to the potential country difference,

we compared the U.K. and the U.S. samples on the study variables (using one-way MANOVA),

and the results showed that the two samples differed significantly in terms of embeddedness. As

a result, we next tested measurement invariance across the US and UK samples using multigroup

CFA (Byrne et al., 1989; Vandenberg & Lance, 2000). These tests established metric invariance

for all three study variables, including embeddedness, individual collectivism, and organizational

collectivism (detailed results available upon request). Finally, we also repeated the analysis to

test our hypotheses controlling for the dummy-coded country variable (1 = U.S.; 2 = U.K.). The

results did not differ in any way that altered our interpretation of the findings.

Measures

     Organizational Embeddedness. We used the global embeddedness scale by Crossley et

al. (2007, 2011) to assess organizational embeddedness. Previous research has shown that the

global embeddedness measure has more predictive power than the composite embeddedness

measure and offers theoretical, practical, and statistical advantages (Crossley et al., 2007; Zhang

et al., 2012). The global embeddedness scale is composed of seven items rated on a 7-point scale

(1 = Strongly Disagree; 7 = Strongly Agree). An example item is "I simply could not leave the

organization that I work for."

     Individual Collectivism. Individual collectivism was measured with six items (Dorfman

& Howell, 1988) rated on a 7-point agreement/disagreement (1 = Strongly Disagree; 7 =

Strongly Agree) scale. An example item is, "Group success is more important than individual

success."

     Perceived Organizational Collectivism. Given that testing the value congruence

hypothesis requires commensurate dimensions (Edwards, 1991; Kristof, 1996), we used the same

six items of individual collectivism to measure organizational collectivism perceived by

employees (Dorfman et al., 2012). Instead of indicating their personal beliefs as in the measure

of individual collectivism, participants reflected on the extent to which the characteristics

described in the scale items are similar to the actual characteristics of their organization. The

items were rated on a 5-point scale, from Very Uncharacteristic (1) to Very Characteristic (5).

We varied the scale format here as a procedural remedy for potential common method bias, in

addition to counterbalancing the presentation order of our measures (Podsakoff et al., 2003).

Additionally, given that we midpoint centered the predictor variables in our analysis (see

Shanock et al., 2010), such scale format variation is not likely to impact our analysis or results.

Control Variables. To avoid alternative explanations for the variance in organizational

embeddedness, we controlled for employees' gender, education level attained, organizational

tenure, and positive/negative affectivity (shortened PANAS by Thompson, 2007). We controlled

for tenure (dummy coded for different ranges of organizational tenure) because the longer

employees stay in an organization, the more likely they will feel embedded (Peltokorpi et al.,

2015). Next, we controlled for education (dummy variables indicating different levels of

education), because people with higher education are more likely to hold positions that may

further enmesh them in the organizations (Ng & Feldman, 2011). Similarly, we controlled for

gender (dummy coded: 0 = Female and 1 = Male), to rule out potential gender differences in

terms of the inclination to embed (Mitchell et al., 2001). Finally, we controlled for PANAS to

mitigate potential common method bias caused by individuals' affective states (Podsakoff et al.,

2003; Podsakoff et al., 2012). We also repeated the analysis of hypothesis testing without these

control variables and observed no differences that indicate an alternative interpretation of the

findings.

Analytic Strategy

We employed polynomial regression with response surface analysis to assess the value

congruence between individual and organizational collectivism and to test our hypotheses

(Kristof, 1996). A three-dimensional response surface plot was generated to visually represent

the effects of congruence on the outcome. We followed the protocols recommended by Edwards

(1991, 2001). A general expression of the relationship is represented in the following equation,

where Z represents organizational embeddedness, X represents individual collectivism, and Y

represents individuals' perception of organizational collectivism:

$$Z = b_0 + b_1 X + b_2 Y + b_3 X^2 + b_4 XY + b_5 Y^2 + e \quad \text{(Eq. 1)}$$

This equation allows us to estimate the main effects of each cultural perception (X and Y)

as well as their interaction (XY) and the non-linear effects (X^2 and Y^2) on the development of

embeddedness. Previous research has shown that this approach overcomes many weaknesses of

the earlier methods of testing fit, such as difference scores or traditional moderated multiple

regression (see Edwards, 1991; Yang et al., 2008). Specifically, polynomial regression together

with response surface analysis uncovers more complex curvilinear relationships and hence a

more detailed representation of the overall effects. This method allows us to test for the

hypothesized curvilinear relations manifested by employees' cultural values and their

perceptions of organizational culture.

We centered the predictors around the midpoint of their respective scales since such

centering is required for correctly interpreting effects in this type of analysis (Shanock et al.,

2010). Next, following Equation 1, we computed hierarchical multiple regressions wherein the

outcome is regressed on control variables in the first step (Model 1), the main effects of

individual and organizational collectivism (Model 2) in the second step, and the cross-product of

the two sets of cultural values and the square of these variables in the third step (Model 3).

Afterward, if the variance explained (R^2) by Model 3 was significant, response surface analysis

was used to depict the nonlinear relationships. Since we observed a significant R^2 in Model 3, we

created the response surface plot accordingly using the Excel program (see Shanock et al., 2010).

We entered the unstandardized beta weights and corresponding standard errors, as well as

relevant covariance scores for each predictor variable to generate the plot.

To facilitate the interpretation of relevant results, some parameters based on Eq. 1 should be examined to determine whether our hypotheses of the linear and curvilinear effects are supported. The slopes of the surface along both the X =Y and X = -Y need to be examined to interpret the congruence between the two predictors, which can be formulated by setting Y = X/-X in Eq. 1. This results in:

$$Z = b_0 + b_1X + b_2X + b_3X^2 + b_4X^2 + b_5X^2 + e = b_0 + (b_1 + b_2)X + (b_3 + b_4 + b_5)X^2 + e \quad \text{(Eq. 2)}$$

$$Z = b_0 + b_1X - b_2X + b_3X^2 - b_4X^2 + b_5X^2 + e = b_0 + (b_1 - b_2)X + (b_3 - b_4 + b_5)X^2 + e \quad \text{(Eq. 3)}$$

Our Hypothesis 2 states that the higher both cultural perceptions (congruent and both high), the more embeddedness, which will be supported by a significant and positive $b_1 + b_2$ and not significant $b_3 + b_4 + b_5$ in Eq. 2. Similarly, to have our Hypothesis 3 supported, we should observe a negative and significant $b_3 - b_4 + b_5$, which entails that embeddedness will increase more sharply as the discrepancy between the two cultural perceptions narrows (Eq. 3). Finally, our Hypothesis 4 concerns the direction of the discrepancy, which will be supported if we observe a significantly positive $b_1 - b_2$ in Eq. 3.

Results

Results of confirmatory factor analyses show sufficient discriminant validity of the three variables in this study: embeddedness, individual collectivism, and organizational collectivism. We evaluated the 3-factor model (items were not allowed to correlate) against other potential factor models based on a number of statistical criteria. The results show that the 3-factor model [χ^2 (149) = 761.15, $p < .01$; RMSEA = .09; CFI = .88; TLI = .86; SRMR = .07] fits the data better than the one-factor model [χ^2 (152) = 2381.19, $p < .01$; $\Delta\chi^2$ (3) = 1620.04, $p < .01$; RMSEA = .17; CFI = .56; TLI = .51; SRMR = .16]. It is also better than the 2-factor model, in which individual and organizational collectivism were grouped as one overarching cultural value

[χ^2 (151) = 1332.95, $p < .01$; $\Delta\chi^2$ (2) = 571.80, $p < .01$; RMSEA = .12; CFI = .77; TLI = .74;

SRMR = .09].

As is often the case in confirmatory factor analysis, the above fit indices suggest that the

hypothesized model fits better than rival specifications, but the model lacks an absolute fit to the

data (Kelloway, 1995, 2014). We first examined the model modification indices, and allowed

some items (within each predictor) to correlate, resulting in improved model fit [χ^2 (138) =

411.46, $p < .01$; RMSEA = .06; CFI = .95; TLI = .93; SRMR = .06]. This revised model also

provided a base model for the measurement invariance test in this study. We also estimated an

additional exploratory structural equation model in which the items were allowed to load across

the three factors (Kelloway, 2014; O'Keefe et al., 2012). This also resulted in an adequately

fitting model [χ^2 (117) = 620.69, $p < .01$; RMSEA = .09; CFI = .90; TLI = .86; SRMR = .04]. In

this model, all items loaded significantly ($p < .01$) and substantially on their hypothesized

factors, with some items cross-loaded on the other factors, see Table 1 for parameter estimates.

[Insert Table 1.]

The descriptive statistics, reliability estimates, and correlations for all measures used in

this study are reported in Table 2. To test whether individuals see themselves and their

organizations differently based on collectivism, we inspected how many participants would be

considered to show congruence/discrepancy between the two sets of values. This procedure also

shows the base rate of the discrepancies in the sample and in what directions the discrepancies go

(Shanock et al., 2010). Based on whether the participants had a standardized score on one

predictor that is half a standard deviation above or below the standardized score on the other

predictor variable, over half of the sample indicated different configurations of individual and

organizational collectivism, see Table 3.

[Insert Table 2 and 3.]

Polynomial Regression and Response Surface Analysis

Table 4 provides the results of polynomial regression analysis for the linear and

nonlinear effects of individual and organizational collectivism on embeddedness, and Figure 2

illustrates these results through a response surface plot. Rather than examining the regression

coefficients as in the practice of an OLS analysis, if the R^2 of the model including nonlinear

effects (Model 3) is significantly different from zero, the results should be evaluated based on the

parameters in the polynomial equation (see Eq. 1 to 3) and the response surface plot (Shanock et

al., 2010). As shown in Table 4, the variance in the outcome variable explained by the nonlinear

factors (X^2, Y^2, and XY) is significantly different from zero ($R^2 = .19$, $p < .01$). Hence we focus

on the interpretation of Model 3.

Hypothesis 1 predicts a direct effect from individual collectivism to embeddedness, but

the regression results do not support this, see Table 4. After adding nonlinear predictors, the

effect of individual collectivism changes from significant (.23, $p < .01$) to non-significant (.06,

ns.); hence, Hypothesis 1 is not supported. For Hypothesis 2, we expect to see a linear (additive)

relationship of individual and organizational collectivism as they relate to embeddedness. The

results support this, in that the slope along X = Y, ($b_1 + b_2$) is significant and positive (.30, $p <$

.01), and the curvature on X = Y, ($b_3 + b_4 + b_5$) is not significant, indicating such linear

relationship. According to Hypothesis 3, embeddedness increases as the discrepancy between

individual and organizational collectivism decreases, and this is supported by a significant

negative curvature value (-.18, p <.05) on X = -Y, $(b_3 − b_4 + b_5)$. In other words, embeddedness

increases as the two perceptions become more congruent, as opposed to when they are

discrepant. Finally, given that Hypothesis 4 focuses on the direction of such discrepancy, we

again look at the slope along X = -Y as it relates to the outcome. The value of this slope $(b_1 − b_2)$

is not significant (-.17, *ns.*), suggesting that Hypothesis 4 is not supported. Figure 2 provides a

visual illustration of the findings. For example, we can see a positive slope along the X = Y line

(upward from the front of the graph to the back; the line of the perfect congruence as related to

embeddedness), which indicates that embeddedness increases as individual and organizational

collectivism are congruent and both increase from low to high. Along the X = -Y line (move

away from the center of the graph to either the left or right), we observe a curvilinear relationship

(inversed U-shaped), which supports that embeddedness increases as the discrepancy between

individual and organizational collectivism becomes smaller.

[Insert Table 4 and Figure 2.]

Discussion and Conclusion

We take a P-O fit approach to investigate how the congruence between individual and

organizational collectivism affects organizational embeddedness. Our findings suggest that

individual collectivism has predictive power in terms of embeddedness, but this effect is largely

obscured by the effects of organizational collectivism as well as their combined effect. When

employees find that their personal collectivist or individualistic values are at odds with what their

organization stands for, such discrepancy has implications on the extent to which they are

embedded: the smaller the discrepancy, the greater the embeddedness. From the perspective of

collectivist employees, the level of organizational collectivism also matters: embeddedness

reaches a peak when individual and organizational collectivism are congruent and both high.

Implications

Previous research has shown that organizational embeddedness is a viable construct in

many cultural contexts, and cultural differences have a significant impact on embeddedness

(Ramesh & Gelfand, 2010; Wasti, 2003). Contrary to previous thinking, however, we found that

in the presence of perceived organizational collectivism, individual collectivism had a minimal

effect on embeddedness. Our findings show that for embeddedness to increase, employees need

to perceive that their organization endorses collectivist values similar to their own. Collectivists

do not automatically act in a group-conforming way. Instead, they must first perceive

membership within the group (House et al., 2004). Experiencing compatible collectivist values

facilitates a sense of membership, which in turn contributes to embeddedness. Our findings also

contribute to the cultural perspective to embeddedness by revealing that this perspective can go

beyond nationalities. Individual and organizational culture may both be similar, on average, to

the national culture in which they are situated (Hofstede, 2001). By examining individual

collectivism and perceived organizational collectivism directly, however, our study shows that

the congruence between individual and organizational cultural characteristics may be more

important predictors of embeddedness than national culture, or even individual cultural values,

on its own.

Further, the study contributes to the P-O fit research (Edwards, 1991; Kristof-Brown &

Guay, 2011). In the case of organizational embeddedness, what matters most is the congruence

between P and O and the level of this congruence (both elements being high). In other words,

when individuals see themselves as more or less collectivist relative to the degree of collectivism

exhibited by their organization, they will not work on changing themselves to fill the gap.

Rather, they may become less embedded. Our findings provide more evidence supporting P-O fit

theory: when cultural values are the criteria of P-O fit, such fit benefits organizations most when

both the person and organization elements are not only congruent but also at a high level.

Given increased cultural diversity in the workforce, greater understanding of how culture-

based differences among employees influence embeddedness offers practical implications. If

individual collectivism predicts the best overall embeddedness outcomes, it would suggest that

personnel managers should concentrate on recruiting employees based on collectivist values.

However, our findings instead suggest that it is the congruence between employee and

organizational collectivism that leads to the highest degree of embeddedness. Hence, managers

should consider the composition of employees' individual cultural values when developing

organizational culture. Additionally, personnel managers should be aware that their effort to

infuse collectivist values into organizational culture generally makes employees more embedded.

In doing so, managers should make sure the organization's support for collectivist values is

visible to employees, for example, by establishing reward systems to encourage teamwork or

organizing activities that nurture a sense of belonging. In terms of facilitating embeddedness, the

extent to which individuals themselves are collectivist is less important than a collectivist

organizational environment. Employees are more likely to see a collectivist organization as an

in-group and consequently feel motivated to embed themselves into it.

Limitations and Future Research

Despite its useful implications for theory and practice, this study has potential limitations.

Due to the reliance on single-source data, common method bias is a concern. We addressed this

by first adopting procedural remedies, for example, collecting data anonymously, and varying

scale anchors and response options to create a psychological and proximal separation between

the variables in the study (Podsakoff et al., 2012). Next, we performed a series of confirmatory

factor analyses that supported the hypothesized 3-factor model. More importantly, such bias is

less likely to influence nonlinear relationships (Podsakoff et al., 2012; Siemsen et al., 2010), and

a majority of our hypotheses are based on curvilinear effects. However, future research

corroborating our findings with variables measured from different sources (e.g., perceived

organizational collectivism from both employees and supervisors) would be useful. Another

limitation is that we examined only the collectivism dimension. Although individualism-

collectivism has gained the status of paradigm in cultural studies, more research examining other

cultural dimensions (e.g., power distance, masculinity, etc.) is needed so that we have a more

complete picture of the role culture plays in organizational embeddedness.

References

Aguinis, H., Ramani, R., Villamor, I., Bernerth, J., DeSimone, J. A., Keith, M. G., Landay, K., &

Taylor, E. (2019). Addressing Challenges and Pitfalls in Internet Data Collection.

Academy of Management Proceedings, 2019(1), 10557.

https://doi.org/10.5465/AMBPP.2019.10557symposium

Arpaci, I., & Baloğlu, M. (2016). The Impact of Cultural Collectivism on Knowledge Sharing

among Information Technology Majoring Undergraduates. *Computers in Human

Behavior, 56*, 65-71. https://doi.org/10.1016/j.chb.2015.11.031

Byrne, B. M., Shavelson, R. J., & Muthén, B. (1989). Testing for the Equivalence of Factor

Covariance and Mean Structures: The Issue of Partial Measurement Invariance.

Psychological Bulletin, 105(3), 456. https://doi.org/10.1037/0033-2909.105.3.456

Chatman, J. A., & Barsade, S. G. (1995). Personality, Organizational Culture, and Cooperation:

Evidence from a Business Simulation. *Administrative Science Quarterly, 40*(3), 423.

https://doi.org/10.2307/2393792

Chuang, A., Hsu, R. S., Wang, A. C., & Judge, T. A. (2015). Does West "Fit" with East? In

Search of a Chinese Model of Person-Environment Fit. *Academy of Management

Journal, 58*(2), 480-510. https://doi.org/amj.aom.org/content/58/2/480

Crossley, C. D., Bennett, R. J., Jex, S. M., & Burnfield, J. L. (2007). Development of a Global

Measure of Job Embeddedness and Integration into a Traditional Model of Voluntary

Turnover. *Journal of Applied Psychology, 92*(4), 1031-1042.

https://doi.org/10.1037/0021-9010.92.4.1031

Crossley, C. D., Bennett, R. J., Jex, S. M., & Burnfield, J. L. (2011). "Development of a Global

Measure of Job Embeddedness and Integration into a Traditional Model of Voluntary

Turnover": Clarification to Crossley Et Al. (2007). *Journal of Applied Psychology, 96*(6),

1316. https://doi.org/10.1037/a0025569

Diener, E. (1984). Subjective Well-Being. *Psychological Bulletin, 95*(3), 542 - 575.

http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=yrovfta&NEWS=N&A

N=00006823-198405000-00009.

Dorfman, P. W., & Howell, J. P. (1988). Dimensions of National Culture and Effective

Leadership Patterns: Hofstede Revisited. In R. N. Farmer, R. B. Peterson, E. G. McGoun,

& P. Marer (Eds.), *Advances in International Comparative Management* (Vol. 3, pp. 127-

150).

Dorfman, P. W., Javidan, M., Hanges, P., Dastmalchian, A., & House, R. (2012). Globe: A

Twenty Year Journey into the Intriguing World of Culture and Leadership. *Journal of*

World Business, 47(4), 504-518. https://doi.org/10.1016/j.jwb.2012.01.004

Edwards, J. R. (1991). Person-Job Fit: A Conceptual Integration, Literature Review, and

Methodological Critique. In C. L. Cooper & I. T. Robertson (Eds.), *International Review*

of Industrial and Organizational Psychology (Vol. 6, pp. 283 - 357). Wiley.

Edwards, J. R. (2001). Ten Difference Score Myths. *Organizational Research Methods, 4*(3),

265-287. https://doi.org/10.1177/109442810143005

Hobfoll, S. E. (1989). Conservation of Resources: A New Attempt at Conceptualizing Stress.

American psychologist, 44(3), 513. https://doi.org/10.1037/0003-066X.44.3.513

Hofstede, G. (1980). *Culture's Consequences: International Differences in Work-Related*

Values. SAGE.

Hofstede, G. H. (2001). *Culture's Consequences: Comparing Values, Behaviors, Institutions,*

and Organizations across Nations (Vol. 2nd). Sage.

House, R., Hanges, P., Javidan, M., Dorfman, P., & Gupta, V. (2004). *Culture, Leadership, and Organizations: The Globe Study of 62 Societies*. SAGE.

House, R., Javidan, M., & Dorfman, P. W. (2001). Project Globe: An Introduction. *Applied psychology, 50*(4), 489-505. https://doi.org/10.1111/1464-0597.00070

Huff, L., & Kelley, L. (2003). Levels of Organizational Trust in Individualist Versus Collectivist Societies: A Seven-Nation Study. *Organization Science, 14*(1), 81-90. https://doi.org/10.1287/orsc.14.1.81.12807

Jansen, K. J., & Kristof-Brown, A. L. (2005). Marching to the Beat of a Different Drummer: Examining the Impact of Pacing Congruence. *Organizational Behavior and Human Decision Processes, 97*(2), 93-105. https://doi.org/10.1016/j.obhdp.2005.03.005

Jiang, K., Liu, D., McKay, P. F., & Lee, T. W. (2012). When and How Is Job Embeddedness Predictive of Turnover? A Meta-Analytic Investigation. *Journal of Applied Psychology, 97*(5), 1077-1096. https://doi.org/10.1037/a0028610

Kelloway, E. K. (1995). Structural Equation Modelling in Perspective. *Journal of Organizational Behavior, 16*(3), 215-224. https://doi.org/10.1002/job.4030160304

Kelloway, E. K. (2014). Using Mplus for Structural Equation Modeling: A Researcher's Guide. In. Sage Publications.

Kiazad, K., Holtom, B. C., Hom, P. W., & Newman, A. (2015). Job Embeddedness: A Multifoci Theoretical Extension. *Journal of Applied Psychology, 100*(3), 641-659. https://doi.org/10.1037/a0038919

Kristof-Brown, A., & Guay, R. P. (2011). Person–Environment Fit. In S. Zedeck (Ed.), *Apa Handbook of Industrial and Organizational Psychology, Vol 3: Maintaining, Expanding,*

and Contracting the Organization. (pp. 3-50). American Psychological Association.

https://doi.org/10.1037/12171-001

Kristof-Brown, A. L., Zimmerman, R. D., & Johnson, E. C. (2005). Consequences of

Individuals' Fit at Work: A Meta-Analysis of Person-Job, Person-Organization, Person-

Group, and Person-Supervisor Fit. *Personnel Psychology, 58*, 281 - 342.

https://doi.org/10.1111/j.1744-6570.2005.00672.x

Kristof, A. L. (1996). Person-Organization Fit: An Integrative Review of Its Conceptualizations,

Measurement, and Implications. *Personnel Psychology, 49*(1), 1-49.

https://doi.org/10.1111/j.1744-6570.1996.tb01790.x

Lee, T. W., Burch, T. C., & Mitchell, T. R. (2014). The Story of Why We Stay: A Review of Job

Embeddedness. *Organizational Psychology and Organizational Behavior, 1*, 199 - 216.

https://doi.org/10.1146/annurev-rgpsych-031413-091244

Markus, H. R., & Kitayama, S. (1991). Culture and the Self: Implications for Cognition,

Emotion, and Motivation. *Psychological review, 98*(2), 224-253.

https://doi.org/10.1037/0033-295X.98.2.224

Mitchell, T. R., Holtom, B. C., Lee, T. W., Sablynski, C. J., & Erez, M. (2001). Why People

Stay: Using Job Embeddedness to Predict Voluntary Turnover. *Academy of Management

Journal, 44*(6), 1102-1121. https://doi.org/10.5465/3069391

Moorman, R. H., & Blakely, G. L. (1995). Individualism-Collectivism as an Individual

Difference Predictor of Organizational Citizenship Behavior. *Journal of Organizational

Behavior, 16*(2), 127. https://doi.org/10.1002/job.4030160204

Ng, T. W. H., & Feldman, D. C. (2011). Locus of Control and Organizational Embeddedness.

    Journal of Occupational and Organizational Psychology, 84(1), 173-190.

    https://doi.org/10.1348/096317910x494197

O'Keefe, D. F., Kelloway, E. K., & Francis, R. (2012). Introducing the Ocean. 20: A 20-Item

    Five-Factor Personality Measure Based on the Trait Self-Descriptive Inventory. *Military*

    Psychology, 24(5), 433-460. https://doi.org/10.1080/08995605.2012.716265

Oyserman, D., Coon, H. M., & Kemmelmeier, M. (2002). Rethinking Individualism and

    Collectivism: Evaluation of Theoretical Assumptions and Meta-Analyses. *Psychological*

    Bulletin, 128(1), 3-72. https://doi.org/10.1037/0033-2909.128.1.3

Parkes, L., Bochner, S., & Schneider, S. (2001). Person-Organisation Fit across Cultures: An

    Empirical Investigation of Individualism and Collectivism. *Applied psychology, 50*(1),

    81-108. https://doi.org/10.1111/1464-0597.00049

Peltokorpi, V. (2013). Job Embeddedness in Japanese Organizations. *The International Journal*

    of Human Resource Management, 24(8), 1551-1569.

    https://doi.org/10.1080/09585192.2012.723636

Peltokorpi, V., Allen, D. G., & Froese, F. (2015). Organizational Embeddedness, Turnover

    Intentions, and Voluntary Turnover: The Moderating Effects of Employee Demographic

    Characteristics and Value Orientations. *Journal of Organizational Behavior, 36*(2), 292-

    312. https://doi.org/10.1002/job.1981

Podsakoff, P. M., MacKenzie, S. B., & Lee, J. Y. (2003). Common Method Biases in Behavioral

    Research: A Critical Review of the Literature and Recommended Remedies. *Journal of*

    Applied Psychology, 88(5), 879-903. https://doi.org/10.1037/0021-9010.88.5.879

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of Method Bias in

Social Science Research and Recommendations on How to Control It. *Annual Review of

Psychology, 63*, 539-569. https://doi.org/10.1146/annurev-psych-120710-100452

Ramesh, A., & Gelfand, M. J. (2010). Will They Stay or Will They Go? The Role of Job

Embeddedness in Predicting Turnover in Individualistic and Collectivistic Cultures.

Journal of Applied Psychology, 95(5), 807 - 823. https://doi.org/10.1037/a0019464

Robert, C., & Wasti, S. A. (2002). Organizational Individualism and Collectivism: Theoretical

Development and an Empirical Test of a Measure. *Journal of Management, 28*(4), 544 -

566. https://doi.org/10.1177/014920630202800404

Schwartz, S. H. (1994). *Beyond Individualism/Collectivism: New Cultural Dimensions of Values*.

Sage Publications, Inc.

Shanock, L. R., Baran, B. E., Gentry, W. A., Pattison, S. C., & Heggestad, E. D. (2010).

Polynomial Regression with Response Surface Analysis: A Powerful Approach for

Examining Moderation and Overcoming Limitations of Difference Scores. *Journal of

Business and Psychology, 25*(4), 543-554. https://doi.org/10.1007/s10869-010-9183-4

Siemsen, E., Roth, A., & Oliveira, P. (2010). Common Method Bias in Regression Models with

Linear, Quadratic, and Interaction Effects. *Organizational Research Methods, 13*(3), 456-

476. https://doi.org/10.1177/1094428109351241

Taras, V., Kirkman, B. L., & Steel, P. (2010). Examining the Impact of Culture's Consequences:

A Three-Decade, Multilevel, Meta-Analytic Review of Hofstede's Cultural Value

Dimensions. *Journal of Applied Psychology, 95*(3), 405.

https://doi.org/10.1037/a0018938

Thomas, D. C., Ravlin, E. C., Liao, Y., Morrell, D. L., & Au, K. (2016). Collectivist Values, Exchange Ideology and Psychological Contract Preference. *Management International Review, 56*(2), 255-281. https://doi.org/10.1007/s11575-015-0275-2

Thompson, E. R. (2007). Development and Validation of an Internationally Reliable Short-Form of the Positive and Negative Affect Schedule (Panas). *Journal of Cross-Cultural Psychology, 38*(2), 227-242. https://doi.org/10.1177/0022022106297301

Triandis, H. C. (1995). *Individualism and Collectivism*. Westview Press.

Vandenberg, R. J., & Lance, C. E. (2000). A Review and Synthesis of the Measurement Invariance Literature: Suggestions, Practices, and Recommendations for Organizational Research. *Organizational Research Methods, 3*(1), 4-70. https://doi.org/10.1177/109442810031002

Varela, O. E., Salgado, E. I., & Lasio, M. V. (2010). The Meaning of Job Performance in Collectivistic and High Power Distance Cultures: Evidence from Three Latin American Countries. *Cross Cultural Management: An International Journal, 17*(4), 407-426. https://doi.org/10.1108/13527601011086603

Warrick, D. (2017). What Leaders Need to Know About Organizational Culture. *Business Horizons, 60*(3), 395-404. https://doi.org/10.1016/j.bushor.2017.01.011

Wasti, S. A. (2003). The Influence of Cultural Values on Antecedents of Organisational Commitment: An Individual‐Level Analysis. *Applied psychology, 52*(4), 533-554. https://doi.org/10.1111/1464-0597.00150

Yang, L. Q., Levine, E. L., Smith, M. A., Ispas, D., & Rossi, M. E. (2008). Person-Environment Fit or Person Plus Environment: A Meta-Analysis of Studies Using Polynomial

Regression Analysis. *Human Resource Management Review, 18*, 311 - 321.

https://doi.org/10.1016/j.hrmr.2008.07.014

Zhang, M., Fried, D. D., & Griffeth, R. W. (2012). A Review of Job Embeddedness: Conceptual,

Measurement Issues, and Directions for Future Research. *Human Resource Management*

Review, 22(3), 220-231. https://doi.org/10.1016/j.hrmr.2012.02.004

Figure 1

Hierarchical representations of the value congruence hypotheses
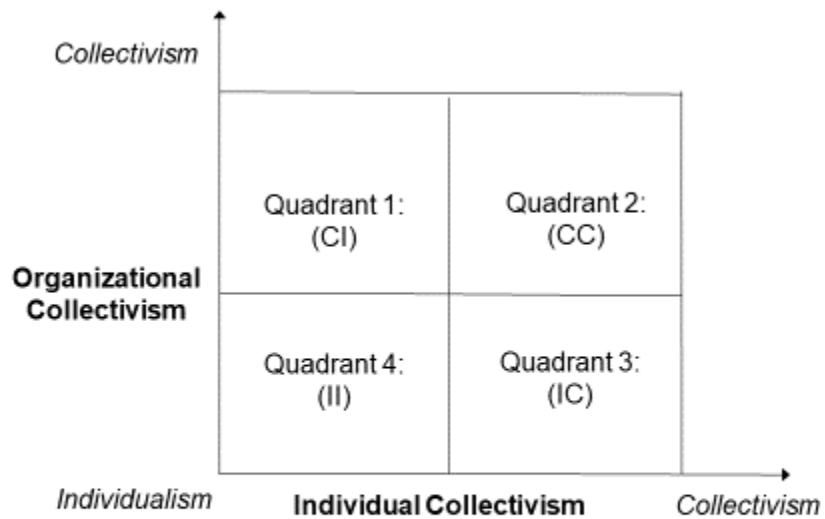
CI: High Individual Collectivism combined with low Organizational Collectivism; CC: High Individual and Organizational Collectivism; IC: Low Individual Collectivism combined with high Organizational Collectivism; II: Low Individual and Organizational Collectivism.

Figure 2

Three-dimensional response surface analyses, collectivism-based value congruence and organizational embeddedness

Table 1:

Standardized Parameter Estimates for the Three-factor Model from the Exploratory Structural Equation Model

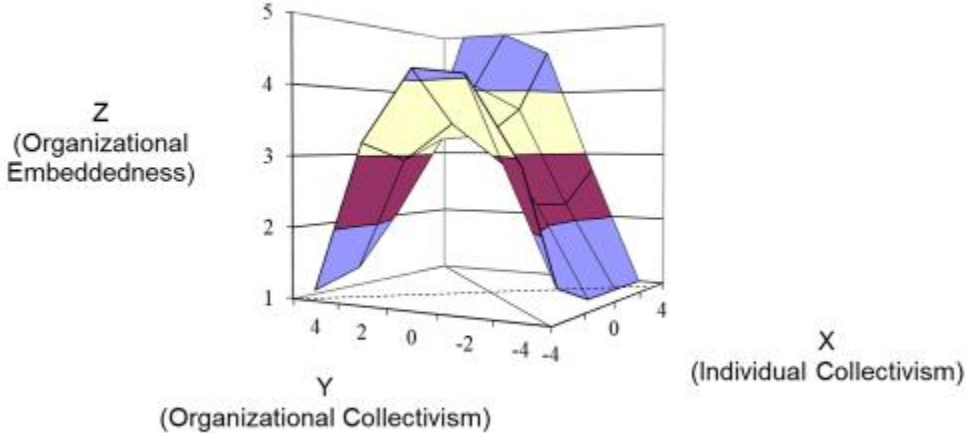| Item	Organizational Embeddedness	Individual Collectivism	Organizational Collectivism
Emb1: *I feel attached to this organization.*	**.82** **	.08 *	-.06
Emb2: *It would be difficult for me to leave this organization.*	**.84** **	.04	.02
Emb3: *I'm too caught up in this organization to leave.*	**.87** **	-.01	.03
Emb4: *I feel tied to this organization.*	**.86** **	-.02	.00
Emb5: *I simply could not leave the organization that I work for.*	**.81** **	-.04	.00
Emb6: *It would be easy for me to leave this organization.* ®	**.51** **	-.08	.00
Emb7: *I am tightly connected to this organization.*	**.85** **	.00	.01
IndCol1: *Group welfare is more important than individual rewards.*	-.02	**.82** **	-.02
IndCol2: *Group success is more important than individual success.*	-.02	**.84** **	-.02
IndCol3: *Being accepted by members of your work group is very important.*	.11 *	**.43** **	.03
IndCol4: *Employees should only pursue their goals after considering the welfare of the group.*	.08	**.52** **	.23 **
IndCol5: *Managers should encourage group loyalty even if individual goals suffer.*	.01	**.52** **	.22 **
IndCol6: *Individuals may be expected to give up their goals in order to benefit group success.*	-.02	**.47** **	.25 **
OrgCol1: *Group welfare is more important than individual rewards.*	.01	.15 **	**.55** **
OrgCol2: *Group success is more important than individual success.*	.00	.07	**.59** **
OrgCol3: *Being accepted by members of your work group is very important.*	.22 **	.11 *	**.25** **
OrgCol4: *Employees should only pursue their goals after considering the welfare of the group.*	.06	-.02	**.73** **
OrgCol5: *Managers should encourage group loyalty even if individual goals suffer.*	-.03	.05	**.78** **
OrgCol6: *Individuals may be expected to give up their goals in order to benefit group success.*	-.08	-.03	**.76** **

Emb1 to Emb7: seven items measuring global organizational embeddedness; IndCol1 to IndCol6: six items measuring individual collectivism; OrgCol1 to OrgCol6: six items measuring organizational collectivism. Different instructions preceded IndCol and OrgCol items.
® Reversed worded items.
Entries in bold show significant and substantial loadings on the corresponding hypothesized factors.

Table 2

Descriptive Statistics, Reliabilities, and Zero-order Correlations

	M.	S.D.	1	2	3	4	5	6	7	8
1. Gender	.46	.50	--							
2. Education	2.57	1.00	-.12 **	--						
3. Organization Tenure	1.67	.92	-.12 **	.00	--					
4. Positive Affectivity	4.91	.97	-.15 **	.10 *	.05	*.80*				
5. Negative Affectivity	2.90	1.36	.06	.04	.03	-.24 **	*.90*			
6. Individual Collectivism	4.75	1.04	-.14 **	.15 **	-.02	.29 **	-.04	*.82*		
7. Organizational Collectivism	4.85	1.05	-.12 **	.11 *	.10 *	.21 **	.10 *	.38 **	*.81*	
8. Organizational Embeddedness	4.17	1.49	-.07	.10 *	.18 **	.30 **	-.10 *	.27 **	.23 **	*.92*

N = 515.
Gender: 0 = Female; 1 = Male.
Education: 1 = High school or below; 2 = Diploma; 3 = Bachelors; 4 = Masters; 5 = Doctorate.
Organization Tenure: 1 = Less than 5 years; 2 = 5 to 10 years; 3 = 11 to 15 years; 4 = 16 to 20 years; 5 = More than 20 years.
* $p < .05$; ** $p < .01$
Diagonal entries in bold indicate coefficients alpha.

Table 3

Frequencies of Individual Collectivism Over, Under, and In Agreement with Organizational Collectivism

Agreement Groups	Percentage	No. of Individuals	Mean: Individual Collectivism	Mean: Organizational Collectivism
Ind. More than Org.	28.00	144	0.47	-0.69
In Agreement	45.20	233	0.15	0.08
Ind. Less than Org.	26.80	138	-0.74	0.58

Ind. More than Org.: Individual Collectivism higher than Organizational Collectivism;
In Agreement: Individual Collectivism equal to Organizational Collectivism;
Ind. Less than Org.: Individual Collectivism lower than Organizational Collectivism.

Table 4

Collectivism-based Value Congruence as Predictor of Organizational Embeddedness

Variables	Model 1 b (se)	Model 2 b (se)	Model 3 b (se)
Control			
Gender	.01 (.13)	-.06 (.13)	-.04 (.12)
Education	.10 (.06)	.06 (.06)	.06 (.06)
Organizational Tenure	.27 (.07) **	.27 (.07) **	.25 (.07) **
Positive Affectivity	.42 (.07) **	.31 (.07) **	.29 (.07) **
Negative Affectivity	-.04 (.05)	-.06 (.05)	-.07 (.05)
Independent variables			
Individual Collectivism (b1)		.23 (.07) **	.06 (.08)
Organizational Collectivism (b2)		.16 (.06) *	.24 (.07) **
Individual Collectivism squared (b3)			.07 (.04)
Individual Collectivism x Organizational Collectivism (b4)			.13 (.05) *
Organizational Collectivism squared (b5)			-.13 (.04) **
R^2	.12 **	.17 **	.19 **
F value	13.91	14.44	11.71
Surface tests			
Slope along x = y, b1 + b2			.30 (.10) **
Curvature on x = y, b3 + b4 + b5			.05 (.05)
Slope along x = -y, b1 - b2			-.17 (.12)
Curvature on x = -y, b3 - b4 + b5			-.18 (.08) *

N = 515.
Gender: 0 = Female; 1 = Male.
Education: 1 = High school or below; 2 = Diploma; 3 = Bachelors; 4 = Masters; 5 = Doctorate.
Organization Tenure: 1 = Less than 5 years; 2 = 5 to 10 years; 3 = 11 to 15 years; 4 = 16 to 20 years; 5 = More than 20 years.
* p < .05; ** p < .01
b (se): unstandardized regression coefficient (standardized error)

Appendix

Table 1a: Tests for Measurement Invariance across US & UK Groups

	χ^2	$\Delta \chi^2$	CFI	TLI	RMSEA	SRMR	AIC
Embeddedness							
Configural	64.05 (18)**		.98	.96	.10	.02	11886.36
Metric	**68.69 (22)****	**4.64 (4)**	**.98**	**.97**	**.09**	**.06**	**11883.00**
Individual Collectivism							
Configural	17.78 (8)*		.99	.97	.07	.03	9974.16
Metric	**24.12 (13)***	**6.34 (5)**	**.99**	**.96**	**.06**	**.04**	**9970.50**
Organizational Collectivism							
Configural	45.89 (16)**		.97	.95	.09	.05	8032.04
Metric	**52.73 (19)****	**6.84 (3)**	**.97**	**.95**	**.08**	**.09**	**8032.88**

** $p < .01$; * $p < .05$.

$\Delta \chi^2 = \chi^2$ (df) of the model with fewer parameters - χ^2 (df) of the model with more parameters.

US group: n = 261; UK group: n = 254.

Entries in bold indicate the final established measurement invariance models; models with increased constraints (i.e., scalar models) were tested, but results do not support sufficient measurement invariance.

Table 1b: Invariant and Non-invariant Factor Loadings, Item Intercepts, and Residual Variances

in the US & UK Groups

Latent variable	Items	Factor loadings		Item intercepts		Residual variances	
		US	UK	US	UK	US	UK
Embeddedness	Emb1	**1.00**	**1.00**	4.86	4.47	.74	.97
	Emb2	**1.10**	**1.10**	4.70	4.24	.92	1.20
	Emb3	**1.20**	**1.20**	4.31	3.69	.66	.52
	Emb4	**1.08**	**1.08**	4.48	3.86	.84	1.05
	Emb5	**1.07**	**1.07**	4.05	3.13	1.07	1.42
	Emb6	**.68**	**.68**	4.04	4.05	3.32	2.23
	Emb7	**1.08**	**1.08**	4.61	3.89	.68	.74
Individual	IndCol1	**1.00**	**1.00**	4.79	5.14	1.01	1.17
Collectivism	IndCol2	**1.11**	**1.11**	4.72	5.01	1.02	1.13
	IndCol3	**.59**	**.59**	5.15	5.59	1.31	1.31
	IndCol4	**1.01**	**1.01**	4.59	4.40	1.11	1.10
	IndCol5	**1.03**	**1.03**	4.63	4.34	.97	1.14
	IndCol6	**.95**	**.95**	4.58	4.05	1.19	1.42
Organizational	OrgCol1	**1.00**	**1.00**	3.57	3.45	.65	.87
Collectivism	OrgCol2	**1.04**	**1.04**	3.60	3.61	.63	.87
	OrgCol3	**.22**	**.22**	2.61	3.02	.74	.89
	OrgCol4	**1.28**	**1.28**	3.51	3.24	.51	.49
	OrgCol5	**1.50**	**1.50**	3.41	3.24	.37	.44
	OrgCol6	**1.37**	**1.37**	3.39	3.18	.45	.60

Entries in bold indicate identical values.