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The generalizability of transformational leadership across cultures: a meta-analysis

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Abstract

Purpose The purpose of this paper is to investigate whether the effectiveness of transformational leadership behaviors are moderated by a country's cultural values and cultural practices.

Design/methodology/approach The authors describe a meta-analytic review of the relationship between transformational leadership and employee performance (task performance and OCBs) using data from over 57,000 individuals, 215 samples and 34 countries. The authors examine whether this relationship is moderated by the cultural values and practices of the country in which the study was located – after first controlling for methodological factors.

Findings The authors find that cultural values and practices moderate the transformational leadership – employee performance relationship such that the relationship is much stronger in countries whose culture is incongruent with transformational leadership.

Research limitations/implications Data were only available for 34 countries and it is unclear what role industry type and job type play in determining transformational leadership effectiveness or if these situational variables are confounded with culture. The findings call into question the generalizability of transformational leadership across countries and cultures.

Practical implications The findings suggest that the value of transformational leadership behaviors may be limited in developed economies such as Western Europe and North America, while transformational leadership is most effective in Africa, the Middle East, South America and parts of Southeast Asia.

Originality/value This is the first paper to examine the generalizability of transformational leadership across 34 countries and is by far the largest review ever conducted into the relationship between transformational leadership and subordinate performance.

Keywords
Transformational leadership, Job performance, Organizational citizenship behaviors, Cross-cultural studies

Disciplines
Applied Behavior Analysis | Cognition and Perception | Experimental Analysis of Behavior | Multicultural Psychology | Theory and Philosophy

Structured Abstract

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The Full Range Leadership Model (Avolio & Bass, 1991) presents transformational leadership as the most effective form of organizational leadership, a claim that is echoed in popular management textbooks (e.g., Robbins & Judge, 2013).Indeed, transformational leadership has developed into a cornerstone of modern research on leadership and a number of meta-analytic reviews (Judge & Piccolo, 2004; Wang, Oh, Courtright, & Colbert, 2011) have reported moderately strong average relationships between transformational leadership and subordinate performance. Therefore, any positive relationship between transformational leadership and subordinate performance – even a weak relationship – would suggest that increases in transformational leadership might result in improvements in employee performance. This, coupled with evidence that transformational leadership behaviors are trainable (e.g., Barling, Weber & Kelloway, 1996; Kelloway, Barling & Helleur, 2000) has led thousands of organizational leaders to be trained in transformational leadership (Bass & Avolio, 1994).

Widespread implementation of expensive and time-consuming leadership training and leadership development programs makes sense if the apparent benefits of such programs are relatively uniform across settings. However, the same meta-analyses that report impressive average effects (e.g., Wang et al., 2011) also suggest that the generalizability of these benefits is only modest. Wang et al., for example, report that the transformational leadership – subordinate performance relationship varies very widely. In this paper we explore if this high variability in the effectiveness of transformational leadership may, in part, be attributed to differences in the cultures in which transformational leadership behaviors are being enacted.

Our overarching research hypothesis that national culture moderates the effectiveness of transformational leadership behaviors is in line with authors (e.g., Gardner & Avolio, 1998) who have stressed that leadership is an interactive phenomenon that is determined by both leader

behaviors and follower attributes and by Dorfman's (1996) argument that "… the effectiveness of leadership activities, is culturally contingent" (p. 267). It is also informed by Implicit Leadership Theory (Lord, Foti, & De Vader, 1984) which states that individuals subscribe to leader prototypes that influence the degree to which they react positively to a particular leader. Importantly, individuals may differ from each other in the nature of their leader prototype and therefore differ in the degree to which they react positively to transformational leadership behaviors. Recent work on individual differences that moderate the effectiveness of transformational leadership appears to support this view. For example, Cole, Bruch and Shamir (2009) found that individual-level social distance moderated the relationship between transformational leadership and follower's emulation of their leader's behavior. Social distance is, of course, somewhat similar to the power distance construct that is represented in cross-cultural frameworks (e.g., Hofstede, 1980). Inasmuch as cultural differences can be thought of as mean-level differences in individual-level variables (values and behaviors) across countries similar moderating effects may also hold when comparing findings from different countries.

Our study will aim to extend our understanding of the moderators of the effectiveness of transformational leadership behaviors to the cross-cultural realm and help answer calls made in review chapters (e.g., Dorfman, 1996) for an examination of the possible role of contextual variables in general and cultural variable specifically as moderators of transformational leadership. As such our study will also help to establish whether the theory of transformational leadership has largely universal validity as suggested by some advocates (e.g., Bass & Avolio, 1994) or whether it is characterized by boundary conditions – in this case national culture. Finally, our paper not only offers potentially novel insights into the role of culture as a moderator of the impact of transformational leadership on subordinates but also represents an empirical test

of three competing theories (outlined below) regarding the generalizability of transformational leadership.

Our study will also explore the possibility that the variability in research findings can be explained by variability in research designs; specifically that the observed strength of the relationship between transformational leadership and subordinate performance may be influenced by the rigor of the research design used by the researcher. Importantly, these cultural and methodological explanations for variability are not mutually exclusive. That is, each one may explain part of the very substantial variability in effect sizes that has been observed in the leadership literature. Indeed, an exploration of the role of cultural factors on leadership effectiveness requires that methodological differences between researchers from different countries be controlled for as much as possible. Below we discuss each of these two explanations for the observed variability in effect sizes in greater detail.

The Moderating Role of National Culture

The role of national culture in determining leader attributes, behaviors, and effectiveness are a long standing concern of the organizational literature (House Wright & Aditya, 1997). Many leading management theories, the Full-Range Model of Leadership included, were developed in the USA (Bass, 1985; Burns, 1978). However, management practices and the manner in which managers and leaders are viewed by employees vary relatively widely from country to country (Hofstede, 1993), in part because of the influence of national culture on employees' expectations of work, leaders, and organizational structure (Triandis, 1993). It is therefore important to examine whether or not a leadership theory developed in the USA generalizes well to other cultures. Three competing perspectives seem to characterize the

theoretical and empirical literature on the relationship between leadership behaviors and national culture; perspectives that are referred to by House et al.(1997) as: 1) the "Near Universality of Leader Behaviors Proposition", 2) the "Cultural Congruence Proposition", and 3) the "Cultural Difference Proposition". Because sound theoretical reasons exist for the validity of all three of these propositions, we take a strong inference approach (Platt, 1964) and pit the three hypotheses against each other to determine which one best fits the observed data.

The Near Universality of Leader Behaviors Proposition

A substantial theoretical and empirical literature holds that leadership behaviors that are judged to be acceptable and effective in one cultural setting are also likely to be accepted and effective in other cultural settings. Bass (1997), for example, argues that organizational work in all countries is increasingly knowledge-based and requires high levels of adaptability, and that transformational leadership behaviors that facilitate adaptation, innovation, and the acquisition of knowledge should therefore be universally valued. Bass also argued that increasing globalization and easier access to information means that knowledge of effective leadership practices should be rapidly disseminated and adopted across the globe. There is also evidence that the characteristics of an "ideal" leader are consistent across countries (House et al. 1997). Indeed, findings from the Global Leadership and Organizational Behavior Effectiveness Project (Project GLOBE, Den Hartog & Koopman, 2001), indicate that leadership attributes and behaviors such as having integrity and charisma, and being visionary, inspirational, and excellence-oriented – all characteristics commonly associated with transformational leadership - are universally accepted.

Hypothesis 1a: The relationship between transformational leadership and subordinate performance is invariant across cultures.

The Cultural Congruence Proposition

The Cultural Congruence Proposition (House et al., 1997) holds that leadership behaviors are most effective when they are aligned with the cultural values held by subordinates. Hartnell, Kinicki, Lambert, Fugate, and Corner (2016) describe two theoretical reasons for the positive impact of congruence between leader behaviors and culture. First, both culture and leadership represent contextual cues to followers about the type of behavior that is expected. Congruence between culture and leadership increases the signal strength of these cues and removes potential ambiguity about desired behaviors. Second, leaders will be viewed more positively and therefore have more influence over followers if they act in a manner that affirms the values of employees as represented by the national culture. This cultural congruence perspective is also in line with the growing literature on person-environment fit and management-culture fit (e.g., Edwards, 2008; Newman & Nollen, 1996), and with recommendations that leaders develop multicultural awareness and adapt their behaviors to be congruent with prevailing cultural norms (Connerly & Pederson, 2005).

Hypothesis 1b: The relationship between transformational leadership and subordinate performance will be strongest in countries in which national culture is congruent with transformational leadership.

The Cultural Difference Proposition

The Cultural Difference Proposition (House et al., 1997) is that leaders have the biggest impact on subordinates when they are able to introduce ideas, processes, and methods that are different to the prevailing values and practices of subordinates. Hartnell et al. (2016) also noted that leadership behaviors may be most effective when they emphasize behaviors that are not

currently being practiced in an organization. Thus, a leader who emphasizes participation and collaboration may have particularly dramatic positive effects on performance in a culture in which participation and collaboration is not practiced or valued. This perspective is also in line with recommendations in the popular management press that effective leaders are those that challenge assumptions and disrupt the status quo (e.g., Kouzes & Posner, 1987; Reiss, 2012).

Hypothesis 1c: The relationship between transformational leadership and subordinate performance will be strongest in countries in which national culture is incongruent with transformational leadership.

A Framework for Testing the Influence of Culture

An empirical examination of the validity of these three cultural propositions requires not only data on the effectiveness of transformational leadership across multiple countries but also a framework for distinguishing the cultures of countries from each other. A variety of frameworks have been developed to describe how the cultures of countries differ from each other. In this paper we prefer the Project GLOBE cultural framework (House et al., 2004) over alternative cultural frameworks for four important reasons. First, it explicitly builds upon prior work by the likes of Hofstede (1980), Schwartz (1994), and Triandis (1993) while attempting to avoid some of the methodological and theoretical weakness of these earlier approaches. Second, Project GLOBE was explicitly founded on the assumption that the effectiveness of particular leader behaviors may vary across cultures. Third, Project GLOBE has gone to considerable lengths to establish and publicly report mean country scores on each cultural dimension using a relatively rigorous sampling and psychometric approach and has done so in the relatively recent past for a very substantial number of countries. Thus, it avoids some of the concerns relating to the

recency of the scores reported by Hofstede given the changing nature of cultures over time (e.g., Matsumoto, Kudoh, & Takeuchi, 1996). Fourth, many of the Project GLOBE dimensions are theoretically congruent with transformational leadership and this allows the validity of the Cultural Congruence Proposition and Cultural Difference Proposition to be empirically tested.

The Congruence of Transformational Leadership with Project GLOBE Dimensions

Project GLOBE identified nine cultural dimensions that help distinguish cultures from each other and assessed each country's standing on these dimensions in two ways. Cultural practices reflect the current state of a culture and represent the status quo to which leader behaviors might be compared. Cultural practices were assessed by asking respondents to describe their culture as it is currently practiced. Cultural values, on the other hand, reflect the culture that individuals would prefer and are therefore likely to act as a lens through which leader behaviors are interpreted. Cultural values were assessed by asking respondents to describe how what their culture should ideally be. We explore the role of both cultural values and cultural practices in our analysis. Below we discuss how each of the Project GLOBE cultural dimensions are potentially congruent or incongruent with transformational leadership behavior. Because a country's standing on any one dimension cannot be separated from their standing on all of the other dimensions and because the three perspectives on the role of culture as a moderator specify three distinct effects we do not develop specific hypotheses for the effect of any one dimension on its own.

In-group collectivism. In-group collectivism refers to "the degree to which individuals express pride, loyalty, and cohesiveness in their organizations or families" (Javidin, House, & Dorfman, 2004, p. 30). As such in-group collectivism is congruent with the idealized influence

facet of transformational leadership (e.g., developing shared values and group identity) because these result in a sense of cohesiveness and pride in the organization, and because subordinates from collectivist cultures should be more willing to subordinate their own goals to those of the group and have a greater tendency to identify with a collective. Subordinates from cultures that are high on in-group collectivism should also be more likely to accept the type of group goals that are often set by transformational leaders.

Future orientation. Future orientation refers to "the extent to which individuals engage in future-oriented behaviors such as delaying gratification, planning, and investing in the future" (Javidin et al., 2004, p. 30) and is therefore congruent with transformational leadership (Jung & Avolio, 1999) - particularly the intellectual stimulation facet (e.g. focus on creativity) and inspirational motivation facet (e.g., providing a vision and helping employees understand how the organization will change over time) of transformational leadership. That is, subordinates with high levels of future orientation should see transformational leaders as fulfilling the need for a long-term vision and planning and therefore react more positively to leader's attempt to inspire and motivate them.

Gender egalitarianism. Gender egalitarianism refers to the degree to which a culture minimizes gender differences (Javidin, et al., 2004) and may be congruent with transformational leadership behaviors that are often thought of as "feminine"; including greater levels of subordinate participation in decision making, and higher levels of individual consideration. Subordinates from a culture with low levels of gender egalitarianism may expect a more authoritarian leadership style than that which is embodied in transformational behaviors and view leadership practices such as participative leadership or individual consideration behavior as inappropriate or even as representing an abdication of leadership.

Humane orientation. Humane orientation refers to the degree to which individuals in a culture are rewarded and encouraged to exhibit humane behavior such as altruism, generosity, fairness, and kindness (Javidin, et al., 2004). As such a humane orientation is congruent with transformational leadership; particularly the individualized consideration facet (e.g., empathizing with subordinates, displaying compassion toward subordinates), and the idealized influence facet (e.g., behaviors that encourage subordinates to trust leaders).

Performance orientation. Performance orientation refers to the degree to which individuals value competitiveness, striving for excellence, performance feedback, training and development, and the degree to which individuals are rewarded for excellence and improvement by the organization (Javidin et al., 2004). As such performance orientation is congruent with many of the leadership behaviors that encompass transformational leadership (Dorfman, Hanges, & Brodbeck, 2004), including inspirational motivation (e.g., helping subordinates succeed), and intellectual stimulation (e.g., encouraging and rewarding creativity and innovation).

Power distance. Power distance refers to the degree to which individuals in a culture accept and endorse power and status differences among members of that culture (Javidin et al., 2004). As such power distance appears to be relatively incongruent with transformational leadership behaviors that ignore power distances or are aimed at lowering power distances, such as individualized consideration behaviors (e.g., developing interpersonal relationships between leaders and subordinates), and certain intellectual stimulation behaviors (e.g., participative decision-making, Offermann & Hellmann, 1997).

Uncertainty avoidance. Uncertainty avoidance refers to the degree to which individuals in a culture are uncomfortable with uncertainty and change, and the degree to which a culture

uses rules, policies, norms and procedures to reduce the uncertainty associated with future events (Javidin et al., 2004). As such, uncertainty avoidance appears to be incongruent with transformational leadership behaviors that encourage risk taking and change (Hofstede, 1980, 1993), particularly intellectual stimulation behaviors such as challenging the status quo, and encouraging appropriate risk-taking behaviors.

Project GLOBE describes two other cultural dimensions: 1) assertiveness which is described as "the degree to which individuals are assertive, confrontational, and aggressive in their relationship with others" (Javidin et al., 2004, p. 30), and 2) institutional collectivism which is described as "the degree to which organizational and societal institutional practices encourage and reward collective distribution of resources and collective action" (Javidin et al. p.30). Transformational leadership can reasonably be seen to be either congruent or incongruent with these dimensions.

Methods

Literature Search

Potential studies for inclusion in this study were identified via keyword and abstract searches of the PsycINFO, EBSCO, ABI, and Dissertation Abstracts databases using the search terms "transformational leadership" paired with "organizational citizenship behavior", "OCBs", "volitional behaviors", "contextual behaviors", "job performance", and "task performance". In addition, we conducted targeted internet searches using the Google search engine, examined the reference lists of all examined articles, and also examined the reference lists of previous meta-analyses (e.g., Wang et al., 2011).

Choice of Predictor Variable

In this review we focus relatively narrowly on leadership behaviors that are described as

transformational and exclude other leadership constructs. We were unable to examine other

leadership constructs contained in the Full Range Model of Leadership or the individual facets of

transformational leadership because there was insufficient data on these additional constructs

from countries outside the United States. That is, the vast majority of researchers from other

countries reported only on overall transformational leadership and failed to report facet-level

data.

Choice of Criterion

Our review focuses on two criteria: individual-level task performance and individual-

level organizational citizenship behaviors (OCBs). These criteria were chosen because they are

the most frequently examined individual-level job performance criteria in the leadership

literature, because both criteria are important for organizational survival and success, and

because the theoretical relationship between transformational leadership and these criteria has

been well articulated in various mediational frameworks (e.g., Wang, Law, Hackett, Wang, &

Chen 2005).

Inclusion and Exclusion Criteria

Articles were included in this study if they reported the correlation between

transformational leadership and either task performance or OCBs at the individual level (or

presented data that allowed this correlation to be estimated), identified the country in which the

data was collected, and were based on employee samples. Studies were included if they

measured transformational leadership using any previously validated measure although almost

all studies relied on the Multifactor Leadership Questionnaire (MLQ, Avolio & Bass, 2004), the

Transformational Leadership Inventory (TLI, Podsakoff, MacKenzie, Moorman, & Fetter, 1990),

or the Leadership Practices Inventory (LPI, Kouzes & Posner, 1998). No studies were excluded

because of the manner in which OCBs or task performance were measured. A total of 192

primary studies providing data for 247 correlations across 215 independent samples met the

inclusion criteria. This data was from 34 different countries: Australia, Brazil, Canada, China,

Egypt, France, Germany, India, Iran, Israel, Jordan, Malaysia, Mexico, Montenegro, the

Netherlands, Pakistan, the Philippines, Portugal, Serbia, Saudi Arabia, Singapore, South Africa,

South Korea, Spain, Taiwan, Tanzania, Thailand, Turkey, Ukraine, United Arab Emirates,

United Kingdom, Uruguay, the USA, and Vietnam.

Coding Process

Data from each study was coded using a total of nine variables: 1) the correlation

between transformational leadership and performance, 2) whether performance was defined as

task performance or OCBs, 3) the sample size associated with the correlation coefficient 4) the

country in which the data was collected, 5) the design of the study (concurrent=0, predictive=1),

6) the source of the leadership ratings (leader self-rating=0, subordinate rating=1), 7) the source

of the performance rating (employee self-rating=0, other-rating=1), 8) the local reliability of the

transformational leadership scores, and 9) the local reliability of the performance scores. The

country information coded from each study was then used to import the response-bias corrected

Project GLOBE cultural value and practices scores as reported in House et al. (2004). That is,

House et al. measured both cultural practices (the status quo) and cultural values (the preferred

culture) in each country included in their study and reported separate cultural value and cultural

practice scores for each country. House et al. report both observed scores and scores that have

been corrected for country-level response biases. We relied on these latter response-bias

corrected scores in order to facilitate a more accurate assessment of the role of culture. A number

of more specific coding decisions were made and we outline these here. Some studies (e.g., Bass

& Yammarino, 1991), reported leadership ratings and/or performance ratings from multiple

sources. In these cases we coded only one correlation in order to ensure that the assumption of

independence of observations was not violated. Specifically, we coded the correlation based on

data from different sources because this minimizes the influence of common-source bias

(Podsakoff et al., 2012). Other studies reported multiple performance indicators (e.g., supervisor

rating, meeting of sales quota). In these cases, we coded data that best met the modern definition

of performance as a behavior rather than as an outcome of a behavior.

Project GLOBE culture scores were not available for all countries from which studies

were found; we therefore used the average score for the cultural cluster in which that country

was located. These countries and their respective clusters were: 1) the United Arab Emirates,

Jordan, and Saudi Arabia (all Middle East cluster), 2) Uruguay (Latin America cluster) 3)

Tanzania (Sub-Saharan Africa cluster) 4) Pakistan (Southern Asia cluster), and 5) Vietnam

(Confucian Asia cluster) . Further, for Germany we averaged the scores for East Germany and

West Germany, and for South Africa we averaged the scores for white South Africans and black

South Africans. No scores for Iran or Serbia are reported by House et al. but we used the Project

GLOBE scores reported by Dastmalchian, Javidan, and Alam (2001) for Iran and by

Vukonjanski, Nikolic, Hadzic, Terek, and Nedeljkovic (2012) for Serbia. We present our full

coding files and references to all included studies on the Open Science Framework:

https://osf.io/9qaxg/?view_only=ecf5e2254cb14274bc273bc4183883dc

Operationalizing Leadership Effectiveness and Cultural Congruency

Our overarching hypothesis is that cultural variables moderate the effectiveness of

transformational leadership behaviors. We operationalize the effectiveness of transformational

leadership behaviors as the strength and direction of the correlation between transformational leadership and subordinate performance. For example, a strong positive correlation would indicate that transformational leadership is effective because it is associated with higher levels of subordinate performance. A cultural variable that moderates the effectiveness of transformational leadership would therefore exhibit a non-zero correlation with the transformational leadership – performance correlation observed across studies. For example, a finding that assertiveness values are strongly positively correlated with the transformational leadership – OCB correlation would indicate that the transformational leadership – OCB correlation is more strongly positive in countries with high levels of assertiveness values than in countries with low levels of assertiveness values. The stronger the correlation, the stronger the moderating effect and the stronger the evidence for either the Cultural Congruence Proposition or the Cultural Difference Proposition. Which of these two propositions is supported by a strong moderation effect would then be determined by a joint consideration of the direction of the moderation effect and our earlier arguments regarding the theoretical congruence between a cultural variable and transformational leadership.

Analytical Strategy

We relied on a two-pronged approach to examine the impact of the potential moderators on the observed effect sizes. First we used the Hunter and Schmidt (2004) meta-analytic method, based on a random-effects model to compute meta-analytic estimates of the transformational leadership – task performance and the transformational leadership – OCB relationships. This study was predicated on the assumption that such a meta-analysis would show substantial variability in effect sizes even after accounting for the variability due to sampling error and study artifacts. The meta-analysis by Wang et al. (2011) reported such high variability but our review

found more than three times the number of independent samples and we therefore compute new

meta-analytic estimates in order to confirm that the relationship is characterized by substantial

variability and to also provide readers with an updated estimate of the overall relationship

between transformational leadership and subordinate performance based on a more

comprehensive survey of the literature. Prior research (e.g., Podsakoff, MacKenzie, Lee &

Podsakoff, 2012) has noted the impact of common-method effects on the size of correlations

between variables, an effect that appears to be particularly strong in the leadership literature

(e.g., Harms & Credé, 2010). We therefore controlled for two common-method methodological

factors and computed separate meta-analytic estimates of the transformational leadership – task

performance and transformational leadership – OCB relationships for studies in which data came

from the same-source, for studies for which data came from different sources, as well as for

studies relying on concurrent and predictive designs.

The categorical moderators examined in our meta-analyses and the culture scores for

each sample were moderately confounded with each other. For example, 92% of studies from

China on the transformational leadership –OCB relationship used different-source designs

whereas this was the case for only 53% of such studies from the USA. We therefore rely on a set

of related analytic approaches to examine the unique relationships between all of the examined

moderators and the observed effect sizes.

First, we use weighted least-squares (WLS) regression to examine the relationship

between countries' scores on each individual culture dimension and the disattenuated effect size

after first controlling for the methodological moderators while using the inverse variance of the

correlation for that study as a weight. For this analysis the regression coefficient for a cultural

variables provides information about the degree to which that cultural variable moderates the

relationship between transformational leadership and subordinate job performance. Second, we present regression results for all design characteristics and cultural dimensions considered jointly although these results should be interpreted with some caution due to collinearity among the cultural variables. Finally, we also utilized relative weights analysis based on a weighted correlation matrix (RWA, Tonidandel, LeBreton, & Johnson, 2009) to determine the unique contribution of each of the correlated predictors of the disattenuated effect size. For each moderator we present a percentage (RW%) that represents the relative percentage of the explained total variance in effect sizes that is accounted for by the moderator.

Results

Meta-Analytic Results

Meta-analytic estimates of the transformational leadership – OCB relationship and the transformational leadership- task performance relationship are presented in Table 1. At the overall level our population estimate of the transformational leadership – OCB relationship is ρ = .38 (SDρ=.18) while our estimate of transformational leadership – task performance relationship is ρ= .25 (SDρ=.17). Importantly, our estimates indicate a substantially greater amount of variability in effect sizes than was reported by the Wang et al. (2011) meta-analysis of this literature – even when source differences and design differences are controlled for.

[TABLE 1 ABOUT HERE]

Our meta-analytic results also highlight the very substantial influence of methodological factors. Our meta-analytic results for OCBs found a very large difference between the effects observed in predictive designs (ρ= .22) and those observed in concurrent designs (ρ= .39), and between the effects observed in same-source designs (ρ= .44) and different-source designs (ρ=

.30). For task performance the effect size estimate for predictive designs (ρ= .15) is approximately half of the estimate observed for concurrent designs (ρ= .27), and substantial differences were also observed between same-source designs (ρ= .29) and different-source designs (ρ=.23). That is, methodological factors have substantial effects on observed effect sizes – specifically stronger effects are reported in studies characterized by less rigorous research designs. Because the two design characteristics are somewhat confounded with each other we arrived at estimates of the relationships of transformational leadership with the two criteria for the most rigorous designs (i.e., predictive designs based on different source data) by using WLS regression to regress the effect sizes onto the two design characteristics. Together the two design characteristics explain 24.8% of the variance (Adj. R = .50) in the effect sizes for the OCB criterion and 5.1% of the variance (Adj. R = .23) in the effect sizes for the task performance criterion. The resultant estimates of the population effect sizes based on studies with predictive designs and different source data are ρ = .15 for task performance and ρ = 19 for the OCB criterion.

WLS Regression and RWA Results

In order to shed led on the validity of the Near Universality of Leader Behaviors Proposition we first examined whether the cultural value and cultural practice variables could explain variance in the observed effect sizes above and beyond the variance explained by the design characteristics. The results for these analyses (Table 2 and Table 3) illustrate that cultural values and practices explain a substantial and statistically significant proportion of the variability in effect sizes even after controlling for the role of methodological confounds. This suggests that the Near Universality of Leader Behaviors Proposition (Hypothesis 1a) is incorrect because effect sizes vary systematically between cultures. In order to examine whether our data are more

supportive of the Cultural Congruence Proposition or the Cultural Difference Proposition we examine the direction of the standardized regression coefficients for each of the cultural value and practices variables. A positive and significant regression coefficient in this context indicates that the effect sizes are stronger when scores on the cultural value or cultural practice variable are also high while a negative regression coefficient would indicate that effect sizes are weaker when the cultural value or cultural practice is high.

[TABLE 2 AND TABLE 3 ABOUT HERE]

Six cultural values significantly moderate the strength of the transformational leadership – OCB relationship; a finding that is generally well replicated for the task performance criterion. That is, the strongest effects were observed for cultures that were high on future orientation (beta= .31, ΔAdj. R^2= .09, RW= 26.1% for OCBs and beta= .19, ΔAdj.R^2= .03, RW= 16.6% for task performance), low on gender egalitarianism (beta= -.37, ΔAdj.R^2= .13, RW= 9.8% for OCBs and beta= -1.00, Δ Adj. R^2= .11, RW= 27.6% for task performance), low on humane orientation (beta= -.25, ΔAdj. R^2= .06, RW= 6.3% for OCBs and beta= -.20, Δ Adj. R^2= .04, RW= 7.4% for task performance), high on uncertainty avoidance (beta= .33, ΔAdj.R^2= .11, RW= 6.6% for OCBs and beta= .22, ΔAdj.R^2= .05, RW= 11.4% for task performance), and high on institutional collectivism avoidance (beta= .20, ΔAdj.R^2= .03, RW= 3.4% for OCBs and beta= .17, ΔAdj.R^2= .03, RW= 5.1% for task performance). No other cultural values exhibited a consistently strong relationship with effect sizes across the two criteria.

The results for cultural practices were more mixed. The transformational leadership – performance relationship was stronger in countries with high levels of in-group collectivism (beta= .32, ΔAdj.R^2= .09, RW= 26.4% for OCBs and beta= .21, ΔAdj.R^2= .04, RW= 5.0% for

task performance) but there were no other consistent effects. The transformational leadership –

OCB relationship was stronger when assertiveness was low (beta= -.19, ΔAdj.R^2= .03, RW= 7.4%) and when future orientation was low (beta=-.17, ΔAdj.R^2= .02, RW= 26.4%), while the

transformational leadership – task performance relationship was stronger in countries with higher

levels of institutional collectivism (beta=.29, ΔAdj.R^2= .08, RW= 16.9%), higher levels of

humane orientation (beta=.27, ΔAdj.R^2= .07, RW= 10.8%) and lower levels of performance

orientation (beta=-.40, ΔAdj.R^2= .14, RW= 38.2%).

In general, our findings offer greater support for the Cultural Difference Proposition

(Hypothesis 1c) than for the Cultural Congruence Proposition (Hypothesis 1b).

Transformational leadership exhibits stronger relationships with subordinate performance in

cultures with low levels of gender egalitarianism values, low levels of humane orientation

values, high levels of uncertainty avoidance values, low levels of future orientation practices, and

low levels of performance orientation practices – findings that support the Cultural Difference

Proposition that leader behaviors are more effective when they challenge the status quo. At the

same time, transformational leadership also exhibits stronger relationships with subordinate

performance in cultures with high levels of future orientation values, high levels of both ingroup

and institutional collectivism practices. These two findings are more in line with the Cultural

Congruence Proposition that leaders are more effective when their behaviors align with the

cultural values and practices of their subordinates.

An alternative conceptualization of the influence of national characteristics on the

effectiveness of transformational leadership emerges when considering which countries have the

highest and lowest scores on those cultural values and practices that exhibit relationships with

the effectiveness of transformational leadership. The general pattern is that transformational

leadership is least effective in Western democracies that are economically developed. For example, the effectiveness of transformational leadership is negatively related to gender egalitarianism values and the countries with the highest scores on this cultural value include: England, Sweden, Ireland, Portugal, Canada, Denmark and the USA. Similarly, transformational leadership effectiveness is negatively related to humane orientation values and the countries with the highest scores on this cultural value include: Finland, Austria, Spain, France, and Sweden. As a post-hoc analysis we used WLS regression to regress the observed effect sizes onto the Human Development Index (HDI) scores reported by the United National Development Program (2017) for each country after first controlling for the two design characteristics. For OCBs, HDI scores explained an additional 11% of the variance in effect sizes (beta=-.34, p<.001) while for task performance HDI scores explained an additional 3% of the variance in effect sizes (beta=-.20, p=.03). For both criteria effect sizes were on average significantly lower in countries with high HDI scores.

Discussion

Transformational leadership is widely assumed to have a strong and generalizable positive relationship with subordinate performance (Bass, 1997). However, our findings indicate that once the problematic influence of common-method research designs is taken into account the relationship between transformational leadership and subordinate performance is only modest on average and highly variable across cultural settings. As such, our findings – based on the most comprehensive review of the literature ever undertaken – suggest that our conceptualization of transformational leadership as a universally effective form of leadership may need to be revisited. The effectiveness of transformational leadership appears to be lowest in Europe and North America; ironically the environment in which the theory of transformational leadership

was initially developed and where most of the evidence supporting this theory is gathered. More promising for both practitioner and academic proponents of transformational leadership is the accompanying finding that transformational leadership exhibits strong relationships with subordinate performance in developing countries.

We organized our paper around three competing propositions regarding the role of culture as a moderator of the effectiveness of transformational leadership and our results allow us to draw some conclusions about their relative merits. The near universality proposition which holds that transformational leadership is valued and effective irrespective of the cultural setting in which it occurs found the least support. Multicollinearity among the GLOBE cultural dimensions make it difficult to estimate the transformational leadership effect size for individual countries but our findings offer clear evidence that both cultural values and practices strongly moderate the effect size such that the relationship between transformational leadership and subordinate performance is highly variable across cultural settings. The Cultural Congruence Proposition received some support but the strongest support was found for the Cultural Difference Proposition. Transformational leadership is most strongly related to subordinate performance in countries with low levels of gender egalitarianism values, low levels of humane orientation values, high levels of uncertainty avoidance and future orientation values, and low levels of performance orientation practices – findings that are in line with the Cultural Difference Proposition. Jointly, these findings suggest that the effectiveness of transformational leadership is influenced by both cultural congruency and cultural difference mechanisms, That is, transformational leadership may be most effective when it supports and is in line with some cultural values and practices while challenging other cultural values and practices. This dual

mechanism may reflect subordinates willingness to follow and be motivated by a leader who challenges their values and practices if that leader also shares some specific values and practices.

We offer four non-mutually exclusive theoretical mechanisms to account for these findings – all of them with important implications for theory and practice. First, our finding that most cultural values exhibit relationships with leadership effectiveness that support the Cultural Difference Proposition may be due to the fact that cultures with values that align with transformational behaviors simply have less variance in leadership behaviors because leaders in general are closer to the transformational ideal. In other words, the transformational behavior of any one leader does not stand out against a general background of other leaders behaving in a similar manner and therefore has little impact on the level of motivation and inspiration of his/her subordinates. Thus, the relationship is potentially still important, but is being suppressed by a ceiling effect. While such a ceiling effect may account for some of the findings we observe it should be remembered to a substantial percentage of employees report that the worst aspect of their job is their immediate supervisor (Hogan & Kaiser, 2005). Second, our finding that performance orientation practices are so strongly negatively related to leadership effectiveness – particularly for the task performance criterion – may also be due to a ceiling effect. That is, organizations in countries with high levels of performance orientation practices may simply be better at using modern recruitment, selection, training, and performance management approaches - collectively often referred to as "high performance human resource practices" (e.g., Kehoe & Wright, 2013) – such that there is less variance in employee performance for transformational leadership to explain. A third alternative is that the effects of transformational leaders are magnified in culturally incongruent environments simply because they are so rare. That is, having leaders with a compelling vision, who live their values, who challenge assumptions, and

who take an active interest in the lives of their subordinates may be so unexpected in some countries as to create a sense of delight and wonder when it does occur. Fourth, it may also be the case that subordinates in the developed world have become cynical about the value of transformational leadership specifically and leadership in general. In the case of European countries, subordinates may be particularly suspicious of leaders because of prior negative experiences with charismatic political leadership and therefore have the greatest concerns about the potential abuse of leadership power (House et al., 2004). This would result in a general skepticism toward charismatic leadership behaviors such as those exemplified by transformational leadership. This skepticism may also extend to other Western European countries and Anglo countries that often have a longer history of democratic forms of government and may therefore have become more cynical about the realities of political leadership and, by extension, organizational leadership. In contrast, individuals from developing countries such as those in Sub-Saharan Africa, the Middle East, Latin America, and Southern Asia may be more receptive to the lofty promises and grandiose displays often associated with charismatic leadership. Irrespective of the reasons for these very substantial differences in the predicted effectiveness of transformational leadership our findings clearly suggest that the transportability of transformational leadership is strongly moderated by national culture.

Limitations

This paper is characterized by a number of limitations. First, no data on the relationship between transformational leadership and subordinate performance was available for many countries and future research should aim to fill in these empirical gaps. Second, the influence of other contextual factors (e.g., organizational type, industry setting, job type) may also have played a role and may even be confounded with cultural values and practices. For example, it

might be that employees in professional jobs are more responsive to transformational leadership

behaviors than employees in more structured jobs that offer less opportunity to respond

positively to a particular leadership style. Unfortunately, most of the examined papers did not

describe the general context of the organization or job type in sufficient detail to allow a detailed

examination of the influence of such contextual factors. We urge future researchers to more

carefully describe the organizations and job types in which research is conducted. Third, it is

important to note that culture scores for any country ignore the cultural variety that exists within

most countries. Differences across regions and demographic groups within a country can be as

large as differences between countries and their effect on leadership effectiveness cannot be

taken into account by this study. Fourth, many of the included studies only reported effects for

overall transformational leadership and not for the facets that comprise the broader construct,

possibly because the facets are often very highly correlated. Similarly, many studies only

included measures of transformational leadership, but not the remaining components of the Full-

Range Leadership model. We hope that future researchers will report more detailed information

in their studies to allow an exploration of the generalizability of these more specific behaviors,

although the high correlations that are typically observed among transformational leadership

facets may limit the incremental understanding gained from these facets.

Conclusion

Transformational leadership is easily the most widely studied and advocated form of

leadership (Cole, Bruch & Shamir, 2009). Our results suggest that the relationship between

transformational leadership and subordinate performance is neither as strong as is widely

assumed nor as generalizable across countries and cultures as some of its advocates maintain. On

average transformational leadership is predicted to have the smallest impact on subordinate

performance in western industrialized countries and the greatest impact in developing countries, particularly those in Sub-Saharan Africa, the Middle East, Southern Asia, and Latin America. If scientific theories are ones characterized by risky predictions, and boundary conditions or prohibitions (Popper, 1963), then this paper moves our understanding of transformational leadership slightly further in the direction of being a scientific theory. That is, our inferences regarding the role of research design and culture make it possible to make specific and hence risky predictions about the research designs and cultural contexts in which transformational leadership should exhibit strong relationships with subordinate performance and also begins to the process of delineating boundary conditions – circumstances in which transformational leadership may have on weaker effects on subordinate performance.

References

Avolio, B. J., & Bass, B.M. (1991). *The Full Range Leadership Development Programs: Basic and Advanced Manuals*. Binghamton, NY: Bass, Avolio & Associates.

Avolio B.J., & Bass B.M. (2004). *Manual for the Multifactor Leadership Questionnaire (Form 5X).* Palo Alto, CA: Mind Garden, Inc.

Barling, J., Weber, T., & Kelloway, E.K. (1996). Effects of transformational leadership training on attitudinal and financial outcomes: A field experiment. *Journal of Applied Psychology, 81,* 827-832.

Bass, B. M. (1985.) *Leadership and Performance*. New York: Free Press.

Bass, B.M. (1997). Does the transactional-transformational leadership paradigm transcend organizational and national boundaries? *American Psychologist, 52,* 130-139.

Bass, B. M., & Avolio, B. J. (1994). *Improving Organizational Effectiveness Through Transformational Leadership*. Thousand Oaks, CA: Sage.

Bass, B.M. & Avolio, B.J. (1995). *Multifactor Leadership Questionnaire: Manual Leader Form, Rater, and Scoring Key for MLQ Form 5x-Short*. Redwood City, CA: Mind Garden.

Bass, B.M., & Yammarino, F.J. (1991). Congruence of self and others' leadership ratings of naval officers for understanding performance. *Applied Psychology and International Review, 40,* 437-454. DOI:/10.1111/j.1464-0597.1991.tb01002.x

Burns, J.M. (1978). *Leadership*. New York: Free Press.

Cole, M.S., Bruch, H., & Shamir, B. (2009). Social distance as a moderator of the effects of

transformational leadership: Both neutralizer and enhancer. *Human Relations, 62*, 1697-1733.

Connerly, M.L., & Pedersen, P.B. (2005). *Leadership in a diverse and multicultural environment:*

Developing awareness, knowledge, and skills. New York, NY: Sage Publications.

Dastmalchian, A., Javidan, M., & Alam, K. (2001). Effective leadership and culture in Iran: An

empirical study. *Applied Psychology: An International Review, 50,* 532-558.

Den Hartog, D. N., & Koopman, P. L. (2001). Leadership in organizations. In N. Anderson, D. S. Ones,

H. K. Sinangil, & C. Viswesvaran (Eds.), *Handbook of industrial, work and organizational*

psychology, Volume 2: Organizational psychology (pp.166-187). Thousand Oaks, CA: Sage

Publications, Inc.

Dorfman, P. W., Hanges, P. J., & Brodbeck, F. C. (2004). Leadership and cultural variation. In R.

House, P. Hanges, M. Javidan, P. Dorfman & W. Gupta (Eds.), *Culture, Leadership, and*

Organizations: The GLOBE Study of 62 Societies (pp. 679-719). Thousand Oaks, CA: Sage.

Dorfman, P.W., Howell, J.P., Hibino, S., Lee, J. K., Tate, U., & Bautista, A. (1997). Leadership in

Western and Asian countries: Commonalities and differences in effective leadership processes

across cultures. *The Leadership Quarterly, 8,* 233–274.

Edwards, J.R. (2008). Person-environment fit in organizations: An assessment of theoretical progress.

The Academy of Management Annals, 2, 167-230.

Gardner, W.L., & Avolio,B.J. (1998). The charismatic relationship: A dramaturgical relationship.

Academy of Management Review, 23, 32-58.

Harms, P.D., & Credé, M. (2010). Emotional intelligence and transformational leadership: A meta-analysis. *Journal of Leadership and Organizational Studies, 17,* 5-17.

Hartnell, C.A., Kinicki, A.J., Lambert, L.S., Fugate, M., & Corner, P.D. (2016). Do similarities or differences between CEO leadership and organizational culture have a more positive impact on firm performance? A test of competing predictions. *Journal of Applied Psychology, 101*, 846-861.

Hofstede, G. (1980). *Culture's Consequences: International differences in work related values*. Beverly Hill, CA, Sage.

Hofstede, G. (1993). Cultural constraints in management theories. *Academy of Management Executive, 7,* 81-94.

Hogan, R., & Kaiser, R. (2005). What we know about leadership. *Review of General Psychology, 9,* 169-180.

House, R.J., Hanges, P.J., Javidan, M., Dorfman, P.W., & Gupta, V. (2004). *Culture, leadership, and organizations: The GLOBE study of 62 societies.* New York: Sage Publications.

House, R.J., Javidan, M., Hanges, P. & Dorfman, P. (2002). Understanding cultures and implicit leadership theories across the globe: An introduction to Project GLOBE. *Journal of World Business, 37*, 3-10.

House, R.J., Wright, N.S., & Aditya, R.N. (1997). Cross-cultural research on organizational leadership: A critical analysis and a proposed theory. In P.C. Earley & M. Erez (Eds.) *New perspectives in international industrial organizational psychology (*pp. 535-625). San Francisco: New Lexington.

Hunter, J.E., & Schmidt, F.L. (2004). *Methods of Meta-Analysis: Correcting Error and Bias in Research Findings*. New York: Sage Publications.

Javidin, M., House, R.J., & Dorfman, P.W. (2004). A non-technical summary of GLOBE findings. In R.J. House et al. (Eds.), *Culture, Leadership, and Organizations: The Globe Study of 62 Societies* (p. 29-48). New York: Sage Publications.

Jung, D.I., & Avolio, B.J. (1999). Effects of leadership style and followers' cultural orientation on performance in group and individual task conditions. *Academy of Management Journal, 42,* 208–218.

Kehoe, R.R., & Wright, P.M. (2013). The impact of high-performance human resource practices on employees' attitudes and behavior. *Journal of Management, 39,* 366-391.

Kelloway, E.K., Barling, J., & Helleur, J. (2000). Enhancing transformational leadership: the roles of training and feedback. *Leadership and Organization Development Journal, 21,* 145-149.

Kouzes, J., & Posner, B.Z. (1987). *The Leadership Challenge*. Hoboken, NJ: John Wiley & Sons.

Lord, R. G., Foti, R. J., & De Vader, C. L. (1984). A test of leadership categorization theory: Internal structure, information processing, and leadership perceptions. *Organizational Behavior and Human Performance, 34,* 343–378.

Matsumoto, D., Kudoh, T., Takeuchi, S. (1996). Changing patterns of individualism and collectivism in the United States and Japan. *Culture and Psychology, 2,* 77-107.

Newman, K.L., & Nollen, S.D. (1996). Culture and congruence: The fit between management practices and national culture*. Journal of International Business Studies, 27,* 753-779.

Offermann, L. R., & Hellmann, P. S. (1997). Culture's consequences for leadership behavior: National

values in action. *Journal of Cross-Cultural Psychology, 28,* 342–351.

Platt, J.R. (1964). Strong inference: Certain systematic methods of scientific thinking may produce

much more rapid progress than others. *Science, 146*, 347-353.

Podsakoff, P.M., MacKenzie, S.B., Moorman, R.H. Fetter, R. (1990). Transformational leader behaviors

and their effects on followers' trust in leader, satisfaction, and organizational citizenship

behaviors. *The Leadership Quarterly, 1*, 107-142.

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, 65*,

539-569.

Popper, K. (1963). *Conjectures and Refutations*. London UK: Routledge & Kegan Paul.

Reiss, K.J. (2012). *Be a Changemaster: 12 Strategies for Leading Professional and Personal Change*.

New York: Sage Publications.

Shamir, B., House, R. J., & Arthur, M. A. (1993). The motivational effects of charismatic leadership: A

self-concept based theory. *Organization Science, 4,* 577–594.

Tonidandel, S., LeBreton, J.M., & Johnson, J.W. (2009). Determining the statistical significance of

relative weights. *Psychological Methods, 14,* 387-399.

Triandis, H. C. (1993). The contingency model in cross-cultural perspective. In M. M. Chemers and R.

Ayman (Eds*.), Leadership theory and research: Perspectives and directions* (pp. 167–188). San

Diego, CA: Academic Press.

Vukonjanski, J., Nikolic, M., Hadzic, O. Terek, E.,& Nedeljkovic, M. (2012). Relationship between GLOBE organizational culture dimensions, job satisfaction, and leader-member exchange in Serbian organizations. *Journal for East European Management Studies, 17,* 333-368.

Waldman, D.A., Ramirez, G.G., House, R.J., & Puranam, P. (2001). Does leadership matter? CEO leadership attributes and profitability under conditions of perceived environmental uncertainty. *The Academy of Management Journal, 44,* 134-143.

Wang, G., Oh, I-S., Courtright, S., & Colbert, A. (2011). Transformational leadership and performance across criteria and levels: A meta-analytic review of 25 years of research. *Group Organization Management, 36,* 223-270.

Wang, H., Law, K.S., Hackett, R.D., Wang, D., & Chen, Z.X. (2005). Leader-member exchange as a mediator of the relationship between transformational leadership and followers' performance and organizational citizenship behavior. *Academy of Management Journal, 48,* 420-432.

Table 1

Meta-Analytic Estimates of the Relationship between Transformational Leadership and OCBs and Task Performance

Criterion	Samples	k	N	r	ρ	SDρ	10%	90%	% Var
OCBs	All Combined	147	47,867	0.33	0.38	0.18	0.15	0.60	9
	Same Source	74	28,298	0.38	0.44	0.17	0.23	0.66	8
	Different Source	73	19,569	0.26	0.30	0.14	0.11	0.47	16
	Predictive Designs	11	4,383	0.20	0.22	0.06	0.14	0.30	41
	Concurrent Designs	136	43,484	0.35	0.39	0.17	0.17	0.62	9
Task Performance	All Combined	110	30,019	0.22	0.25	0.17	0.02	0.47	12
	Same Source	29	9,114	0.25	0.29	0.21	0.02	0.56	8
	Different Source	81	20,905	0.21	0.23	0.15	0.04	0.42	16
	Predictive Designs	17	5,936	0.13	0.15	0.14	-0.03	0.32	15
	Concurrent Designs	93	24,083	0.24	0.27	0.17	0.05	0.49	13

Note: k= number of independent samples, N= total sample size, r=sample size weighted mean observed correlation, ρ= sample size weighted mean corrected correlation, SDρ = standard deviation of correlations after removing variability due to sampling error and unreliability, 10% and 90% = lower and upper bound of 80% credibility interval, % Var = percentage of total variance in effect sizes that canbe explained by sampling error and variability in unreliability.

Table 2

Correlation, WLS Regression and RWA Results for the relationship between Cultural Values and Design Characteristics and the OCB Criterion and Task Performance Criterion.

Predictors of Effect Size	OCB Criterion (N=147 studies)				Task Performance (N=110 studies)			
	beta(i)	Δ Adj. R^2	beta(j)	RW%	beta(i)	Δ Adj. R^2	beta(j)	RW%
Design Characteristics								
Design (Concurrent=0, Longitudinal=1)	-.17*		-.12	8.4%	-.24*		-.17	13.2%
Source of Data (Same =0, Different=1)	-.33**		-.31**	22.4%	-.10		.04	2.5%
Cultural Values								
Assertiveness	.00	.00	.04	1.9%	-.04	.00	-.06	1.2%
Institutional Collectivism	.20**	.03	-.01	3.4%	.17	.03	-.12	5.1%
In-Group Collectivism	-.07	.00	-.03	5.4%	-.10	.01	.06	7.1%
Future Orientation	.31**	.09	.50**	26.1%	.19*	.03	.21	16.6%
Gender Egalitarianism	-.37**	.13	-.34	9.8%	-.35**	.11	-1.00**	27.6%
Humane Orientation	-.25**	.06	-.19	6.3%	-.20*	.04	-.05	7.4%
Performance Orientation	-.16*	.02	-.12	2.8%	-.15	.02	.19	6.1%
Power Distance	.13	.01	.29**	6.9%	..12	.01	-.00	1.6%
Uncertainty Avoidance	.33**	.11	-.22	6.6%	.22*	.05	-.40	11.4%
Total Adjusted R^2		.42				.44		

Note: * p<.05 **p<.01 beta(i)= standardized regression coefficient for that cultural value after controlling only for design characteristics, beta(j)= standardized regression coefficient when all design characteristics and cultural scores are entered jointly; ΔR^2= increase in variance explained provided by that cultural value after controlling for the two design characteristics; RW% = relative weight of each predictor expressed as proportion of total variance explained by set of total set of predictors.

Table 3

Correlation, WLS Regression and RWA Results for the relationship between Cultural Practices and Design Characteristics and the OCB Criterion and Task Performance Criterion.

Predictors of Effect Size	OCB Criterion (N=147 studies)				Task Performance (N=110 studies)			
	beta(i)	Δ Adj. R^2	beta(j)	RW%	beta(i)	Δ Adj. R^2	beta(j)	RW%
Design Characteristics								
Design (Concurrent=0, Longitudinal=1)	-.17*		-.12	12.1%	-.24*		-.16	12.3%
Source of Data (Same =0, Different=1)	-.33**		-.34**	32.2%	-.10		.01	3.2%
Cultural Practices								
Assertiveness	-.19*	.03	.35*	7.4%	-.11	.01	.23	2.1%
Institutional Collectivism	.03	.00	-.04	0.8%	.29**	.08	.22	16.9%
In-Group Collectivism	.32**	.09	.89**	26.4%	.21*	.04	-.12	5.0%
Future Orientation	-.17*	.02	.21	5.2%	-.14	.02	-.03	2.7%
Gender Egalitarianism	-.12	.01	-.05	2.8%	-.01	.00	-.36	2.8%
Humane Orientation	.07	.00	-.17	1.8%	.27**	.07	.19	10.8%
Performance Orientation	-.09	.00	-.03	2.2%	-.40**	.14	-.51**	38.2%
Power Distance	.10	.00	-.29*	4.6%	.01	.00	-.14	1.2%
Uncertainty Avoidance	-.13	.01	-.05	4.6%	-.16	.03	-.03	4.9%
Total Adjusted R^2		.29				.48		

Note: * p<.05 **p<.01, beta(i)= standardized regression coefficient for that cultural value after controlling only for design characteristics, beta(j)= standardized regression coefficient when all design characteristics and cultural scores are entered jointly; ΔR^2= increase in variance explained provided by that cultural value after controlling for the two design characteristics; RW% = relative weight of each predictor expressed as proportion of total variance explained by set of total set of predictors.