



# A meta-analysis of the relationship between responsible leadership and multiple performances using R software

Huahong Wang<sup>1a</sup>, Hong Ma<sup>1b</sup>, Liang Huang<sup>1c\*</sup>, Yuying Liao<sup>2d</sup>

<sup>1a,1b,1c</sup>School of Business Administration/School of Cantonese Merchant, Guangdong University of Finance and Economics, Guangzhou, China

<sup>2d</sup>International Department, The Affiliated High School of SCNU, Guangzhou, China

<sup>1a</sup>E-mail: wanghuahongli@126.com; <sup>1b</sup>E-mail: MHong0814@163.com

<sup>1c\*</sup>Corresponding author e-mail: lam\_huang@163.com

<sup>2d</sup>E-mail: liaoyy.angelique2021@gdhfi.com

**Abstract.** To clarify the relationship between responsible leadership and multiple performances, a meta-analysis was conducted using R software based on 70 studies, 86 effect sizes, and a sample of 26,732 participants. The results showed that responsible leadership is positively correlated with employee task performance and organizational citizenship behavior, while negatively correlated with employee counterproductive performance. Responsible leadership is positively correlated with organizational financial performance, social performance, and environmental performance. Power distance strengthens the relationship between responsible leadership and employee organizational citizenship performance. Data sources positively strengthen the relationship between responsible leadership and employee task performance/organizational citizenship performance.

**Keywords:** responsible leadership, employee performance, organizational performance, meta-analysis

## 1 Introduction

Responsible leadership refers to a leadership style characterized by leaders establishing trust and cooperation with both internal and external stakeholders of an organization, while effectively balancing their interests to achieve sustainable development <sup>[1]</sup>. However, research on its impact on multiple performances has produced inconsistent results. Some studies show a positive correlation between responsible leadership and employee organizational citizenship performance, while others find no significant relationship. Similarly, at the organizational level, responsible leadership is strongly linked to environmental performance, although some studies suggest a weaker connection. To address these discrepancies, a comprehensive meta-analysis is recommended to analyze the extent and nature of the relationship between responsible leadership and multiple performances and its contingent factors including power distance, responsible leadership measurement scales and data sources.

© The Author(s) 2024

A. Rauf et al. (eds.), *Proceedings of the 3rd International Conference on Management Science and Software Engineering (ICMSSE 2023)*, Atlantis Highlights in Engineering 20,

[https://doi.org/10.2991/978-94-6463-262-0\\_83](https://doi.org/10.2991/978-94-6463-262-0_83)

## 2 Literature Review and Theoretical Hypotheses

### 2.1 Responsible Leadership and Multiple Performance

Employee performance encompasses task performance (TP) (quantitative and qualitative fulfillment of job requirements), organizational citizenship behavior (OCB) (voluntary actions benefiting the organization beyond formal duties), and counterproductive performance (CP) (intentional negative behaviors harming the organization or others' interests) [2]. Based on social exchange theory, responsible leaders prioritize employees' needs, trust, and support, creating a perception of care. In turn, employees improve their job performance and engage in behaviors benefiting the organization, enhancing their organizational citizenship performance. Additionally, based on social learning theory [3], responsible leadership serve as role models, encouraging ethical decision-making and reducing counterproductive performance.

H1: Responsible leadership positively affects TP(H1a), OCB(H1a) and CP(H1a).

Organizational performance comprises financial performance (FP) (organization's monetary gains resulting from resource utilization [4]), environmental performance (EP) (meeting and exceeding the expectations of external stakeholders, in terms of environmental protection [5]), and social performance (SP) (the social benefits derived from organizations fulfilling their social responsibilities voluntarily [6]). Responsible leadership has a positive impact on organizational performance across those three dimensions [7]. This leadership approach involves meeting stakeholder demands, engaging in constructive dialogue, and considering the impact on the environment and society. By making sound financial decisions, adopting environmentally-friendly practices, and actively participating in enhancing social welfare, responsible leadership contributes to improved financial, environmental, and social performance.

H2: Responsible leadership positively affects FP(H2a), EP(H2b) and SP(H2c).

### 2.2 Moderating Role of Power Distance Orientation

Power distance orientation refers to the degree to which a society receives unfair allocation of power in institutions and organizations [8]. In organizations operating in high power distance societies, there is a collective effort to satisfy stakeholders, resulting in enhanced organizational performance. However, in low power distance societies, where members prioritize their own assertions, the impact of responsible leadership on performance outcomes is weakened.

H3: Power distance orientation strengthens the positive relationship between responsible leadership and employee performance(H3a) and organizational performance(H3b).

### 2.3 Moderating Role of Responsible Leadership Measurement Scales

This study categorizes responsible leadership scales into two groups: the Voegtlin's scale and other scales. The Voegtlin (2011)'s scale is widely recognized and commonly used in empirical research on responsible leadership, which measures how responsible

leadership interacts with corporate stakeholders. While alternative measurement scales based on different conceptualizations exist, they are not as frequently employed in empirical studies. The differences between the two groups measurement scales may affect the relationship between responsible leadership and other variables both at employee level and at organizational level.

H4: The responsible leadership measurement scale moderates the relationship between responsible leadership and employee performance (H4a) and organizational performance (H4b), such that compared to the use of other measurement scales, the use of Voegtlin's scale has stronger relationships between responsible leadership and employee performance/organizational performance compared.

## 2.4 Moderating Role of Data Sources

In empirical research, data collection is categorized as homogenous or heterogeneous. Heterogeneous data studies, involving joint evaluation by leaders and employees, are less susceptible to common method bias and self-service bias compared to homogenous data studies. Consequently, research using different data sources may yield diverse results for the relationship between responsible leadership and other variables both at employee level and at organizational level.

H5: The data source moderates the relationship between responsible leadership and employee performance (H5a) and organizational performance (H5b), such that compared to heterogeneous data, homogenous data shows stronger relationships between responsible leadership and employee performance/organizational performance.

# 3 Methodology

## 3.1 Literature Search, Screening, and Coding

For this study, relevant literature was collected through databases such as China National Knowledge Infrastructure (CNKI) and Web of Science. The search terms used were "Responsible Leadership", "Responsible Leader", and "Socially Responsible Leader". The literature search was conducted until April 26, 2023.

The screening process involved the following criteria: (1) The literature had to be empirical research. (2) It should focus on the relationship between responsible leadership and employee/organizational performance. (3) The literature should report correlation coefficients. Applying these criteria, a total of 70 articles met the requirements, resulting in 86 effect sizes and 26,732 participants.

The power distance orientation indicators are based on Hofstede's (2001) cultural dimension indexes. The Voegtlin's scale for responsible leadership is coded as 1, while other scales are coded as 2. Data sources are coded as 1 for heterogeneous data and 2 for homogenous data. Two researchers independently coded the literature with a high agreement level ( $Kappa = 0.93$ ).

### 3.2 Statistical Analysis Methods

This study employs the meta package in R 4.0.4 for conducting a meta-analysis. Before analysis, the effect sizes represented by correlation coefficients are adjusted for measurement error by considering reliability information, resulting in the true correlation coefficient  $\rho$ . Subsequently, following the methodology described in Hedges and Olkin (2014), the true correlation coefficient  $\rho$  is transformed into Fisher's Z values, which are then weighted and averaged to obtain the overall correlation coefficient  $\bar{r}$ .

## 4 Data Analysis Results

### 4.1 Heterogeneity Test Results

The results of the heterogeneity tests reveal significant heterogeneity in the impact of responsible leadership on employee performance, as well as organizational performance. The Q values range from 52.84 to 2821.52 ( $p < 0.001$ ), the  $I^2$  values range from 90.5% to 98.3%, and the H values range from 0.17 to 5.05, confirming the presence of significant heterogeneity in these effect sizes.

### 4.2 Publication Bias Test Results

This study employed Egger's test and Begg rank correlation test to examine publication bias in the effect sizes. The results of both tests showed that the coefficients between responsible leadership and TP, OCB, CP, as well as FP, EP, and SP, were not statistically significant ( $p > 0.05$ ). Thus, it can be concluded that the effect sizes of the relationships between responsible leadership and various performance outcomes are not affected by publication bias.

### 4.3 Main Effects Tests Results.

The main effect test results (see Table 1) indicate that responsible leadership is significantly positively correlated with TP, OCB, FP, EP, and SP. Additionally, responsible leadership is significantly negatively correlated with employee CP. These supported H1a, H1b, H1c, as well as H2a, H2b, and H2c.

**Table 1.** Main Effects Tests Results

Variables	k	N	$\bar{r}$	95%CI	Z	p
Task performance	6	1859	0.62	[0.37;0.79]	4.26	<0.0001
Organizational citizenship behavior	49	15923	0.47	[0.37;0.55]	8.55	<0.0001
Counterproductive performance	14	4586	-0.43	[-0.52; -0.33]	-7.41	<0.0001
Financial performance	6	1639	0.49	[0.31; 0.64]	4.84	<0.0001
Environmental performance	6	1533	0.49	[0.36; 0.60]	6.51	<0.0001
Social performance	5	1192	0.50	[0.25; 0.68]	2.67	0.0002

Note: k is the number of effect size. N refers to the total sample size.

**4.4 Moderation Effect Test Results**

Table 2 displays that firstly, power distance orientation positively moderates the relationship between responsible leadership and OCB. But it does not have a moderating effect on the relationship between responsible leadership and employee TP or CP, partially supporting H3a. Additionally, power distance orientation does not moderate the relationship between responsible leadership and organizational performance, so H3b was not supported. Secondly, the measurement scale of responsible leadership does not regulate the relationship between responsible leadership and employee performance/organizational performance. Therefore, h4a and H4B were not confirmed. Thirdly, data sources significantly moderate the relationship between responsible leadership and employee TP and OCB. Using homogenous data yields a stronger relationship compared to using heterogeneous data. However, it does not significantly moderate the relationship between responsible leadership and CP. Therefore, H5a was partially supported. Additionally, data sources do not moderate the relationship between responsible leadership and SP, indicating that H5b was not supported.

**Table 2.** Moderation Effect Test Results

	Variables	$\beta$	SE	95%CI	Z
Power distance orientation	Task performance	0.022	0.014	[-0.005;0.050]	1.584
	Organizational citizenship behavior	0.013**	0.005	[0.004;0.021]	2.783
	Counterproductive performance	0.014	0.009	[-0.003;0.032]	1.607
	Financial performance	0.005	0.014	[-0.023;0.033]	0.381
	Environmental performance	0.003	0.007	[-0.011;0.017]	0.440
	Social performance	0.006	0.017	[-0.028;0.040]	0.343
Measurement Scales	Task performance	0.197	0.392	[-0.571;0.966]	0.503
	Organizational citizenship behavior	-0.188	0.152	[-0.486;0.111]	-1.233
	Counterproductive performance	-0.041	0.144	[-0.323;0.241]	-0.286
	Financial performance	-0.078	0.260	[-0.587;0.431]	-0.230
	Environmental performance	0.017	0.196	[-0.367;0.401]	0.085
	Social performance	0.137	0.398	[-0.644;0.917]	0.343
Data Sources	Task performance	0.657**	0.240	[0.187;1.127]	2.738
	Organizational citizenship behavior	0.259*	0.130	[0.004;0.515]	1.987
	Counterproductive performance	-0.117	0.156	[-0.422;0.187]	-0.755
	Social performance	0.230	0.383	[-0.521;0.981]	0.600

Note: \*p<0.05, \*\*p<0.01, \*\*\*p<0.001.

**5 Conclusions and Discussion**

**5.1 Conclusions and Theoretical Contributions**

This study confirmed that responsible leadership positively influences employee task performance and organizational citizenship performance, while effectively reducing

employee counterproductive performance. Additionally, it demonstrated that responsible leadership contributes to increasing financial, social and environmental performance, validating its ability to achieve mutual benefits by balancing the interests of various stakeholders<sup>[9]</sup>.

This study identified power distance orientation as a significant socio-cultural factor that enhances the relationship between responsible leadership and employee organizational citizenship performance. It also confirmed that the data source significantly moderated the relationship between responsible leadership and employee task performance/organizational citizenship performance. Overall, this study contributes new insights to the empirical research on the relationship between responsible leadership and multiple performances, thus enhancing our understanding of this relationship<sup>[10]</sup>.

## 5.2 Practical Implications

This study provides two key insights for enhancing management practices in business organizations. Firstly, fostering a responsible leadership style among managers helps improve employee performance. To cultivate responsible leadership, organizations should enhance managers' communication skills, stakeholder management abilities, and ethical decision-making. They should support managers in valuing employee needs, providing resources, and improving employee task performance and organizational citizenship behavior. Moreover, managers should exemplify ethical behavior, serving as role models to inspire employees to uphold ethical standards and reduce counterproductive performance. Secondly, encouraging effective utilization of responsible leadership contributes to enhancing organizational financial, environmental, and social performance. Organizations should consider stakeholders' economic interests, foster cooperative relationships, promote communication with external stakeholders, prioritize environmental sustainability to improve environmental performance, and integrate social responsibility into management practices enables managers to enhance organizational social performance.

## Acknowledgment

This work was supported by the Guangdong Natural Science Foundation Project (Grant No. 2018A030313555, 2023A1515010794), the Innovative Team Project of Guangdong Universities (Grant No. 2019WCXTD008), and the Postgraduate Education Innovation Program of Guangdong Province in China (Grant No. 2020JGXM051).

## References

1. Maak, T., Pless, N. M., & Voegtlin, C. (2016). Business statesman or shareholder advocate? CEO responsible leadership styles and the micro-foundations of political CSR. *Journal of Management Studies*, 53(3): 463-493. <https://doi.org/10.1111/joms.12195>.
2. Rotundo, M., & Sackett, P. R. (2002). The relative importance of task, citizenship, and coun-

- terproductive performance to global ratings of job performance: A policy-capturing approach. *Journal of applied psychology*, 87(1): 66-80. <https://doi.org/10.1037/0021-9010.87.1.66>.
3. Bandura, A., & Walters, R. H. (1997). *Social learning theory*. Prentice Hall: Englewood cliffs. [https://doi.org/10.1007/978-3-030-43620-9\\_7](https://doi.org/10.1007/978-3-030-43620-9_7).
  4. Post, C., & Byron, K. (2015). Women on boards and firm financial performance: A meta-analysis. *Academy of management Journal*, 58(5): 1546-1571. <https://doi.org/10.5465/amj.2013.0319>.
  5. Judge, W. Q., & Douglas, T. J. (1998). Performance implications of incorporating natural environmental issues into the strategic planning process: An empirical assessment. *Journal of management Studies*, 35(2): 241-262. <https://doi.org/10.1111/1467-6486.00092>.
  6. Schuler, D. A., & Cording, M. (2006). A corporate social performance–corporate financial performance behavioral model for consumers. *Academy of management Review*, 31(3): 540-558. <https://doi.org/10.5465/amr.2006.21318916>.
  7. Javed, M., Ali, H. Y., Asrar-ul-Haq, M., Ali, M., & Kirmani, S. A. A. (2020a). Responsible leadership and triple-bottom-line performance—do corporate reputation and innovation mediate this relationship?. *Leadership & Organization Development Journal*, 41(4): 501-517. <https://doi.org/10.1108/LODJ-07-2019-0329>.
  8. Hofstede, G. H., & Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations*. Sage. <https://doi.org/10.1177/031289620202700105>.
  9. Voegtlin, C., Patzer, M., & Scherer, A. G. (2012). Responsible leadership in global business: A new approach to leadership and its multi-level outcomes. *Journal of business ethics*, 105(1): 1-16. <https://doi.org/10.1007/s10551-011-0952-4>.
  10. Gui, C., Luo, A., Zhang, P., & Deng, A. (2020). A meta-analysis of transformational leadership in hospitality research. *International Journal of Contemporary Hospitality Management*, 32(6): 2137-2154. <https://doi.org/10.1108/IJCHM-05-2019-0507>.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

