Psychology, Society & Education (2025) 17(2), 26-43

Psychology, Society & Education

www.uco.es/ucopress/ojs/index.php/psye

A meta-analytic examination of the association between vertical and horizontal trust and the in-role, extra-role, and organizational levels of performance

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Keywords

Organizational trust
Horizontal trust
Vertical trust
Job performance
Meta-analysis

Abstract

Organizational trust significantly impacts various aspects of employee performance. Trust can be classified into two dimensions: horizontal trust (trust among peers), and vertical trust (trust in leadership and top management). Performance is commonly assessed through three dimensions: in-role (tasks specified in the job description), extra-role (voluntary behaviors that benefit the organization), and overall organizational performance. This study aimed to determine the relationship between trust and performance in an organizational context through a meta-analysis. A search was conducted across three databases, resulting in a total of 57 studies included. Results showed weak but significant pooled correlations between vertical trust and the different types of performance. Horizontal trust demonstrated higher pooled correlations with various levels of performance. Meta-regression analyses were conducted to evaluate the moderating role of age and gender, revealing that only age had a significant and negative effect. These findings underscore the importance of fostering trust to achieve effective performance at both the individual and organizational levels.

Un examen meta-analítico de la asociación entre confianza vertical y horizontal y los niveles de desempeño intra-rol, extra-rol y organizacional

Palabras clave

Confianza organizacional
Confianza horizontal
Confianza vertical
Desempeño laboral
Meta-análisis

Resumen

La Confianza organizacional impacta significativamente diversos aspectos del desempeño de los/as empleados/as. La confianza puede clasificarse en dos dimensiones: horizontal (confianza entre compañeros/as) y vertical (confianza en los/as líderes y la alta dirección). El desempeño se evalúa comúnmente a través de tres dimensiones: el desempeño intra-rol (tareas especificadas en la descripción del puesto), extra-rol (comportamientos voluntarios que benefician a la organización) y el desempeño organizacional global. Este estudio tuvo como objetivo determinar la relación entre la confianza y el desempeño en un contexto organizacional mediante un meta-análisis. Se realizó una búsqueda en tres bases de datos, lo que resultó en 57 estudios incluidos. Los resultados mostraron correlaciones agrupadas débiles pero significativas entre la confianza vertical y los diferentes tipos de desempeño. La confianza horizontal mostró correlaciones agrupadas más altas con diversos niveles de desempeño. Se realizaron análisis de meta-regresión para evaluar el rol moderador de la edad y el género, revelando que solo la edad tuvo un efecto negativo significativo. Estos hallazgos destacan la importancia de fomentar la confianza para lograr un desempeño efectivo tanto a nivel individual como organizacional.

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Cite this article as: Espinoza, L., Ríos-Leal, S., Villacura-Herrera, C., Pérez, F., & Acosta-Antognoni, H. (2025). A meta-analytic examination of the association between vertical and horizontal trust and the in-role, extra-role, and organizational levels of performance. *Psychology, Society & Education, 17*(2), 26-43. https://doi.org/10.21071/psye.v17i2.17570

Received: 19 September 2024. *First review*: 30 November 2024. *Accepted:* 3 April 2025.

ISSN 1989-709X

Organizational trust (OT) reflects employees' confidence in organizational decisions and their willingness to be vulnerable to its actions (Joo et al., 2022; Tan & Lim, 2009). OT is a pivotal variable in organizational psychology and organizational behavior (Newman et al., 2016), serving as a competitive advantage that enhances team dynamics and job performance (De Jong et al., 2016; Dirks & De Jong, 2021). Therefore, OT has been considered fundamental for organizational effectiveness and employment relationships (Acosta et al., 2012; Salanova et al., 2021). OT underscores reciprocity's role in adaptation and cooperation (Rousseau et al., 1998). This principle is cardinal to social exchange theories (Martínez-Tur, 2003), as it highlights its crucial role as a facilitator of adaptation and cooperation of individuals into environmental challenges (McAllister, 1995). Empirical evidence, such as a study with 214 Chilean workers, confirms its importance in cooperative work processes (Suárez et al., 2009). Societies and organizations increasingly need trust to achieve optimal functioning, thus its relevance is widely recognized (Luhmann, 1996; Seligman, 2000).

Although classical authors such as Argyris (1973) and McGregor (1967) emphasized OT's importance for organizational functioning, many theoretical models have overlooked its impact. However, the Healthy and Resilient Organizations (HERO) model (Olvera-Calderón, 2023; Salanova et al., 2012) integrates OT as a central component in the dynamics of employee performance and well-being, enhancing communication, cooperation, satisfaction, and performance while reducing stress (Salanova et al., 2012). In this model, a HERO is defined as an organization that carries out systematic, planned, and proactive actions to improve the processes and outcomes for both employees and the based on three elements: healthy practices, healthy employees, and healthy outcomes (Salanova, 2008; Salanova et al., 2016). The inclusion of OT highlights its influence on individual, group, and organizational processes, contributing to employee well-being (Acosta et al., 2013, 2019; Olvera et al., 2017; Salanova et al., 2021). The integration of OT underscores its influence on individual, group, and organizational processes, contributing to employee well-being (Acosta et al., 2019; Salanova et al., 2021).

Within the HERO model, OT comprises two dimensions: vertical trust (VT) referring to trust between employees and the organization (e.g., top management and senior executives); and horizontal trust (HT), referring to trust between colleagues and direct supervisors (Salanova et al., 2012, 2016). Research indicates that when senior executives or managers trust their subordinates (VT), they are willing to give them more autonomy, improving motivation and extra-role performance (Brower et al., 2008; Mayer et al., 1995). Likewise, employees with high OT invest more effort in organizations they perceive as competent (Pirson & Malhotra, 2010). Promoting healthy organizational practices enhances trust at all levels, improving employee's well-being and job performance (Acosta et al., 2012; Salanova et al., 2021).

Job performance has been defined as scalable actions, behaviors, and results that contribute to organizational objectives (Viswesvaran & Ones, 2000). Goodman and Svyantek (1999) identify two main dimensions of performance: 1) in-role, involving job-specific activities that contribute directly or indirectly to the organization; and 2) extra-role, comprising voluntary behaviors that benefit the organization. A third dimension, organizational performance, reflects overall productivity driven by collective employee efforts (Richard et al., 2009; Zehir et al., 2016). Environments that value both in- and extra-role performance can enhance organizational outcomes.

Past studies have examined the relationship between OT and performance in organizational settings. Olvera et al. (2017) reported that HT had a mediating role between transformational leadership and team performance in workers from four health sector organizations. Guinot & Chiva (2019) reviewed VT's mediating and moderating effects on job performance, concluding that trust indirectly influences performance but warrants further study regarding direct effects. De Jong et al. (2016) conducted a meta-analysis on the impact of cognitive and affective trust in team performance, demonstrating that these dimensions of trust –based on the model by McAllister (1995)– show a unique predictive ability towards the results obtained by teams, while discussing that exploring different characteristics of performance was still needed. Similarly, Rahayuningsih (2019) found that coworker trust improved job satisfaction, whereas supervisor trust was more strongly linked to job performance.

The present study

According to previous studies and meta-analyses, trust generally shows a moderate positive effect on organizational outcomes, but a relevant gap lies in understanding how VT and HT –which are conceptually different and operate through distinct mechanisms within organizations– impact on different levels of performance (Agbejule et al., 2021; Olvera et al., 2017). Therefore, this study aims to determine the relationship between trust and performance in an organizational context through a meta-analysis. We expect to find a positive association between VT, HT, and job performance at different levels. These results seek to contribute to the literature on organizational behavior and potential predictors of performance in organizational settings, thus helping the further development of theoretical and practical applications for achieving healthy organizational outcomes.

Method

Search strategy

The literature search was based on the criteria of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA; Page et al., 2021). The search was conducted on May 1st, 2024, in the Web of Science, Scopus, and ProQuest databases.

The key terms for the searches performed were: "team trust", "organizational trust", "vertical trust", "horizontal trust", "team", "job", and "performance", focusing on the title, abstract and keywords when possible (see Table A in the Appendix section). Duplicate detection was performed sequentially using digital object identifiers (DOIs), followed by title-based screening and finally by manual check.

Eligibility criteria

Eligibility was assessed based on the following inclusion criteria: a) the record examined "trust" and "performance" in an organizational context; b) the record is a peer-reviewed scientific article; and c) it was written in Spanish or English. In a second step, studies were excluded if fulfilling the following exclusion criteria: a) it is a theoretical, review, or non-empirical study; or b) does not report a quantitative measure for the relationship between "trust" and "performance". The review process was performed by two independent reviewers.

Data extraction

Two independent reviewers carried out the data extraction process. From each article, the following information was retrieved: a) the authors' names and year; b) the type of sample; c) the sample size; d) the age and gender distribution of the participants; e) the country or countries in which the study was conducted; f) the type of unemployment measured (i.e., in-role, extra-role, organizational); and g) the correlation coefficient between trust and performance.

Data analysis

Six independent meta-analyses were conducted to estimate the pooled effect of different dimensions of trust on the different levels of performance. A random effects model was employed due to variations in sample types and measurement instruments, assuming heterogeneity beyond sampling error (Borenstein et al., 2009). A restricted maximum likelihood estimator (REML) was used, being the preferred method when high heterogeneity is expected (Tanriver-Ayder et al., 2021). Because of their non-normal distribution, correlation coefficients were transformed into standardized Z-scores using Fisher's r-to-Z method to stabilize variances, then back-transformed for interpretation (Borenstein et al., 2009). Confidence intervals (CI) estimated uncertainty around the pooled effect, while prediction intervals (PI) indicated the range within which future studies might fall (Borenstein et al., 2009).

Two tests of heterogeneity were conducted to evaluate the between-study variability. First, Cochran's Q tests the null hypothesis that the effects of the included studies are homogeneous (Cochran, 1954). Second, the heterogeneity index (I^2) measures the proportion of variability that cannot be attributed to random variations or sampling error (Higgins & Green, 2011). According to Higgins et al. (2003) and Huedo-Medina et al. (2006), I^2 is expressed as a percentage, with values below 40% indicating non-significant heterogeneity, values between 41% and 60% indicating moderate heterogeneity, and higher values indicating high levels of heterogeneity.

To measure potential publication bias we used funnel plots and Egger's *Z* regression, which tests for symmetry in the effects' distribution (Egger et al., 1997; Lin et al., 2018). Influence diagnostics were calculated to visualize and detect potential outliers (Viechtbauer & Cheung, 2010). Then, for exploration purposes, we compared the results and heterogeneity levels after the exclusion of influential studies. Finally, we explored the potential moderating role of age and gender distribution through meta-regression. Analyses were conducted with the *metafor* package for R (Viechtbauer, 2010).

Results

Study selection

We collected a total of 525 records. After examining for duplicates, 123 were removed. We screened the remaining 402 records for inclusion based on their title and abstract requirements for inclusion, with 118 being removed. We examined in depth the 284 remaining articles to determine if at least one exclusion criteria were present. Finally, 57 independent studies to be eligible for inclusion. The study selection process is presented in Figure 1.

Included studies

From the 57 independent studies included, we identified a total of 80 eligible samples. The total sample size was 17,948 (M_{age} = 34.45, SD_{age} = 7.87, female = 50.51%). Table 1 presents the included studies.

Meta-analysis results

We conducted six independent meta-analyses examining different combinations of the dimensions of trust (VT and HT) and performance (in-role/extra-role/organizational). Results and heterogeneity tests are presented in Table 2, while forest plots are presented in Figures 2 to 4. Findings reveal weak but statistically significant pooled correlations between VT and all performance levels, whereas HT showed stronger, nearly moderate correlations.

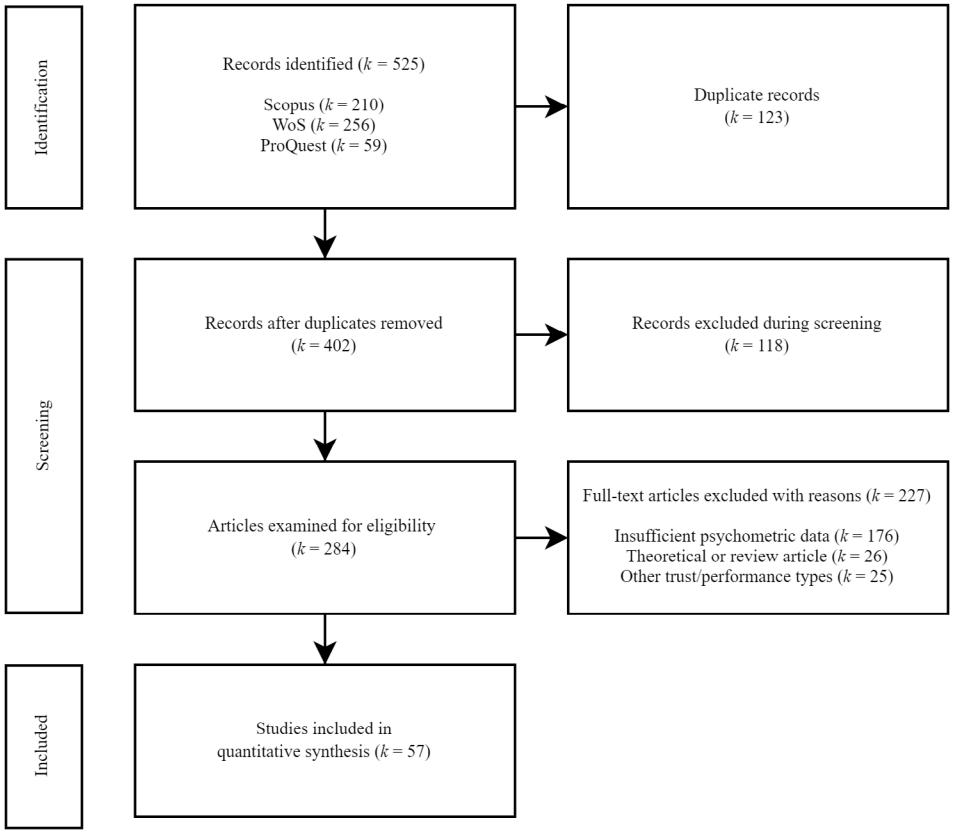
In general, we observed high levels of heterogeneity between studies ($p < .001$; I^2 = 27.8%-97.18%), implying the influence of different independent factors on the distribution of the observed effects. Egger's Z regression indicated potential publication bias in studies on VT and in-role performance. Funnel plots are presented in Figures A to F in the Appendix section.

Influence diagnostics

The analysis revealed high levels of heterogeneity between studies. Influence diagnostics (Figures A to F in the Appendix section) identified Li et al. (2017), Luo et al. (2022), Sezer & Uzun (2023), and Silva et al. (2023) as potential outliers that could have significant influence in three pooled effects: a) VT and in-role performance; b) VT and organizational performance; and c) HT and extra-role performance. Complementary meta-analyses were conducted excluding these studies to explore their impact on the results and levels of heterogeneity obtained. Results are presented in Table 3.

Figure 1

Flow diagram for the study selection process



After excluding these studies, the changes in the levels of heterogeneity were minimal, except in the case of the meta-analysis of the relationship between VT and organizational performance, where the total effect had a slight increase and heterogeneity was reduced by 47.96%, thus indicating that the effects reported in the study by Luo et al. (2022) had a significant role in the overall heterogeneity levels.

Meta-regression results

We performed meta-regression analyses to explore the moderating role of participant age and gender within the observed effects. Results are presented in Table 4.

The results show that the mean age of the participants was a statistically significant moderator for the correlation between VT and organizational performance (QM = 15.65; R^2 = .98; p < .001; Estimate = -.019), and for the correlation between HT and extra-role performance (QM = 8.13; R^2 = .87; p = .004; Estimate = -.03). In no case was gender distribution found to be a significant moderator (p > .05). Heterogeneity levels ranged from low to moderate levels. Figure 5 presents the bubble plots for the two statistically significant cases.

Discussion

This study examined the overall relationship between trust and performance in organizational contexts. Results revealed weak to moderate pooled effects for the correlation between these variables, with significant positive effects of VT on in-role, extra-role, and organizational performance. These findings are consistent with literature emphasizing the relevance that hierarchical structures have within different types of organizations (Yang & Mossholder, 2010). For instance, a review by Dirks & Ferrin (2002) reported that trust in top management boosted performance, as well as attitudes and behaviors. VT also increases perceived security, leading to goal alignment and motivation (Burke et al., 2007). On the other hand, HT showed stronger pooled effects, highlighting the relevance of peer and team relationships across performance levels. These findings highlight the importance of peer relationships and supervisory dynamics in promoting effective work behaviors and organizational health. The stronger effect of HT over VT aligns with social exchange theory, suggesting that employees respond more to trust in colleagues and supervisors than to abstract concepts such as trust in upper management (Dirks & Ferrin, 2002; Fulmer & Gelfand, 2012).

Exploratory results from meta-regression analyses identified age as a significant moderator in the relationship between VT and organizational performance, as well as HT and extra-role performance. This suggests that the age gap between team members might influence how trust impacts organizational outcomes. Studies have shown that, while older employees tend to distrust the capabilities of their younger colleagues, they rely on them to adapt to technological advances (Gil, 2008). Younger

Table 1

Summary of included studies

Author (year)	*n*	M_{age}	SD_{age}	Fem%	Country	Trust	Performance	r
Akhtar et al. (2019)	273	22-25	—	57%	China	Team Trust [H]	Task Performance [I]	0.48
Alfes et al. (2016)	335	39.38	10.23	50%	—	Organizational trust [V]	Task performance [I]	-0.1
Alkandari et al. (2023)	114	23-29	—	55%	—	Organizational trust [V]	Organizational performance [O]	0.48
Biswas & Kapil (2017)	237	45.53	5.99	—	—	Organizational Trust [V]	In-role Performance [I]	0.47
Braun et al. (2013)*	360	35.7	10.2	68%	Germany	Trust in Supervisor [H]	Team performance [I]	0.37
						Trust in the Team [H]	Team performance [I]	0.15
Buenaventura & Guzdoi (2020)	161	—	—	—	Colombia	Organizational trust [V]	Organizational performance [O]	0.24
Castellano et al. (2021)	154	—	—	37%	Thailand / USA	Team Trust [H]	Team performance [I]	0.37
Chen et al. (2008)	113	21-23	—	68%	—	Team trust [H]	Team performance [I]	0.77
Chiocchio et al. (2016)	77	42.33	10.5	71%	—	Intra-team trust [H]	Proactive team performance [E]	0.41
Connelly & Turel (2016)	241	23	—	51%	—	Team-level trust [H]	Team performance [I]	0.02
Costa (2003)	395	40.5	10.3	—	—	Team trust [H]	Perceived task performance [I]	0.17
Cuadrado & Tabernero (2015)	123	20.29	3.51	57%	Spain	Team Trust [H]	Prosocial behavior [E]	0.73
de Jong et al. (2021)	120	30.03	9.35	42%	Netherlands	Team trust [H]	Team performance [I]	0.26
DeOrtentiis et al. (2013)	84	27.5	—	24%	USA	Team trust [H]	Team effectiveness [I]	0.29
Dirks (2000)*	355	—	—	0%	United States	Trust in leader [H]	Team performance (prior) [I]	0.6
						Trust in leader [H]	Team performance (future) [I]	0.57
						Trust in teammates [H]	Team performance (prior) [I]	0.23
						Trust in teammates [H]	Team performance (future) [I]	0.37
Doğru (2021)	228	—	—	59%	Turkey	Organizational trust [V]	Task performance [I]	0.39
Guenter et al. (2017)	628	31-40	—	36%	Multiple	Team trust [H]	Team performance [I]	0.67
Hough et al. (2020)	250	—	—	63%	USA	Trust in management [V]	Individual performance [I]	0.4
Hughes et al. (2018)*	—	39	—	73%	Netherlands	Vertical trust [V]	Team performance [I]	0.4
	628	39	—	69%	Netherlands	Horizontal trust [H]	Team performance [I]	0.51
Jain (2016)*	—	44.4	—	89%	Denmark	Trust in Department Administration [V]	Job performance [I]	0.09
						Trust in Unit Administration [V]	Job performance [I]	0.09
Katou (2015)	—	38.21	9.81	—	Greece	Organizational trust [V]	Organizational performance [O]	0.38
Kim et al. (2022)	342	30-39	—	50%	South Korea	Organizational trust [V]	Productive work behavior [I]	0.26
Ko & Choi (2019)	273	—	—	—	—	Organizational trust [V]	Firm productivity [O]	0.35
Kouhsari et al. (2023)	400	—	—	65%	Iran	Organizational trust [V]	Job performance [I]	0.2

Table 1 (continued)

Author (year)	*n*	M_{age}	SD_{age}	Fem%	Country	Trust	Performance	r
Li & Yan (2009)*	203	34	—	54%	China	Trust in direct leader [H]	Performance [I]	0.25
						Trust in coworker [H]	Performance [I]	0.31
Li et al. (2007)*	188	38	—	63%	China	Trust in immediate superior [H]	Work performance [I]	0.46
						Trust in co-workers [H]	Work performance [I]	0.45
						Trust in top management [V]	Work performance [I]	0.32
Li et al. (2012)*	169	37.27	6.46	30%	China	Organizational trust [V]	Extra-role performance [E]	0.35
						Organizational trust [V]	In-role performance [I]	0.29
Li et al. (2017)*	372	31.27	7.11	44%	China	Trust in Leaders [H]	In-Role Performance [I]	0.27
	—	—	—	—	—	Trust in Leaders [H]	Extra - Role Performance [E]	-0.11
Li et al. (2018)	881	37.57	10.15	73%	China	Organizational Trust [V]	Job performance [I]	0.34
						Trust in top management [V]	Performance [I]	0.41
Lu (2015)	14	33.56	7.02	48%	China	Team trust [H]	Team performance [I]	0.2
Luo et al. (2022)	376	49.24	—	24%	Taiwan	Trust in top management [V]	Firm performance [O]	0.16
Mach et al. (2010)*	690	25.5	1.6	—	Spain	Trust in top management [V]	Team performance [I]	0.28
						Trust in top management [V]	Team performance [I]	0.28
						Trust in top management [V]	Team performance [I]	0
						Trust in top management [V]	Team performance [I]	-0.01
						Trust in top management [V]	Team performance [I]	0.35
						Trust in top management [V]	Team performance [I]	0.3
Mach et al. (2015)	323	23.1	3.3	—	UK	Team trust [H]	Team objective performance [I]	0.43
Mahdikhani & Yazdani (2020)	384	30-40	—	34%	Iran	Team Trust [H]	Team performance [I]	0.44
Maurer (2010)	144	—	—	—	Germany	Trust in team members [H]	Project success [O]	0.15
Olvera et al. (2017)*	388	—	—	62%	Spain	Horizontal trust [H]	Intra-role performance [I]	0.57
						Horizontal trust [H]	Extra-role performance [E]	0.67
Palanski et al. (2011)	148	21	—	50%	USA	Team trust [H]	Team performance [I]	0.24
Paul et al. (2016)	57	20	—	32%	USA / India	Team trust [H]	Team performance [I]	0.57
Qiu & Peschek (2012)	98	—	—	69%	USA	Team trust [H]	Team performance [I]	0.59
Rao (2015)	—	23-26	—	32%	Multiple	Team trust [H]	Team performance [I]	0.09
Robertson et al. (2012)*	383	26.9	10.6	61%	USA	Trust in teammates [H]	Perceived team performance [I]	0.7
						Trust in management [V]	Perceived team performance [I]	0.54

Table 1 (continued)

Author (year)	*n*	M_{age}	SD_{age}	Fem%	Country	Trust	Performance	r
Roczniewska et al. (2020)	269	48.25	10.6	89%	Sweden	Vertical trust [V]	Job performance [I]	0.22
Rodrigues et al. (2023)	565	48.3	8.3	43%	Portugal	Organizational trust [V]	Job performance [I]	0.16
Salanova et al. (2021)*	890	—	—	58%	Spain	Vertical trust [V]	Team performance [I]	0.28
						Horizontal trust [H]	Team performance [I]	0.45
Scholten et al. (2022)	786	39.1	—	55%	Portugal	Organizational trust [V]	Job performance [I]	0.17
Sezer & Uzun (2023)	215	22-62	—	54%	Turkey	Organizational trust [V]	Job performance [I]	0.75
Shahid & Zeb (2022).	350	40	—	30%	Pakistan	Team trust [H]	Team performance [I]	0.44
Shamhi et al. (2019)	200	30-40	—	41%	Iran	Organizational Trust [V]	Job Performance [I]	0.35
Silva et al. (2023)	171	26-30	—	50%	Portugal	Organizational trust [V]	Employee performance [I]	0.78
Top et al. (2012)	804	36.64	10.04	64%	Turkey	Organizational Trust [V]	High Performance [i]	0.22
Vanhala & Dietz (2019)	411	41-50	—	18%	—	Organizational trust [V]	Unit-level performance [I]	0.53
Vásquez-Pailaqueo et al. (2021)*	201	34.61	4.223	31%	Chile	Horizontal trust [H]	Intra-role performance [I]	0.47
						Horizontal trust [H]	Extra-role performance [E]	0.42
						Vertical trust [V]	Intra-role performance [I]	0.22
						Vertical trust [V]	Extra-role performance [E]	0.24
Verburg et al. (2018)	210	35.5	8.18	41%	Singapore	Organizational trust [V]	Employee performance [I]	0.45
Wang et al. (2021)	219	35	—	57%	—	Organizational trust [V]	Job performance [I]	0.11
Webber (2008)	31	—	—	—	—	Team affective trust [H]	Team performance [I]	0.57
Xiao et al. (2010)	245	—	—	—	China	Team trust [H]	Cooperative performance [I]	0.38
You (2023)	782	22.5	—	46%	—	Team trust [H]	Team performance [I]	0.49
Zeb et al. (2022)	350	40	—	0.30%	Pakistan	Team trust [H]	Team performance [I]	0.44

Note. *N* = Sample size; M_{Age} = Mean age of the participants; SD_{Age} = Standard deviation of the mean age of the participants; Fem% = Proportion of female participants included. [V] = Vertical trust; [H] = Horizontal trust; [I] = In-role performance; [E] = Extra-role performance; [O] = Organizational performance; *r* = Correlation coefficient. *=Multiple correlation coefficients reported in the same study.

Table 2

Meta-analysis and heterogeneity tests for the correlation between trust and performance

				Random effects model										Heterogeneity tests				
Trust	Performance	*k*	*n*	*r*	r_Z	SE	*p*	CI (95%)			PI (95%)			Q	*p*	I^2	Z_{Egger}	*p*
Vertical	In-role	32	12,031	.31	.32	.04	> .001	[.24	-	.39]	[-.14	-	.66]	651.93	> .001	96.65%	2.77	.006
	Extra-role	2	370	.29	.3	.06	> .001	[.18	-	.40]	[.15	-	.42]	1.4	.239	27.80%	—	—
	Organizational	5	2,174	.32	.33	.06	> .001	[.21	-	.42]	[.07	-	.53]	21.68	> .001	82.21%	.39	.695
Horizontal	In-role	30	9,280	.42	.45	.04	> .001	[.35	-	.49]	[.02	-	.71]	.45	> .001	93.86%	.33	.74
	Extra-role	5	1,161	.46	.5	.18	.007	[.14	-	.70]	[-.36	-	.88]	193.39	> .001	97.18%	.44	.663
	Organizational	6	619	.38	.4	.09	> .001	[.22	-	.53]	[-.06	-	.70]	68.55	> .001	92.65%	-1.5	.133

Note. *k* = Number of samples included; *n* = Sample size (pooled); *r* = Correlation coefficient (pooled); Z = Z-transformed value; SE=Standard error; CI = Confidence interval; PI = Prediction interval; Q = Cochran's statistic; I^2 = Heterogeneity index; Z_{Egger} = Egger's regression statistic; — =The number of parameters to be estimated is greater than the number of observations.

Figure 2

Forest plot for the correlation between vertical (left) and horizontal (right) trust and in-role performance meta-analyses

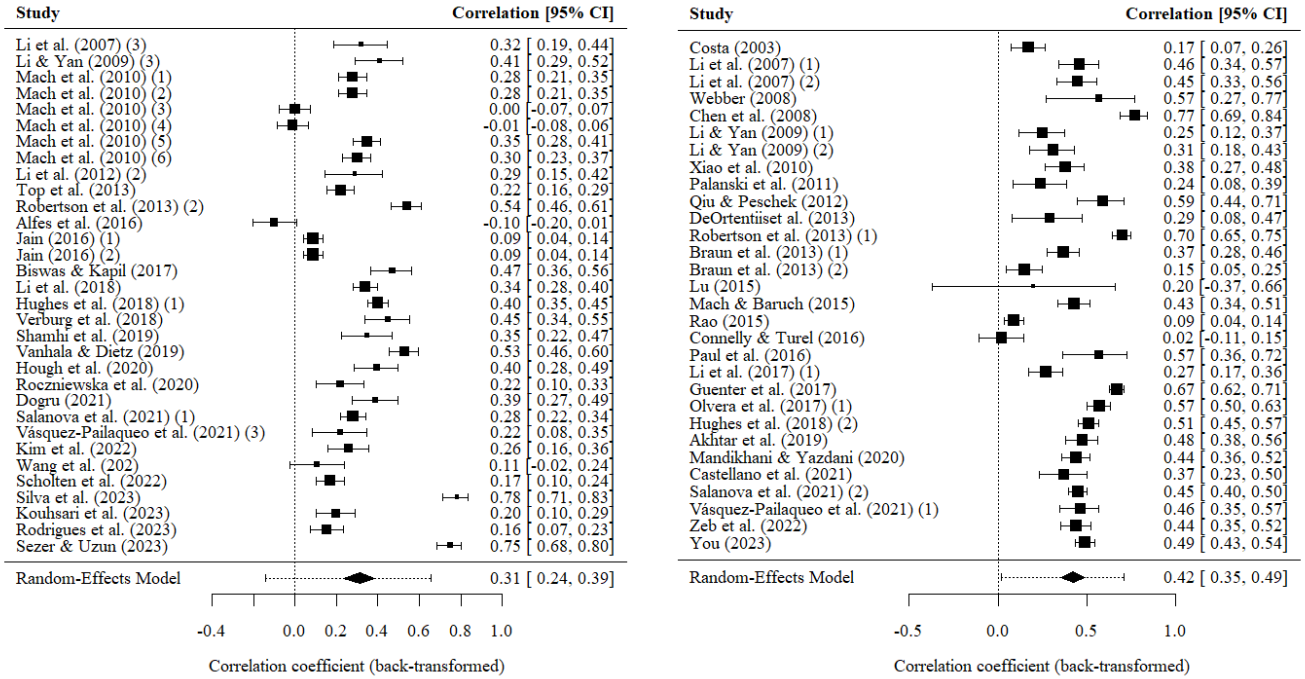


Figure 3

Forest plot for the correlation between vertical (left) and horizontal (right) trust and extra-role performance meta-analyses

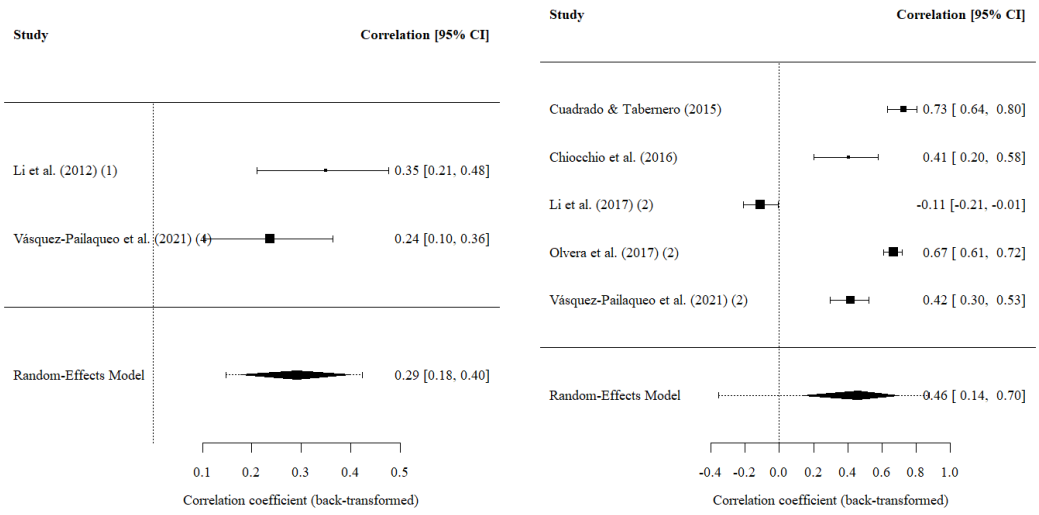
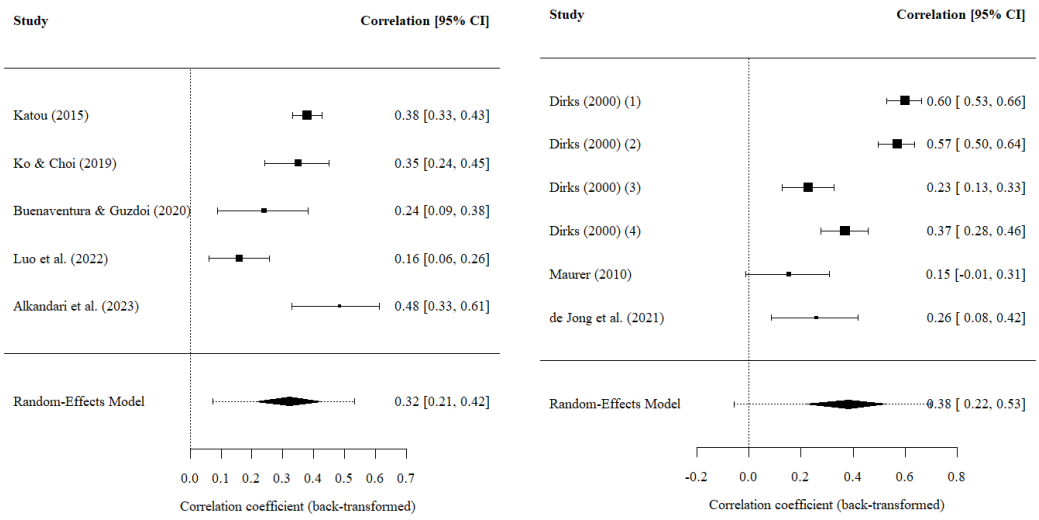


Figure 4

Forest plot for the correlation between vertical (left) and horizontal (right) trust and organizational performance meta-analyses



employees also seem to value the support from older colleagues in decision-making (Fasbender et al., 2021). These findings show the benefits of diverse work teams, where members complement each other to achieve organizational goals.

Overall, these results also align with studies identifying trust as a mediating between leadership style and employee performance (Braun et al., 2013; Podsakoff et al., 1990). significantly relate to both trust dimensions, HT shows a particularly strong association with extra-role performance. This suggests that trust among colleagues fosters prosocial behaviors that enhance team and organizational performance. These behaviors not only strengthen collaboration but also cultivate a supportive culture, potentially driving innovation and adaptive problem-solving (Olvera et al., 2017). Therefore, organizations that implement genuine well-being initiatives are more likely to achieve positive outcomes (Salanova et al., 2012).

Extra-role performance involves voluntary contributions to task execution and is closely linked to OT. While VT showed weak but significant correlations with performance, trust in leadership remains relevant to task execution. According to the HERO model, healthy organizational practices strengthen worker engagement, enhancing performance and result quality (Salanova et al., 2012). Thus, these findings reinforce the model's applicability, demonstrating that fostering trust leads to better job and organizational outcomes (Salanova et al., 2016). This also reinforces highlight OT's central role in the HERO framework, emphasizing that when employees willingly place trust in others' decisions, they are more likely to go the extra mile in achieving organizational goals. Building trust provides

Table 3

Examination of potentially influential studies in meta-analytic results

Trust	Performance	Influential samples	Outliers	k_{adj}	r_{adj}	Δ*r*	I^2_{adj}	ΔI^2
Vertical	In-role	Silva et al. (2023); Sezer & Uzun (2023)	.78; .75 (high)	30	.28	-.04	93.64%	-3.01%
	Extra-role	—	—	—	—	—	—	—
	Organizational	Luo et al. (2022)	.16 (low)	4	.37	+.04	34.25%	-47.96%
Horizontal	In-role	—	—	—	—	—	—	—
	Extra-role	Li et al. (2017) (2)	-.11 (low)	4	.58	+.12	90.5%	-6.68%
	Organizational	—	—	—	—	—	—	—

Note. *k* = Number of samples included; *r* = Correlation coefficient (pooled); I^2 = Heterogeneity index; adj = Adjusted values after exclusion of influential studies; Δ = Difference with previous results before the exclusion of influential studies; — = Does not apply.

Table 4

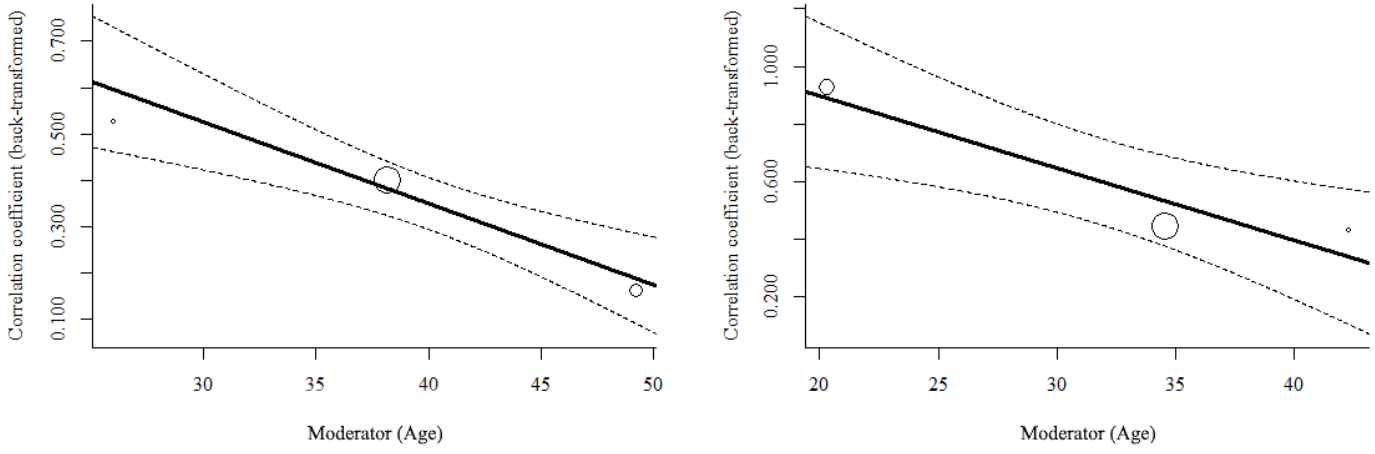
Examination of potentially influential studies in meta-analytic results

		ANOVA					Mixed effects model		
Trust	Performance	*k*	QM	R^2	*p*	I^2	Mod	Estimate	SE
Vertical	In-role	28	.02	< .001	.891	97.15%	M_{Age}	< .001	.01
		25	1.62	.29	.203	96.57%	Fem%	-.36	.29
	Extra-role	—	—	—	—	—	M_{Age}	—	—
		—	—	—	—	—	Fem%	—	—
	Organizational	3	15.65	.98	< .001	15.99%	M_{Age}	-.02	< .001
		—	—	—	—	—	Fem%	—	—
Horizontal	In-role	24	.18	< .001	.671	94.84%	M_{Age}	.00	.01
		26	1.26	.01	.262	94.21%	Fem%	.37	.33
	Extra-role	3	8.13	.87	.004	54.70%	M_{Age}	-.03	.01
		4	.15	< .001	.696	92.33%	Fem%	.38	.98
	Organizational	—	—	—	—	—	M_{Age}	—	—
		5	.78	< .001	.377	93.99%	Fem%	-.54	.61

Note. *k*=Number of samples included; ANOVA=Analysis of variance (omnibus test); QM=Moderator test statistic; R^2=Coefficient of determination; I^2=Heterogeneity index; SE=Standard error; M_{age}=Participants' mean age; Fem%=Proportion of female participants; —=The number of parameters to be estimated is greater than the number of observations.

Figure 5

Bubble plots for meta-regression analyses testing the moderating role of age in the relationship between vertical trust and organizational performance (left), and horizontal trust and extra-role performance (right)



a competitive advantage in uncertain organizational environments. To foster VT, organizations must implement sustained, systematic practices such as work-life balance initiatives, mobbing prevention, mental health programs, and effective communication (Acosta et al., 2012). When employees perceive genuine organizational commitment to their well-being, trust strengthens.

Limitations and future research

While previous meta-analyses have examined trust's impact on performance, they have focused solely on cognitive and affective trust within McAllister's model (1995). This study addressed the broader influence of VT and HT on in-role, extra-role, and organizational performance using the HERO model. Future studies should aim to continue exploring potential predictors of trust in organizational settings (e.g., leadership, resources, practices), and their mediating role, as suggested by the HERO framework. Likewise, it is necessary to investigate the OT's impact on other organizational outcomes such as organizational commitment or customer loyalty. Given the moderating role of age found in this study, examining age ranges and years of service could provide valuable insights for team formation and organizational dynamics.

Conclusion

In summary, this study highlights the critical role of VT and HT in job performance, emphasizing the relevance of building trust at multiple levels. VT contributes to reducing discomfort in the face of uncertain work scenarios, while HT fosters collaboration. To sustain trust, organizations should prioritize recognition, participatory decision-making, transparent communication, and professional growth opportunities. The coexistence of VT and HT enhances teamwork, idea-sharing, and resilience, making it critical for the success of an organization. Future studies should continue to explore the multifaceted nature of trust and its impact on organizational outcomes, considering the wide range of factors that influence these associations in order to provide a better understanding of how to build healthy and resilient organizations that thrive in an increasingly complex and dynamic world.

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Original draft: L.E.E., S.R.-L., C.V.-H., F.P.S., H.A.-A.
Review and edition: S.R.-L., C.V.-H., H.A.-A.
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Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Declaration of interests

The authors declare that there is no conflict of interest.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author.

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Note: asterisks indicate studies included in the meta-analysis.

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Appendix

Table A

Advanced search

Database	Advanced search	Records obtained*
Web of Science	TS=(((“team trust”) OR (“organizational trust”) OR (“vertical trust”) OR (“horizontal trust”)) AND (((“team”) OR (“job”)) AND (“performance”)))	256
Scopus	TITLE-ABS-KEY(((“team trust”) OR (“organizational trust”) OR (“vertical trust”) OR (“horizontal trust”)) AND (((“team”) OR (“job”)) AND (“performance”)))	210
ProQuest	title(((“team trust”) OR (“organizational trust”) OR (“vertical trust”) OR (“horizontal trust”)) AND (((“team”) OR (“job”)) AND (“performance”))) OR abstract(((“team trust”) OR (“organizational trust”) OR (“vertical trust”) OR (“horizontal trust”)) AND (((“team”) OR (“job”)) AND (“performance”)))	59

Note. *Search performed on May 1st, 2024

Figure A

Influence diagnostics (left) and funnel plot (right) for vertical trust and in-role performance meta-analysis

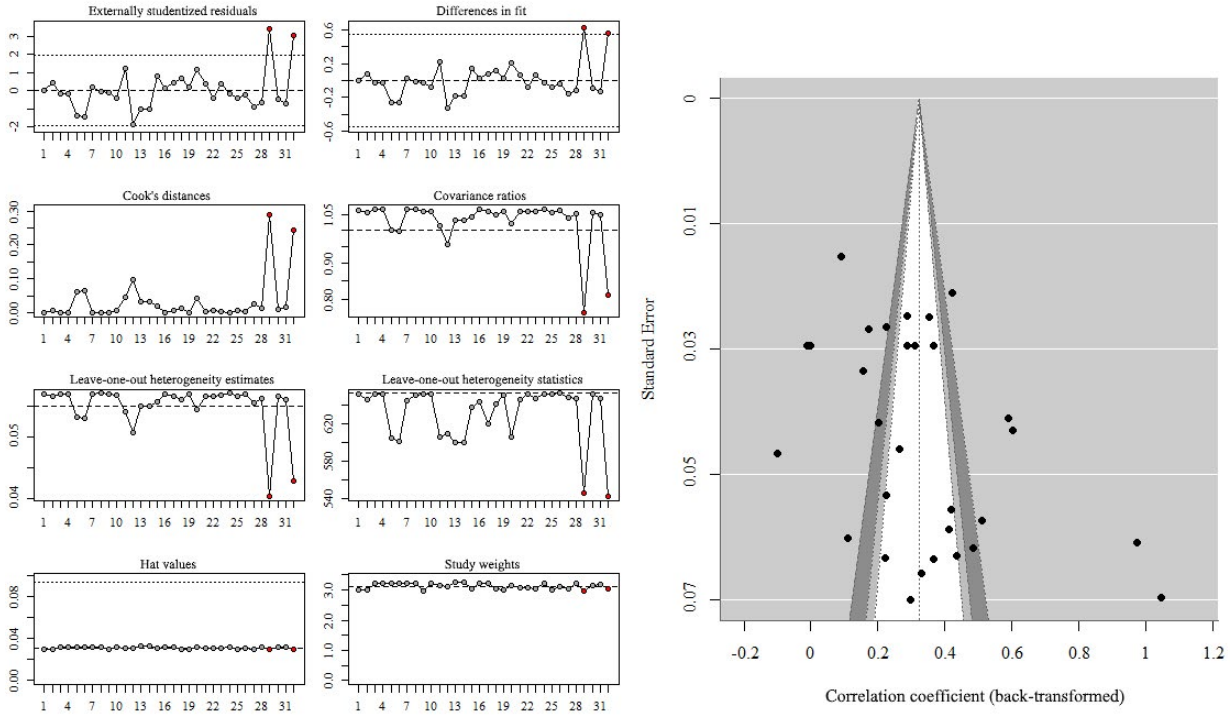

Figure B

Influence diagnostics (left) and funnel plot (right) for vertical trust and extra-role performance meta-analysis

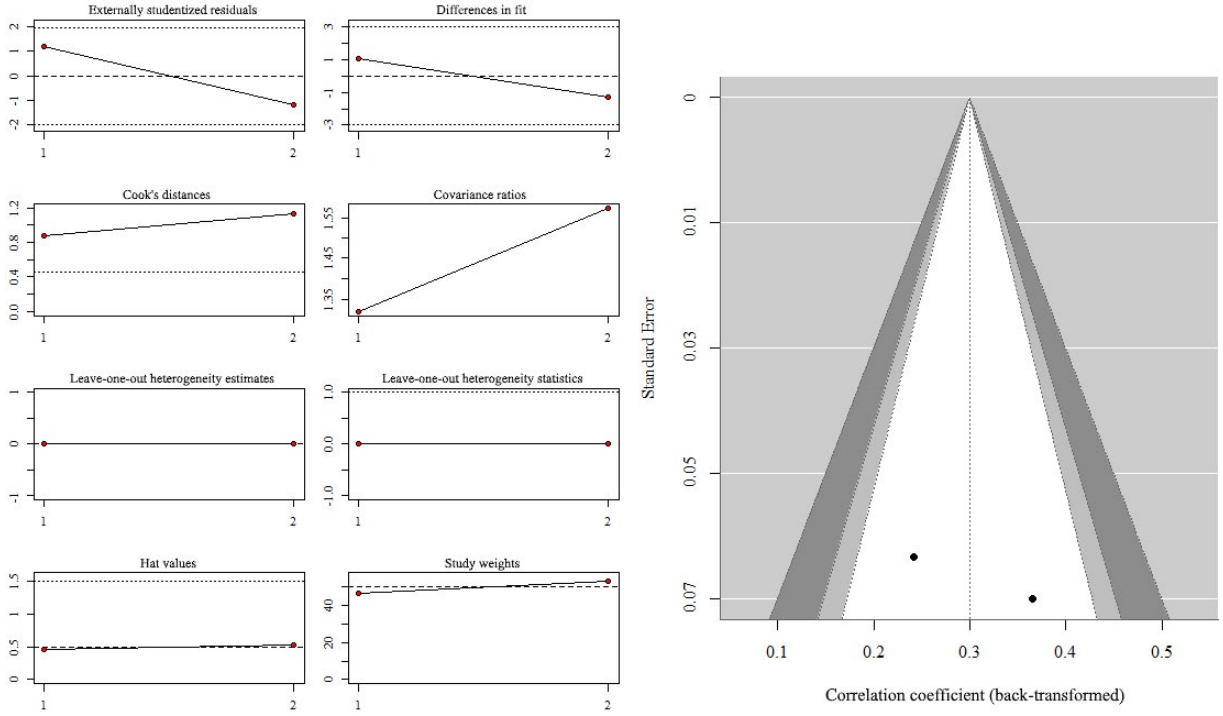

Figure C

Influence diagnostics (left) and funnel plot (right) for vertical trust and extra-role performance meta-analysis

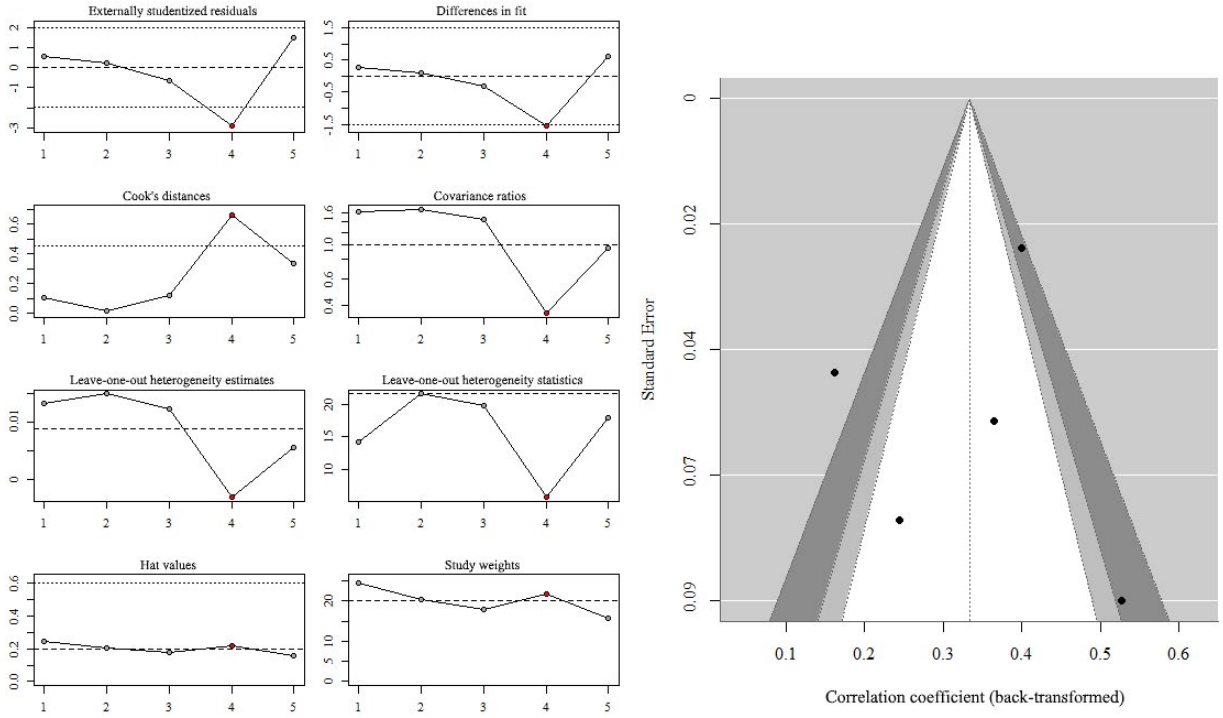

Figure D

Influence diagnostics (left) and funnel plot (right) for horizontal trust and in-role performance meta-analysis

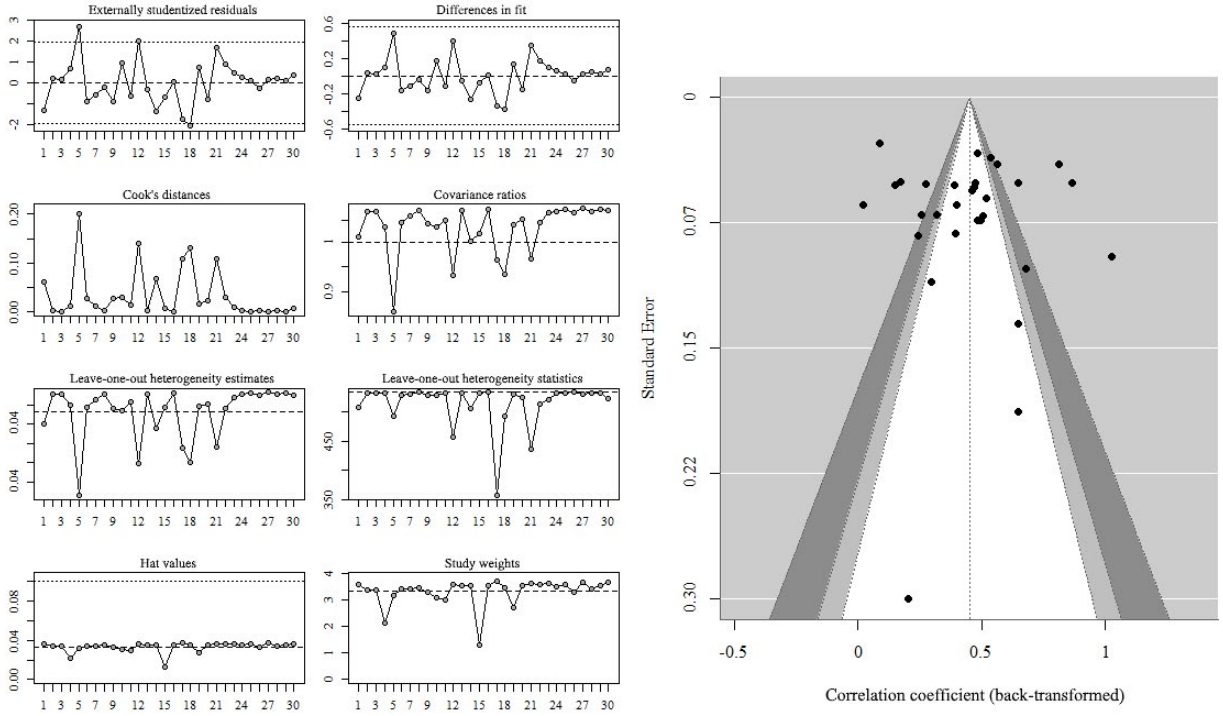

Figure E

Influence diagnostics (left) and funnel plot (right) for horizontal trust and extra-role performance meta-analysis

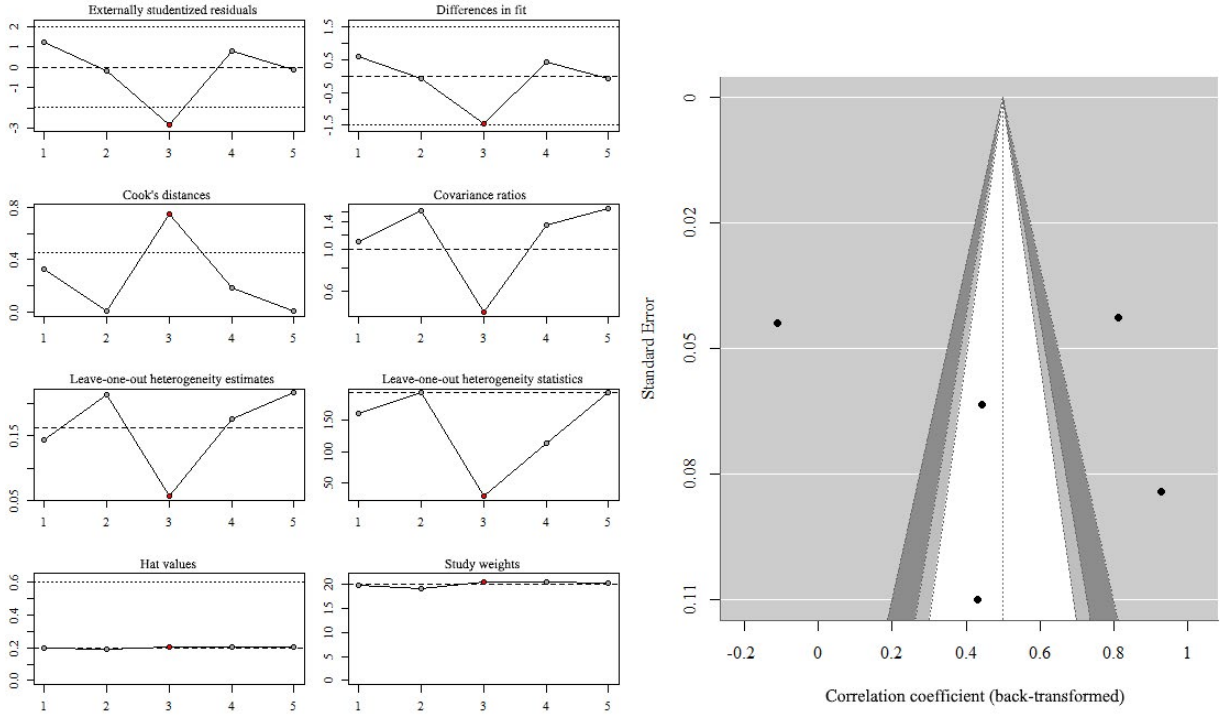

Figure F

Influence diagnostics (left) and funnel plot (right) for horizontal trust and organizational performance meta-analysis