Trusted Data and Technology Institute
TECHNOLOGY WORTHY OF TRUST

RESEARCH PAPER OS-2026-09-04 · ORGANIZATIONAL SYSTEMS & FUTURE OF WORK

Support-Integrated Telework in Public Agencies

A quantitative analysis of the 2023 Federal Employee Viewpoint Survey and development of the Support-Integrated Telework Model (SITM)

INDEPENDENT RESEARCH PAPER · FORMAL RESEARCH EDITION

Research lead
Joseph Atalla, PhD

Published
September 2026

Evidence base
2023 FEVS

ABSTRACT

Telework policy debates in public organizations are often framed around the number of days employees work away from the office. This study argues that such a schedule-centered framing is incomplete and develops the Support-Integrated Telework Model (SITM), which conceptualizes telework intensity as a work-design condition embedded within a broader organizational-support context. The paper presents the primary survey-weighted regression models from a 2026 doctoral study using the 2023 Federal Employee Viewpoint Survey. The analytic sample included 425,815 U.S. federal employees with complete data on telework intensity, a five-item organizational-support composite, and four employee outcomes. Probability-weighted linear regressions using POSTWT weights and agency-clustered robust standard errors (HC3) estimated associations with employee engagement, job satisfaction, perceived performance confidence, and perceived innovation. Perceived organizational support was the largest and most consistent correlate across all four outcomes (standardized beta = .605 to .793). Telework intensity showed substantially smaller, outcome-specific associations; neither infrequent nor frequent telework was statistically significant for employee engagement after organizational support was included, whereas small positive associations were observed for job satisfaction, performance confidence, and perceived innovation. The results support a shift from treating telework as a stand-alone schedule variable toward examining the support architecture surrounding work arrangements. Because the data are cross-sectional and same-source, the findings are associational and do not establish causality or empirically test SITM's proposed moderation mechanism. Longitudinal, multilevel, and multi-source studies are required for stronger causal and conditional tests of the model.

425,815	4	.605–.793	2023
complete federal employee records in the analytic sample	employee outcomes modeled	standardized organizational-support coefficients across outcomes	Federal Employee Viewpoint Survey evidence base

About TDTI. Trusted Data and Technology Institute conducts independent research on organizational systems and the future of work.
Primary finding. Organizational support showed larger and more consistent associations than telework intensity; the cross-sectional models do not establish causality or test SITM moderation.

Research context

RESEARCH PROVENANCE

This formal research edition is adapted from doctoral research completed at the University of the Cumberlands in 2026. The statistical outcomes, sample size, operational definitions, and inferential conclusions reported here are preserved from the dissertation; the text and organization have been revised for a concise scholarly presentation.

Keywords: telework; organizational support; public personnel administration; federal employees; work design; hybrid work

AUTHOR NOTE

This paper is a TDTI research-series adaptation of Atalla (2026). No new respondents or new outcome estimates are introduced. Statistical estimates and inferential conclusions are reproduced from the dissertation while the manuscript has been condensed, clarified, and reorganized into a formal research-paper structure.

Recommended citation

Atalla, J. (2026). Support-integrated telework in public agencies. TDTI Research Series, OS-2026-01. Trusted Data and Technology Institute.

1. Introduction

Telework has moved from a peripheral workplace arrangement to a durable public-management issue. Federal agencies must balance continuity of operations, workforce flexibility, accountability, collaboration, security, and service delivery while responding to changing expectations about where work can be performed. Yet policy discussions frequently collapse these questions into a single metric: the number of days employees should be physically present. That metric is administratively visible, but it does not capture the organizational conditions under which employees perform their work.

Research on telework has consistently shown that remote and hybrid arrangements can generate both benefits and costs. Flexibility and reduced commuting may support satisfaction and autonomy, while weaker informal interaction, coordination challenges, isolation, and technology strain can offset those benefits (Allen et al., 2015; Gajendran et al., 2024; Wang et al., 2021). In public organizations, these tradeoffs are further shaped by formal rules, leadership commitment, resource availability, mission requirements, and managerial practices (Choi, 2018; Kwon & Jeon, 2020; Mele et al., 2023). This suggests that telework intensity should not be interpreted independently of the environment in which it occurs.

This paper develops the Support-Integrated Telework Model (SITM) as a framework for interpreting telework within that broader environment. SITM treats telework intensity as a work-design condition and organizational support as the resource, relational, and communication context surrounding that condition. The model's central comparative expectation is that organizational support will show larger and more stable associations with employee outcomes than telework frequency alone. A second, explicitly theoretical proposition is that support may condition the consequences of telework; that moderation proposition is not tested by the primary main-effects models reported here.

The empirical component focuses on four employee outcomes that are central to public personnel administration: employee engagement, job satisfaction, perceived performance confidence, and perceived innovation. The study uses the 2023 Federal Employee Viewpoint Survey (FEVS), a government-wide source of federal workforce data that has been widely used in public-administration research (Resh et al., 2021). The purpose is not to estimate a causal effect of telework. Rather, the analysis compares the strength and consistency of telework-intensity associations with those of a study-specific organizational-support composite across four outcomes.

Research Questions

RQ1. To what extent are telework intensity and perceived organizational support associated with employee engagement among U.S. federal employees?

RQ2. To what extent are telework intensity and perceived organizational support associated with job satisfaction among U.S. federal employees?

RQ3. To what extent are telework intensity and perceived organizational support associated with perceived performance confidence among U.S. federal employees?

RQ4. To what extent are telework intensity and perceived organizational support associated with perceived innovation among U.S. federal employees?

2. Theoretical Framework

Work design

Work design theory emphasizes that work outcomes depend on how tasks, autonomy, feedback, knowledge demands, social interaction, and other job characteristics are structured (Morgeson & Humphrey, 2006; Parker et al., 2017). Telework changes several of these characteristics at once. It can increase discretion over work location and pacing, yet it may reduce spontaneous feedback and increase dependence on mediated communication. Accordingly, identical telework schedules may be experienced differently across jobs and organizational settings.

Conservation of resources

Conservation of resources theory proposes that individuals seek to acquire, protect, and retain valued resources such as time, energy, information, social support, and access to tools (Hobfoll, 1989). Telework can produce resource gains through reduced commuting and greater flexibility, but it can also generate resource losses through isolation, blurred boundaries, delayed information, or technology-related friction. Organizational support is therefore relevant because it reflects whether employees perceive that the resources needed to perform effectively are available.

Social exchange

Social exchange theory adds a relational mechanism. Supportive managerial behavior, useful communication, and visible investment in employee needs can signal that the organization values employee contributions and well-being, encouraging positive reciprocal attitudes (Blau, 1964). In telework settings, where direct supervision and informal contact may be less visible, these signals may become particularly salient. Public-sector evidence likewise points to the importance of managerial and institutional support in shaping telework-related attitudes and retention (Choi, 2018, 2020; Ki & Lee, 2025).

The Support-Integrated Telework Model

SITM integrates these perspectives by distinguishing the structural condition of telework from the support context surrounding it. The model does not assume that remote work is inherently beneficial or harmful. Instead, it proposes that telework changes the structure through which employees receive autonomy, feedback, resources, and social connection, while organizational support reflects the quality of the surrounding resource and exchange environment. The primary empirical test in this paper evaluates a comparative proposition: support should exhibit larger and more consistent associations than telework intensity across outcomes. The stronger conditional proposition—that support moderates the relationship between telework and outcomes—remains conceptual and requires a dedicated interaction, longitudinal, or quasi-experimental design.

Table 1. Core propositions of the Support-Integrated Telework Model

Proposition	Interpretation
Telework is structural, not sufficient.	Telework changes autonomy, feedback, coordination, and work location; its coefficients should be modest and outcome-specific.
Support is the central comparative condition.	Support supplies resources and relational signals and should show larger, more stable associations than telework intensity.
Engagement is support-sensitive.	Intrinsic engagement depends on meaning, feedback, and accomplishment; telework frequency may contribute little once support is modeled.
Conditional effects remain to be tested.	SITM theorizes that support may condition telework outcomes, but the main-effects analyses reported here do not establish moderation.

3. Method

Research design and ethics

This study is a quantitative, cross-sectional secondary analysis of the 2023 Federal Employee Viewpoint Survey (FEVS). The dissertation used a publicly available, fully de-identified archival dataset and reported only aggregate results. The doctoral study qualified for Category 4 exemption from human-subjects review, and the U.S. Office of Personnel Management confirmed that its publicly posted FEVS data are intended for public use without additional site permission (Atalla, 2026). No new respondents were recruited and no new outcome data were collected for this TDTI research-series edition.

Data source and analytic sample

The study used the public-use 2023 FEVS released by the U.S. Office of Personnel Management (OPM, 2023). The original file contained 625,568 respondents. Cases were retained when valid data were available for telework frequency and every item used to construct organizational support and the four outcome composites. Listwise deletion produced an analytic sample of 425,815 complete cases; 199,753 records were excluded because at least one required analysis variable was missing (Atalla, 2026). The public-use frame represented 94 agencies through 31 de-identified agency codes, which served as the clustering units in the primary regression models. Complete-case analysis preserves a consistent analytic sample but can introduce selection bias when missingness is related to predictors or outcomes; this limitation is addressed below.

Measures

Telework intensity was based on FEVS item Q91 and recoded into three categories: never telework (reference), infrequent telework (one to two days per week), and frequent telework (three or more days per week). The latter categories approximate hybrid-like and higher-intensity remote arrangements, respectively. Perceived organizational support was operationalized as a study-specific mean composite of five FEVS items covering training adequacy (Q10), resource sufficiency (Q19), supervisory support for work-life needs (Q49), senior-leader support for work-life programs (Q63), and satisfaction with management communication (Q68). This composite should be interpreted as a broad support index developed for the study rather than as a direct administration of a standalone perceived-organizational-support scale.

Employee engagement was measured using the Intrinsic Work Experience (IWE) items Q2, Q3, Q4, Q6, and Q7, which emphasize meaning, enjoyment, and accomplishment and avoid direct overlap with leadership or supervisory support. Job satisfaction used Q46, Q70, Q71, and Q72. Perceived performance confidence used Q20-Q23, and perceived innovation used Q27, Q29, Q30, and Q64. Internal consistency was acceptable to strong across the study composites (alpha = .83 to .92). The FEVS has been extensively used in public-administration research, and prior work has examined its measurement validity and analytic use (Cucina et al., 2018; Resh et al., 2021).

Table 2. Measures and internal consistency

Construct	FEVS items	alpha
Organizational support	Q10, Q19, Q49, Q63, Q68	.83
Employee engagement (IWE)	Q2, Q3, Q4, Q6, Q7	.89
Job satisfaction	Q46, Q70, Q71, Q72	.87
Performance confidence	Q20, Q21, Q22, Q23	.92
Perceived innovation	Q27, Q29, Q30, Q64	.87

Analytic strategy

Each outcome was modeled separately using survey-weighted linear regression (probability-weighted WLS) with POSTWT survey weights and agency-clustered robust standard errors (HC3). Survey weights address unequal selection probabilities and differential nonresponse, while clustering addresses dependence among respondents represented within the same de-identified agency code. This approach is consistent with complex-survey analysis principles (West et al., 2025). Telework intensity entered each model through two dummy variables, with never teleworking as the reference group, and the organizational-support composite entered as a continuous predictor.

The primary models intentionally did not include demographic covariates. The research questions concerned population-level associations among telework intensity, support, and the four outcomes rather than subgroup-adjusted effects. This specification improves interpretive clarity but leaves open the possibility of residual confounding by occupation, job type, supervisory status, tenure, agency mission, and other characteristics. Overall model significance was evaluated with design-adjusted F tests, while predictor-level inference used design-based Wald t tests with alpha = .05. Unstandardized coefficients (B), standard errors, standardized coefficients (beta), and p values are reported. Robustness checks in the dissertation compared unweighted, clustered, weighted, and trimmed-weight specifications and did not alter the substantive ordering of the primary associations (Atalla, 2026). The original analyses were implemented in Python 3.12 using standard scientific-computing and statistical libraries, including pandas, NumPy, and statsmodels, to support transparent and reproducible data handling (Atalla, 2026).

Common-source and design risk

All predictors and outcomes were drawn from the same cross-sectional self-report survey. Consequently, the analysis is vulnerable to common-method variance, perceptual consistency, reverse directionality, and same-source inflation (Podsakoff et al., 2003; Podsakoff et al., 2024). The study reduces direct construct overlap by using conceptually distinct composites and by measuring engagement with the IWE items rather than broader leadership-inclusive engagement indices. Survey weights and clustered robust standard errors improve design-consistent inference but do not solve same-source or causal-identification problems. The results are therefore interpreted as associations, not causal effects.

4. Results

All four survey-weighted regression models were statistically significant at $p < .001$. Across outcomes, the most consistent pattern was the magnitude of the organizational-support coefficient relative to the telework coefficients. Standardized support coefficients ranged from .605 for perceived performance confidence to .793 for job satisfaction. Telework-intensity coefficients were substantially smaller and varied by outcome. Table 3 reports model fit, and Table 4 reports the primary coefficient estimates reproduced from the dissertation.

Table 3. Survey-weighted model fit

Outcome	F(3, 30)	p	R^2	Adjusted R^2	RMSE
Employee engagement	13,366.16	< .001	.611	.611	0.547
Job satisfaction	6,562.97	< .001	.649	.649	0.577
Performance confidence	1,666.45	< .001	.388	.388	0.576
Perceived innovation	7,642.48	< .001	.641	.641	0.558

Table 4. Primary survey-weighted regression coefficients

Outcome	Predictor	B	SE	beta	t	p
Employee engagement	Intercept	0.737	0.040	-	18.630	< .001
	Infrequent telework	0.019	0.018	0.010	1.040	.298
	Frequent telework	-0.020	0.016	-0.012	-1.217	.224
	Organizational support	0.832	0.006	0.780	142.432	< .001
Job satisfaction	Intercept	0.026	0.036	-	0.716	.474
	Infrequent telework	0.044	0.019	0.022	2.370	.018
	Frequent telework	0.069	0.015	0.036	4.485	< .001
	Organizational support	0.941	0.007	0.793	133.938	< .001
Performance confidence	Intercept	2.121	0.054	-	39.594	< .001
	Infrequent telework	0.065	0.029	0.042	2.243	.025
	Frequent telework	0.122	0.027	0.086	4.448	< .001
	Organizational support	0.537	0.009	0.605	61.373	< .001
Perceived innovation	Intercept	0.186	0.050	-	3.744	< .001
	Infrequent telework	0.110	0.031	0.056	3.595	< .001
	Frequent telework	0.115	0.033	0.063	3.444	< .001
	Organizational support	0.886	0.006	0.779	137.056	< .001

Note. POSTWT survey weights; agency-clustered robust standard errors (HC3); N = 425,815. Never telework is the reference category. beta denotes standardized coefficient. Values are reproduced from Atalla (2026).

Outcome-specific findings

Employee engagement. The engagement model explained 61.1% of weighted variance, F(3, 30) = 13,366.16, p < .001. Neither infrequent telework (B = 0.019, SE = 0.018, beta = .010, p = .298) nor frequent telework (B = -0.020, SE = 0.016, beta = -.012, p = .224) was statistically significant after organizational support was included. Organizational support showed a large positive association with engagement (B = 0.832, SE = 0.006, beta = .780, p < .001).

Job satisfaction. The job-satisfaction model explained 64.9% of weighted variance, F(3, 30) = 6,562.97, p < .001. Infrequent telework (B = 0.044, SE = 0.019, beta = .022, p = .018) and frequent telework (B = 0.069, SE = 0.015, beta = .036, p < .001) were both positively associated with job satisfaction, but the standardized associations were small. Organizational support was substantially larger (B = 0.941, SE = 0.007, beta = .793, p < .001).

Perceived performance confidence. The model explained 38.8% of weighted variance, $F(3, 30) = 1{,}666.45$, $p < .001$. Infrequent telework ($B = 0.065$, $SE = 0.029$, beta = .042, $p = .025$) and frequent telework ($B = 0.122$, $SE = 0.027$, beta = .086, $p < .001$) were positively associated with performance confidence. These were the largest telework coefficients observed among the four outcomes, yet organizational support remained the larger standardized correlate ($B = 0.537$, $SE = 0.009$, beta = .605, $p < .001$).

Perceived innovation. The innovation model explained 64.1% of weighted variance, $F(3, 30) = 7{,}642.48$, $p < .001$. Both infrequent telework ($B = 0.110$, $SE = 0.031$, beta = .056, $p < .001$) and frequent telework ($B = 0.115$, $SE = 0.033$, beta = .063, $p < .001$) were positively associated with perceived innovation. Organizational support again showed a much larger standardized association ($B = 0.886$, $SE = 0.006$, beta = .779, $p < .001$).

5. Discussion

The results provide a clear comparative pattern. Organizational support was strongly and consistently associated with all four employee outcomes, whereas telework intensity showed smaller and more outcome-specific relationships. This distinction matters in a large sample, where very small coefficients can achieve statistical significance. The substantive result is therefore not simply that support reached $p < .001$; it is that standardized support coefficients were several times larger than the corresponding telework coefficients across theoretically different outcomes.

For employee engagement, neither telework category remained significant after support was included. This is consistent with SITM's argument that intrinsic engagement is less a function of work location than of meaning, feedback, accomplishment, resources, and relational conditions. For job satisfaction, performance confidence, and perceived innovation, telework retained small positive associations. These findings are compatible with prior evidence that flexibility can be beneficial under some conditions, while also reinforcing the broader literature showing that remote-work outcomes depend heavily on job context and support (Allen et al., 2015; Gajendran et al., 2024; Golden & Gajendran, 2019).

The findings should not be read as evidence that support causes these outcomes or that organizational support statistically moderates telework. The primary models are cross-sectional main-effects models. SITM uses the empirical contrast between relatively small telework coefficients and large, stable support coefficients as a theory-building foundation. A direct test of the model's conditional mechanism would require formally specified interactions and, preferably, longitudinal or multilevel data capable of establishing temporal order and separating individual perception from organizational context.

Theoretical contribution

SITM contributes by integrating three theoretical traditions that are often considered separately in telework research. Work design theory explains how telework restructures autonomy, feedback, coordination, and social interaction. Conservation of resources theory explains why access to information, tools, time, and support may buffer or intensify the demands created by that restructuring. Social exchange theory explains why managerial responsiveness and organizational investment may shape how employees interpret flexible work arrangements. The model therefore shifts the analytic unit from telework frequency alone to the broader work system in which telework is embedded.

Implications for public management

For public managers, the results support a cautious management implication: schedule policy should not be treated as a substitute for organizational capability. Agencies considering telework expansion, restriction, or redesign should evaluate whether employees have clear expectations, adequate training, reliable technology, timely management communication, responsive supervision, and visible senior-leader support. These conditions are relevant not only to teleworkers; they represent basic components of a functional work environment across remote, hybrid, and on-site settings.

The outcome-specific pattern also suggests different management levers. Engagement is closely tied to meaning, accomplishment, feedback, and connection to mission. Performance confidence is more likely to depend on tools, coordination, and clarity of outputs. Innovation requires mechanisms for idea sharing, psychological safety, and implementation support. Telework policy can interact with each of these conditions, but the present evidence does not justify a universal number of remote days or a causal claim that changing location alone will improve outcomes.

6. Limitations and Future Research

Several limitations materially constrain interpretation. First, the 2023 FEVS is cross-sectional. Temporal ordering cannot be established, and employees with more favorable attitudes may also perceive greater organizational support. Cross-sectional regression can quantify association but cannot identify causal direction (Maier et al., 2023). Second, the study relies on same-source self-report measures. Common-method variance, perceptual consistency, and halo effects may inflate observed relationships, particularly between broad attitudinal constructs (Podsakoff et al., 2003; Podsakoff et al., 2024).

Third, listwise deletion excluded 199,753 of the 625,568 original responses. Although the resulting sample remained very large, complete-case selection may reduce representativeness if missingness is systematic. Fourth, the primary models did not adjust for demographic, occupational, supervisory, or agency-policy covariates. Residual confounding by job type, role, mission, tenure, or telework eligibility therefore remains possible. Fifth, the public-use file aggregates agencies into de-identified codes, limiting direct examination of specific organizational policies and missions. Finally, perceived performance confidence and perceived innovation are attitudinal measures rather than objective productivity or realized innovation outcomes.

Future research should test SITM using longitudinal FEVS data or repeated cross-sections linked to policy changes, multi-source designs that combine employee surveys with administrative or supervisory indicators, and multilevel models that distinguish individual support perceptions from agency-level support climates. Dedicated interaction analyses should test whether the relationship between telework intensity and outcomes changes across levels of support. Qualitative research can complement these approaches by identifying the concrete practices through which employees recognize support in distributed work settings.

7. Conclusion

Telework is an important public-personnel issue, but the present evidence indicates that frequency alone is not the strongest statistical correlate of employee experience. In the 2023 FEVS sample analyzed here, a study-specific organizational-support composite was strongly and consistently associated with engagement, job satisfaction, perceived performance confidence, and perceived innovation. Telework intensity showed smaller positive associations with three outcomes and no significant association with engagement once support was included. SITM interprets this pattern by treating telework as a work-design condition embedded within a wider support system. The empirical results support the model's comparative premise, while its proposed conditional mechanism remains a hypothesis for stronger future designs. For public organizations, the central research agenda is therefore not only where employees work, but how work is supported, coordinated, resourced, and connected to mission across locations.

References

Allen, T. D., Golden, T. D., & Shockley, K. M. (2015). How effective is telecommuting? Assessing the status of our scientific findings. Psychological Science in the Public Interest, 16(2), 40-68. https://doi.org/10.1177/1529100615593273

Atalla, J. (2026). Examining the relationship between telework intensity, perceived organizational support, employee engagement, job satisfaction, perceived performance confidence, and perceived innovation among U.S. federal employees: A quantitative study [Doctoral dissertation, University of the Cumberlands].

Blau, P. M. (1964). Exchange and power in social life. John Wiley.

Choi, S. (2018). Managing flexible work arrangements in government: Testing the effects of institutional and managerial support. Public Personnel Management, 47(1), 26-50. https://doi.org/10.1177/0091026017738540

Choi, S. (2020). Flexible work arrangements and employee retention: A longitudinal analysis of the federal workforces. Public Personnel Management, 49(3), 470-495. https://doi.org/10.1177/0091026019886340

Cucina, J. M., Walmsley, P. T., Gast, I., Martin, N. R., & Furry, C. S. (2018). Validity evidence for the Federal Employee Viewpoint Survey. Public Personnel Management, 47(2), 139-170.

Gajendran, R. S., Ponnapalli, A. R., Wang, C., & Javalagi, A. A. (2024). A dual pathway model of remote work intensity: A meta-analysis of its simultaneous positive and negative effects. Personnel Psychology, 77(4), 1351-1386. https://doi.org/10.1111/peps.12641

Golden, T. D., & Gajendran, R. S. (2019). Unpacking the role of a telecommuter's job in their performance: Examining job complexity, problem solving, interdependence, and social support. Journal of Business and Psychology, 34(1), 55-69. https://doi.org/10.1007/s10869-018-9530-4

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. American Psychologist, 44(3), 513-524. https://doi.org/10.1037/0003-066X.44.3.513

Hunter, L. Y., Ginn, M., Meares, W. L., & Hatcher, W. (2024). Telework and work flexibility in the United States federal government post-pandemic. Public Administration Quarterly, 48(3), 149-161. https://doi.org/10.1177/07349149241231096

Ki, N., & Lee, D. (2025). Benefit and hidden cost of organizational support for telework amid the COVID-19 pandemic on public employees' job satisfaction and retention intention. Public Administration Review, 85(1), 207-223. https://doi.org/10.1111/puar.13797

Kwon, M., & Jeon, S. H. (2020). Do leadership commitment and performance-oriented culture matter for federal teleworker satisfaction with telework programs? Review of Public Personnel Administration, 40(1), 36-55. https://doi.org/10.1177/0734371X18776049

Lewis, G. B., Pizarro-Bore, X., & Emidy, M. B. (2024). The impact of telework on the satisfaction of U.S. federal workers. Public Management Review, 26(10), 2802-2818. https://doi.org/10.1080/14719037.2023.2200386

Maier, C., Thatcher, J. B., Grover, V., & Dwivedi, Y. K. (2023). Cross-sectional research: A critical perspective, use cases, and recommendations for IS research. International Journal of Information Management, 70, 102625. https://doi.org/10.1016/j.ijinfomgt.2023.102625

Mele, V., Belardinelli, P., & Bellé, N. (2023). Telework in public organizations: A systematic review and research agenda. Public Administration Review, 83(6), 1649-1666. https://doi.org/10.1111/puar.13734

Morgeson, F. P., & Humphrey, S. E. (2006). The Work Design Questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work. Journal of Applied Psychology, 91(6), 1321-1339. https://doi.org/10.1037/0021-9010.91.6.1321

Parker, S. K., Morgeson, F. P., & Johns, G. (2017). One hundred years of work design research: Looking back and looking forward. Journal of Applied Psychology, 102(3), 403-420. https://doi.org/10.1037/apl0000106

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. Journal of Applied Psychology, 88(5), 879-903. https://doi.org/10.1037/0021-9010.88.5.879

Podsakoff, P. M., Podsakoff, N. P., Williams, L. J., Huang, C., & Yang, J. (2024). Common method bias: It's bad, it's complex, it's widespread, and it's not easy to fix. Annual Review of Organizational Psychology and Organizational Behavior, 11, 17-61. https://doi.org/10.1146/annurev-orgpsych-110721-040030

Resh, W., Moldogaziev, T., Fernandez, S., & Leslie, C. A. (2021). Reversing the lens: Assessing the use of Federal Employee Viewpoint Survey in public administration research. Review of Public Personnel Administration, 41(1), 132-162. https://doi.org/10.1177/0734371X19865012

U.S. Office of Personnel Management. (2023). 2023 Federal Employee Viewpoint Survey (FEVS) public-use data [Data set]. https://www.opm.gov/fevs/

Wang, B., Liu, Y., Qian, J., & Parker, S. K. (2021). Achieving effective remote working during the COVID-19 pandemic: A work design perspective. Applied Psychology, 70(1), 16-59. https://doi.org/10.1111/apps.12290

West, B. T., Heeringa, S. G., & Berglund, P. A. (2025). Applied survey data analysis (3rd ed.). Chapman & Hall/CRC.