

Assessing the relationship between leadership styles and work engagement in remote working environments

Evidence-based
HRM: a Global
Forum for
Empirical
Scholarship

Patryk Makowski

*Department of Work and Employment Studies, University of Limerick,
Limerick, Ireland, and*

Jason Timothy Palframan and Teresa O'Hara

*Department of Business and Management Studies,
Technological University of the Shannon Midlands Midwest–Athlone Campus,
Athlone, Ireland*

Received 25 February 2026
Revised 1 May 2026
Accepted 18 May 2026

Abstract

Purpose – The aim of the current study was to examine the relationship between full range leadership model (FRLM) leadership styles and work engagement (WE), drawing on WE theory and the job demands-resources (JD-R) perspective in remote work contexts.

Design/methodology/approach – A cross-sectional survey was used to collect data from 212 remote workers in the United Kingdom (UK) and Ireland. Leadership styles were measured using the Multifactor Leadership Questionnaire (MLQ 5X-Short) and WE with the Utrecht Work Engagement Scale (UWES-17). Hierarchical regression analyses assessed direct and moderated relationships, with age and gender as potential moderators.

Findings – Transformational leadership had the strongest and most consistent positive association with WE. Transactional leadership correlated positively with WE but did not show a unique association once transformational and passive-avoidant leadership were included in regression models. Passive-avoidant leadership, contrary to expectations, showed a positive association with WE in regression analysis. Age demonstrated a direct positive association with WE, while gender showed only limited evidence of moderation.

Originality/value – The study's main contribution lies in positioning leadership as a higher-level contextual factor that is associated with employees' access to engagement-relevant resources in fully remote work. The study clarifies the relative importance of FRLM styles, especially passive-avoidant leadership, which showed an unexpected positive association in the multivariable model, highlighting the need for a more context-sensitive interpretation of passive-avoidant leadership in remote work.

Keywords Remote leadership, Remote work, Work engagement, Full range leadership model, Job demands-resources

Paper type Research article

Introduction

According to Gallup (2025), Europe has the lowest engagement (13%) and the highest loneliness worldwide. When considering the decline in employee engagement and the rise in loneliness, alongside the shift to remote work, several new challenges emerge. These include longer working hours, increased burnout, and imbalances in work–life dynamics that may further undermine work engagement (WE). As a result, it becomes evident that further investigation and the development of targeted intervention mechanisms are needed to mitigate declining engagement (Neidlinger *et al.*, 2022; O'Hare *et al.*, 2024).

© Patryk Makowski, Jason Timothy Palframan and Teresa O'Hara. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) license. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this license may be seen at <http://creativecommons.org/licenses/by/4.0/>



Evidence-based HRM: a Global Forum
for Empirical Scholarship
Emerald Publishing Limited
e-ISSN: 2049-3991
p-ISSN: 2049-3983
DOI 10.1108/EBHRM-02-2026-0110

One logical approach to addressing these challenges is to enhance engagement levels among remote workers. Engaged employees exhibit higher job satisfaction, better mental health, and work-life balance (Schaufeli and Bakker, 2010; Schaufeli and Taris, 2013). Engagement is also strongly associated with improved work relationships, which benefits distributed workplaces where social interaction is limited and workloads may feel overwhelming without structure (Boccoli *et al.*, 2024). However, an excessive focus on engagement without adequate leadership support can paradoxically lead to burnout (Nerstad *et al.*, 2019).

Given these widespread challenges in recent years, leadership has emerged as a critical factor in fostering work engagement (Schaufeli, 2021). Drawing on the Full Range Leadership Model (FRLM), leadership can be understood as a spectrum of styles that may differently affect employee outcomes, including work engagement (Avolio and Yammarino, 2013; Bass and Riggio, 2006). Specifically, transformational leadership (TL), which is part of the FRLM, not only mitigates issues like burnout and disengagement in onsite working environments, but also appears to increase work meaningfulness (Meng *et al.*, 2022). Although some studies have examined these constructs in remote environments (Boccoli *et al.*, 2024), further research is needed, particularly in the underexplored contexts of Ireland and the UK. Moreover, the remaining components of the FRLM, transactional leadership (TRL) and passive-avoidant leadership (PAL), remain comparatively underexplored, with limited evidence regarding their associations with work engagement in remote working environments. Examining FRLM styles is important because little attention has been given to remote work, despite limited evidence and the growing risk of less proactive, approachable leadership for remote employees.

Through the lens of the Job Demands–Resources (JD-R) model (Bakker and Demerouti, 2007), leadership can be viewed as a higher-level contextual factor that is associated with employees' access to job resources (Tummers and Bakker, 2021). Whereas remote work often increases job demands, such as isolation and ineffective communication, while making access to traditional resources less straightforward (Neidlinger *et al.*, 2022), further elevating the role of leadership as a key contextual resource in sustaining engagement. Integrating the FRLM with JD-R, therefore, offers a valuable lens for understanding how leadership styles may facilitate or hinder engagement in remote environments.

When examining remote employees, it is also important to consider contextual factors such as age and gender. Research often reports differences in how leadership relates to work engagement across these factors; for instance, under specific leadership behaviours, female employees may exhibit higher work engagement (Dunlop and Scheepers, 2023). Similarly, older employees tend to report higher engagement than their younger colleagues (Alam *et al.*, 2023). The JD-R model suggests that job resources and demands interact with personal resources and may operate differently across groups, meaning that the same leadership behaviours may not have uniform effects in different contexts (Demerouti and Bakker, 2022). Given remote-work barriers such as advancing technologies, work-life conflicts, uneven domestic responsibilities, and limited evidence, it is important to examine whether age and gender moderate the relationships between FRLM leadership styles and work engagement (Adisa *et al.*, 2021; Leff *et al.*, 2025).

Therefore, drawing on the FRLM (Bass and Riggio, 2006), WE theory (Schaufeli *et al.*, 2002), and JD-R model (Bakker and Demerouti, 2007) as theoretical foundations, this study examines the relationships between transformational, transactional, and passive-avoidant leadership and WE in remote working environments. Additionally, it investigates age and gender as potential moderators of these leadership styles' relationship with WE, offering a more nuanced understanding of the conditions under which these associations may vary.

This study makes three key contributions to the existing literature. First, it extends remote-work research by moving beyond the dominant focus on TL to examine the relative associations of TL, TRL and PAL with WE within a fully remote work sample. Second, it gives particular attention to PAL, which remains underexplored in remote work research despite its

potential relevance in contexts characterised by autonomy, reduced supervision, and distance. Third, the study contributes to evidence-based HRM by translating its findings into practical implications for sustaining WE in geographically dispersed work environments.

Evidence-based
HRM: a Global
Forum for
Empirical
Scholarship

Theoretical framework and hypotheses

The full range of leadership model

TL was initially defined as a social exchange elevating leaders and followers to higher morality and motivation (Burns, 1978). Transformational leaders teach, learn, and acquire skills through everyday experiences, fostering interdependence to achieve collective goals. While interactions can be transactional or transformational, the latter has a deeper impact, focusing on transcendent goals (Burns, 1978). Some scholars have expanded TL by identifying four key sub-dimensions: idealised influence, inspirational motivation, intellectual stimulation, and individualised consideration. True transformational leaders motivate followers to exceed expectations by raising awareness of goals and promoting higher-level needs. They also seek to transform followers' values, confidence, and goals, encouraging them to move beyond self-interest and contribute to broader organisational objectives (Siangchokyo et al., 2020). In remote organisations, this "transformation" in followers may help counter distance barriers, isolation, and ambiguity, which can otherwise weaken employee commitment and performance (Chowhan and Pike, 2023). In this sense, TL leaders may help remote employees remain proactive, self-directed, and committed without direct oversight. Importantly, TL and TRL are not opposites, but points on a continuum, acknowledging that effective leadership often combines both approaches (Bass and Riggio, 2006).

TRL is characterised by exchange-based relationships focused on roles, tasks, and rewards. Transactional leaders define requirements and expectations, specifying how efforts are rewarded. This approach motivates associates by providing a clear direction and energising them towards goal achievement (Avolio and Bass, 2004). In other words, TRL clarifies what followers need to do to receive rewards, making it essential to the FRLM (Bass and Riggio, 2006). While it forms the foundation of effective leadership, it is often limited to first-order exchanges focused on immediate rewards and punishments, potentially neglecting followers' deeper motivations and aspirations (Avolio and Bass, 2004).

PAL is often seen as the least effective and active form of leadership in the FRLM. It is characterised by a leader's absence, avoidance, or unwillingness to lead. PAL leaders frequently avoid responsibilities or behave passively, often failing to provide clear goals, offer constructive feedback, or address team conflicts, resulting in perceived indifference or neglect (Bass and Riggio, 2006). PAL is referred to as the "no leadership" approach, which is usually associated with negative organisational outcomes, relationships, and reputation (Jin and Men, 2023). However, the meaning and consequences of PAL may be more context-dependent in remote work, where reduced supervision and greater autonomy are more common (Chowhan and Pike, 2023). Trevelyan (2001) argues autonomy can produce paradoxical effects, as reduced leader involvement may isolate some employees while empowering others. Furthermore, limited leader involvement may not always be interpreted in the same way as in conventional work environments (Makowski et al., 2025), though PAL is generally expected to be associated with less favourable outcomes.

Work engagement

WE is defined as a positive psychological state marked by vigour, dedication, and absorption. Vigour embodies the energy and enthusiasm an employee brings to work, while dedication reflects pride and value in their job. Absorption is intense concentration and engrossment in work tasks, where time passes unnoticed and distractions fade (Schaufeli et al., 2002). This study adopts the term "work engagement" and distinguishes it from the broader concept of

“employee engagement,” which encompasses the entire employee-organisation relationship. WE focuses more narrowly on an individual’s psychological and emotional attachment to their job (Schaufeli and Bakker, 2010).

WE theory assumes that engagement arises from fulfilling psychological conditions like purpose, positive relationships, and growth opportunities, emphasising employee well-being as crucial for productivity and success (Keyko *et al.*, 2016). Bakker and Leiter (2010) contrast the fulfilment of engagement with the emptiness characteristic of burnout. Engagement, they argue, is a sustained affective-cognitive state of high energy and strong work connection, as opposed to energy depletion and disconnection in burnout. WE matters because it reflects not only how positively employees feel about their work, but also the extent to which they invest cognitive, emotional, and energetic resources into it. From a remote work perspective, it may matter even more, as remote employees often struggle with isolation and work-life imbalance (Adisa *et al.*, 2021). Higher WE may help translate flexibility into stronger performance and protect against adverse outcomes. For example, Mäkikangas *et al.* (2022) suggest that when remote employees receive organisational support and their home-based work environment meets their needs, this can positively influence WE in the long term.

Job demands resources model

The JD-R model was first established by Demerouti *et al.* (2001) to better understand what causes burnout in the workplace. The model is split into two major categories: resources and demands. Job demands are physical, social, or organisational factors requiring sustained effort, such as workload, workplace conflicts, or any other challenges in the workplace. Excessive demands and lack of recovery often lead to burnout, which is the opposite construct to engagement (Schaufeli and Bakker, 2010). In contrast, job resources are physical, social, or organisational factors that support employees in achieving goals and stimulating development. In simple terms, lacking resources leads to negative outcomes, while adequate resources foster higher work engagement (Schaufeli and Taris, 2013).

Within the JD-R model, leadership is widely recognised as a higher-level contextual antecedent that influences how job resources and demands are experienced. This is because effective leaders provide support and recognition and foster a positive work environment, which helps employees cope with demands and enhance engagement (Katou *et al.*, 2022; Tummers and Bakker, 2021). Leadership can also indirectly reduce job demands by managing workloads, providing autonomy, and facilitating social support (Abdurachman *et al.*, 2023). In this sense, the FRLM styles can be understood as behavioural patterns in which TL may lead to a higher-quality potential increase in job resources, while TRL provides a more basic structure and rewards, and PAL reflects an absence of resources or even an additional demand. Additionally, remote working can introduce new job demands, such as increased workload, isolation, blurred work-life boundaries, and technological challenges (Chowhan and Pike, 2023). These often less visible demands make it imperative for organisations to implement effective leadership behaviours to access job resources for sustaining work engagement in remote environments.

Transformational leadership and work engagement

Previous research in conventional environments has shown that TL can positively influence WE by fostering a sense of purpose and encouraging innovation, while also helping employees manage job-related demands associated with adapting to new technologies and methods (Meng *et al.*, 2022). In remote environments, Boccoli *et al.* (2024) report that TL enhances work engagement among Italian remote employees by maintaining psychological presence and support through digital tools. From a JD-R perspective, TL can enable access to a high-quality job resource that buffers the impact of remote job demands and strengthens work engagement. Based on these arguments, we hypothesise that:

- H1. Transformational leadership is positively associated with work engagement in remote work environments.

Transactional leadership and work engagement

The association between TRL and WE is more varied and sometimes less pronounced than that of TL, although some studies have reported a positive relationship between the two (Thanh *et al.*, 2022). However, the evidence in remote environments remains limited. Although TRL is frequently observed in practice, it is often outperformed by other leadership styles because transactional leaders tend to undermine autonomy and intrinsic motivation in remote contexts (Monzani *et al.*, 2022). Nonetheless, from a JD-R perspective, TRL may still facilitate access to important job resources by providing clarity, structure, and contingent rewards that help employees meet demands, improve morale, and maintain engagement, particularly when transformational behaviours are less salient (Aljumah, 2023). Based on these arguments, we hypothesise that:

- H2. Transactional leadership is positively associated with work engagement in remote work environments.

Passive avoidant leadership and work engagement

Leaders who adopt a PAL style often experience low follower motivation and engagement, as they tend to take corrective action only after issues become critical and generally avoid proactive decision-making (Grill *et al.*, 2019; Muddle, 2020). While PAL might be minimally effective in environments where high autonomy is essential (Yang, 2015), it generally lacks the engagement and inspiration necessary for organisational success and is associated with adverse outcomes such as absenteeism, lower employee satisfaction, and poorer workplace relationships (Grill *et al.*, 2019; Jin and Men, 2023). From a JD-R perspective, PAL may undermine access to job resources and may even create additional demands by leaving employees without guidance or support. In remote environments, these drawbacks are likely to be intensified by limited supervision and isolation (O'Hare *et al.*, 2024). Although Makowski *et al.* (2025) suggest that PAL may enhance work engagement for experienced remote employees with strong mutual trust with their supervisors, they also highlight that this leadership style maybe challenging for newer staff who require more guidance and structure. Based on these arguments, we hypothesise that:

- H3. Passive-avoidant leadership is negatively associated with work engagement in remote work environments.

Based on the preceding discussion of TL, TRL, and PAL, we further hypothesise that TL will show the strongest positive association with WE among the examined leadership styles in remote environments, similar to conventional work environments (Meng *et al.*, 2022). Our assumptions are based on a JD-R perspective, given that TL provides followers with more adequate resources and helps them overcome their work-related demands compared to the other examined leadership styles (Katou *et al.*, 2022; Tummers and Bakker, 2021). While TL is expected to show the strongest positive association, TRL is expected to show a weaker positive association, and PAL is expected to show a negative association with WE. Based on these arguments, we hypothesise that:

- H4. Transformational leadership has a stronger positive relationship with work engagement in remote work environments than transactional and passive-avoidant leadership.

Age and gender as moderators of leadership and WE in remote environments

Age. Research suggests that age-related perceptions, job resources, and experience may influence work engagement (Kim and Kang, 2017). Older employees often report higher WE

than younger ones, possibly due to clearer roles, greater emotional stability, and stronger intrinsic motivation (Alam *et al.*, 2023). From a JD-R perspective, age may be linked to both job resources and job demands. Scheibe *et al.* (2022) found that older workers may show more resilience during change, whereas younger workers may have fewer coping resources but greater digital competence (Leff *et al.*, 2025). These contrasting profiles suggest that age may affect how leadership facilitates access to job resources that enhance work engagement in remote environments. Given the mixed empirical evidence, we therefore propose a non-directional moderating hypothesis:

- H5.* Age moderates the relationships between transformational, transactional, and passive-avoidant leadership and work engagement in remote work environments.

Gender. Prior research suggests that gender shapes employees' experiences of job demands and resources, contributing to differences in WE (Martínez-Martínez *et al.*, 2024). From a JD-R perspective, men and women may operate under different configurations of demands and resources. For example, transformational behaviours may especially help those with high emotional demands, while transactional clarity may aid those dealing with role ambiguity, and PAL may be more detrimental to employees who rely on leader support (Lim and Moon, 2024; Makowski *et al.*, 2025). Because remote work may amplify gender-based demands (O'Hare *et al.*, 2024), the same leadership style may not offer equivalent motivational value across genders. Accordingly, given the limited empirical evidence, we examine gender as a non-directional moderating variable:

- H6.* Gender moderates the relationships between transformational, transactional, and passive-avoidant leadership and work engagement in remote work environments.

Research methodology

Sample and data collection

We conducted a cross-sectional survey from June to September 2023, recruiting remote private-sector employees in Ireland and the UK. Ethical approval was granted by the Technological University of the Shannon, Ireland. Before starting, participants received participant information and an informed consent form. Participation was voluntary, anonymous, and could be discontinued at any time without penalty. Participation was not incentivised, and no pressure was placed on individuals to take part. Before data collection, we used G*Power 3.1 for *a priori* power analysis (Faul *et al.*, 2007), which showed that at least 184 participants were needed for adequate statistical power.

Consequently, out of 263 remote private sector employees who attempted the survey, 212 completed it and met the study's criteria. Eligible participants were aged 18 or older, working fully remotely (away from the employer's office) for at least 6 months with their current employer. Hybrid workers were excluded. Participants represented diverse organisational levels, from recent hires to senior executives. We used non-probability volunteer sampling via LinkedIn professional groups and a remote-work community network in Ireland and the UK with established organisational partnerships. Data were gathered using Qualtrics, and only eligible participants were included in the final sample. This recruitment approach was appropriate given the unknown total population and the impracticality of obtaining a fully representative sample (Saunders *et al.*, 2019).

The survey achieved a completion rate of 80.61% (212 out of 263). A plausible explanation for this relatively high completion rate is that the survey was distributed through a targeted professional network whose members were familiar with remote-work issues and for whom the topic was directly relevant. In our study, females comprised 60% of the population, males 39%, and other genders 1%. The age distribution was predominantly in the 30–39 age range (42%), followed by younger (20% aged 18–29) and older groups (20% aged 40–49, 12% aged 50–59, and 6% aged 60+). Most participants (78%) worked full-time, while 22% worked part-

time. Remote-work tenure was mostly 2–3 years (26%), with 19% reporting 5+ years and 12% reporting 6–12 months.

Measures

Leadership Styles. We measured leadership styles using the Multifactor Leadership Questionnaire (MLQ) rater form (5X-Short) (Avolio and Bass, 2004) to assess remote employees' perceptions of their leaders' behaviours. Permission for the use of MLQ was granted by Mind Garden. The MLQ was chosen for its comprehensive assessment of several leadership styles within the FRLM. It consisted of 36 items, each rated on a Likert scale from 0 (not at all) to 4 (frequently, if not always), allowing for a nuanced understanding of leadership qualities. Sample items include: "The leader avoids getting involved when important issues arise", "The leader draws attention to failures to meet standards", and "The leader articulates a compelling vision of the future". Avolio and Bass (2004) highlighted the scale's high reliability rates, ranging from $\alpha = 0.74$ to $\alpha = 0.94$, which surpass the standard for internal consistency. In the current study, internal consistency was also satisfactory for all three leadership styles (TL: $\alpha = 0.94$; TRL: $\alpha = 0.80$; PAL: $\alpha = 0.85$; see Table 1).

Work engagement. We measured work engagement using the Utrecht Work Engagement Scale (UWES-17), which assesses three dimensions: vigour, dedication, and absorption (Schaufeli and Bakker, 2003). This self-report instrument was crucial in determining the participants' engagement levels in remote work environments. The scale ranged from 0 (never) to 6 (always). Sample items include: "At my work, I feel bursting with energy", "Time flies when I'm working", and "My job inspires me". The UWES has demonstrated good construct validity and reliability across multiple national and occupational samples in past studies (Schaufeli and Bakker, 2003). In the current study, the UWES-17 also showed excellent internal consistency ($\alpha = 0.94$; see Table 1).

Data analysis strategy

Table 1 shows descriptive statistics, reliability estimates, and correlations for each study variable. To evaluate the measurement model, confirmatory factor analysis (CFA) was run in IBM SPSS AMOS (v.30) using subscale-level specification to reduce complexity (MLQ: 5 TL dimensions, two TRL dimensions, and two PAL dimensions; UWES: three dimensions). Model fit was assessed using χ^2 , CFI, TLI, and RMSEA. Convergent validity was examined using composite reliability (CR) and average variance extracted (AVE). Common method bias (CMB) (Podsakoff et al., 2011) was assessed by comparing the hypothesised measurement model against a single-factor model, with substantially poorer fit of the single-factor model taken as evidence against a dominant common method factor. In our analysis, age was analysed as a continuous variable (in years) in the regression models. Gender was treated as a

Table 1. Descriptive statistics, reliability/validity estimates, and correlations

Variable	Mean	SD	α	CR	AVE	1	2	3	4
TL	2.43	0.83	0.94	0.94	0.75				
TRL	2.20	0.67	0.80	0.63	0.53	0.699**			
PAL	1.27	0.95	0.85	0.87	0.77	−0.434**	−0.106		
WE	3.69	1.08	0.94	0.92	0.78	0.401*	0.307**	0.060	

Note(s) a. SD-Standard Deviation, α -Cronbach's alpha, CR-Composite Reliability, AVE-Average Variance Extracted

b. $N = 212$

c. ** $p < 0.001$

Source(s): Authors' own work

categorical variable and effect-coded (male = -0.5 ; female = $+0.5$). Given only two participants selected “other”, gender moderation analysis used only male vs female categories.

Multicollinearity was assessed using variance inflation factors (VIFs) and tolerance statistics. To reduce multicollinearity in interaction models, continuous predictors (TL, TRL, PAL, and age) were standardised before computing interaction terms (Aiken and West, 1991; Marcoulides and Raykov, 2018). Collinearity diagnostics indicated acceptable levels across models (VIFs ≤ 3.10 ; tolerances ≥ 0.32). All analyses were conducted on complete cases ($N = 212$). Potential outliers were retained as authentic observations. We began with descriptive analyses to establish participant demographics. Correlational analyses used Pearson’s correlation coefficient to assess relationships between leadership styles and WE. Hierarchical regression analyses determined the individual and combined associations of leadership styles with WE, while accounting for the study’s moderators. Statistical significance was determined using p -values ($p < 0.05$) and effect sizes were calculated using Pearson’s r for correlations.

Results

Measurement model and validity

A CFA conducted on the subscale-level measurement model (TL: five dimensions; TRL: two; PAL: two; WE: three) indicated an acceptable fit: $\chi^2(48) = 147.53$, $\chi^2/df = 3.07$, CFI = 0.95, TLI = 0.92, RMSEA = 0.089 (90% CI [0.073, 0.105]). To assess CMB, we compared the hypothesised measurement model with a single-factor model. The single-factor model demonstrated very poor fit ($\chi^2(57) = 874.11$, $\chi^2/df = 15.34$, CFI = 0.585, TLI = 0.520, RMSEA = 0.261), suggesting that a single common factor is unlikely to explain the observed covariation among measures, although this comparison alone does not eliminate the possibility of CMB. Next, we examined convergent validity using composite reliability (CR) and average variance extracted (AVE), as presented in Table 1. CR values were strong for TL (CR = 0.94), PAL (0.87), and WE (0.92), but lower for TRL (0.63). AVE exceeded 0.50 for all constructs (TL = 0.75; TRL = 0.53; PAL = 0.77; WE = 0.78), indicating acceptable convergent validity overall. Standardised loadings were strong for TL and WE indicators (≥ 0.85) and acceptable for PAL (≥ 0.75). Surprisingly, the MBE-Active indicator did not load well onto TRL ($\lambda = 0.26$) but had an almost perfect loading on contingent reward ($\lambda = 0.99$). This pattern implies that, at least in this sample, TRL at the subscale-latent level is largely propelled by contingent reward, rather than being evenly distributed across its dimensions.

Correlation analysis of leadership styles with WE

The correlation analysis revealed significant associations between leadership styles and WE in remote working environments. TL showed a strong positive correlation with WE (0.401, $p < 0.001$), and TRL also positively correlated with WE (0.307, $p < 0.001$), although this association was weaker than for TL. PAL, however, showed no significant relationship with WE ($r = 0.060$, $p = 0.384$). These results are consistent with H1 and H2, whereas H3 is not supported at the correlational level.

Hierarchical regression analysis: relationships between leadership styles and WE

Hierarchical regression analysis revealed associations between leadership styles and WE in remote environments (Table 2). Model 1, which included only leadership styles, was significant ($R^2 = 0.230$, $F(3, 208) = 20.72$, $p < 0.001$). TL showed the strongest positive association with WE ($B = 0.752$, $p < 0.001$). TRL showed a negative but non-significant relationship ($B = -0.104$, $p = 0.471$). Contrary to expectations, PAL was non-significant at the correlational level but showed a significant positive association with WE in the multivariable model ($B = 0.347$, $p < 0.001$). Taken together, H4 is only partially supported. TL showed the strongest positive relationship with WE, but PAL did not show the expected

Table 2. Hierarchical regression analysis

Variable	B	Std. Error	Beta	<i>t</i>	Sig
<i>Model 1: Direct Effects</i>					
Constant	1.650	0.284		5.801	<0.001
Transformational Leadership (TL)	0.752	0.128	0.578	5.856	<0.001
Transactional Leadership (TRL)	−0.104	0.144	−0.065	−0.722	0.471
Passive-Avoidant Leadership (PAL)	0.347	0.081	0.304	4.284	<0.001
<i>Model 2: Moderators</i>					
Constant	0.841	0.349		2.410	0.017
Age	0.022	0.006	0.235	3.942	<0.001
Gender	−0.202	0.124	−0.098	−1.636	0.103
TL	0.748	0.123	0.575	6.083	<0.001
TRL	−0.097	0.138	−0.060	−0.704	0.482
PAL	0.332	0.078	0.291	4.273	<0.001
<i>Model 3: Moderating Interactions</i>					
Constant	0.811	0.367		2.208	0.028
TL x Age	−0.009	0.112	−0.008	−0.080	0.937
TL x Gender	−0.389	0.200	−0.190	−1.941	0.054
TRL x Age	0.065	0.099	0.059	0.656	0.512
TRL x Gender	0.197	0.195	0.099	1.011	0.313
PAL x Age	−0.005	0.082	−0.005	−0.063	0.950
PAL x Gender	−0.044	0.147	−0.020	−0.302	0.763
TL	0.826	0.133	0.634	6.199	<0.001
TRL	−0.175	0.157	−0.109	−1.119	0.265
PAL	0.323	0.083	0.282	3.876	<0.001
Age	0.023	0.006	0.244	4.040	<0.001
Gender	−0.214	0.126	−0.103	−1.694	0.092
Note(s) a. Dependent variable: work engagement					
b. <i>N</i> = 212					
Source(s): Authors' own work					

negative association. In model 2, demographic moderators were added, explaining additional variance in WE ($R^2 = 0.304$, $F(5, 206) = 18.04$, $p < 0.001$). Age was positively associated with WE ($B = 0.022$, $p < 0.001$), indicating that older employees reported higher engagement levels. However, gender did not have a significant positive relationship with WE ($B = -0.202$, $p = 0.103$). In model 3, interaction terms tested whether age and gender moderated the relationships between leadership styles and WE. The model explained a slightly larger proportion of variance ($R^2 = 0.325$), but none of the age interactions were significant (all $p > 0.512$), providing no support for H5. Gender interaction terms were also not significant ($p > 0.054$). Overall, no statistically significant age or gender interaction effects were detected in this sample.

Discussion

This study examined the relationships between the FRLM styles and WE in remote working environments, as well as whether these relationships vary by age and gender. However, as the study focused exclusively on fully remote employees, the findings should be interpreted as context-specific associations rather than as evidence that leadership operates differently in conventional work environments. Our results showed a strong positive association between TL and WE in remote environments, both at the bivariate level and in multivariate regression models, indicating that TL showed the strongest positive association among the examined

leadership styles. Our results were in line with other empirical studies that measured these constructs (Boccoli *et al.*, 2024; Meng *et al.*, 2022). From a JD-R perspective, TL can be viewed as a contextual resource associated with employees' access to key job resources and may help explain how they manage remote work-related demands, such as isolation and blurred boundaries (Neidlinger *et al.*, 2022; Tummers and Bakker, 2021), while simultaneously enhancing their work engagement.

Although TRL initially demonstrated a positive correlation with WE, this relationship became non-significant in regression models. This pattern suggests that the positive correlation between TRL and WE may largely reflect its overlap with TL, rather than representing a unique contribution to engagement in remote working environments. This interpretation is consistent with recent reviews that highlight substantial empirical overlap among leadership style measures and question the added value of "horse-race" comparisons when styles reflect a broader effective-leadership factor (Eva *et al.*, 2025; Fischer and Sitkin, 2023). From a JD-R perspective, this is plausible because TRL provides structure and contingent rewards but lacks the motivational, relational, and autonomy-support that help remote employees access and sustain engagement-relevant resources, which are particularly important in remote contexts (Boccoli *et al.*, 2024). This assumption is also consistent with evidence that TL tends to overshadow TRL in predicting positive attitudinal outcomes, such as engagement, across various work contexts, and when analysed together, there is little unique variance in TRL beyond what TL already accounts for (Katou *et al.*, 2022; Tummers and Bakker, 2021).

The PAL-WE result contradicts our expectation of a negative association (H3) and the conventional view of PAL as a detrimental style within the FRLM and represents a distinctive contribution of our study (Bass and Riggio, 2006; Grill *et al.*, 2019). The finding showed that PAL was unrelated to WE at the bivariate level but showed a positive association once TL and TRL were controlled for may reflect a suppression or shared-variance pattern, potentially amplified by overlap among FRLM dimensions. Accordingly, the PAL coefficient should be interpreted cautiously. Nonetheless, one possible explanation for this finding is that PAL could be attributed to the increased flexibility and autonomy, which could mitigate some of the negative effects typically associated with PAL. From a JD-R perspective, autonomy itself is a key job resource that may buffer the demands of remote work (Demerouti *et al.*, 2001). Trevelyan (2001) argues that reduced leader involvement can have paradoxical effects, isolating some employees while empowering others through greater discretion. From a self-determination theory (SDT) perspective, employees who experience autonomy, competence, and sufficient support may be more likely to interpret lower leader involvement as freedom rather than neglect (Ryan and Deci, 2000). Similarly, under conservation of resources (COR) logic, passive leadership may be less damaging when employees possess other resources, such as task autonomy, peer support, or established trust, which can buffer resource depletion (Hobfoll, 2001). This interpretation also aligns with Wang *et al.* (2021), who found that job autonomy mitigated the negative effects of passive leadership on performance in remote environments. As Makowski *et al.* (2025) argue, PAL may be perceived more positively by more experienced remote employees who value autonomy, have established trust with supervisors, and require less day-to-day guidance, but may be detrimental for newer employees who need more structure and support. Our finding suggests that PAL may not operate as a uniformly dysfunctional style (Jin and Men, 2023), but may instead depend more strongly on contextual conditions than is typically assumed. However, further research is needed to better understand this unexpected finding, especially for whom and under which conditions PAL can function as a less harmful or even resource-like leadership configuration in remote environments.

Age was the only demographic variable to show a direct positive association with WE, but no significant moderation effects were found in this sample. In this study's context, age should not be interpreted as a simple "older versus younger" distinction, as our results provide no evidence for distinct moderation patterns. Instead, age may reflect different career and life

stages associated with unique engagement drivers, such as job stability, experience, or work-life balance. Another possibility is to view our results through a lifespan lens, as prior research shows that age profiles can shape how job resources relate to WE, with some resources (e.g. development opportunities) having stronger effects for younger employees than for older ones (Zhang and Farndale, 2022). From a JD-R perspective, older employees may possess greater personal resources, such as expertise, self-regulation, and job mastery, which can enhance engagement regardless of leadership style (Scheibe *et al.*, 2022) but may have fewer capabilities to cope with changing technologies than their younger counterparts (Leff *et al.*, 2025). More research is needed to unpack which specific resources and life-stage factors drive the positive association between age and WE in remote work.

For gender, the interaction terms were not statistically significant in the final model, so H6 was not supported. The only interaction worth noting was between TL and gender, which approached conventional significance levels ($p = 0.054$), but should be interpreted as a potential trend, not evidence of moderation. One possible explanation is that our study shows small interaction effects, and to truly uncover them, it would be necessary to have larger, more heterogeneous samples to detect them reliably. We based our assumptions on prior research indicating that men and women often operate under different configurations of job demands and resources in remote work (Adisa *et al.*, 2021; Alfarran, 2023), which may affect how leadership acts as a compensatory resource. For instance, from a JD-R standpoint, PAL represents a lack of relational and emotional resources, and such resource deficits may be experienced more substantially by employees who rely on interpersonal support, which is often documented among women in remote roles (Adisa *et al.*, 2021). Further research is needed using larger samples and more gender-related mechanisms, such as role expectations or access to social support in remote work, to better position researchers to detect potential boundary conditions.

Theoretical and practical implications

This study has several theoretical and practical implications. First, the study adds to the remote leadership literature by moving beyond the dominant focus on TL alone and examining the relative patterns of association across FRLM styles within a single model. In doing so, it shows that TL remained the strongest positive association with remote work engagement in our sample. The results are consistent with the FRLM (Avolio and Bass, 2004) and JD-R (Demerouti *et al.*, 2001) perspectives by indicating that transformational behaviours may be linked to employees' access to engagement-relevant resources in remote contexts. From a practical perspective, organisations should prioritise leadership development initiatives that strengthen communication, foster psychological presence, offer meaningful feedback, and provide relational support to counter remote work demands (Boccoli *et al.*, 2024; Meng *et al.*, 2022). At an executive level, this can be translated into clear expectations for managers to hold regular one-to-one check-ins, provide developmental feedback, and maintain visible communication routines that reduce ambiguity and isolation in remote teams. However, these recommendations should not be interpreted as implying that TL can be reduced to a simple set of trainable techniques. Remote organisations should complement behavioural leadership development with coaching, reflective practice, and feedback processes that support authentic trust-building, stronger other-orientation, and sensitivity to digital interaction cues, rather than relying on surface-level compliance with new leadership routines.

Second, although TRL showed a positive bivariate correlation with WE, it did not retain a unique association after controlling for TL and PAL. This finding suggests that in remote work environments, TRL may matter for engagement primarily through its overlap with TL rather than as a distinct resource. In practice, this means organisations should avoid relying solely on contingent-reward systems or monitoring mechanisms and instead develop leadership programmes that combine structure (TRL) with relational and motivational support (TL). Executives can translate this into manager guidelines that combine clear goal-setting, regular

progress conversations, and supportive communication, rather than relying solely on monitoring, compliance, or reward-based control.

Third, the findings provide a nuanced perspective on the conventional view of PAL as purely detrimental within the FRLM (Avolio and Bass, 2004), showing that, after controlling for TL and TRL, PAL is positively associated with WE in remote work environments. This implies that the meaning of PAL in remote work may depend less on the behaviour in isolation (Grill *et al.*, 2019; Jin and Men, 2023) and more on the conditions under which that behaviour is experienced by followers. Therefore, PAL in remote work may be better understood as a context-contingent configuration whose meaning depends on follower autonomy, competence, trust, and the availability of alternative job resources, rather than always being dysfunctional (Trevelyan, 2001; Wang *et al.*, 2021). However, this unexpected result should be interpreted cautiously, as it may reflect contextual fit, shared variance, or suppression effects rather than a straightforward beneficial effect of PAL. We recommend organisations move beyond viewing PAL as universally harmful and assuming a one-size-fits-all effect. Instead, managers should systematically assess employees' autonomy needs, task complexity, and experience levels before determining the appropriate level of oversight for each situation.

Fourth, while age showed a positive main association with WE, it did not consistently moderate the leadership-WE relationships. Nonetheless, the positive association between age and WE suggests that age may be associated with greater job resources and can help overcome job-related demands (Scheibe *et al.*, 2022). Organisations should leverage older employees' experience through mentorship roles, peer-learning structures, and opportunities for knowledge transfer, while ensuring they are trained to adapt to new technologies (Leff *et al.*, 2025). Younger employees may require more structured developmental support, given their potentially lower access to these personal resources.

Finally, gender moderation was not supported, suggesting that gender did not robustly condition the associations between FRLM styles and WE in this remote employee sample. Although one interaction (TL $\times$ gender) approached significance, it should be treated as exploratory rather than confirmatory. Nonetheless, organisations should be cautious about assuming that remote support needs are gender-neutral by default, particularly where work-life conflict, overload, or isolation may be unevenly distributed (Adisa *et al.*, 2021; Alfarran, 2023). In practice, organisations should develop remote management policies that integrate regular check-ins with all employees, ensure equitable access to relational support, and provide sufficient flexibility to address varied employee circumstances.

Limitations and future research directions

This study has several limitations, which open possibilities for further research. First, given the cross-sectional design, our findings are based on observed associations and should be tested in longitudinal studies to address this limitation. The direction of effects cannot be determined with confidence, as it is also possible that more engaged employees perceive their leaders more positively, or that unobserved variables could influence both leadership perceptions and WE.

Second, the sample was restricted to Irish and UK employees recruited through non-probability volunteer sampling. Although this provides new insights into under-researched European contexts, our findings should not be generalised to all international corporations, hybrid workforces, or public-sector settings. In addition, self-selection bias may have been present, as respondents who chose to participate may have differed systematically from the broader population of remote workers, including in their level of engagement. Future studies should explore whether these findings are generalisable across countries with different cultural values, leadership expectations, and remote-work infrastructure.

Third, participants worked across various industries and job levels, with differing autonomy, technological requirements, workload, organisational support, and management structures. These factors were not included in regression models and may also influence

remote WE. Future research could include a broader range of contextual and occupational variables or use single-industry samples to better isolate leadership's contribution to WE.

Fourth, although the sample size was adequate for detecting main effects, it was relatively modest for interaction effects. Accordingly, the non-significant moderation results for age and gender should be interpreted cautiously, as they may reflect limited statistical power rather than a true absence of moderation. In addition, the composite reliability for TRL was relatively weak, so the TRL findings should be interpreted with caution.

Finally, leadership perceptions and WE were measured using self-report data from the same respondents. Although this approach is common in leadership and engagement research, it may inflate associations due to shared method variance or response tendencies. We also compared the hypothesised measurement model with a single-factor model; however, this test alone cannot fully rule out CMB, so associations should be interpreted cautiously. Future research could use employee self-reports alongside supervisor ratings or longitudinal designs to strengthen inference.

Conclusion

Our study examined how transformational, transactional, and passive-avoidant leadership relate to remote work engagement, and whether these relationships differ by age or gender. The results showed that TL has the strongest and most reliable association with remote WE. TRL showed a limited positive association, while passive-avoidant leadership displayed an unexpected positive association with WE in the multivariate model. Age had a direct positive association with WE, whereas gender-related moderation was not supported. Overall, the findings apply FRLM and JD-R reasoning to geographically dispersed work environments, highlighting the importance of transformational behaviours and encouraging further research to clarify boundary conditions in remote leadership-engagement relationships. From a practical standpoint, the findings suggest that organisations should prioritise leadership practices that sustain clarity, support, and appropriate levels of autonomy in remote teams. However, these conclusions should be interpreted in light of the study's specific context, as the sample was limited to fully remote private-sector employees in Ireland and the UK.

References

- Abdurachman, D., Ramdhan, R.M., Karsoma, A., Winarno, A. and Hermana, D. (2023), "Integrating leadership in job demand resources (JD-R) for personal performance in military institution", *Sustainability*, Vol. 15 No. 5, 4004, doi: [10.3390/su15054004](https://doi.org/10.3390/su15054004).
- Adisa, T.A., Aiyenitaju, O. and Adekoya, O.D. (2021), "The work-family balance of British working women during the COVID-19 pandemic", *Journal of Work-Applied Management*, Vol. 13 No. 2, pp. 241-260, doi: [10.1108/jwam-07-2020-0036](https://doi.org/10.1108/jwam-07-2020-0036).
- Aiken, L.S. and West, S.G. (1991), *Multiple Regression: Testing and Interpreting Interactions*, Sage, Newbury Park.
- Alam, J., Mendelson, M., Boamah, M.I. and Gauthier, M. (2023), "Exploring the antecedents of employee engagement", *International Journal of Organizational Analysis*, Vol. 31 No. 6, pp. 2017-2030, doi: [10.1108/ijoa-09-2020-2433](https://doi.org/10.1108/ijoa-09-2020-2433).
- Alfarran, A.K.S. (2023), "Changing workplace patterns in Saudi Arabia: a gender lens", *Journal of Gender Studies*, Vol. 32 No. 4, pp. 317-329, doi: [10.1080/09589236.2021.2011169](https://doi.org/10.1080/09589236.2021.2011169).
- Aljumah, A. (2023), "The impact of extrinsic and intrinsic motivation on job satisfaction: the mediating role of transactional leadership", *Cogent Business and Management*, Vol. 10 No. 3, 2270813, doi: [10.1080/23311975.2023.2270813](https://doi.org/10.1080/23311975.2023.2270813).
- Avolio, B. and Bass, B. (2004), *Multifactor Leadership Questionnaire*, Mind Garden, Menlo Park, CA.
- Avolio, B.J. and Yammarino, F.J. (2013), *Transformational and Charismatic Leadership: The Road Ahead*, Emerald Group Publishing, Bingley.

- Bakker, A.B. and Demerouti, E. (2007), "The Job Demands-Resources model: state of the art", *Journal of Managerial Psychology*, Vol. 22 No. 3, pp. 309-328, doi: [10.1108/02683940710733115](https://doi.org/10.1108/02683940710733115).
- Bakker, A.B. and Leiter, M.P. (2010), *Work Engagement: A Handbook of Essential Theory and Research*, Psychology Press, London.
- Bass, B.M. and Riggio, R. (2006), *Transformational Leadership*, Lawrence Erlbaum, New York.
- Boccoli, G., Gastaldi, L. and Corso, M. (2024), "Transformational leadership and work engagement in remote work settings: the moderating role of the supervisor's digital communication skills", *The Leadership and Organization Development Journal*, Vol. 45 No. 7, pp. 1240-1257, doi: [10.1108/lodj-09-2023-0490](https://doi.org/10.1108/lodj-09-2023-0490).
- Burns, J.M. (1978), *Leadership*, Harper & Row, New York.
- Chowhan, J. and Pike, K. (2023), "Workload, work-life interface, stress, job satisfaction and job performance: a job demand-resource model study during COVID-19", *International Journal of Manpower*, Vol. 44 No. 4, pp. 653-670, doi: [10.1108/ijm-05-2022-0254](https://doi.org/10.1108/ijm-05-2022-0254).
- Demerouti, E. and Bakker, A.B. (2022), "Job demands-resources theory in times of crises: new propositions", *Organizational Psychology Review*, Vol. 13 No. 3, pp. 209-236, doi: [10.1177/20413866221135022](https://doi.org/10.1177/20413866221135022).
- Demerouti, E., Bakker, A.B., Nachreiner, F. and Schaufeli, W.B. (2001), "The job demands-resources model of burnout", *Journal of Applied Psychology*, Vol. 86 No. 3, pp. 499-512, doi: [10.1037/0021-9010.86.3.499](https://doi.org/10.1037/0021-9010.86.3.499).
- Dunlop, R. and Scheepers, C.B. (2023), "The influence of female agentic and communal leadership on work engagement: vigour, dedication and absorption", *Management Research Review*, Vol. 46 No. 3, pp. 437-466, doi: [10.1108/mrr-11-2021-0796](https://doi.org/10.1108/mrr-11-2021-0796).
- Eva, N., Howard, J.L., Liden, R.C., Morin, A.J.S. and Schwarz, G. (2025), "An inconvenient truth: a comprehensive examination of the added value (or lack thereof) of leadership measures", *Journal of Management Studies*, Vol. 62 No. 7, pp. 3072-3117, doi: [10.1111/joms.13156](https://doi.org/10.1111/joms.13156).
- Faul, F., Erdfelder, E., Lang, A.G. and Buchner, A. (2007), "G* Power 3: a flexible statistical power analysis program for the social, behavioral, and biomedical sciences", *Behavior Research Methods*, Vol. 39 No. 2, pp. 175-191, doi: [10.3758/bf03193146](https://doi.org/10.3758/bf03193146).
- Fischer, T. and Sitkin, S.B. (2023), "Leadership styles: a comprehensive assessment and way forward", *Academy of Management*, Vol. 17 No. 1, pp. 331-372, doi: [10.5465/annals.2020.0340](https://doi.org/10.5465/annals.2020.0340).
- Gallup (2025), "State of the global workplace: 2025 report", available at: <https://www.gallup.com/workplace/349484/state-of-the-global-workplace.aspx> (accessed 10 November 2025).
- Grill, M., Nielsen, K., Grytnes, R., Pousette, A. and Törner, M. (2019), "The leadership practices of construction site managers and their influence on occupational safety: an observational study of transformational and passive/avoidant leadership", *Construction Management and Economics*, Vol. 37 No. 5, pp. 278-293, doi: [10.1080/01446193.2018.1526388](https://doi.org/10.1080/01446193.2018.1526388).
- Hobfoll, S.E. (2001), "The influence of culture, community, and the nested-self in the stress process: advancing conservation of resources theory", *Applied Psychology*, Vol. 50 No. 3, pp. 337-421, doi: [10.1111/1464-0597.00062](https://doi.org/10.1111/1464-0597.00062).
- Jin, J. and Men, L.R. (2023), "How avoidant leadership style turns employees into adversaries: the impact of laissez-faire leadership on employee-organization relationships and employee communicative behavior", *International Journal of Business Communication*, Vol. 63 No. 2, pp. 334-360, doi: [10.1177/23294884231190397](https://doi.org/10.1177/23294884231190397).
- Katou, A.A., Koupkas, M. and Triantafyllidou, E. (2022), "Job demands-resources model, transformational leadership and organizational performance: a multilevel study", *International Journal of Productivity and Performance Management*, Vol. 71 No. 7, pp. 2704-2722, doi: [10.1108/ijppm-06-2020-0342](https://doi.org/10.1108/ijppm-06-2020-0342).
- Keyko, K., Cummings, G.G., Yonge, O. and Wong, C.A. (2016), "Work engagement in professional nursing practice: a systematic review", *International Journal of Nursing Studies*, Vol. 61, pp. 142-164, doi: [10.1016/j.ijnurstu.2016.06.003](https://doi.org/10.1016/j.ijnurstu.2016.06.003).

-
- Kim, N. and Kang, S.W. (2017), "Older and more engaged: the mediating role of age-linked resources on work engagement", *Human Resource Management*, Vol. 56 No. 5, pp. 731-746, doi: [10.1002/hrm.21802](https://doi.org/10.1002/hrm.21802).
- Leff, B., Ritchie, C.S., Rising, K.L., Cannon, K. and Wardlow, L. (2025), "Addressing barriers to equitable telehealth for older adults", *Frontiers of Medicine*, Vol. 12, 1483366, doi: [10.3389/fmed.2025.1483366](https://doi.org/10.3389/fmed.2025.1483366).
- Lim, J. and Moon, K.-K. (2024), "The effect of emotional labor on psychological well-being in the context of South Korean firefighters: the moderating role of transformational leadership", *Behavioral Sciences*, Vol. 14 No. 3, 167, doi: [10.3390/bs14030167](https://doi.org/10.3390/bs14030167).
- Mäkikangas, A., Juutinen, S., Mäkinen, J.P., Sjöblom, K. and Oksanen, A. (2022), "Work engagement and its antecedents in remote work: a person-centered view", *Work and Stress*, Vol. 36 No. 4, pp. 392-416, doi: [10.1080/02678373.2022.2080777](https://doi.org/10.1080/02678373.2022.2080777).
- Makowski, P., Palframan, J. and O'Hara, T. (2025), "Rethinking leadership in remote work: a thematic analysis of employees' perceptions of transactional and passive-avoidant leadership on work engagement", *International Journal of Organization Theory and Behavior*, Vol. ahead-of-print No. ahead-of-print, pp. 1-19, doi: [10.1108/IJOTB-03-2025-0055](https://doi.org/10.1108/IJOTB-03-2025-0055).
- Maroulides, K.M. and Raykov, T. (2018), "Evaluation of variance inflation factors in regression models using latent variable modeling methods", *Educational and Psychological Measurement*, Vol. 79 No. 5, pp. 874-882, doi: [10.1177/0013164418817803](https://doi.org/10.1177/0013164418817803).
- Martínez-Martínez, K., Llorens, S., Cruz-Ortiz, V., Reyes-Luján, J. and Salanova, M. (2024), "The main predictors of well-being and productivity from a gender perspective", *Frontiers in Psychology*, Vol. 15, 1478826, doi: [10.3389/fpsyg.2024.1478826](https://doi.org/10.3389/fpsyg.2024.1478826).
- Meng, F., Xu, Y., Liu, Y., Zhang, G., Tong, Y. and Lin, R. (2022), "Linkages between transformational leadership, work meaningfulness and work engagement: a multilevel cross-sectional study", *Psychology Research and Behavior Management*, Vol. 15, pp. 367-380, doi: [10.2147/prbm.s344624](https://doi.org/10.2147/prbm.s344624).
- Monzani, L., Mateu, G., Ripoll, P., Lira, E. and Peiro, J.M. (2022), "Managing in the new normal: positive management practices elicit higher goal attainment, goal commitment, and perceived task efficacy than traditional management practices in remote work settings. an experimental study", *Frontiers in Psychology*, Vol. 13, 914616, doi: [10.3389/fpsyg.2022.914616](https://doi.org/10.3389/fpsyg.2022.914616).
- Muddle, G.R. (2020), "The relationship between leadership style and hospital employee engagement in Papua New Guinea", *Asia Pacific Journal of Health Management*, Vol. 15 No. 4, i441.
- Neidlinger, S.M., Felfe, J. and Schübbe, K. (2022), "Should I stay or should I go (to the office)?—Effects of working from home, autonomy, and core self-evaluations on leader health and work-life balance", *International Journal of Environmental Research and Public Health*, Vol. 20 No. 1, 6, doi: [10.3390/ijerph20010006](https://doi.org/10.3390/ijerph20010006).
- Nerstad, C.G.L., Wong, S.I. and Richardsen, A.M. (2019), "Can engagement go Awry and lead to burnout? The moderating role of the perceived motivational climate", *International Journal of Environmental Research and Public Health*, Vol. 16 No. 11, 1979, doi: [10.3390/ijerph16111979](https://doi.org/10.3390/ijerph16111979).
- O'Hare, D., Gaughran, F., Stewart, R. and Pinto da Costa, M. (2024), "A cross-sectional investigation on remote working, loneliness, workplace isolation, well-being and perceived social support in healthcare workers", *BJPsych Open*, Vol. 10 No. 2, e50, doi: [10.1192/bjo.2024.7](https://doi.org/10.1192/bjo.2024.7).
- Podsakoff, P.M., MacKenzie, S.B. and Podsakoff, N.P. (2011), "Sources of method bias in social science research and recommendations on how to control it", *Annual Review of Psychology*, Vol. 63 No. 1, pp. 539-569, doi: [10.1146/annurev-psych-120710-100452](https://doi.org/10.1146/annurev-psych-120710-100452).
- Ryan, R.M. and Deci, E.L. (2000), "Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being", *American Psychologist*, Vol. 55 No. 1, pp. 68-78, doi: [10.1037//0003-066x.55.1.68](https://doi.org/10.1037//0003-066x.55.1.68).
- Saunders, M.N.K., Lewis, P. and Thornhill, A. (2019), *Research Methods for Business Students*, 8th ed., Pearson Education, Harlow.
- Schaufeli, W. (2021), "Engaging leadership: how to promote work engagement?", *Frontiers in Psychology*, Vol. 12, 754556, doi: [10.3389/fpsyg.2021.754556](https://doi.org/10.3389/fpsyg.2021.754556).
-

- Schaufeli, W.B. and Bakker, A.B. (2003), "Test manual for the Utrecht work engagement scale", unpublished manuscript, Utrecht University, Utrecht, the Netherlands.
- Schaufeli, W.B. and Bakker, A.B. (2010), "Defining and measuring work engagement: bringing clarity to the concept", in Bakker, A.B. and Leiter, M.P. (Eds), *Work Engagement: A Handbook of Essential Theory and Research*, Psychology Press, London, pp. 10-24.
- Schaufeli, W.B. and Taris, T.W. (2013), "A critical review of the Job Demands-Resources model: implications for improving work and health", in Bauer, G.F. and Hämmig, O. (Eds), *Bridging Occupational, Organizational and Public Health*, Springer, pp. 43-68.
- Schaufeli, W.B., Martinez, I.M., Pinto, A.M., Salanova, M. and Bakker, A.B. (2002), "Burnout and engagement in university students: a cross-national study", *Journal of Cross-Cultural Psychology*, Vol. 33 No. 5, pp. 464-481, doi: [10.1177/0022022102033005003](https://doi.org/10.1177/0022022102033005003).
- Scheibe, S., De Bloom, J. and Modderman, T. (2022), "Resilience during crisis and the role of age: involuntary telework during the COVID-19 pandemic", *International Journal of Environmental Research and Public Health*, Vol. 19 No. 3, 1762, doi: [10.3390/ijerph19031762](https://doi.org/10.3390/ijerph19031762).
- Siangchokyoo, N., Klinger, R.L. and Campion, E.D. (2020), "Follower transformation as the linchpin of transformational leadership theory: a systematic review and future research agenda", *The Leadership Quarterly*, Vol. 31 No. 1, 101341, doi: [10.1016/j.leaqua.2019.101341](https://doi.org/10.1016/j.leaqua.2019.101341).
- Thanh, N.H., Quang, N.V. and Anh, N.N. (2022), "The relationship between leadership style and staff work engagement: an empirical analysis of the public sector in Vietnam", *Humanities and Social Sciences Communications*, Vol. 9 No. 1, 340, doi: [10.1057/s41599-022-01354-7](https://doi.org/10.1057/s41599-022-01354-7).
- Trevelyan, R. (2001), "The paradox of autonomy: a case of academic research scientists", *Human Relations*, Vol. 54 No. 4, pp. 495-525, doi: [10.1177/0018726701544005](https://doi.org/10.1177/0018726701544005).
- Tummers, L.G. and Bakker, A.B. (2021), "Leadership and job demands-resources theory: a systematic review", *Frontiers in Psychology*, Vol. 12, 722080, doi: [10.3389/fpsyg.2021.722080](https://doi.org/10.3389/fpsyg.2021.722080).
- Wang, C.H., Liu, G.H. and Lee, N.C.A. (2021), "Effects of passive leadership in the digital age", *Frontiers in Psychology*, Vol. 12, 701047, doi: [10.3389/fpsyg.2021.701047](https://doi.org/10.3389/fpsyg.2021.701047).
- Yang, I. (2015), "Positive effects of Laissez-Faire leadership: conceptual exploration", *Journal of Management Development*, Vol. 34 No. 10, pp. 1246-1261, doi: [10.1108/jmd-02-2015-0016](https://doi.org/10.1108/jmd-02-2015-0016).
- Zhang, L. and Farndale, E. (2022), "Workforce age profile effects on job resources, work engagement and organizational citizenship behavior", *Personnel Review*, Vol. 51 No. 1, pp. 194-209, doi: [10.1108/pr-02-2020-0095](https://doi.org/10.1108/pr-02-2020-0095).

Corresponding author

Patryk Makowski can be contacted at: patryk.makowski@ul.ie