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The impact of formal workplace coaching on employee outcomes: a matched sample analysis

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ABSTRACT

The manager-as-coach model, where supervisors enhance the development and performance of their direct reports (employees) by adopting a 'coaching' leadership style, has grown in popularity. For human resource development (HRD), the purported benefits include improved employee performance, organisational commitment, and reduced turnover intentions. Guided by Social Exchange Theory and Leader-Member Exchange Theory, we compared a matched sample ($n = 412$) of New Zealand-based employees across diverse sectors and industries, half who received formal workplace coaching from their supervisor (coached group) and half who did not (no-coach group). After conducting a multi-group confirmatory factor analysis and comparing latent means, we found that the formally coached group experienced stronger meaningful work and organisational citizenship behaviours (individual and organisational). Unexpectedly, turnover intentions and counter-productive work behaviours (CWB) did not differ between groups. This suggests that whilst formally coached employees felt obliged to improve positive work-related outcomes (i.e. meaningful work and OCB), the effect was too weak to reduce negative work-related attitudes and behaviours (i.e. turnover intentions and CWBs). Consequently, we discuss alternative explanations to account for this inconsistency, along with recommendations for HRD practitioners and future research.

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Social exchange theory; LMX; formal coaching; work-related outcomes; propensity score matching; latent mean comparison

Introduction

Workplace coaching has gained significant traction as organisations attempt to improve employee development and performance (Kapoutzis et al., 2024; Schermuly et al., 2022). This upward trend may be a response to increasing competition, necessitating enhanced organisational performance (Pousa & Mathieu, 2015; Wang, 2013). According to Hagen and Peterson (2014), there are three main types of workplace coaching. 1) executive coaching, where an external coach guides executives. 2) managerial coaching, where supervisors coach their direct reports, and 3) peer coaching, where colleagues coach each

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other. This study focuses on managerial coaching (hereafter referred to as workplace coaching), exploring the difference in work-related outcomes between two groups, where one received formal coaching from their supervisor and the other did not.

The literature strongly supports workplace coaching (Al Nahyan et al., 2024; Ellinger et al., 2003; Park et al., 2021; Schermuly et al., 2022). Some describe it as a 'powerful approach to leadership', noting that roughly three-quarters of UK-based managers are expected to coach their direct reports (McCarthy & Milner, 2020, p. 249). Matsuo (2018) highlights workplace coaching as an integral skill for supervisors, and Hagen and Peterson (2014) similarly note its potential to improve performance across multiple levels. There are a number of important work-related attitudes and behaviours linked with workplace coaching, including higher job satisfaction and performance (Ellinger et al., 2003), as well as stronger organisational commitment (S. Kim et al., 2013), and reduced turnover intentions (Ali et al., 2018).

Despite general support for workplace coaching, a body of literature also highlights the complexities and challenges. Milner et al. (2023) note that it is demanding work, and sessions can stray off-course, moving into non-coaching areas such as psychological counselling and self-disclosed misconduct, areas a supervisor-coach may be ill-equipped to manage. Others draw attention to the complexities and dilemmas of workplaces, including interpersonal relations and the power distance between employees and supervisors (Spaten & Flensborg, 2013). Additionally, poorly executed workplace coaching may do harm (Weer et al., 2016). For example, Dahling et al. (2016) found that low-skilled coaching delivered frequently may hinder employee performance.

A major complexity is how workplace coaching is implemented. Echeverri (2020) describes a unique approach in the Netherlands, where company-appointed coaches disguised as tram passengers observe drivers before initiating formal one-on-one coaching conversations. More broadly, Grant (2017) differentiates between kinds of coaching conversations from the short and informal (one to five minutes in duration) to the long and formal (up to one hour or more), ranging from 'corridor conversations' (p. 45) to formal coaching sessions. Similarly, Dixey (2015) distinguishes day-to-day conversations from less frequent formal coaching sessions. This study focuses on the distinction between formal coaching and alternative approaches, arguing that formal coaching offers the greatest potential to improve employee workplace attitudes and behaviours.

Building on the work of Gregory and Levy (2010); and Raza and Ahmed (2020), we define a formal coaching event as a structured one-on-one meeting between a supervisor and employee to discuss and improve performance on the job. Formal coaching events typically last up to an hour or more (Grant, 2017), making them distinct and memorable. For this reason, they can be recalled with reasonable accurately. In contrast, informal coaching events are typically shorter and less structured (Grant, 2017), making them routine and harder to distinguish from general supervision. As noted by Dixey (2015), some supervisors embed coaching into everyday conversations, meaning employees may not always realise they are being coached. Accordingly, our participants were categorised into 'coached' or 'no-coach' groups based on their formal coaching experience over the past six months. Those who participated in at least one formal coaching event were assigned to the coached group, whilst those who did not participate in any formal coaching events were assigned to the no-coach group.

Our study makes four key contributions to HRD. First, we leverage Social Exchange Theory (SET) and Leader-Member Exchange Theory (LMX) to explain formal coaching's impact on work-related attitudes and behaviours, critiquing these frameworks and proposing alternatives. Second, we enhance the generalisability of our findings by using propensity score matching (PSM), an advanced statistical technique that mimics random group assignment in non-random samples like ours (Hammack-Brown et al., 2024). Third, instead of taking a summed average approach and using a t-test or ANOVA to estimate the statistical significance of between-group difference, we apply latent mean modelling, which accounts for measurement error and produces more precise and valid estimations (Müller & Schäfer, 2017). Finally, we compare formal coaching with alternative approaches (informal coaching and no coaching), addressing implications for practice (i.e. which approach is more effective?). In sum, this study offers theoretical and methodological insights for HRD academics and practical guidance for HRD practitioners.

Social exchange and LMX theories

When hypothesising the differences in work-related outcomes between employees who receive formal coaching from their supervisor versus those that do not, we draw on Social Exchange Theory (Blau, 1964) and the related Leader-Member Exchange Theory (Dansereau et al., 1975) because workplace coaching for improved performance can be understood as a social exchange between an employee and their supervisor (Ali et al., 2018; Wagstaff et al., 2018). SET and LMX are widely used in the literature to explain how workplace coaching enhances work-related attitudes and behaviours (e.g. S. Kim & Kuo, 2015; Tanskanen et al., 2019).

According to SET, when an employee perceives coaching from their supervisor as a valuable job resource, they experience a 'felt obligation' (Haar & Spell, 2004, p. 1041), motivating the employee to reciprocate with positive attitudes, behaviours, (i.e. increased effort) (Batson & Yoder, 2012; Ribeiro et al., 2021). Such exchanges benefit the employee, their supervisor, and the organisation alike. Unlike economic exchanges, where work is done for payment, SET explains voluntarily reciprocity (Blau, 1964). Similar to economic markets, social goods and services (e.g. loyalty, support, information, and status) are negotiated through interpersonal interaction, with reciprocity as the foundation (Weer et al., 2016). Mutual respect and satisfaction strengthen social exchange relationships, making ongoing reciprocity more likely (Blau, 1964). In the workplace, SET reflects the employee's obligation to repay valued support from their organisation or supervisor (Haar & Spell, 2004).

LMX (a branch of SET), describes the exchange relationship between supervisors and each of their direct reports (Dansereau et al., 1975). At its core, LMX suggests leadership operates through vertical dyadic relationships, where leaders exchange job resources (e.g. inside information, interesting work assignments, or workplace coaching) for employee support and loyalty (Ali et al., 2018; Dansereau et al., 1975). Workplace coaching relies on an exchange dynamic between supervisors and employees (Hagen & Peterson, 2014). Wang (2013) supports this, noting that workplace coaching can foster high-quality LMX, as employees perceive their supervisor's investment in their development. Similarly, Batson and Yoder (2012) suggest employees may deliver superior performance in

exchange for workplace coaching. In sum, using SET and LMX as our framework, we posit that formal coaching surpasses informal coaching and no coaching because formal coaching is extraordinary, intimate, and encourages ongoing reciprocation, leading to enhanced work-related outcomes.

Hypotheses

Fundamentally, we compare two groups: (1) participants who have received formal coaching with (2) participants who have not. Our hypotheses are driven by SET and LMX, proposing that formal coaching has a greater impact on employee attitudes and behaviours compared with alternative approaches. Formal coaching sessions are salient events, signalling to employees that their supervisor is investing in their development. SET and LMX predict that when employees view formal coaching as a valuable job resource, they develop a felt obligation (Haar & Spell, 2004) and reciprocate with positive work attitudes and behaviours.

Our hypotheses focus on positive and negative outcomes. The positive set includes meaningful work, defined by Spreitzer (1995, p. 1443) as 'the value of a work goal or purpose, judged in relation to an individual's own ideals or standards. Meaning involves a fit between the requirements of a work role and beliefs, values, and behaviours'. Meaningful work promotes outcomes including creativity (e.g. Ghafoor & Haar, 2019) and well-being (e.g. Lips-Wiersma et al., 2023). Prior research supports a positive relationship between workplace coaching and meaningful work (e.g. B. Kim & Lee, 2024). We also examine Organisational Citizenship Behaviours (OCBs), defined by Organ et al. (2006, p. 3) as 'an individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and in the aggregate promotes the efficient and effective functioning of the organization'. These behaviours typically target (1) individuals (e.g. co-workers) and (2) the organisation. Nguyen and Haar (2024) note that OCBs are 'a critical determinant of organizational effectiveness and performance' (p. 3). Additionally, S. Kim and Kuo (2015) previously reported a positive relationship between workplace coaching and OCBs.

Under SET and LMX, we expect that compared with participants not formally coached, those that have experienced formal coaching will report significantly higher levels of meaningful work as they recognise and reciprocate the effort their supervisor invests in them. Formal coaching enhances an employee's experience, making work more meaningful. Similarly, OCBs should be influenced by the supervisor under LMX because employees who receive formal coaching should respond with greater OCBs, reciprocating the value of coaching. LMX predicts that supervisory attention via formal coaching promotes extra-role behaviours, encouraging employees to contribute more to the organisation. This leads to our first hypothesis.

Hypothesis 1: *Employees receiving formal coaching will report significantly higher levels of (a) meaningful work, and (b) OCBs compared with those who are not formally coached.*

Our second set of outcomes examines negative work factors, which are detrimental to the organisation. Turnover intentions refer to thoughts of quitting (Dwivedi, 2015), which pose high costs for organisations (Haar, 2023). Previous research has shown a negative

relationship between workplace coaching and turnover intentions (see Ali et al., 2018). The other negative outcome we explore is counterproductive work behaviours (CWBs), which are defined as 'intentional employee behavior that is harmful to the legitimate interests of an organization' (Dalal, 2005, pp. 1241–1242). A meta-analysis by Dalal (2005) found only a modest negative relationship between OCBs and CWBs, confirming that CWBs are distinct rather than simply the opposite of OCBs. Moreover, and significantly, CWBs may harm workplace outcomes and employee wellbeing (Robinson & Bennett, 1995). Raza and Ahmed (2020) previously reported a negative relationship between workplace coaching and employee deviance. Under SET and LMX, employees who have not received formal coaching should report higher levels of negative outcomes because they feel deprived, leading to greater turnover intentions and deviant workplace behaviours. Conversely, employees who have received formal coaching should report lower negative work-related attitudes and behaviours because they recognise the value they have been given. This leads to our second hypothesis.

Hypothesis 2: *Employees receiving formal coaching will report significantly lower levels of (a) turnover intentions, and (b) CWBs compared with those who are not formally coached.*

Method

Along with our deductive approach to theory, the following sub-sections confirm our ontological (objectivist) and epistemological (positivist) worldview.

Sampling and participants

Data from 601 employees from Aotearoa New Zealand was collected via a Qualtrics^{XM} panel, where participants receive compensation and remain anonymous. Prior research supports panels as effective sampling methods (e.g. Haar et al., 2022). The participants in our study were all 18 years or older, engaged in paid employment across three sectors and 20 industries. They worked for organisations of varying sizes, ranging from fewer than ten employees to over 1,000.

Measures

We selected four outcome variables and modelled them as latent constructs. Unlike variables that can be observed directly (e.g. age, gender, eye colour) latent constructs are abstract concepts (e.g. happiness, and loyalty). To quantify these, researchers develop scales comprising multiple observable variables (items) (Bell et al., 2019). This section identifies the scales, and a sample of items used to capture and quantify the four outcome variables.

Except where otherwise noted, all items were coded 1 = strongly disagree to 5 = strongly agree. As an indicator of internal reliability, we report construct reliability (*CR*). Traditionally, Cronbach's alpha (α) has been used, but it assumes equal factor loadings across indicators (tau-equivalence). Given factor loadings typically vary in structural equation models, construct reliability (*CR*) is preferred

(Cheung et al., 2023). *CR* for all variables exceeded the recommended cut-off of ≥ .70 (Fornell & Larcker, 1981; Hair et al., 2014), confirming the internal reliability of our measures.

Formal coaching status was measured using a single item: 'In the past six months, how many one-on-one meetings (coaching conversations) has your direct supervisor had with you to discuss/improve your performance on the job?' Participants scoring 1 or more were assigned to the coached group (formally coached). Participants scoring 0 were assigned to the no-coach group (i.e. informal coaching and no coaching). This measure differentiates between formal and informal coaching events because the wording emphasises structured, one-on-one meetings and is specifically focused on discussing and improving job performance. This aligns with the characteristics of formal coaching which is planned, has a clear purpose, and is conducted in a dedicated setting, making it memorable. Also, because the measure asks for a count of discrete, identifiable coaching conversations over a six-month period, it suggests an expectation of scheduled events rather than casual, ad-hoc guidance. In contrast, informal coaching tends to be more spontaneous and weaved into everyday interactions without a set structure, making events harder to recall.

OCB Organisational and OCB Individual were measured using four items each from Lee and Allen (2002), coded 1 = never to 5 = almost always. Sample items include 'I defend the organisation when other employees criticise it' (organisational, *CR* = .80) and 'I assist co-workers with their duties' (individual, *CR* = .80).

Meaningful Work was measured using three items from Spreitzer (1995). A sample item is 'The work I do on this job is meaningful to me' (*CR* = .94).

Turnover Intentions was measured using four items from Kelloway et al. (1999). A sample item is 'I am thinking about leaving my organisation' (*CR* = .95).

Counterproductive Work Behaviours was measured using three items developed by Bennett and Robinson (2000) (from Labban & Bizzi, 2022), coded 1 = never to 5 = almost always. A sample item is 'I put in little effort at work' (*CR* = .80).

Propensity score matching

When comparing two groups, where one receives treatment (e.g. formal workplace coaching) and the other does not, it is ideal when both groups are equivalent on characteristics other than the treatment. This ensures any between-group difference can be attributed solely to the treatment effect (Hammack-Brown et al., 2024). To strengthen confidence that the difference between our coached and no-coach groups resulted from coaching status alone we applied propensity score matching (PSM), an advanced statistical technique that reduces the risk of selection bias in non-random samples. PSM is used in other fields including medicine and education. For example, Wang et al. (2021) used PSM to compare hospital patients with severe COVID-19 on clinical improvement rates, finding no difference between the treatment group (treated with traditional Chinese medicine and normal care) and the control group (normal care only). Similarly, Melguizo et al. (2011) applied PSM when estimating differences in higher education outcomes, showing that the treatment group (community college path students) experienced lower educational achievement compared with the control group (4-year college path students).

As noted by Pousa and Mathieu (2015), most social science studies rely on non-random sampling. However, the use of PSM remains infrequent (Melguizo et al., 2011). In the work-place coaching literature, we found just one study where PSM had been used (see Hammack-Brown et al., 2024), where the authors highlight PSM as an ideal approach when an experimental design is not feasible (e.g. when researching organisations in their natural state). Keiffer and Lane (2016) agree, noting in HRD research, experimental designs can be problematic due to ethical and economic concerns, and the physical environment. In our quasi-experimental design, data was sourced from panellists that were not randomly assigned to groups, so PSM was a logical choice.

PSM utilises observed variables (i.e. participant characteristics) to balance two or more non-random groups, mimicking random group assignment (Keiffer & Lane, 2016). The result is groups containing an equal number of cases, closely matched on the propensity scores of the observed variables (as one would expect from random group assignment). A limitation of PSM is that the sample size can be reduced during matching because cases that cannot be closely matched are discarded. Despite this, we adopted PSM to ensure that differences between the two groups in our study were due to coaching status only.

Prior to score matching, we examined our initial sample ($n = 601$) for between-group differences on age, gender, tenure, and level of education. A series of t-tests ($p \leq .05$) showed statistical differences in age, tenure, and level of education, indicating selection bias. PSM produced a matched sample ($n = 412$, 205 per group), ensuring statistical equivalence ($p > .05$) across age, gender, tenure, and level of education, effectively eliminating the selection bias.

The matched sample had an average age of 47.31 years ($SD = 12.56$) and was predominantly female (64%). Average tenure was 9.22 years ($SD = 6.66$), with 48% holding a bachelor's degree or higher. Participants worked in the private sector (60%), public sector (34%), or not-for-profit sector (6%).

Measurement model

To ensure a consistent factor structure and acceptable model fit across our two groups, we followed Pousa et al. (2018), estimating a separate confirmatory factor analysis (CFA) for each. Factor structures were identical, with standardised factor loadings of similar magnitude, statistically significant, and exceeding the accepted threshold (>.05) (Bagozzi & Yi, 1988). Model fit was evaluated using commonly accepted thresholds: comparative fit index (CFI) ≥.95, root mean squared error of approximation (RMSEA) ≤.08, and the standardised root mean square residual (SRMR) ≤.10 (Williams et al., 2009). Independent CFA results were acceptable. Coached group fit indices were $\chi^2(df) = 196.47(125)$, CFI = .97, RMSEA = .05, and SRMR = .05. No-coach group fit indices were $\chi^2(df) = 206.61(125)$, CFI = .97, RMSEA = .06, and SRMR = .07.

Measurement invariance testing

MI confirms that different groups interpret latent variable scales equivalently (Throuvala et al., 2021) and is a necessary precondition for group comparison. We conducted measurement invariance testing (MI) to ensure that the work-related outcome comparisons between our two groups were valid. MI testing examines group equivalence in

Table 1. Tests of measurement invariance.

Propensity Score Matched Sample ($n = 412$)								
Model	*df*	χ^2	*p*	RMSEA	SRMR	CFI	$\Delta\chi^2$	*p*
Configural	250	403.08	<.01	.055	.055	.967	–	–
Metric	263	423.23	<.01	.054	.059	.966	20.15	.09
Scalar	276	440.29	<.01	.054	.059	.965	17.05	.20

Note(s): *df* = degrees of freedom. RMSEA = root mean square error of approximation. SRMR = standardised root mean square residual. CFI = comparative fit index.

factor structure, magnitude of factor loadings, measurement scale, and residual invariance (Cheung & Rensvold, 2002). MI progresses stepwise through four increasingly stringent levels: configural, metric (weak), scalar (strong), and residual (strict) (Pousa et al., 2018). MI is established when the chi-squared difference between each progressively constrained model is non-significant ($p > .05$) and the model fit indices remain stable (Hammack-Brown et al., 2024). MI testing is common in workplace coaching research. For example, Pousa et al. (2018) conducted MI testing when exploring whether managerial coaching's impact on performance was stronger for females compared with males. Since our goal was to compare the latent means of work-related outcomes across two groups, achieving MI to the scalar level was a necessary precondition (Cheung & Rensvold, 2002; Müller & Schäfer, 2017).

Following Hammack-Brown et al. (2024) and Pousa et al. (2018), we conducted a multi-group confirmatory factor analysis (MGCFA). We first tested configural invariance (no model constraints), then metric (weak) invariance, where factor loadings were constrained to be equal across groups, and finally scalar (strong) invariance, where both factor loadings and intercepts were constrained to be equal across groups. The chi-squared difference test between progressively constrained models was non-significant ($p > .05$) at both metric and scalar levels, with model fit indices remaining acceptable and stable. As per Table 1, for the matched sample, MI was achieved to the scalar (strong) level.

Having met the requirement for comparing latent means (i.e. MI to the scalar level) (Tsaousis & Alghamdi, 2022), we proceeded to test our hypotheses by comparing latent mean difference between the coached and no-coach groups.

Latent mean comparison

Comparing group differences is a central analysis in HRD (Keiffer & Lane, 2016) and social sciences generally (Müller & Schäfer, 2017). Researchers typically use t-tests and analysis of variance (ANOVA) to estimate between-group differences (Müller & Schäfer, 2017). For example, when estimating the difference in workplace coaching skill between male and female supervisors, Hsieh and Huang (2018) estimating the summed average of a 20-item latent measure, and then conducted a t-test. However, compared with summed average approaches (i.e. t-test and ANOVA), structured means modelling (i.e. latent mean comparison) is more robust because it accounts for measurement error, enhances statistical power, and predicts more precise results (Müller & Schäfer, 2017). HRD researchers have previously been encouraged to adopt more advanced statistical methods (Keiffer & Lane, 2016). Since the four outcome variables in this study were modelled as

latent constructs, it made sense to adopt latent mean modelling and compare latent means (Müller & Schäfer, 2017).

Latent mean comparison has been used in health science and education. For example, Throuvala et al. (2021) estimated smartphone distraction differences across gendered groups, and Tsaousis and Alghamdi (2022) did the same when estimating differences in general academic ability. In workplace coaching, the only study we found using latent mean comparison was Hammack-Brown et al. (2024), which found no difference in coaching support between remote and office-based workers.

To estimate the latent mean difference between the two groups on our work-related outcomes, we followed Müller and Schäfer (2017). First, we conducted an MGCFA within a structural equation modelling framework. When specifying the model, we fixed the latent factor means for the no-coach group to zero, establishing it as the reference group against which the coached group could be compared. Additionally, factor loadings and intercepts were constrained to be equal across groups. Once these constraints were applied, we freely estimated the latent factor means for the coached group, interpreting the results as the latent mean difference between the no-coach group and the coached group.

Analytical software

We used the propensity score matching function in SPSS (version 29) to create a matched sample ($n = 412$) from our initial sample ($n = 601$). To assess MI and test our hypotheses, we used R statistical software (version 4.3). Specifically, we applied the R measureQ package (Cheung et al., 2023), and the R lavaan package (version 0.6.17) for structural equation modelling (Rosseel, 2012).

Results

Descriptive statistics for the initial sample are not reported but were comparable to the matched sample. Table 2 presents descriptive statistics and correlations for the matched sample only.

Propensity score matching

Table 3 presents results of the PSM process, comparing the initial and matched samples and highlighting the between-group differences.

Table 2. Descriptive statistics.

Propensity Score Matched Sample ($n = 412$)							
Variables	M	SD	1	2	3	4	5
1. Meaningful Work	3.60	.82	(.94)				
2. OCB (Organisation)	2.71	.72	.29†	(.80)			
3. OCB (Individual)	3.22	.60	.15*	.69†	(.80)		
4. CWBs	1.79	.61	−.46†	−.18†	−.17†	(.80)	
5. Turnover Intentions	2.50	1.22	−.46†	−.01	.09	.43†	(.95)

Notes: †=$p < .01$, *=$p < .05$.

Table 3. The differences between the coached and no-coach groups comprising the initial and matched samples.

	Initial Sample $n = 601$					Propensity Score Matched Sample $n = 412$				
	No Formal Coaching		Formally Coached			No Formal Coaching		Formally Coached		
	n = 206		n = 395			n = 206		n = 206		
Variables	n	%	n	%	*p*-value	n	%	n	%	*p*-value
Age					<.01					.48
18–30	20	9.71	70	17.72		20	9.71	22	10.68	
31–45	68	33.01	180	45.57		68	33.01	73	35.44	
46–60	81	39.32	108	27.34		81	39.32	77	37.38	
Over 61	37	17.96	37	9.37		37	17.96	34	16.50	
Gender					.66					.41
Male	71	34.47	129	32.66		71	34.47	79	38.35	
Female	135	65.53	266	67.34		135	65.53	127	61.65	
Tenure					<.01					.54
< 1–4 years	73	35.44	180	45.57		73	35.44	73	35.44	
5–10 years	60	29.12	131	33.16		60	29.12	66	32.03	
11–16 years	31	15.05	43	10.89		31	15.05	31	15.05	
17 years or more	42	20.39	41	10.38		42	20.39	36	17.48	
Level of Education					<.01					.93
High School	59	28.64	68	17.21		59	28.64	58	28.16	
Technical College	47	22.82	89	22.53		47	22.82	52	25.24	
Bachelor's Degree	73	35.43	157	39.75		73	35.44	64	31.07	
Post-Grad	27	13.11	81	20.51		27	13.11	32	15.53	

In the initial sample ($n = 601$), the group sizes were unequal (coached $n = 206$; no-coached $n = 395$) and showed statistically significant differences ($p \leq .05$) in age, tenure, and level of education. After PSM, the matched sample contained an equal number of cases ($n = 206$ per group) and showed no statistical differences in age, gender, tenure, or level of education. This result mimics random group assignment (Hammack-Brown et al., 2024) and ensures that between-group differences are likely due to the coaching status rather than age, gender, tenure, or level of education.

Latent mean comparison

Table 4 illustrates the latent mean difference between the no-coach group (reference group) and the coached group on the outcome variables.

Table 4. Latent mean difference between coached and no-coach groups on the dependent variables.

Propensity Score Matched Sample ($n = 412$)		
Variables	Group Difference β	*p*-value
1. Meaningful Work	.31	.01
2. OCB (Individual)	.30	.01
3. OCB (Organisation)	.47	<.01
4. Turnover Intentions	−.07	.48
5. CWBs	−.08	.49

Note(s): Group Difference β is the standardised latent mean difference between the no-coach (reference group) and the coached group.

As hypothesised, participants who received formal coaching reported significantly higher levels of meaningful work (β = .31, p = .01) and OCBs individual (β = .30, p = .01) and organisational (β = .47, p < .01), supporting Hypothesis 1(a) and (b). Conversely, formally coached participants exhibited weaker turnover intentions and CWBs, but the latent mean differences were not statistically significant (p > .05for both). Thus, Hypothesis 2(a) and (b) were not supported.

Discussion

Results indicate that formally coached participants exhibited stronger positive attitudes and behaviours (i.e. meaningful work and OCBs) compared to those without formal coaching. This supports our position that formal workplace coaching is a more effective approach for strengthening workplace attitudes and behaviours compared with informal coaching and no coaching. Our findings align with prior research. Using SET, S. Kim and Kuo (2015) found a positive relationship between workplace coaching, OCBs, and in-role performance. Similarly, using LMX, Tanskanen et al. (2019) reported that workplace coaching enhances individual and team level performance, particularly when leader-member exchange relationships are strong.

Regarding negative work-related outcomes (i.e. turnover intentions and CWBs), we hypothesised that formally coached participants would exhibit weaker negative attitudes and behaviours than those without formal coaching. While the latent means for turnover intentions and CWBs were both comparatively weaker (as expected), the between-group difference was not statistically significant, challenging our assumption. This result mis-aligns with past findings. Ali et al. (2018) reported a negative relationship between workplace coaching and turnover intentions, and Raza and Ahmed (2020) did the same for employee deviance. However, turnover intentions are shaped by various factors, including counterproductive work behaviours (see Carpenter & Berry, 2017), and job dissatisfaction, career stagnation, and economic conditions (Hom et al., 2017; Stone, 2017). Additionally, in developing a scale for turnover intentions, Dwivedi (2015) notes that employees leave for diverse, non-standard reasons. Similarly, CWBs may be influenced by thrill seeking tendencies (Bennett & Robinson, 2000), or personality factors like narcissism (Grijalva & Newman, 2015) that counterbalance the felt obligation generated by formal coaching (Haar & Spell, 2004). Moreover, OCBs are more visible to supervisors, while CWBs are harder to detect, possibly making employees less inclined to reduce them. We further acknowledge that the non-significant result may be due to participant non-self-disclosure of turnover intentions and CWBs. However, our approach was consistent with the literature, and participants were anonymous, so there was no advantage to be untruthful. Ultimately, our findings suggest the felt obligation created by formal coaching was too weak to overcome the complex drivers of turnover intentions and CWBs, leading to important theoretical implications, which we explore next.

Implications for theory

Based on SET and LMX, we hypothesised that formal coaching would be superior to alternative approaches (i.e. informal and no coaching), and that a supervisor's offer of

formal coaching would create a felt obligation in employees (Haar & Spell, 2004), leading to reciprocity in the form of improved work-related attitudes and behaviours (S. Kim & Kuo, 2015; Tanskanen et al., 2019). While SET and LMX successfully predicted between-group differences in positive outcomes (i.e. meaningful work and OCBs), they did not account for the absence of difference in negative outcomes (i.e. turnover intentions and CWBs). This suggests the need to explore alternative theories that may explain why offers of formal coaching did not reduce negative work-related attitudes and behaviours.

Psychological Reactance Theory (PRT) (Brehm, 1966) argues that individuals view themselves as autonomous agents, free to act as they choose. When this freedom is threatened, they tend to resist (Steindl et al., 2015). In our study, participants offered formal coaching may have viewed the implied obligation to reciprocate to be an unwelcome constraint on their autonomy, motivating them to resist by preserving their negative work-related attitudes and behaviours.

Implications for research

To advance HRD research, we have responded to the call by Keiffer and Lane (2016) by adopting best practice methods when comparing non-randomly assigned groups on work-related outcomes. Whilst random sampling remains the gold standard for generalisability (Bell et al., 2019), a significant strength of our quasi-experimental design is the application of PSM to transform our non-random initial sample into two equally sized groups, matched on age, gender, tenure, and level of education. As a result, our matched sample of $n = 412$ mimicked random group assignment (Hammack-Brown et al., 2024), minimising sampling bias and enhancing confidence in the generalisability of the findings. Although non-random sampling is common in organisational research (Pousa & Mathieu, 2015), researchers can still take steps to reduce sampling bias, and we advocate PSM as a method for achieving this.

Another strength of our study is that we adopted latent means modelling when comparing the difference between our groups. Because we modelled our outcome variables as latent constructs, it made sense to compare latent mean difference rather than take a summed average approach (Müller & Schäfer, 2017). We found just one other workplace coaching study among the literature where latent means were compared (see Hammack-Brown et al., 2024). This suggests the use of structured means modelling is underutilised, and we recommend HRD researchers consider this method when comparing groups measured with latent variables because it can produce more precise and reliable results (Müller & Schäfer, 2017).

Implications for practice

Formal workplace coaching is distinct from no coaching, but we also suggest it is distinct from informal coaching which is typically more frequent, shorter in duration, and less structured (Dixey, 2015). Compared with informal coaching, formal coaching is extraordinary because it extends beyond routine supervision, sending a strong signal that employees are valued, and have potentially reached insider status (Zhao & Liu, 2020). When supervisors dedicate extended one-on-one time to coach employees for improved performance, it is unsurprising that employees recognise it as a valuable job resource. In

contrast, informal coaching is often opportunistic, routine, and immediate (Grant, 2017), which some employees appraise as general supervision (Dixey, 2015).

Some supervisors prefer informal coaching because it requires less time and aligns with organisational constraints (Grant, 2017, p. 39). Others perceive formal coaching as more confrontational and potentially less effective (Dixey, 2015). However, our findings suggest otherwise. We found that employees receiving formal coaching view their work as more meaningful and demonstrate stronger OCBs. Therefore, we recommend that HRD practitioners integrate formal coaching as a core leadership competency and train supervisors to be experts.

It is acknowledged that effective workplace coaching requires time, effort, and commitment (Milner et al., 2023). However, HRD practitioners could help by ensuring supervisors receive ongoing training in best practices (Ellinger, 2013). Additionally, HRD practitioners could foster a coaching culture by developing organisational policies that encourage employees at all levels (coaches and coahees) to take an active role in the process (Koskinen & Anderson, 2023). For example, HRD practitioners could advocate for investment in digital platforms that streamline coaching efforts, such as tracking sessions, monitoring goal progress, and providing feedback. This would ensure supervisors are better equipped to balance their role as leader and coach, something recommended in the literature (B. Kim & Lee, 2024).

Limitations

Our data was collected using a self-reported instrument, at a single point in time, from employees only, not the supervisors who do the coaching. Whilst this practice is common in workplace coaching research (Dahling et al., 2016), it introduces the risk of common method variance, a systematic error which can may affect reliability and validity of results (Podsakoff et al., 2012). Also, we captured formal coaching events only, so cannot say whether participants also received informal coaching or not. Certainly, the literature acknowledges informal coaching (see Dixey, 2015; Grant, 2017), but its unstructured, spontaneous nature makes informal coaching challenging to measure accurately. Therefore, we deliberately focused on estimating differences in work-related outcomes between those who received formal coaching versus those who did not.

Future research

We chose a quantitative approach to examine the difference in work-related outcomes between two groups because it is systematic, allows for the statistical analysis of large data samples, producing precise results and findings that are generalisable to larger populations. However, some readers may prefer a deeper exploration of individual participant motivations and experiences, which a qualitative approach could provide. For example, comparing the perspectives of individual employees and their supervisors on the outcomes of workplace coaching sessions.

We proposed that employees offered formal coaching would reciprocate with stronger work-related attitudes and behaviours compared to those not formally coached. While our hypotheses held for positive attitudes and behaviours (i.e. meaningful work and OCBs) they did not hold for negative work-related attitudes and

behaviours (i.e. turnover intentions and CWBs). This suggests that negative work-related factors may be more complex, with additional unknown influences counteracting the effects of felt obligation generated by formal coaching. Replication and further theoretical exploration (e.g. Reactance Theory) may help explain why the negative work-related attitudes and behaviours for our coached and no-coach groups were equivalent.

We also encourage research into measuring informal coaching events accurately, allowing for a tri-group comparison of formally coached, informally coached, and no coaching groups on work related outcomes. Finally, future research could examine how formal coaching, informal coaching, and no coaching impacts on supervisors, exploring factors such as job demands, role conflict, and job satisfaction.

Conclusion

The practice of workplace coaching continues to expand (Ellinger, 2013; Schermuly et al., 2022). Guided by SET and LMX and employing advanced statistical techniques, this study develops HRD by demonstrating that formally coached employees exhibit stronger positive work-related attitudes and behaviours compared with those not formally coached. To achieve the highest level of accuracy and reliability of results, we encourage HRD academics to adopt advanced statistical techniques (i.e. PSM and latent mean modelling) when estimating the difference between non-randomly assigned groups. For HRD practitioners, we advocate for formal workplace coaching as a core leadership competency and recommend that supervisors at all levels be trained and empowered to formally and effectively coach their employees.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Ethical declaration

This research meets the ethical standards prescribed by Massey University, Auckland, New Zealand. A low-risk notification was acknowledged by the Human Ethics Committee on 30 April 2024. Application ID: 4000028883.

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