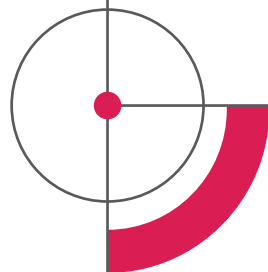





# **EMPLOYEE** **ENGAGEMENT**

An evidence review



**Scientific summary**  
January 2021

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The CIPD is the professional body for HR and people development. The registered charity champions better work and working lives and has been setting the benchmark for excellence in people and organisation development for more than 100 years. It has more than 150,000 members across the world, provides thought leadership through independent research on the world of work, and offers professional training and accreditation for those working in HR and learning and development.

# Employee engagement: an evidence review

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## 1 Rationale for this review

It is widely believed that when employees feel engaged with their job role and the purpose of their organisation, they are not only likely to be happier, healthier and more fulfilled, but will likely deliver better performance, contribution and innovation. Employee engagement has become popular in mainstream management thinking and rhetoric over the last decade, as organisations seek to ensure their people 'buy in' to their values and philosophy. While this assumption makes sense from a managerial perspective, we want to establish how well it is supported, or contradicted, by scientific evidence.

A practitioner-focused evidence review on the link between engagement and performance was published by Engage for Success in 2012.<sup>1</sup> Since then, a good deal of new research has been published on the area.<sup>2</sup> In addition, we did not find a review that distinguished evidence that employee engagement predicts performance from that which only shows association. As we discuss in the evidence review discussion report, this is important because reverse causality is possible: correlations may be explained by good performance increasing or predicting employee engagement, not vice versa. Finally, much discussion of employee engagement uses very different measures interchangeably; these needed to be disentangled while answering the question of how engagement predicts performance.

For these reasons, the CIPD undertook an up-to-date review of the research literature to learn about how different measures of employee engagement predict work performance. This report describes how we achieved this through a rapid evidence assessment (REA) and summarises the findings. It accompanies three other reviews of the scientific literature on:

- antecedents and outcomes of organisational commitment
- antecedents and outcomes of organisational identification
- antecedents and outcomes of work motivation.

These scientific summaries and the discussion report are all available at:  
[cipd.co.uk/evidence-engagement](http://cipd.co.uk/evidence-engagement)

## 2 What is a rapid evidence assessment?

Evidence reviews come in many forms. One of the best known is the conventional literature review, which provides an overview of the relevant scientific literature published on a topic. However, a conventional literature review's trustworthiness is often low: clear criteria for inclusion are lacking and studies are selected based on the researcher's individual preferences. As a result, conventional literature reviews are prone to bias. This is why 'rapid evidence assessments' (REAs) are used. An REA is a specific research methodology that aims to identify the most relevant studies on a specific topic as comprehensively as possible, and to select appropriate studies based on explicit criteria. In addition, the methodological quality of the studies included is assessed by two independent reviewers on the basis of explicit criteria. In contrast to a conventional literature review, an REA is transparent, verifiable, and reproducible, and, as a result, the likelihood of bias is considerably smaller.

### **3 Main question: What does the REA answer?**

What is known in the scientific literature about the relationship between employee engagement and work performance?

Sub-questions:

- 1 What constitutes employee engagement?
- 2 How can employee engagement be measured?
- 3 What is the evidence that employee engagement predicts performance?

### **4 Search strategy: How was the research evidence obtained?**

Four databases were used to identify studies: ABI/INFORM Global from ProQuest, Business Source Premier from EBSCO, PsycINFO from Ovid, and Google Scholar. Our search applied the following general search filters:

- 1 scholarly journals, peer-reviewed
- 2 articles in English.

A search was conducted using combinations of various search terms, including 'employee engagement', 'performance' and 'workplace'. In addition, the references listed in the retrieved studies were screened in order to identify additional studies for possible inclusion in the REA. We conducted six different search queries, which yielded 600+ studies. An overview of all search terms and queries is provided in Appendix 1.

### **5 Selection: How were studies selected?**

Study selection took place in two phases. First, titles and abstracts of the 600+ studies identified were screened for relevance. In case of doubt or lack of information, the study was included. Duplicate publications were removed. This first phase yielded 229 meta-analyses and 123 primary studies. Second, studies were selected based on the full text of the article using these inclusion criteria:

- 1 type of studies: focusing on quantitative, empirical studies
- 2 measurement: only studies in which relationships among employee engagement and workplace performance were quantitatively measured
- 3 context: only studies related to workplace settings
- 4 level of trustworthiness: only studies that were graded level C or above (see below).

### **6.1 Critical appraisal: How was the quality of the evidence judged?**

In almost any situation it is possible to find a scientific study to support or refute a theory or a claim. Thus, it is important to determine which studies are trustworthy (that is, valid and reliable) and which are not. The trustworthiness of a scientific study is first determined by its methodological appropriateness. To determine the methodological appropriateness of the included study's research design, the classification system of Shadish et al<sup>3</sup> and Petticrew and Roberts<sup>4</sup> was used. In addition, a study's trustworthiness is determined by its methodological quality (its strengths and weaknesses). For instance, was the sample size large enough and were reliable measurement methods used? To determine methodological quality, all the studies included were systematically assessed on explicit quality criteria.

Finally, the effect sizes were identified. An effect (for example a correlation, Cohen's d or omega) can be statistically significant but may not necessarily be of practical relevance: even a trivial effect can be statistically significant if the sample size is big enough. For this reason, the effect size – a standard measure of the magnitude of the effect – of the studies included was assessed.

For a detailed explanation of how the quality of included studies was judged, see *CEBMA Guideline for Rapid Evidence Assessments in Management and Organizations*.<sup>5</sup>

## 6.2 Critical appraisal: What is the quality of the studies included?

Our search yielded six relevant systematic reviews and meta-analyses.<sup>6</sup> Of these, none specifically analysed longitudinal or controlled studies, so none were graded above level B, which indicates a moderate level of trustworthiness.

In relation to our main question, this means that the systematic reviews only present findings on the *association* between work engagement and performance; we cannot draw any conclusions from this research about whether engagement predicts performance.

In addition, therefore, we reviewed longitudinal studies that provided evidence on whether engagement is not only associated with, but predicts performance. Our search yielded 23 relevant studies. There was one randomised controlled study graded level A (90% trustworthiness), while none of the other 22 included were graded above level B (80% trustworthiness). Most studies were either interrupted times series or non-controlled before and after studies, so the level of appropriateness was moderate to low.

## 7 Main findings

### a. What is employee engagement and how is it measured?

#### Definitions and measures

In scientific research, the dominant view of employee engagement is that it is a psychological state, but it is also seen as either 'a composite attitudinal and behavioural construct' or an 'employment relations practice'.<sup>7</sup> Based on their systematic review of 172 empirical papers and 38 literature reviews, Bailey et al (2015) identify four categories of definitions of *state engagement*:

- *Personal role engagement*, based on the work of Kahn<sup>8</sup>, being employees' ability to express their preferred selves in their work. Three dimensions are described: emotional, cognitive and physical engagement.
- *Work engagement*, also called task or job engagement: a cognitive, behavioural and emotional state experienced by employees. This is commonly described as having three dimensions: vigour towards work, dedication to work and absorption in work activity.<sup>9</sup> It is seen as the antithesis, or at least a close opposite of burnout.
- *Multidimensional engagement*: a less common definition that distinguishes between employees' engagement with their work and with their organisations more generally.
- *Self-engagement with performance*: a rare definition based on how important employees regard high performance.

Separately, Bailey and colleagues identify measures that treat employee engagement as a mix of attitudes and behaviour. These composite measures are problematic, being the point at which practitioner and consultant measures tend to depart from a more rigorous scientific approach:

*The ‘engagement as composite’ view is most akin to what many practitioners understand as ‘employee engagement’, since it encompasses a range of positive attitudes towards the organisation and work setting. Only a small minority of studies using this approach have been published in peer-reviewed journals and most efforts to operationalise engagement under this heading have failed to demonstrate its validity as a construct or discriminant, despite its potential interest to practitioners.<sup>10</sup>*

Finally, views of engagement as an *employment relations practice* concern management activity. This is ‘*in the sense of “doing engagement” rather than “being engaged”*’,<sup>11</sup> and is not the focus of our review.

The studies in our review that provided the strongest evidence of an engagement link with performance used a version of the Utrecht Work Engagement Scale (UWES).<sup>12</sup> The creators<sup>13</sup> of the UWES define engagement as a ‘*positive, fulfilling, work-related state of mind*’, and an engaged employee tends to have a strong sense of vigour towards, dedication to and absorption in work activities.

### **Stability of employee engagement**

As well as defining engagement, it’s important to consider its stability as a concept – that is, how quickly and easily levels of engagement are liable to change. Over three time points, a seven-year study found work engagement to be ‘*a highly stable state of mind*’ and that the stable component of its measurement explained most of the variance.<sup>14</sup> Indeed, comparing the stability of work engagement with other constructs, the study found it to be far more stable than other work-related measures of wellbeing, including job satisfaction and burnout.

From their review on the meaning of employee engagement, Macey and Schneider (2008)<sup>15</sup> sum up this idea neatly:

*In the folk, practitioner, and researchers’ conceptual use of the term, engagement presumes a relatively stable state unlike the implied ebb and flow of a transient psychological state. That is, engagement is expected to be relatively constant, given the continued presence of specific and recognizable job and organizational factors. (Macey and Schneider 2008, p11)*

On this basis, we can question the value of short-term studies of work engagement, such as short-term diary studies over a week. More importantly, managers should not expect to be able to change or foster engagement over the short term.

However, an interesting counterpoint comes from Myrden and Kelloway,<sup>16</sup> who did indeed conduct a study using five daily surveys. While their methods of exploring the association between engagement and performance were cross-sectional, they found that for measures of employee engagement, ‘*20 percent of the variance is between-person, 80 percent within-person*’. This suggests a relatively low level of construct stability, especially given the short timeframe of the study. The authors note, ‘*although a number of studies to date conceptualize engagement as a relatively stable construct that varies between persons, recent research has indicated that engagement is subject to day-level fluctuations (Sonnentag, 2003<sup>17</sup>; Breevaart et al, 2014<sup>18</sup>), which is why a diary approach was utilized.*’ This research provides some evidence that engagement may in fact may be a more complex construct than first suggested.

### **b. Does employee engagement predict performance?**

Research literature generally assumes a causal mechanism to explain why engaged workers perform better. Bakker and Demerouti outline this assumption:<sup>19</sup>



*There are at least four reasons why engaged workers perform better than non-engaged workers. Engaged employees often experience positive emotions, including happiness, joy, and enthusiasm; experience better health; create their own job and personal resources; and transfer their engagement to others. (Bakker and Demerouti 2008, p215)*

Below we present our findings, considering first the systematic reviews and meta-analyses, and second single longitudinal studies uncovered by our literature search. We take this approach because the systematic reviews give us a good overview of the associations between engagement and performance, but do not separate out studies that show prediction.

### **Systematic reviews and meta-analyses**

Most of the systematic reviews covered work and employee engagement, which we group together, and two covered satisfaction–engagement.

#### **Work engagement and employee engagement**

Bailey et al (2017)<sup>20</sup> conducted a systematic review of 214 studies exploring the meaning, antecedents and outcomes of employee and work engagement. Of the 214 studies, 42 examined the performance outcomes of engagement. Studies generally fell under two sub-categories: higher-level performance outcomes, such as organisational or team performance; and individual-level outcomes – specifically task performance, extra-role performance and counterproductive performance. The studies analysed found there to be a positive association between both work and employee engagement and these performance outcomes.

Christian et al (2011)<sup>21</sup> conducted a systematic review of 200 published and over 30 unpublished research articles exploring work engagement and its relationship with job performance. In this review, measures of work engagement had to refer to the *actual work* performed and a *psychological investment* in the work. These measures included the UWES, used by the vast majority of studies, as well as the Demerouti et al (2003) Disengagement scale<sup>22</sup> and the Shirom-Melamed (2004) Vigor Measure.<sup>23</sup> Job performance was divided into task performance, or any behaviour related to the substantive tasks required by the job, and contextual performance, or that which is not formally required as part of the job but helps shape the social and psychological context of the organisation. Through analysis of the studies, the researchers found evidence that engagement is related to job performance. While the review describes the findings in terms of prediction, the researchers recognise that the review draws on cross-sectional data.

Keyko et al (2016)<sup>24</sup> included 18 studies in their systematic review examining the relationships between work engagement and antecedent or outcome factors. Of the 17 quantitative studies included in the review, all but two used the UWES to measure work engagement. One of the key outcomes, performance and care, concerned various aspects of nurses' performance, organisational outcomes and patient outcomes. Three of these – voice behaviour, perceived care quality and work effectiveness – were reported to have a statistically significant increase with higher work engagement. Unfortunately, due to heterogeneity of the antecedent and outcome variables studied, the review reported statistical significance only, and not effect sizes.

Motyka's (2018)<sup>25</sup> systematic literature review explores the relation between employee engagement and numerous categories and subcategories of performance. Building on Bailey et al (2017)<sup>26</sup> above, this review highlights the increased prevalence of studies exploring this relationship in recent years (from 31 in 2011 to 90 in 2017). Motyka's research analyses 71 publications in detail. As with Christian et al (2011),<sup>27</sup> the majority of studies analysed in Motyka's review focused on process performance – or, more simply, task and contextual performance – at the individual level. Of the 71 studies, 48 found a statistically significant relationship between employee engagement and task performance. Forty-six



studies examined the association between work engagement and contextual performance, with 36 of these confirming an association between these.

### ***Satisfaction–engagement***

Two meta-analyses<sup>28,29</sup> led by Gallup explore the relationship between engagement and performance further. However, it should be noted that the studies have been critiqued for their measures of engagement, which appears to conflate the term with job satisfaction. In fact, their measure of employee engagement has been found to strongly correlate (.91) with job satisfaction. Bailey et al (2017) omitted papers referring to the Gallup measure, citing their scales as ‘very broadly defined’ and ‘lacking in construct or face validity’.<sup>30</sup>

### **Single studies**

From our search and the above systematic reviews, we identified single studies that used a longitudinal study design to investigate whether employee or work engagement predict performance.

### ***Engagement as a predictor of performance***

A randomised controlled study<sup>31</sup> exploring the influence of transformational leadership on performance primed participants in the transformational leader (TFL – intervention) condition through providing them with inspiring vignettes, while those in the non-TFL (control) condition were shown factual vignettes. Work engagement at time 1 was found to predict performance outcomes at time 2, namely quality of ideas, quantity of ideas and persistence, all with a small effect. Because this study was conducted in a single sitting, however, it provides evidence that levels of engagement predict performance in the short term, and does not give any indication of how enduring the effect is.

Through a weekly questionnaire given to participants over five consecutive weeks, one study<sup>32</sup> found work engagement to predict both in-role and extra-role performance, after controlling for job resources as a mediator.

Further research strengthens the notion of employee engagement as a predictor of job performance, notably one interrupted time-series study<sup>33</sup> conducted in three waves, exploring justice and insecurity, engagement and performance. Justice and insecurity at time 1 was found to predict engagement at time 2, which, in turn, predicted performance at time 3. Again, this was only a small effect.

Similar methods were used in another study<sup>34</sup> where diaries were filled in at three points over three months, and work engagement was found to be a significant predictor of in-role and extra-role performance. However, this study did not report effect sizes. Another study,<sup>35</sup> surveying technicians and their supervisors over three time periods over six months, again found work engagement at time 2 to predict task performance at time 3. Once again, however, there were no effect sizes reported.

### ***Correlation between engagement and self, supervisor and co-worker-perceived performance***

One study found engagement in military cadets to be positively related to performance as rated by their tactical officers three months later.<sup>36</sup> This research links more transparent communication from leaders at time 1 with higher levels of follower engagement at time two, which, in turn, influences third-party perceptions of performance at time 3. Another similar study<sup>37</sup> assessed the effect of work engagement at time 1 with job performance at time 2, two months later, measured by each participant, their supervisor and closest co-worker. Time 1 work engagement was found to be associated with self-rated, supervisor-rated and co-worker-rated performance at time 2, with a very small effect. An important limitation of the study is that it did not assess changes in key variables; engagement was only measured at time 1 and performance only at time 2. Thus, while strictly speaking longitudinal, it is not a very appropriate design to show a predictive relationship.

### ***Crossover from one employee to another***

Building on the above evidence of a link between engagement and performance, one study found this effect to cross over from one employee to another in an exploration of 62 employee–colleague dyads.<sup>38</sup> Particularly on days when colleagues communicated frequently, work engagement was found to cross over from the employee to their colleague, whose performance was subsequently enhanced.

### ***Work engagement as a mediator of different outcomes***

Work engagement has been explored as a mediator of the effect of several variables, notably organisation mission fulfilment and perceived organisational support,<sup>39</sup> procedural justice,<sup>40</sup> higher performance work practices,<sup>41</sup> leader–member exchange<sup>42</sup> and workplace ostracism<sup>43</sup> on performance outcomes – such as service recovery and creative performances<sup>44</sup> and extra-role behaviours like organisational citizenship behaviour, knowledge-sharing and innovative work.<sup>45</sup> Throughout these studies, work engagement has been found to have a positive effect on job performance.

One study<sup>46</sup> explored work engagement as a mediator of the relationship between job crafting and two performance outcomes: in-role performance and organisational citizenship behaviour (OCB) towards individuals. This research, conducted at three time points, found work engagement at time 3 to be significantly associated with in-role performance at time 3, with a small effect, but not with OCB. This only indicates that the relationship between engagement and performance is correlational, rather than predictive.

In some cases, research has found that work engagement does in fact have a greater effect on other outcomes, such as affective organisational commitment<sup>47</sup> and absence intentions.<sup>48</sup>

### ***The reciprocal relationship between engagement and performance***

There is even research to suggest that performance may in fact predict engagement. One study<sup>49</sup> explored the potential reciprocal relationship between positive orientation (self-esteem, optimism and life satisfaction), work engagement and entrepreneurial success (the entrepreneur's evaluation of the performance of their business). Somewhat unexpectedly, the relationship between time 1 work engagement and time 2 evaluation of success was not supported, while the only significant relationship found was success at time 1 and engagement at time 2. So, this suggests a reverse relationship between engagement and performance. Unfortunately, no effect sizes were reported. It is worth mentioning that the sample consisted of entrepreneurs, whose experiences are likely to be different from those of front-line workers; however, they worked in a variety of small and medium-sized enterprises.

Another study<sup>50</sup> provides evidence to support the idea of a reciprocal relationship in its exploration of the relationship between work engagement and organisational citizenship behaviour (OCB) in schoolteachers. In this research, work engagement at time 1 was found to predict OCB at time 2, with a small effect. OCB at time 1 was also found to correlate positively with time 2 work engagement with a small effect, lending support to the idea that engagement and performance may influence each other.

One study<sup>51</sup> strengthens this argument through exploring work engagement as a mediator of the longitudinal relationship between psychological capital and job performance. Data was collected over two subsequent years. Self-reported survey data was collected at time 1 and performance ratings at time 2, eight months later. This was then repeated for the second year. Work engagement at time 1 and time 3 was found to predict job performance at time 2 and time 4, with a small effect. Also worth noting are the zero-order correlations between work engagement at time 1 and job performance at time 2, and vice versa. While these relationships only showed small effects, they do suggest a two-way relationship between engagement and performance. However, we should note that the correlational data is not the strongest, given that each variable is only measured at time 1 and time 2. Ideally, studies would compare the different relationships between changes in engagement and changes in performance.

More research<sup>52</sup> explores this complex and overlapping relationship further through a randomised controlled study into the longitudinal impact of job crafting on work engagement and performance. While the RCT aspect of the study fails to explore the predictive relationship between engagement and performance, zero-order correlations indicate a significant association between work engagement at time 1 and job performance at time 2, and vice versa – both with a small–medium effect. However, the association between engagement at time 2 and job performance at time 3 is *not* significant, while the correlation between job performance at time 2 and work engagement at time 3 is significant, with a small–medium effect. Again, this highlights the complex nature of the relationship between these two variables.

### **Small effect sizes**

As noted throughout, while the studies analysed show evidence of a correlational, and in some cases predictive, relationship between engagement and performance, reported effect sizes are consistently small. This means that, in most cases, the relationship between the two aforementioned variables is weak to moderate.

**Table 1: Cohen’s rule of thumb for effect sizes**

Effect size	Small	Medium	Large
Standardized mean difference: $d, \Delta, g$	$\leq .20$	.50	$\geq .80$
Correlation: $r, \rho$	$\leq .10$	.30	$\geq .50$
Correlation: $r^2$	$\leq .01$	.09	$\geq .25$
ANOVA: $\eta^2, \omega^2$	$\leq .01$	.06	$\geq .14$
Chi-square: $\omega^2$	$\leq .10$	.30	$\geq .50$
Simple regression: $\beta$	$\leq .10$	.30	$\geq .50$
Multiple regression: $\beta$	$\leq .20$	.50	$\geq .80$
Multiple regression: $R^2$	$\leq .02$	.13	$\geq .26$

**Source:** [CEBMA Guidelines for REAs in Management and Organizations](#)

### **c. What are the antecedents of engagement?**

Having highlighted the importance of engagement and its key components through examining their relationship with performance, we now consider factors that predict engagement. This gives us insight into what managers can do to foster engagement among the workforce.

#### **Predictors of work engagement**

Bailey et al’s (2017) systematic review into employee engagement included 155 studies that evidenced the antecedents of engagement – that is, the factors that come before or predict it.<sup>53</sup> The review grouped the antecedents into five areas, which we summarise below.

#### **Individual psychological states**

There is a good body of research to suggest that aspects of people’s psychological makeup relate to employee engagement. The connected areas of self-efficacy (similar to self-

confidence), resilience and a belief that one has adequate 'personal resources' stand out in this regard.<sup>54</sup>

This means that the relatively time-bound *state* of engagement is likely to be influenced by individuals' more permanent psychological *traits* and by having the right capabilities for the job. These are factors that can be assessed during the hiring process, but as we see next, it is far from the case that engagement is all about recruiting people with the 'right attitude' – employers and managers play a central role in creating the right work environment.

### **Job design**

Sixty-five studies examined the association between aspects of job design and engagement. Nearly half of these focused on the link between job resources and engagement, focusing on the balance between job demands and resources (JD-R model).<sup>55</sup> All studies bar one showed some degree of positive direct or mediated association between job resources, such as supervisor support, feedback and autonomy, and engagement. The results of studies exploring the association between job demands and engagement were inconclusive, with some finding a positive association between the two and others finding no association.

### **Perceived leadership and management**

Thirty-six studies examined aspects of leadership or management. There was generally a link between more positive forms of leadership and higher levels of engagement among employees. For example, eight studies found that supervisory support was linked to engagement, including two using complex methods.<sup>56</sup>

### **Perceptions of organisational and team factors**

Fifty-three studies covered a wide range of areas at the organisational and team levels. In particular, perceived organisational support was associated with engagement.<sup>57</sup> Organisational identification was also associated with engagement in three studies.<sup>58</sup>

### **Organisational interventions**

Nine studies reported on individual responses to organisational interventions, such as training and development programmes. Six of these showed a positive relationship between individuals' experiences of a range of interventions, such as new ways of working and mindfulness, with engagement.<sup>59</sup>

## **8 Conclusion**

### **Links with performance**

From the above research, we can fairly conclude that there is a positive relationship between employee and work engagement and (generally individual-level) task and contextual performance. While there exists some evidence to suggest that engagement predicts performance, some of the studies analysed simply suggested a correlational relationship between the two variables. Moreover, throughout the review, studies consistently reported small effect sizes, meaning the relationship is merely weak to moderate.

Another important finding indicates that while there is longitudinal evidence that employee engagement predicts performance, reverse causality is also an important factor present in several studies. Cross-sectional correlations mainly reflect engagement as affecting performance, but also vice versa. Thus, employees who are more work engaged are likely to see an increase in performance, but we should also recognise that those who perform better are likely to become more engaged in their work.

### **The nature of engagement**

It's important to note the different timescales of the studies. Some occurred over months, with data being observed and recorded at several times over this period, while some were conducted over just a few days, for example daily diary studies over a week. This is

important because of the conceptualisation of engagement as a 'state' versus as a 'trait'. As highlighted in section 7, research generally perceives engagement as a stable, enduring construct that varies from person to person. However, some contrasting research has suggested that engagement may fluctuate, as frequently as daily, around an average level.

Christian et al (2011)<sup>60</sup> recognise that engagement most likely contains both trait-like and state-like components, and consequently refer to it as '*a state of mind that is relatively enduring but may fluctuate over time*'.<sup>61,62</sup> The studies included in this review which were conducted over longer periods of time would likely have seen more ebbs and flows in the levels of engagement of their subjects, therefore.

There are implications here for both how employers and managers track engagement and how they try to influence it.

### **Recommendations on measures**

The Utrecht Work Engagement Scale (UWES) is most commonly used in scientific studies and has much to recommend. It is sufficiently precise and has the strongest predictive validity for performance.

The dominant view suggests that periodic assessments of engagement will give an accurate picture of how engagement changes among employees in the organisation, so an annual survey, for example, should be effective. However, the debate is not clear cut – there is still evidence to suggest that engagement can fluctuate substantially, even day-to-day. So, the key elements of work engagement – vigour, dedication and absorption – may vary within employees depending on the fluctuations of the organisation.

### **Fostering employee engagement**

Thinking about management interventions geared at boosting engagement, it is likely that any change is going to happen over the medium to long term – fostering engagement through a quick fix is unlikely to be successful. Instead, embedding engagement interventions within the holistic approach taken by managers should prove more effective. As mentioned, however, this isn't a conclusive view – while less likely, it is possible that short-term interventions could make a positive or negative difference to engagement.

Nonetheless, we are left with an interesting question: does engagement, like trust, 'arrive on foot and leave on horseback', alongside working to build job quality over the longer term? Or are there short-term ways in which engagement can be significantly boosted? Further research should shed light on this aspect of engagement and, in the meantime, we may do well to consider other related constructs, such as organisational commitment and organisational identification, covered in our accompanying evidence reviews.

### **Limitations**

This REA aims to provide a balanced assessment of what is known in the scientific literature about employee engagement and performance by using the systematic review method to search and critically appraise empirical studies. To be 'rapid', concessions were made in relation to the breadth and depth of the search process, such as the exclusion of unpublished studies and the use of a limited number of databases. As a consequence, some relevant studies may have been missed.

A second limitation concerns the critical appraisal of the studies included, which did not incorporate a comprehensive review of the psychometric properties of their tests, scales and questionnaires. A third limitation concerns the focus on meta-analyses and longitudinal studies. For this reason, cross-sectional single studies were excluded. As a consequence, new, promising findings relevant for practice may have been missed.

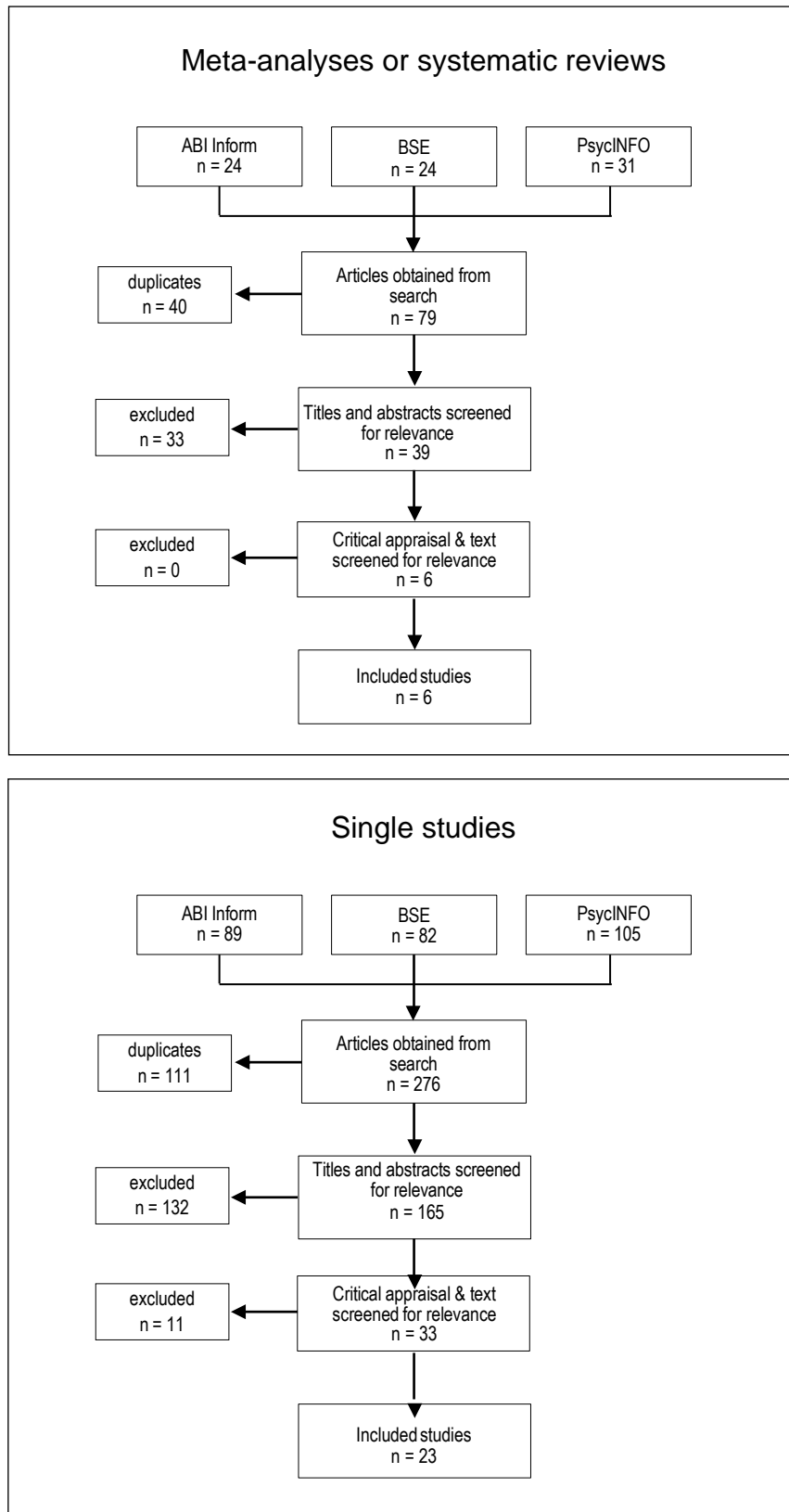
Given these limitations, care must be taken not to present the findings presented in this REA as conclusive.

## Appendix 1: Search terms and results

	Search terms	Results		
		ABI	BSE	PSY
S1	TI('employe* engagement' OR 'work* engagement') OR AB('employe* engagement' OR 'work* engagement') OR KW('employe* engagement' OR 'work* engagement')	2,463	2,663	3,375
S2	TI(performance OR productivity OR efficiency OR self-efficacy OR effectiveness OR 'organizational citizenship behavior' OR commitment OR 'discretionary effort' OR 'innovation') OR AB(performance OR productivity OR efficiency OR self-efficacy OR effectiveness OR 'organizational citizenship behavior' OR commitment OR 'discretionary effort' OR 'innovation') OR KW(performance OR productivity OR efficiency OR self-efficacy OR effectiveness OR 'organizational citizenship behavior' OR commitment OR 'discretionary effort' OR 'innovation')	464,183	568,676	665,765
S3	TI(meta-analy*) OR AB(meta-analy*) OR TI('systematic review') OR AB('systematic review')	9,298	8,896	56,513
S4	TI(experiment* OR 'controlled stud*' OR 'controlled trial' OR 'control group' OR 'control variable' OR 'comparison group' OR 'comparative stud*' OR quasi OR longitudinal OR randomized OR randomly OR laboratory OR 'before and after stud*' OR 'pretest post*' OR 'time series' OR 'case control' OR 'case cohort' OR 'cohort stud*' OR 'prospective stud*' OR 'field trial') OR AB(experiment* OR 'controlled stud*' OR 'controlled trial' OR 'control group' OR 'control variable' OR 'comparison group' OR 'comparative stud*' OR quasi OR longitudinal OR randomized OR randomly OR laboratory OR 'before and after stud*' OR 'pretest post*' OR 'time series' OR 'case control' OR 'case cohort' OR 'cohort stud*' OR 'prospective stud*' OR 'field trial')	224,432	299,661	795,464
S5	S1 AND S2 AND S3	24	24	31
S6	S1 AND S2 AND S4	89	82	105

Databases: ProQuest ABI/INFORM Global (ABI); EBSCO Business Source Elite (BSE); APA PsycINFO (PSY)

## Appendix 2: Selection of studies





### Appendix 3: Data extraction table

Author & year	Design & sample size	Sector /Population	Main findings	Effect sizes	Limitations	Level
Allesandri et al. (2018) <sup>63</sup>	Non-controlled before and after study n = 420	white-collar employees working in line functions at a communications service company	Study of work engagement as a mediator of the longitudinal relation between psychological capital (PsyCap – ‘the combined positive psychological resources of hope, efficacy, resilience and optimism’) and job performance. 1 Individuals with high psych capital tended to be more engaged in their work, and resulted in better job performance at both times. This study provides support for the idea that work engagement is sustained by personal resources, which have an indirect effect on performance.	1 B = .23* for work engagement T1/T3 & job perf T2/T4 giving evidence of a longitudinal relationship (small effect size; multiple regression). 2 Zero-order correlations for the reverse causality: r = .17** for work engagement T1 & job perf T2 ; r = .12* for job perf T1 & work engagement T2 (small effects). These figures suggest a two-way relationship between engagement and performance but the former predicting the latter more than vice versa.	No control group; 35% drop-off from wave 1 to wave 2	C (70%)
Bailey (2017)	Meta-analysis of cross-sectional and longitudinal studies	Varied	42 studies examined the performance outcomes of engagement. 13 looked at higher-level performance outcomes, such as organisational or team performance. The majority of reviewed studies showed a positive link between engagement and a variety of performance outcomes, such as team performance, quality of care and customer loyalty. 24 studies focused on in-role task performance, such as quality of care and service quality (behaviours generally specified by the job description).	No mention of effect sizes		C (70%)

Bakker & Bal (2010)	Interrupted time-series study n = 54	Teachers	<ol style="list-style-type: none"> <li>1 Week-level work engagement was a predictor of week-level performance.</li> <li>2 Work engagement was a significant predictor of all 4 job resources in the following week</li> </ol>	<ol style="list-style-type: none"> <li>1 engagement is positively related to job performance (<math>y = .424, p &lt; .001</math>).</li> <li>2 Mediation analyses: weekly work engagement was a significant predictor of weekly performance after controlling for job resources (<math>y = .366, p &lt; .001; y = .099, p &lt; .05</math>)</li> <li>3 Work engagement fully mediated the relationship between autonomy and job performance (Sobel test <math>z = 4.23, p &lt; .001</math>).</li> </ol>	Low response rate; did not control for extraneous variables	B (80%)
Bakker & Xanthopolou (2009)	Interrupted time-series study n = 124	62 dyads of colleagues working in different organisations in the Netherlands	<ol style="list-style-type: none"> <li>1 Results confirmed the crossover of daily work engagement, but only on days when employees within a dyad interacted more frequently than usual.</li> <li>2 Moreover, we found that actor's work engagement (particularly vigour), when frequently communicated, had a positive indirect relationship with partner's performance through partner's work engagement.</li> <li>3 Finally, results showed that actor's vigour was negatively related to partner's performance when communication was low. However, this negative effect was counteracted when mediated by the vigour of the partner.</li> </ol>	<ol style="list-style-type: none"> <li>1 daily work engagement of the partner was positively related to the daily performance of the partner (<math>y = .446, SE = 0.041, t = 10.88, p = .001</math>). Small effect.</li> <li>2 Sobel test: interaction between work engagement of employee and frequency of communication indirectly positively relates to partner's task performance via partner's work engagement (<math>t_a = 2.65, t_b = 11.96, z = 2.59, p = .01</math>)</li> </ol>	No serious limitations	B (80%)
Bal and De Lange (2015) <sup>64</sup>	Study 1: non-controlled before and after study n = 2,210 Study 2: cross-sectional study n = 2,158	Study 1: Employees working in 12 different departments of 9 large organisations Study 2: employees in 7 different multinational companies	<ol style="list-style-type: none"> <li>1 Availability of flexibility HRM positively related to engagement and performance. Flexibility use, however, was unrelated to engagement.</li> <li>2 Availability and use of regular flexibility was positively related to engagement among younger workers. Among older workers, use of flexibility increased their job performance. This study provides support for a partially mediated model in which flexibility HRM enables employees to become more engaged, which consequently increases their job performance. These effects are stable across cultural contexts, and there are age-related differences in the effectiveness of flexibility HRM use.</li> </ol>	<p>S1: Table 3 shows that engagement was positively related to job performance T2 (<math>b = .13, p &lt; .001</math>). Multiple regression: small effect size.</p> <p>S2: Engagement was positively related to job performance (<math>b = .21, p &lt; .001</math>) – small effect size</p>	Study 2 was not longitudinal; more than 20% dropout rate	C (70%)

Chen et al. (2011)	Interrupted time-series study n = 235	Technicians working in small teams for a large manufacturing company. Subordinates and their corresponding supervisors.	Our results found that workplace incivility was negatively correlated with work engagement and task performance. In addition, work engagement was positively correlated with task performance.	No effect sizes reported	No effect sizes; large dropout	C (70%)
Christian et al. (2011)	Systematic review of cross-sectional studies n = 91		We found evidence that engagement is related to job performance and that it appears to demonstrate incremental validity over job attitudes in predicting performance	Table 4 shows that, as expected, engagement was positively related to task performance (mean correlation across studies, $M_p = .43$ ) and contextual performance ( $M_p = .34$ ).		B (80%)
Halbesleben and Wheeler (2008)	Non-controlled post-test only study n = 573	573 working adults in the US, plus each respondent's supervisor and closest co-worker. Wide variety of industries, including education, health care, government/military, banking or financial services, manufacturing, telecomms and retail.	Work engagement weakly predicted measures of performance collected 2 months later from workers, their co-workers and supervisors. An important limitation of the study is that it did not assess changes in key variables: engagement was only measured at T1 and performance only at T2. Thus, while strictly speaking longitudinal, it is not a very appropriate design to show a predictive relationship.	T1 work engagement correlates with self-rated, supervisor-rated and co-worker-rated performance ( $r = .02, p < .05$ ; $r = .03, p < .01$ ; $r = .02, p < .05$ ); very small effect sizes.		D (60%)
Harter et al. (2002)	Meta-analysis of cross-sectional studies n = 42	36 independent companies from various industries	In summary, the strongest effects of engagement–satisfaction were found relative to employee <u>turnover</u> , customer satisfaction–loyalty, and safety. Correlations were positive and generalisable relative to productivity and profitability criteria but were of lower magnitude, perhaps because these outcomes are more remote downstream variables that are also influenced by other variables and indirectly by employee attitudes.	The true score correlations ('s) for overall satisfaction and employee engagement were highest for customer satisfaction–loyalty (.32 and .33, respectively) and employee turnover (.36 and .30), followed by safety (.20 and .32), productivity (.20 and .25), and profitability (.15 and .17).	satisfaction and engagement are strongly correlated (.9)	B (80%)
Harter et al. (2010)	Longitudinal database of business units n = 141,900 (respondents)	total of 2,178 business units of varying types from 10 companies in 6 industries. 141,900 respondents in total.	Evidence found to support the causal impact of employee perceptions on bottom-line measures such as customer loyalty, employee retention, sales, profit. Reverse causality existed but was weaker.	No mention of effect size for engagement–performance link		B (80%)

Karatepe & Ngeche (2012) <sup>65</sup>	Non-controlled before-after study n = 212	Front-line hotel employees in Cameroon	This study explored job embeddedness as a partial mediator in the relationship between WE and job outcomes. Found evidence to support that WE influences turnover intentions and job performance directly and indirectly through job embeddedness.	Hierarchical multiple regression analysis: 1 work engagement positively influences job embeddedness ( $B = .31, p < .001$ ); 2 work engagement has a negative impact on turnover intentions ( $B = -.22, p < .01$ ); 3 work engagement positively influences job performance ( $B = .34, p < .001$ ). <i>Small effect size</i> 4 Job embeddedness partially mediates the impact of work engagement on turnover intentions (Sobel test: $t = -2.82, p < .01$ ), 5 job embeddedness partially mediates the relationship between work engagement and job performance ( $t = 2.86, p < .01$ )	Large dropout	C (70%)
Karatepe (2011)	Non-controlled before-after study n = 143	Front-line hotel employees and their supervisors, Nigeria	Work engagement fully mediates the impacts of procedural justice on organisational commitment, job performance and extra-role customer service. The results suggest that the effect of work engagement on affective organisational commitment is much higher than on performance outcomes.	Multiple regression: 1 work engagement is significantly and positively related to affective organisational commitment ( $\beta = .59, p < .001$ ), job performance ( $\beta = .27, p < .01$ ), and extra-role customer service ( $\beta = .24, p < .01$ ). <i>Small effect size.</i> 2 Work engagement mediates the relationship between procedural justice and job performance ( $t = 2.63, p < .01$ ), and between procedural justice and extra-role customer service ( $t = 2.33, p < .05$ ).	There was no control group so the study shows prediction but not causality; Other factors also not controlled for; Small sample size	C (70%)
Karatepe & Aga (2016)	Non-controlled before-after study n = 214	Front-line bank employees and their supervisors, Cyprus	The results showed that work engagement acts as a full mediator of the impacts of OMF and POS on job performance. There was no control group so the study shows prediction but not causality.	1 WE has a strong positive effect on JP ( $\beta = 0.70, t = 8.25$ ). <i>Large effect size</i> 2 The indirect impact of OMF on JP via WE is significant based on the Sobel test result ( $z = 4.00$ ). 3 The indirect effect of POS on JP through WE is also significant based on the Sobel test result ( $z = 3.55$ ).	Did not control for other variables	C (70%)

Karatepe & Olugbade (2016)	Interrupted time-series study n = 287	Front-line employees and supervisors in chain hotels in Nigeria	The results suggest that SS, JS, TW and CO are significant indicators of HPWPs. The above-mentioned indicators of HPWPs jointly foster front-line hotel employees' WE. As hypothesised, WE mitigates ABS and stimulates service recovery and CRPs.	There is a negative association between WE and absence intentions ( $B = -0.45$ , $t = -6.06$ ), while WE depicts a positive relationship with service response performance ( $B = 0.33$ , $t = 4.92$ ) and creative performance ( $B = 0.17$ , $t = 2.53$ ). Small effect size	Did not control for other variables	B (80%)
Khan and Malik (2017) <sup>66</sup>	Interrupted time-series study n = 368	employees of different growing organisations, specifically those working in R&D and IT in Pakistan	WE has a positive link with some extra-role behaviours (organisational citizenship behaviour and innovative work behaviour).	<ol style="list-style-type: none"> <li>1 WE has been found significantly positively correlated to first dependent variable OCB (<math>r = 0.226^{**}</math>, <math>p &lt; 0.01</math>).</li> <li>2 WE was significantly positively correlated to second dependent variable KSB (<math>r = 0.744^{**}</math>, <math>p = 0.01</math>).</li> <li>3 WE has been found significantly positively correlated to the third dependent variable, IWB (<math>r = 0.239^{**}</math>, <math>p = 0.05</math>).</li> </ol>	Over 20% dropout rate; did not control for other variables	B (80%)
Keyko et al. (2016)	Systematic review of cross-sectional studies n = 18		Three factors, voice behaviour (Wong et al 2010), perceived care quality (Wong et al 2010), and work effectiveness (Laschinger et al 2009) were reported to have a statistically significant increase with greater work engagement.	Due to heterogeneity of the antecedent and outcome variables studied, they reported statistical significance only, and not specific effect sizes		B (80%)
Kovjanovic et al. (2013)	Randomised controlled study n = 190	Employed individuals, recruited through German-language websites	The study focuses on the effects of priming workers through transformational leadership on their performance via (a) the satisfaction of subjects' needs for competence, relatedness and autonomy, and (b) work engagement. In doing so it provides strong evidence that levels of work engagement immediately affect performance.	Measures of work engagement predicted quality of ideas ( $\beta = .33$ , $p < .01$ ), quantity of ideas ( $\beta = .34$ , $p < .01$ ) and persistence ( $\beta = .45$ , $p < .001$ ).	The priming effect is immediate and there is no indication of how enduring this effect is; and there is no investigation of any reverse causality	A (90%)

Laguna and Razmus (2018)	Interrupted time-series study n = 98	Polish entrepreneurs	This study suggests that positive orientation is positively related to entrepreneurial success over time. What is somewhat unexpected is that the reciprocal relationships between work engagement and the evaluation of entrepreneurial success were not supported. None of the relationships from work engagement to success were statistically significant, neither T1–T2, nor T2–T3 or T1–T3. As regards the opposite direction, only T1–T2 success–engagement relationship exceeded the criterial p value.	No effect size reported	no control; large dropout rate; no effect sizes	C (70%)
Leung et al. (2011)	Interrupted time-series study n = 304	Supervisor–subordinate dyads working in hotels, China	This study explored the impact of workplace ostracism on WE and service performance. The findings suggest that: 1 WE mediates the negative relationship between ostracism and performance. 2 In addition, WE mediates the interactive effect of ostracism and neuroticism on performance. 3 It provides some evidence for a positive link between WE and service performance.	Hierarchical linear modelling: 1 WE was positively related to service performance ( $B = -.23, p < .01$ ). <i>Small effect size</i> 2 Sobel tests: mediating effect of WE is sig in relationship between ostracism and performance ( $Z = 2.98, p < .01$ ) and in relationship between ostracism x neuroticism interaction on performance ( $Z = 2.29, p < .05$ )	Response rate for first 2 stages of subordinate survey was 51.7%	B (80%)
Motyka (2018)	Systematic review of longitudinal and cross-sectional studies n = 71		1 48 studies found a statistically significant relationship between employee engagement and task performance. 2 Forty-six studies examined the association between work engagement and contextual performance in terms of the following behavioural aspects: organisational citizenship behaviour, extra-role behaviour, innovative behaviour, employee retention (positive), turnover, absence intention (negative), organisational and career commitment, initiative, active learning behaviour, knowledge-sharing, creativity, proactivity, counterproductive behaviour (negative), adaptability, decision-making quality, and safety behaviours. 3 Thirty-six of these studies fully confirmed the formulated hypotheses, whereas 10 showed mixed results.	No effect size reported		B (80%)

Shimazu et al. (2018) <sup>67</sup>	Non-controlled before-after study n = 1,967	Monitors of an internet survey company, Japan	<p>This study investigated the potential dark side of WE. WE at T1 was negatively related to psych distress at T2. Results also suggest that the higher the levels of WE, the better in-role performance is. However, the favourable effects on performance seem to become weaker over time.</p> <p>Higher levels of WE were associated with higher levels of creative behaviour.</p> <p>Apart from short-term effect on psych distress, no dark side of WE was observed.</p>	<p>Correlations: WE (T1) was negatively associated with psychological distress (T2) (<math>r = -.26, p &lt; .001</math>) and positively with in-role performance (T2) (<math>r = .30, p &lt; .001</math>) and creative behaviour (T2) (<math>r = .39, p &lt; .001</math>)</p> <p>2-wave panel models: lagged linear and curvilinear relations from WE at T1 to in-role performance at T2 (<math>\beta = .16, p &lt; .001</math>, and <math>\beta = .01, p &lt; .01</math>, respectively). These relations did not change even after controlling for demographic variables (<math>\beta = .17, p &lt; .001</math>, and <math>\beta = .06, p &lt; .01</math>, respectively).</p>	Unclear criteria to select participants; other variables were not controlled for; high drop-out rate	D (60%)
Shimazu et al. (2012) <sup>68</sup>	Non-controlled before-after study n = 1,967	Those registered at an internet survey company, Japan	<p>We find that: (1) workplace ostracism is negatively related to service performance; (2) workplace ostracism negatively impacts employee service performance via work engagement; and (3) neuroticism strengthens workplace ostracism's direct effect on work engagement and indirect effect on service performance.</p>	<p>Work engagement led to future improved job performance. Correlational data, <math>r = 0.17</math> (T2). Small effect.</p>	External variables were not controlled for	C (70%)
Simbula and Guglielmi (2013)	Non-controlled before-after study n = 157	Schoolteachers	<p>Work engagement at T1 predicted mental health problems, job satisfaction, and organisational citizenship behaviours at T2. Moreover, T1 mental health problems were negatively related to T2 work engagement, whereas T1 job satisfaction and T1 organisational citizenship behaviours were positively related to T2 work engagement. Overall, our findings provide evidence for a reciprocal influence between engagement and these constructs, meaning that none of them can be considered as only a cause or only a consequence.</p>	<p>WE at T1 predicted OCB at T2 (.31). Small effect. T1 OCB also positively related to T' work engagement (.16). Small effect</p>	30% dropout from T1-T2	C (70%)



Tims et al. (2015)	Non-controlled before-after study n = 288	Employees at a chemical plant, Netherlands	<ol style="list-style-type: none"> <li>1 Work engagement (T3) mediates the relationship between (T2) crafting job resources and (T3) in-role job performance (this relationship between engagement &amp; performance is cross-sectional).</li> <li>2 However, zero-order correlations suggest two-way longitudinal relationships: T1 engagement predicts T3 performance, and T1 performance predicts T3 engagement.</li> </ol>	<p>Cross-sectional modelling:</p> <ol style="list-style-type: none"> <li>1 T3 work engagement was significantly associated with T3 in-role performance (<math>\beta = .10, p &lt; .05</math>) but not with OCBI (<math>\beta = .08, p = .22</math>).</li> <li>2 T1 work engagement predicted T2 crafting job resources and challenging job demands (<math>\lambda = .21, p &lt; .001</math>).</li> </ol> <p>Zero-order correlations:</p> <ol style="list-style-type: none"> <li>1 T1 WE predicted T3 in-role performance (<math>r = .30, p &lt; .01</math>).</li> <li>2 T1 in-role performance predicted T3 WE (<math>r = .31, p &lt; .01</math>). Moderate effect sizes.</li> </ol>	Although an interrupted time series study on job crafting, the focus on work engagement is more limited; as it is related to performance, engagement is measured at the same time as performance (cross-sectional). High drop-out rate.	C (70%)
Van Wingerden et al. (2017)	Non-randomised controlled trial n = 75	Teachers at primary schools for children with special educational needs	The study presents evidence of a two-way relationship between work engagement and performance, but whereas work engagement predicts performance only one month later and not thereafter, performance appears to have a longer effect on engagement, with significant relationships both 1 month later and 1 year later.	<ol style="list-style-type: none"> <li>1 T1 work engagement (WE) predicted T2 job performance (<math>r = .45, p &lt; .01</math>);</li> <li>2 T2 WE did not predict T3 JP (<math>r = .22, n.s.</math>);</li> <li>3 (also, T1 WE did not predict T3 JP (<math>r = .23, \text{not sig.}</math>)).</li> <li>4 Reverse causality: T1 JP predicted T2 WE (<math>r = .39, p &lt; .01</math>);</li> <li>5 T2 JP predicted T3 WE (<math>r = .38, p &lt; .01</math>);</li> <li>6 (also, T1 JP predicted T3 WE (<math>r = .27, p &lt; .05</math>)).</li> </ol>	Only zero-order correlations are relevant. So this has limitations, for example no controlled variables, no CI.	B (80%)
Vogelgesang et al. (2013)	Interrupted time-series study n = 451	Military cadets from 5 companies randomly selected out of 32 at a military academy, USA	Leader communication transparency is related to behavioural integrity, which is positively related to follower engagement. Importantly, follower engagement was also found to be linked to supervisor ratings of follower performance.	<p>Cross-level model:</p> <ol style="list-style-type: none"> <li>1 Leader communication transparency was positively related to behavioural integrity (<math>b = .89</math>).</li> <li>2 In turn, behavioural integrity was positively related to engagement (<math>b = .21</math>) and engagement was positively related to performance (<math>B = .11</math>).</li> </ol>	Response rate for cadet followers survey was 65%; Did not control for other variables.	B (80%)

Wang et al. (2015)	Interrupted time-series study Study 1: n = 140 Study 2: n = 125	Study 1: employees in a large insurance company Study 2: employees from 4 insurance companies, China	Study 1: 'when employees perceived low levels of organisational justice, job insecurity was significantly negatively related to job performance' but not when there were high levels of organisational justice. Study 2: 'work engagement mediated the interaction effect': 'job insecurity was negatively associated with job performance through work engagement when organisational justice was low'	1 T1 justice & insecurity (interaction) predicts T2 engagement (B = .231, t = 2.55, p < .05). 2 T1 justice & insecurity (interaction) predicts T3 performance (B = .186, t = 2.32, p < .05). 3 T2 engagement predicts T3 performance (B = .198, t = 2.34, p < .05).	No clear limitations	B (80%)
Xanthopolou and Bakker (2008)	Interrupted time-series study n = 44	Flight attendants in Europe	Engagement and performance vary sufficiently over time within person for this study. Support predicts engagement and engagement predicts performance and partly mediates the relationship between self-efficacy and performance. 'Colleague support was significantly related to both work engagement, t = 2.38, p < .05 and self-efficacy, t = 1.98, p < .05, and self-efficacy was significantly related to work engagement, t = 3.46, p < .001.' Colleague support was not a significant predictor of performance, but 'state self-efficacy was significantly related to both in-role, t = 5.70, p < .001, and extra-role (t = 3.09, p < .01) performance. Furthermore, work engagement was a significant predictor of in-role, t = 4.98, p < .001, and extra-role (t = 3.50, p < .001) performance.' Engagement partly mediated the relation between self-efficacy and in-role performance.	Work engagement was a significant predictor of in-role performance (t = 4.98, p < .001) and extra-role performance (t = 3.50, p < .001) Effect sizes (calculated by reviewer) are large: work engagement and in-role performance (r = .61, 95%CI = .38, .77); work engagement and extra-role performance (r = .47, 95%CI = .21, .68).	No clear limitations	B (80%)
Yabalik et al. (2013) <sup>del li<sup>69</sup></sup>	Non-controlled before-after study n = 199	Clerical employees in a UK bank	1 that work engagement mediates the relationships from affective commitment to job performance and intention to quit. 2 Work engagement also mediates the relationship from job satisfaction to job performance, and partially mediates the relationship from job satisfaction to intention to quit.	The estimate for the effect of work engagement on job performance is positive and significant (0.43)	Large drop-out rate from wave 1-2	C (70%)

## Excluded studies

Author & year	Reason for exclusion
Dijkhuizen (2017)	Work engagement is not analysed on its own as a variable; it is combined with job satisfaction and general satisfaction to form a 3-factor 'personal well-being' measure.
Myrden (2015)	Study is cross-sectional: independent variable (engagement) and outcome (service quality) measures correspond to the same work day.
Xanthopolou (2009)	Relationship between work engagement and performance is cross-sectional.
Britt (2005)	Performance is not used as an outcome measure.
Carter (2016)	Non-controlled post-test only. Cross-sectional data.
Carter (2010)	Engagement and performance are both outcomes of self-efficacy. No indication of engagement as a predictor of performance.
Hakanen (2008)	Performance is not used as an outcome measure.
Lisbona (2018)	Work engagement measured only at time 2.
Breevart (2015)	Cross-sectional data used. Cannot establish longitudinal relationship.

## Appendix 4: Measures of employee engagement

### Utrecht Work Engagement Scale (UWES)

The Utrecht Work Engagement Scale is a proprietary scale in English and translated a number of other languages. It is available free of charge for non-commercial use and on condition that users agree to share anonymised data with its authors. For more details and to access the long (17-item) or short (nine-item) versions of the scale, see [www.wilmarschaufeli.nl/downloads/](http://www.wilmarschaufeli.nl/downloads/)

### Maslach Burnout Inventory

The Maslach Burnout Inventory, developed by Christina Maslach and colleagues,<sup>70</sup> is published by Mind Garden.<sup>71</sup>

### Psychological conditions of employee engagement (May et al<sup>72</sup>)

Douglas May and colleagues' measure of 'the engagement of the human spirit at work' is based on Kahn's needs-satisfying model.

Five-item response scale: 1 = strongly agree; 5 = strongly disagree.

Cognitive engagement:

- 1 Performing my job is so absorbing that I forget about everything else.
- 2 I often think about other things when performing my job. (R)
- 3 I am rarely distracted when performing my job.
- 4 Time passes quickly when I perform my job.

Emotional engagement:

- 1 I really put my heart into my job.
- 2 I get excited when I perform well on my job.
- 3 I often feel emotionally detached from my job. (R)
- 4 My own feelings are affected by how well I perform my job.

Physical engagement:

- 1 I exert a lot of energy performing my job.
- 2 I stay until the job is done.
- 3 I avoid working overtime whenever possible. (R)
- 4 I take work home to do.
- 5 I avoid working too hard. (R)

'R' denotes a negatively phrased and reverse scored item. Various other relevant measurement scales are also included in the same paper – for example, for job meaningfulness, psychological safety, psychological availability, job enrichment, and work role fit.

### **Rich et al Job Engagement Items**

Another measure based on Kahn's needs-satisfying model is that of Rich et al.<sup>73</sup>

Five-item response scale: 1 = Strongly agree; 5 = Strongly disagree.

Physical engagement:

- 1 I work with intensity on my job.
- 2 I exert my full effort to my job.
- 3 I devote a lot of energy to my job.
- 4 I try my hardest to perform well on my job.
- 5 I strive as hard as I can to complete my job.
- 6 I exert a lot of energy on my job.

Emotional engagement:

- 1 I am enthusiastic in my job.
- 2 I feel energetic at my job.
- 3 I am interested in my job.
- 4 I am proud of my job.
- 5 I feel positive about my job.
- 6 I am excited about my job.

Cognitive engagement:

- 1 At work, my mind is focused on my job.
- 2 At work, I pay a lot of attention to my job.
- 3 At work, I focus a great deal of attention on my job.
- 4 At work, I am absorbed by my job.
- 5 At work, I concentrate on my job.
- 6 At work, I devote a lot of attention to my job.

### **The Intellectual, Social, Affective (ISA) Engagement Scale**

Developed by Soane et al<sup>74</sup> this measure adapts Kahn's model to include social engagement instead of physical (aside from this, intellectual is akin to cognitive, and affective is akin to emotional).

Seven-item response scale: 1 = Strongly disagree; 7 = Strongly agree.

Intellectual engagement:

- 1 I focus hard on my work.
- 2 I concentrate on my work.
- 3 I pay a lot of attention to my work.

Social engagement:

- 1 I share the same work values as my colleagues.
- 2 I share the same work goals as my colleagues.
- 3 I share the same work attitudes as my colleagues.

Affective engagement:

- 1 I feel positive about my work.
- 2 I feel energetic in my work.
- 3 I am enthusiastic in my work.

### **Job and organisational engagement (Saks<sup>75</sup>)**

Five-item response scale: 1 = Strongly disagree; 5 = Strongly agree.

Job engagement:

- 1 I really 'throw' myself into my job.
- 2 Sometimes I am so into my job that I lose track of time.
- 3 This job is all consuming; I am totally into it.
- 4 My mind often wanders and I think of other things when doing my job (R).
- 5 I am highly engaged in this job.

Organisation engagement:

- 1 Being a member of this organisation is very captivating.
- 2 One of the most exciting things for me is getting involved with things happening in this organisation.
- 3 I am really not into the 'goings-on' in this organisation (R).
- 4 Being a member of this organisation make me come 'alive'.
- 5 Being a member of this organisation is exhilarating for me.
- 6 I am highly engaged in this organisation.

## Notes

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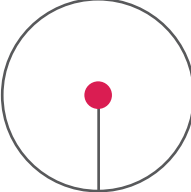
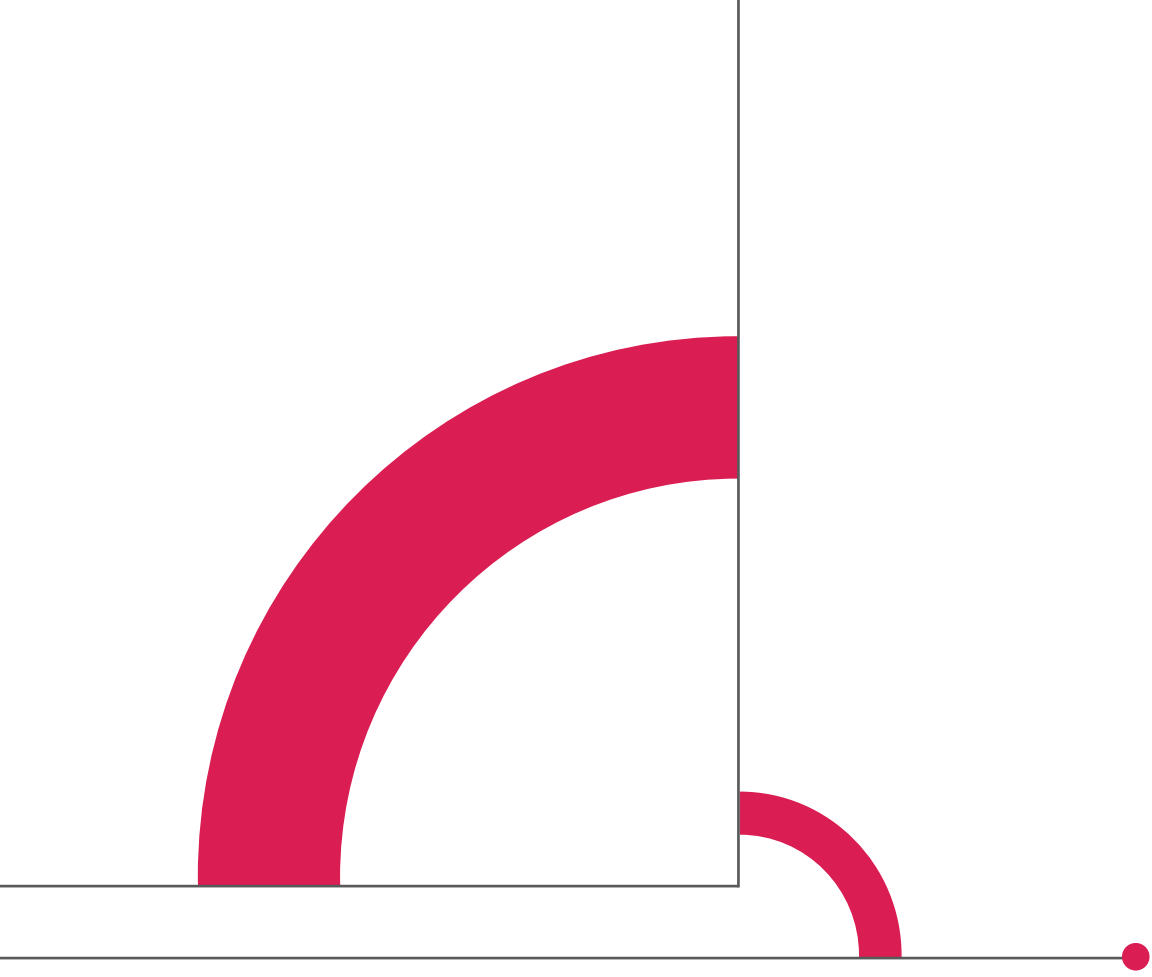
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