

A rapid review of reviews on the nature of the relationship between learning and development and employee engagement, wellbeing, attraction and retention

This report was prepared for Government Skills by Dr Helen Fitzhugh and Professor Kevin Daniels, Norwich Business School, University of East Anglia. To learn more about this work, please contact: gscu.comms@cabinetoffice.gov.uk

Introduction

This report provides insight into the nature of the relationship between learning and development (L&D) and employee engagement, wellbeing, attraction and retention. It aims to inform evidence-based decision-making in the UK civil service on how to develop and improve L&D opportunities to provide a broad set of employee and organisational benefits. The report draws on two sources of insight:

- A summary of relevant existing evidence from a programme of research on 'Work, Learning and Wellbeing' funded by the Economic and Social Research Council from 2015 through 2022, led by Professor Kevin Daniels. This was part of the What Works Centre for Wellbeing programme of research.
- A new rapid review of reviews carried out to update and extend knowledge beyond the existing evidence.

We used the findings of the 'Work, Learning and Wellbeing' programme to inform the scope of new reviewing needed. It was a major programme of work supported by public funds and it provided a starting place to identify gaps and updates required. To fill these gaps and update the evidence, we then carried out a review of reviews. Systematic reviews and meta-analyses (reviews) draw their conclusions based on many research studies. A review of reviews is therefore a reliable option for accessing research findings to perform a high-quality rapid assessment of knowledge on a topic.

This report focuses on L&D. L&D may also be called professional development, training, learning interventions or employee development depending on context. It is important to find out how L&D can influence workplace wellbeing, because there is an established link

between employee wellbeing more generally and organisational benefits such as improved performance, reduced costs and greater innovation (What Works Centre for Wellbeing, 2017). L&D is part of a broader set of organisational strategies for ensuring employees perform and adapt to the changing needs of an organisation (Jacobs & Park, 2009).

There are three key arguments for investing in activities to improve workplace wellbeing: the legal case, the ethical case and the business case.

The legal case is mandatory and provides a baseline standard. Workers have the right to be protected against both *physical* and *mental* harm in their workplace. Under the UK's Health and Safety at Work Act (1974), an employer has a responsibility to bring exposure to risk as low as practicable, and there is no distinction between risks to physical or psychiatric harm (Walker v Northumberland County Council, 1994).

The ethical case is around whether an employer sees their duty of care extending beyond the legal minimum requirements. The Civil Service has agreed to follow the recommendations of the Stevenson-Farmer review to improve the mental health of workers, (Stevenson & Farmer, 2017) including by providing appropriate training for all grades.

The business case relates to productivity. Many wellbeing-related factors impact productivity – such as lack of sleep, financial concerns, unpaid caring responsibilities, musculoskeletal and other health conditions, workplace bullying, unrealistic time pressures and strained relationships at work (Hafner et al., 2015). These impacts can be quantified – for example, people with mental health conditions have an average of 13% higher work impairment due to absenteeism and presenteeism, even without taking into account the costs of poor staff retention and attraction (Hafner et al., 2015). Therefore, improving employee wellbeing has potential to improve productivity and reduce costs.

Prior knowledge from 'Work, Learning and Wellbeing' research

From 2015 to 2022, a team funded by the Economic and Social Research Council and led by Professor Kevin Daniels of the University of East Anglia carried out multiple research and review studies on 'Work, Learning and Wellbeing' and 'Combinations of Practices for Health and Wellbeing at Work'. Some of this work touched upon the nature of the relationship between L&D and workplace wellbeing. Before starting the review of reviews presented here, the authors were asked to summarise how far this programme of work was already able to link L&D and wellbeing-related outcomes. This informed the scope for the review of reviews and is summarised below.

There are a number of things we already know about L&D, wellbeing and related outcomes. Firstly, **there is robust evidence that – in general – learning is good for wellbeing** via social contact, skill acquisition and improvements in confidence and self-esteem. Both informal learning and formal qualifications may also contribute to greater wellbeing indirectly, via improved employment and higher quality work and income ([Watson et al., 2017](#)).

Panel analysis of ‘Understanding Society’ data showed that **high intensity job-related training (here, high intensity refers to training for over 24 hours per year) had positive effects on life satisfaction for those who were employed** (1% life satisfaction increase), **for young people** (16-24 year olds, a 2% life satisfaction increase), **and for those living in medium and high deprived areas of England** (1% increase in life satisfaction). **Low intensity job-related training (training for less than 24 hours per year) decreased life satisfaction for 16-24 year olds** (2% decrease in life satisfaction), **for those with vocational qualifications** (3% decrease in life satisfaction) **and for those living in high deprived areas of England** (3% decrease in life satisfaction). **Overall, training is estimated to produce an effect on wellbeing equivalent to a 1% increase in pay** ([Tregaskis & Nandi, 2023](#)). Training input was judged by quantity of hours per annum, not quality, so it is possible that better quality training may have an even more substantial effect.

Training that helps employees learn how to make their own job better may have positive effects on wellbeing and in some cases may provide cost-effective performance improvements ([Daniels, Gedikli, et al., 2017](#); [Oprea et al., 2019](#)). This type of training can look very different depending on which aspect of job quality it addresses – for example the training might aim to empower employees to problem-solve individually or in teams on how to deal more successfully with demands, employ appropriate discretion, use their skills more, vary their tasks and / or receive more useful social support from colleagues.

Organisation-wide approaches that improve job quality and a range of other employment practices (including training) may improve wellbeing provided they are trying to improve worker outcomes (e.g. workload, safety). Good outcomes are supported by **keeping employees informed, involved and able to input on change, by management commitment, and integrating new practices with existing ones** ([Daniels, Gedikli, et al., 2017](#)). There is some evidence that **shared / group training activities encouraging interaction between workers can improve worker well-being and performance** ([Daniels, Watson, et al., 2017](#)).

Some activities intended to improve wellbeing are more successful than others. Case study research highlights **organisation-level success factors for general strategies and programmes to improve wellbeing, which may equally apply to L&D for wellbeing. When organisations create programmes of activities aimed at improving wellbeing, they are more successful when the organisation shows persistence and consistency in implementation (rather than an uncoordinated or intermittent approach), when it embeds review and evaluation processes, and finally, when employees are involved in decision-making on the strategy or programme (i.e. inclusive governance) (Daniels et al., 2022).** It is important to balance how you standardise L&D offerings (to minimise bias and inequalities) with flexible responsiveness to person and need. **A further success factor is that employees need to trust the organisation’s intentions when offering activities to improve wellbeing (Nayani et al., 2022).**

A full systematic review of the relationship between L&D and wellbeing was carried out in 2016 for this programme of work ([Watson et al., 2018](#)). It is included in the review of reviews offered below, on the same inclusion grounds as the other reviews. The review of reviews provides more up to date findings and sets the existing findings in context. We have separated the two sources of insight transparently in this report, so that there is no doubt for readers which findings come from our team’s own work and which from the systematic process of the review of reviews.

While the ‘Work, Learning and Wellbeing’ programme focussed on workplace wellbeing, we interpreted this broadly, across engagement, motivation, mental health and their organisational consequences (e.g. absence, presenteeism, retention). These related outcomes are often found to be highly correlated, suggesting a level of interchangeability, determinants and consequences. This justifies further exploration of L&D and wellbeing outcomes due to the wider implications of these overlapping benefits for organisational culture, reputation and performance.

Methods for the review of reviews

To build on the contextual evidence offered above, the Cabinet Office commissioned a review of reviews to inform decision-making around civil service L&D.

The review questions were:

- What is the nature of the relationship between L&D and employee engagement, wellbeing, attraction and retention?

- What can L&D *not* do in relation to employee engagement, wellbeing, attraction and retention? What mitigations or limitations apply?
- What are the knowledge gaps and limitations to be aware of around L&D's relationships with such outcomes?

The UEA team and the Cabinet Office discussed the scope of the review to ensure rapid, relevant results. The search terms (Appendix 1) were offered for consultation before use.

The review includes only English-language, peer-reviewed systematic review journal articles from between 2014 and 2024. Part of the search strategy was to update and nuance the previous findings of [Watson et al. \(2018\)](#). The rapid review was carried out using the Web of Knowledge database, for its broad range of content.

It is important to understand the systematic process for including or excluding papers in a review of reviews, as it impacts on whether the findings are relevant to answering particular questions. The inclusion / exclusion flow chart is in the appendices. The reviews that were included focussed on:

- a) adult workers (not students);
- b) from any country;
- c) from most sectors (except specific vocational training areas of little relevance to the purpose of this review - teachers, healthcare professionals and academics);
- d) had to summarise L&D intervention findings (rather than only conceptual review);
- e) and provide insight into wellbeing-related employee or organisational outcomes.

L&D interventions are activities intended to improve job-related skills and knowledge.

We did not exclude reviews based on quality. Insufficient high-quality reviews were available to be selective – especially on the outcomes of general L&D. Including the full mix of eligible reviews has allowed us to instead outline the state of knowledge, by including a note on the quality of the review source, alongside evidence statements. Knowledge gaps and recommendations for further research have been included in the final section of this report.

The review of reviews followed six stages: consulting on search terms; search; topic restriction; title and abstract screening; full text screening; and data extraction. There is an overview of the process in the appendices. It resulted in the final inclusion of 12 systematic

reviews. The results were shared for consideration at each stage. The authors prepared a narrative thematic summary based on the data extracted.

Results of the review of reviews

What is the nature of the relationship between L&D and employee engagement, wellbeing, attraction and retention?

The findings in this section are divided between accounts of general L&D activities and targeted training on wellbeing, engagement, retention or other related outcomes.

General L&D activities: The Watson et al. (2018) high quality systematic review of learning interventions in the workplace drew on the findings of 41 studies from varied sectors across developed economies. It found that **training for professional capabilities may sometimes produce positive wellbeing effects** (but was only found to do so in 4 of 10 studies). **Leadership training can improve wellbeing, with group-based approaches / interaction more likely to be effective** (6 studies). Some interventions are neutral in effect, but **it is unlikely that an ineffective workplace learning intervention represents a risk to wellbeing – except potentially relating to employees with PTSD** (Lu & Petersen, 2023).

Three more recent, lower quality papers provide broader reviews on general training and development topics (Arokiasamy et al., 2023; Kaliannan et al., 2023; Mathias et al., 2021).

Arokiasamy et al. (2023) discussed investment in human capital and reviewed 41 studies from across the globe and varied sectors. They asserted that **training generally improves performance**. The paper provided little useful detail. Kaliannan et al. (2023) reviewed 48 studies on the topic of talent development, again from papers across the globe and varied sectors. The paper outlines the state of research on what they called ‘inclusive’ and ‘exclusive’ talent development. **Retention was mentioned as one of the suggested benefits of ‘inclusive’ talent development (i.e. L&D offered across all employees, not just selected high status workers)**. However, it is unclear to what extent the evidence statements are based on empirical data or a mix of data and conceptual work.

Mathias et al., 2021 reviewed 90 articles on high performance work systems (HPWS) for frontline employees. HPWS generally include training and development activities but are not limited to them – the HPWS approach refers to a bundle of activities which may also include a substantial amount of employee involvement alongside alternative work allocation, team-working and reward practices. **The review suggests HPWS in general improve**

employee abilities, motivation and opportunities but it is unclear in the review if this is supported by empirical data or only discussion of theory. As an aside, there is credible evidence outside of the scope of this review of reviews that HPWS can positively influence employee wellbeing and potentially performance (Daniels, Gedikli, et al., 2017; Ogbonnaya et al., 2023; Saridakis et al., 2017).

Three reviews mentioned attraction (Kaliannan et al. (2023); Milani et al., 2021; Xia, 2022) as related to talent development and management – but no detail or insight was provided.

Milani et al., 2021 reviewed papers on learning agility - which is “the willingness and ability to learn new competencies in order to perform under first-time, tough, or different conditions” (Lombardo and Eichinger, 2000). Learning agility ties into the topic of L&D practice via intentional talent management activities, rather than training. The practice of assessing people’s learning agility may help identify who will benefit from particular types of L&D and offer insight on current employee attitudes towards turnover. **Higher scores in learning agility assessments are related to increased performance, leadership trajectory and 'career success'** (Milani et al., 2021). **Learning agility is linked with reduced employee intention to leave the company.** This is one of only two reviews to incorporate a reference to retention directly (Milani et al., 2021; Shiri et al., 2023). One feature of learning agility is capacity to function in the context of uncertainty. This capacity may be related to ‘resilience’. Resilience training is often effective (as will be detailed shortly) so **it may be possible to train indirectly for learning agility**, with the positive consequences described above.

One of the better quality papers, Shiri et al., 2023, reviewed 27 studies in the healthcare sector relating to ‘the role of continuing professional development in maintaining current employment’. **Sustained L&D opportunities are associated with decreased intention to leave a current job, change job or retire early (and with faster return to work).** There is some evidence that **L&D is a more important factor for employee retention among younger employees than older employees. There are contradictory results on whether training is positive or neutral for work engagement.**

Targeted training on wellbeing-related outcomes: This section focuses on types of training which aim to directly improve wellbeing-related outcomes.

There is good evidence that **L&D to develop personal resources for wellbeing is largely effective regardless of the specific focus of the training** (22 studies) (Watson et al., 2018). The types of activity that help to develop personal resources for wellbeing are diverse,

including training on problem solving, psychological flexibility, mindfulness and relaxation practices, coping skills, resilience and stress management.

Three moderate to high quality reviews focussed on resilience training ([Brassington & Lomas, 2021](#); [Lu & Petersen, 2023](#); [Robertson et al., 2015](#)). Resilience training aims to help individuals build skills that will allow them to adapt and psychologically 'bend' in the face of adversity and challenge.

[Brassington & Lomas' 2021](#) systematic review of 33 papers on resilience training for 'high risk occupations' found **resilience training is mostly successful (81% of studies reviewed) in creating a very wide range of positive outcomes, including reductions in burnout, stress and anxiety, with more mixed results for depression.** [Lu & Petersen's 2023](#) meta-analysis of 12 reviews relating specifically to police employee outcomes supports these mixed findings. [Robertson et al.'s 2015](#) paper reinforced this positive message on the basis of 14 reviews to conclude that **resilience training can offer mental health improvements, improve biological indicators of wellbeing and offer other varied positive outcomes (e.g. self-efficacy, possibly motivation, work-life balance and job satisfaction).** **The evidence on resilience training improving performance is more mixed.**

Diverse approaches to improving frontline employee empathy were identified in a mixed methods review of 44 studies on empathy training ([Lajante et al., 2023](#)). Empathy training can take the form of, for instance, communication, mindfulness, simulation and role-playing activities. **Empathy training improves 'empathy behaviours'**, helping people communicate better (according to 30 of 44 studies). **Empathy training improves service beneficiary satisfaction** (4 studies), **reduces employee distress and mitigates burnout** (7 studies) via improvements in skills, regulation and reflection.

A systematic review of 23 papers investigated how to improve trauma-informed behaviours and skills in varied public service settings ([Purtle, 2020](#)). Generally, **activities to make employees more trauma-informed can improve staff knowledge, attitudes or behaviours**, at least in the short term. One study showed an **improvement in staff safety (their physical wellbeing) from this training**, over an extended period (2 years, in a justice setting, resulting in reduced assaults). However, many of the studies documented saw simultaneous changes to the wider policy and or operational context alongside training, so there is not enough evidence to suggest training in isolation could bring about these effects.

Finally, Xia's (2022) review of 57 very diverse papers on the topic of ESG performance (environmental, social and governance) suggests **a link between L&D and ESG performance, but the evidence is not detailed or persuasive.**

What can L&D not do in relation to employee engagement, wellbeing, attraction and retention? What mitigations or limitations apply?

A supportive context is key for successful L&D outcomes. This involves taking a long-term, sustainable approach to assessing, tailoring and / or targeting staff development strategies based on organisational and personal needs assessments, responding and harmonising with the particularities of specific service settings (Arokiasamy et al., 2023; Brassington & Lomas, 2021; Kaliannan et al., 2023; Lajante et al., 2023; Mathias et al., 2021; Watson et al., 2018).

Certain approaches to resilience / mental-health-focussed training, may worsen PTSD rather than improve it. People already experiencing PTSD may require different training approaches than those who have not experienced it (Brassington & Lomas, 2021).

Activities to make public service employees more trauma-informed have not, to date, improved beneficiary perceptions of care and did not find significant improvements in the realm of trauma sensitivity and communication (Purtle, 2020).

Solely online training was found to be less likely to be effective for wellbeing, but online elements can be incorporated into successful interventions if they have more interactive / group features (Watson et al., 2018).

Empathy skills learnt via training may be more authentically received by service beneficiaries if the training includes both cognitive and emotional elements – this helps avoid over-management of feelings and manipulation of interactions with beneficiaries (Lajante et al., 2023).

L&D may be more important for younger employees than older ones (Shiri et al., 2023) but there are many other factors which influence retention and job satisfaction: for younger professionals workload and salary may be equally or more important, for older autonomy and practical everyday travel concerns may impact these more.

L&D targeted at *individuals* cannot be the sole way of improving organisational outcomes. In high risk or demanding situations it is important to avoid relying on training individuals for better emotional regulation and coping in isolation, but instead using training to complement job design around sensible demands and resources, adequate organisational support, appropriate reward and a culture of recognition for learning and development (Brassington & Lomas, 2021; Mathias et al., 2021; Watson et al., 2018).

One of the key benefits of training may be rooted in opportunities for social interaction (Watson et al., 2018).

Learning agility should not just be seen as an individual trait but is thought to improve with a better organisational learning culture (Milani et al., 2021). Improving learning agility may be more beneficial to the individual and group outcomes of those in generalist and leadership roles than those in 'expertise-driven' roles. Outcomes may also differ based on the level of an employee's organisational engagement.

Trying to improve trauma-informed behaviours may be as, or more, influenced by policies and practices than training alone (Purtle, 2020). **There may be undiscovered contextual factors that influence the success of resilience training** (Robertson et al., 2015).

What are the knowledge gaps and limitations to be aware of around L&D's relationships with such outcomes?

The higher quality reviews included in this review of reviews all highlight **the variable and sometimes poor quality of many of the included intervention studies** – including the implications of small sample sizes, risk of bias due to control and comparison issues, poor analytical sophistication, publication bias, inconsistencies in measurement methods, cross-sectional or short follow-up designs and significant drop-out and attrition rates. These cautions are found more prevalently in the higher quality reviews precisely because they have examined paper quality – whereas the lower quality reviews often obscure study type, source and quality.

The findings of this review of reviews can still be considered relevant and useful – they provide the best knowledge based on the type of studies currently available. Better quality studies could nuance and extend this knowledge – with large samples, divided into control and / or comparison groups, pre-and post-tested with further longer-term follow-ups, concerted work on participant retention, assessed using common or standardised validated scales for a range of relevant key outcomes and potential mediators, analysed using methods

which allow indications of statistical significance. Such studies exist but are not sufficiently common yet in this field. We encourage an increase in the evaluation of workplace interventions in general, to feed into more informed development strategies.

One of the evidence points identified from this review of reviews was on the **importance of adaptation and tailoring of development opportunities to the organisational / sector setting and individual needs. There have been calls** (e.g. [Lajante et al., 2023](#); [Robertson et al., 2015](#)) **for further investigation of what can and cannot be achieved in particular contexts and on whether the setting of appropriate expectations is part of achieving a successful context** ([Robertson et al., 2015](#) mention unrealistic expectations for resilience training potentially leading to poor resilience outcomes in a US study in the military).

Knowledge gaps appear to exist around outcomes from general employees (as opposed to managers or specific professions) and there is more limited review evidence on general professional training (as opposed to targeted training).

More in-depth work is required around the antecedents and mediators of the relevant workplace outcomes of all types of L&D.

New technologies for training delivery (e.g. synchronous video, virtual tutors / clients etc.) are not yet well-represented in reviews so may need to be explored via individual recent studies.

A lack of cost-effectiveness analysis was identified, discussed further below, and is a key area for future work.

As a major employer, the Civil Service has the opportunity to improve the evidence base around L&D via high quality, cyclical evaluation and review practices. While these may be administered in-house for individual interventions and programmes, the exploration of combinations of practices, more robust trials and cost-effectiveness work may usefully draw upon external academic expertise. **The importance of new high-quality intervention evaluations has been reinforced by the quality assessments of the papers included in this review.**

Discussion of implications for Civil Service L&D

The impetus for this review of reviews was the acknowledgment that there are compelling, evidence-informed arguments for organisations to take steps to improve employee wellbeing and its related outcomes. By exploring the nature of the relationship between L&D and

wellbeing-related outcomes, the review of reviews was able to identify areas of existing knowledge and gaps to be addressed by future research and practice.

One of the areas of exploration for this review was to identify if robust research is available that quantifies or provides financial proxies for the impact of L&D. Very few of these ‘hard’ details were available at review level. Many of the reviews were fairly general in their findings and those on ‘general’ approaches to L&D (rather than targeted training on wellbeing-related outcomes) were often lower quality and could not be used to provide detail. The What Works Centre for Wellbeing collated evidence to quantify the broad links between poor wellbeing and poor productivity (see ‘Why invest in employee wellbeing?’, 2017), and there are examples of this that include the public sector (e.g. Daniels et al., 2022; Hafner et al., 2015). However, it is not possible to offer any direct quantification of the benefits of training here, beyond the estimate that training can produce an effect on wellbeing equivalent to a 1% increase in pay (Tregaskis & Nandi, 2023). The lack of quantification is a common finding in relation to research on workplace wellbeing overall – for example the 2022 NICE guidelines on mental wellbeing at work repeatedly call for more research on the cost-effectiveness of interventions (NICE, 2022).

Implications for practice

The following notes are offered for consideration by those involved in, and leading, L&D in the Civil Service, based on the report above. They are not commitments made by the UK Civil Service.

- As far as the evidence is available, the review confirms the value of training and development in general and there is review evidence to suggest the following may be useful for prompting positive wellbeing outcomes:
 - Direct training for improving wellbeing and resilience (largely positive);
 - Leadership training (largely positive);
 - Professional capabilities training (more mixed between positive and neutral).
- Continue to offer a range of skills and development opportunities, evaluating them appropriately to the scale and ‘risk’ of the offer, especially the general population of employees rather than specific high-status groups (see research opportunities below). Consider the potential unintended negative consequence of change resistance to any removal of existing valued opportunities.
- Always consider the possibility of mitigations or alternatives to direct training for wellbeing and resilience for people with existing PTSD, prior to making a wellbeing offer.

- There is some evidence linking employee retention / reduced turnover intention to training and development opportunities. Attraction is mentioned but not in these reviews from an evidence-based perspective.
 - Consider internally whether exit interview data could provide more insight into the adequacy of L&D opportunities.
 - Run attraction trials – for example on whether different ways of marketing your L&D offer make a difference to application quantity and quality.

- It is important to provide a supportive employment context and congruent management messaging to achieve positive wellbeing outcomes from L&D.
 - Integrate the assessment and provision of L&D into a wider assessment and provision of a high-quality work environment – taking into consideration the importance of authentic messaging on wellbeing and framing realistic expectations from training. Improving employee ‘resources’ via individual training may help mitigate some demands, but there is a point beyond which demands cannot be mitigated by individual emotional regulation and resilience techniques. Comparative trials on the role of context may be particularly valuable.
 - Explore inclusive practices from a high-performance work systems approach to complement L&D. Examples include offering more autonomy and discretion, flexible work and feedback-informed communication and decision-making.

- On the theme of context, but more specifically:
 - Consider the implication that learning agility is linked to performance and appears to be amenable to improvement via learning culture. Adding learning agility measures to evaluations and conducting trials of improving learning culture within the Civil Service may support further insights.

- Some evidence available suggests that paying attention to the interactive and social / group elements of training may support better wellbeing and related outcomes than simple online training:
 - Apply caution when considering the possibilities of video-based and online asynchronous training, even if there appears to be a short-term cost-benefit, given the broader and longer-term effects may not be as strong.
 - Acknowledge the lack of available evidence on the use of new technologies in training and respond with robust evaluations that consider a broad base of outcomes, including wellbeing and performance, prior to full rollout.

This report was prepared by Dr Helen Fitzhugh and Professor Kevin Daniels, Norwich Business School, University of East Anglia. To learn more about this work, please contact: gscu.comms@cabinetoffice.gov.uk

References

- Arokiasamy, L., Fujikawa, T., Piaralal, S. K., & Arumugam, T. (2023). A systematic review of literature on Human capital investment and its significance for human resource development. *International Journal of System Assurance Engineering and Management*, 14(5), 1810–1826. <https://doi.org/10.1007/s13198-023-01985-2>
- Brassington, K., & Lomas, T. (2021). Can resilience training improve well-being for people in high-risk occupations? A systematic review through a multidimensional lens. *Journal of Positive Psychology*, 16(5), 573–592. <https://doi.org/10.1080/17439760.2020.1752783>
- Dachner, A. M., Ellingson, J. E., Noe, R. A., & Saxton, B. M. (2021). The future of employee development. *Human Resource Management Review*, 31(2), 100732. <https://doi.org/10.1016/j.hrmmr.2019.100732>
- Daniels, K, Connolly, S., woodard, R., van Stolk, C., Patey, J., Fong, K., France, R., Vigners, C., & Herd, M. (2022). *NHS staff wellbeing: Why investing in organisational and management practices makes business sense. A rapid evidence review and economic analysis.* https://eppi.ioe.ac.uk/CMS/Portals/0/IPPO%20NHS%20Staff%20Wellbeing%20report_LO160622-1849.pdf
- Daniels, Kevin, Gedikli, C., Watson, D., Semkina, A., & Vaughn, O. (2017). Job design, employment practices and well-being: a systematic review of intervention studies. *Ergonomics*, 60(9), 1177–1196. <https://doi.org/10.1080/00140139.2017.1303085>
- Daniels, Kevin, Tregaskis, O., Nayani, R., & Watson, D. (2022). *Achieving Sustainable Workplace Wellbeing.* Springer.
- Daniels, Kevin, Watson, D., & Gedikli, C. (2017). Well-being and the social environment of work: A systematic review of intervention studies. *International Journal of Environmental Research and Public Health*, 14(8). <https://doi.org/10.3390/ijerph14080918>
- Hafner, M., Van Stolk, C., Saunders, Catherine, Krapels, J., & Baruch, B. (2015). *Health, wellbeing and productivity in the workplace: A Britain's Healthiest Company summary report.* https://www.rand.org/content/dam/rand/pubs/research_reports/RR1000/RR1084/RAND_RR1084.pdf
- Hurtz, G. M., & Williams, K. J. (2009). Attitudinal and Motivational Antecedents of Participation in Voluntary Employee Development Activities. *Journal of Applied Psychology*, 94(3), 635–653. <https://doi.org/10.1037/a0014580>
- Jacobs, R. L., & Park, Y. (2009). A proposed conceptual framework of workplace learning: Implications for theory development and research in human resource development. *Human Resource Development Review*, 8(2), 133–150. <https://doi.org/10.1177/1534484309334269>
- Kaliannan, M., Darmalinggam, D., Dorasamy, M., & Abraham, M. (2023). Inclusive talent development as a key talent management approach: A systematic literature review. *Human Resource Management Review*, 33(1), 100926.

<https://doi.org/10.1016/j.hrmmr.2022.100926>

Lajante, M., Prete, M. Del, Sasseville, B., Rouleau, G., Gagnon, M. P., & Pelletier, N. (2023). Empathy training for service employees: A mixed-methods systematic review. In *PLoS ONE* (Vol. 18, Issue 8 August).

<https://doi.org/10.1371/journal.pone.0289793>

Lombardo, M. M., & Eichinger, R. W. (2000). High potentials as high learners. *Human Resource Management*, 39(4), 321–329.

[https://doi.org/10.1002/1099-050X\(200024\)39:4<321::AID-HRM4>3.0.CO;2-1](https://doi.org/10.1002/1099-050X(200024)39:4<321::AID-HRM4>3.0.CO;2-1)

Lu, Y. F., & Petersen, K. (2023). Effectiveness of psychological skills training for police personnel: a meta-analysis. *Occupational and Environmental Medicine*, 80(10), 590–598. <https://doi.org/10.1136/oemed-2023-109117>

Mathias, M. A. S., Fu, N., & Oliveira, O. J. (2021). Structuring a Training-Oriented High Performance Work System: A Systematic Review on Frontline Employees in the Service Sector. In *Human Resource Development Review* (Vol. 20, Issue 4). <https://doi.org/10.1177/15344843211024028>

Milani, R., Setti, I., & Argentero, P. (2021). Learning Agility and Talent Management: a Systematic Review and Future Prospects. *Consulting Psychology Journal*, 73(4), 349–371. <https://doi.org/10.1037/cpb0000209>

Nayani, R., Baric, M., Patey, J., Fitzhugh, H., Watson, D., Tregaskis, O., & Daniels, K. (2022). Authenticity in the Pursuit of Mutuality During Crisis. *British Journal of*

Management, 33, 1144–1162.

<https://doi.org/10.1111/1467-8551.12628>

NICE. (2022). *Mental wellbeing at work | Guidance*. March 2022.

<https://www.nice.org.uk/guidance/ng212>

Ogbonnaya, C., Daniels, K., Messersmith, J., & Rofcanin, Y. (2023). A Theory-Based Analysis of Null Causality between HRM Practices and Outcomes: Evidence from Four-Wave Longitudinal Data. *Journal of Management Studies*, 60(6), 1448–1484. <https://doi.org/10.1111/joms.12881>

Oprea, B. T., Barzin, L., Vîrgă, D., Iliescu, D., & Rusu, A. (2019). Effectiveness of job crafting interventions: a meta-analysis and utility analysis. *European Journal of Work and Organizational Psychology*, 28(6), 723–741.

<https://doi.org/10.1080/1359432X.2019.1646728>

Purtle, J. (2020). Systematic Review of Evaluations of Trauma-Informed Organizational Interventions That Include Staff Trainings. *Trauma, Violence, and Abuse*, 21(4), 725–740. <https://doi.org/10.1177/1524838018791304>

Robertson, I. T., Cooper, C. L., Sarkar, M., & Curran, T. (2015). Resilience training in the workplace from 2003 to 2014: A systematic review. *Journal of Occupational and Organizational Psychology*, 88(3), 533–562. <https://doi.org/10.1111/joop.12120>

Saridakis, G., Lai, Y., & Cooper, C. L. (2017). Exploring the relationship between HRM and firm performance: A meta-analysis of longitudinal studies. *Human Resource Management Review*, 27(1), 87–96.

<https://doi.org/10.1016/j.hrmmr.2016.09.005>

Shiri, R., El-Metwally, A., Sallinen, M., Pöyry, M., Härmä, M., & Toppinen-Tanner, S. (2023). The Role of Continuing Professional Training or Development in Maintaining Current Employment: A Systematic Review. *Healthcare (Switzerland)*, 11(21), 1–17.

<https://doi.org/10.3390/healthcare11212900>

Stevenson, D., & Farmer, P. (2017). *Thriving at work: The Stevenson/Farmer review of mental health and employers*.

<https://www.gov.uk/government/publications/thriving-at-work-a-review-of-mental-health-and-employers>

Tregaskis, O., & Nandi, A. (2023). Training and life satisfaction: a disrupted pathway to better work. *Transfer: European Review of Labour and Research*, 29(3), 387–404.
<https://doi.org/10.1177/10242589231193894>

Watson, D. (2017). Adult Learning. *What Works Centre for Wellbeing*.
<https://doi.org/10.1177/074171365200200502>

Watson, D., Tregaskis, O., Gedikli, C., Vaughn, O., & Semkina, A. (2018). Well-being through learning: a systematic review of learning interventions in the workplace and their impact on well-being. *European Journal of Work and Organizational Psychology*, 27(2), 247–268.
<https://doi.org/10.1080/1359432X.2018.1435529>

Xia, J. (2022). A Systematic Review: How Does Organisational Learning Enable ESG Performance (from 2001 to 2021)? *Sustainability (Switzerland)*, 14(24).
<https://doi.org/10.3390/su142416962>

Appendices

1) Search string

Population/Sampling keywords (topic #1): (*occupational OR organisation* OR organization* OR industr* OR work* OR employ* OR vocational OR career* OR work-based OR profession**)

OR

Population/Sampling keywords (topic #2): (*public_admin* OR public_secto* OR civil_servic* OR public_manag* OR government**)

AND

Intervention (learning processes and outcomes) (title): (*learning OR training OR education OR team_learning OR development OR progression OR training_transfer OR transfer_of_skills OR skill_utilization OR job_competenc* OR accreditation OR apprentic* OR work_based_learn* OR on_the_job OR profess*_develop* OR continu*_develop* OR reskill* OR upskill* OR learning_and_development*)

AND

Study design/Methods keywords (title): (*meta-analysis OR systematic review OR *evidence_synthesis OR rapid_evidence**)

AND

Outcome search terms (topic)

[wellbeing] (*wellbeing* OR *well-being* OR *life_satisf** OR *mental_health* OR *mental_ill** OR *psychological_health* OR *stress* OR *anxiety* OR *depress** OR *job_satisf** OR *statt_satis**
 [engagement] *employee_engagement* OR *work_engagement* OR *organi*ational_commitment*
 OR *occupational_commitment* OR *intrinsic_motiva** OR
 [retention/attraction] *employee_turnover* OR *employ*_attracti** OR *employ*_retent* OR *recruit**
 OR *empl*value*propos** OR *attrit** OR *churn* OR *intent_to_turn** OR *intent_to_remain* OR
*employer_brand**

The search used Web of Knowledge and was restricted to articles and reviews only.

Topics were restricted to ‘nursing’, ‘education and educational research’ ‘psychiatry and psychology’, ‘management’, ‘social psychology’, ‘healthcare policy’, ‘sociology’.

Timescale: 2014 – 2024.

2) Inclusion and exclusion flow diagram

Included		Excluded
Search string (655)	➤	Articles not in selected Web of Knowledge topic categories (431)
Articles for title and abstract screening (224)	➤	Excluded from title and abstract screening (210)
Full texts to screen (14)	➤	Excluded from full text screening (2)
Full text for data extraction (12)		