Randomised Trial of the *Skilled Managers* Online Training Intervention, Protocol for Evaluation in Medium to Large Sized Organisations
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PROJECT TITLE	Cluster Randomised Trial of Skilled Managers [SM] Online Training Intervention
INSTITUTION	University of Westminster
PRINCIPAL INVESTIGATOR	Prof. Peter Urwin
PROTOCOL AUTHOR	Prof. Peter Urwin
TRIAL DESIGN	Two-arm wait-listed cluster randomised controlled trial with allocation at organisational unit level
TRIAL TYPE	Efficacy/ Effectiveness
NUMBER OF ORGANISATIONAL UNITS	Target of 300 units
NUMBER OF MANAGERS	Estimated 1,200 managers
NUMBER OF EMPLOYEES	Estimated 7,500 employee reports
PRIMARY OUTCOME MEASURE(S) & SOURCE(S)	Individual-level employee *People Survey* response, reporting on manager practice in conflict resolution
SECONDARY OUTCOME MEASURE AND SOURCE	Unit-level sickness absence rate, performance indicator from organisational MI data

Protocol version history

VERSION	DATE	REASON FOR REVISION
1.2	10/10/2022	Final version prior to SM Training start
1.1	05/04/2022	Second draft protocol following pilot trial
1.0	18/11/2021	First draft protocol for pilot trial Dec 2021/Jan 2022

Table of contents

Study rationale and background[1]

Skilled Managers – Productive Workplaces (SMPW) is an ESRC-funded study, awarded under the *Transforming Productivity, Management Practices and Employee Engagement* call. SMPW focuses on the evaluation of impacts from an online training intervention that provides managers with the skills they need to handle complex and difficult workplace issues; exploring how the training intervention changes managers' practice, the quality of their relationships with staff, and evaluating whether this translates into improved performance. The project will contribute important causal evidence on the role that management practice and capability play in the UK's productivity challenge.

The project engages with a variety of UK-based organisations expressing interest in the research, to implement a cluster randomised controlled trial (RCT) that randomly allocates all managers in distinct workplace units to receive an online training 'treatment' and other units to a 'business as usual' control. According to the original timetable, the piloting process was scheduled to begin with a proof-of-concept face-to-face training event in April 2020. The Covid19 pandemic resulted in a fundamental redesign, with the face-to-face training offer subsequently transformed for online delivery. During national and local lockdowns implemented between March 2020 and July 2021, the team focused on development and refinement of this online training intervention.

The team engaged with organisations over this period to provide valuable feedback for the *Beta Testing Phase* of the newly developed online training intervention, which uses the Learning Management System [LMS] *aNewSpring*. Over this time 150 managers were enrolled on the course, with 82 individual managers providing feedback on the earliest beta versions and a formal *Beta Testing Phase* carried out across five organisations[2]. In early 2022 a pilot of the Cluster RCT was carried out and lessons learned incorporated into a revised protocol. This has determined the nature of engagement with organisations during 2022 that have expressed interest in the mainstage evaluation, and this revised protocol incorporates final changes. For instance, following beta testing and piloting, there remained some uncertainty over how organisations would respond to a 24-week period between wave 1 and wave 2 treatments. These and other issues have now been resolved in this version of the *Protocol for Medium-to-Large Sized Organisations*[3].

The *Beta Testing Phase* has ensured we have a treatment that is fit for purpose, and so has some potential for impact on management capability. In addition, this process has been key in driving the move towards a light touch intervention; targeting managers who are not well served by current management training offers; and where there are opportunities for the greatest impacts both socially and economically.

More specifically, Monahan and Balawejder (2020a)[4] identify the crucial importance of, 'sectors, such as retail, hospitality and administrative services…in raising the aggregate productivity of the UK', suggesting that they, 'could benefit from a targeted intervention'. Work by Forth and Rincon Aznar (2018)[5], Thomson et. al (2016)[6] and Saundry and Urwin (2021)[7] suggests there is potential for significant gains in sectors such as retail, hospitality and health/social care - if we are able to raise performance to the levels of some of our main

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[1] This protocol document is based on Education Endowment Foundation guidance and templates, for which we are very grateful.

[2] See Working Paper presented at Industrial Relations in Europe Conference, September 2022.

[3] The protocol that relates to *Very Large Organisations* will be completed prior to starting the first set of training in these organisations.

[4] Monahan, E. and Balawejder, F. (2020a), *The Sectoral Landscape: An Evidence Review*, Industrial Strategy Council Research Paper.

[5] Forth, J. and Rincon Aznar, A. (2018), *Productivity in the UK's low-wage industries*, Joseph Rowntree Foundation.

[6] Thomson S., Colebrook, C., Hatfield, I. and Doyle, P. (2016), *Boosting Britain's low-wage sectors: a strategy for productivity, innovation and growth*, Institute for Public Policy Research (IPPR)

[7] Saundry, R. and Urwin, P. (2021), *Estimating the costs of workplace conflict*, Acas

international competitors; and improve the wellbeing and life experiences of the UK's 'most vulnerable groups or locations'[8].

Our experience during beta testing has been that these sectors seem particularly needful of training interventions not well provided by the market. Temporary and zero hours contracts are common and staff turnover is high; we see many young and early career workers who have recently entered the labour market; and they often have lower skill levels (ibid). In these sectors, management interventions need to be 'light touch' so staff can access them flexibly around often long and irregular hours [see 'Intervention' below]. They also need to be so because the economics of the sector do not support training interventions that are costly in terms of time commitment and finance.

During beta testing we have created an online offer that has been very well received, and increasingly tailored to the needs of these sectors – creating an intervention that has the potential to tackle this gap in the market. The suggestion that these sectors are not well served by the market, for the required management skills and form of delivery, implies some potential for market failure. Thomson et. al (2016) detail potential demand-side failures, with organisations put off investing in training because of high staff turnover rates and the loss of investment this implies. This is likely to be true of these sectors, but there is also a potential for this to have been historically compounded, as the previous focus on face-to-face training provision is less flexible, has a higher cost per unit and is less easily scaled. In sectors with high staff turnover, lower value added per worker and highly variable working patterns, face-to-face training offers are less likely to be economically or practically viable.

It is still the case that our emerging mainstage sample includes a variety of organisations from these sectors, but what we have found is that this gap in the market is potentially more widespread across a variety of sectors. There is some potential here for an issue flagged in Sadun, Bloom and Van Reenan (2017)[9] to be relevant - they argue that organisations need a greater focus on components of 'operational' management, rather than the current focus on 'strategic' management. It has become clear that our focus on developing an operational management intervention has broader appeal, filling a gap across a variety of sectors.

Potential for the Skilled Managers intervention to impact productivity now seem even more apparent, as a combination of factors are adding to severe post-pandemic staffing challenges. This leads to working conditions that negatively impact well-being and worsen absence, presenteeism and turnover rates. This challenge requires managers who can master at least the basic skills of people management, including communication, providing effective feedback, having difficult conversations, and dealing with conflict. However, managers are under increased pressure and have little time to engage with traditional management development, which itself is arguably flawed. The move online for many activities following the pandemic now presents an opportunity to change this.

As suggested at footnote 3, the protocol here applies to Medium-to-Large sized Organisations and a separate protocol is being developed for Very Large Organisations. The evaluation design is essentially the same across these categories of organisation. In each we create distinct clusters of employees whose managers will be subject to the intervention and 'control' groups that are not, defined according to workplace unit (department, location, etc.) and lines of reporting. This design avoids the situation where managers and employees who are part of the intervention work alongside those in the comparison, avoiding spill-over effects.

However, our approach to recruitment and framing of the offer differs as, across all organisations, no matter what their size, engagement in the beta phase has underlined the

[8] Monahan, E. and Balawejder, F. (2020b), *Effective Policy Approaches to Sectoral Issues*, Industrial Strategy Council Research Paper.
[9] Sadun, R., Bloom, N. and Van Reenen, J. (2017), "Why Do We Undervalue Competent Management?", *Harvard Business Review*

need to specify an offer for <u>all</u> an organisation's managers. One can see this as a manifestation of the issue of substitution, where organisational units alerted to treatment but allocated to control, recognise their need for treatment and secure training elsewhere. Organisations want to know [up front] how they secure SM training for their other managers [whether these are in the initial control group or across other units of the business not in scope for randomisation]. Given part of the offer is that organisations will gain an understanding of whether [and how] training works for their managers, one can understand that they are keen to know how they roll it out more generally if it does work.

For Very Large Organisations our response has been to develop a commercial offer in partnership with Acas that will be delivered to organisations, following Mainstage evaluation. Amongst Medium-to-Large sized Organisations we are able to offer the training to all managers for free [as this is financially viable and makes a significant difference to attractiveness of the offer to these companies]; and use a wait-listed cluster randomised controlled trial approach, where managers are trained in two waves, six months apart[10]. We do not utilise traditional definitions of Medium-to-Large sized Organisations [for instance, with medium defined as having a number of employees ranging from 50 to 249]; rather it is those organisations that have (i) sufficient distinct units of operation to allow at least two treatment and two control units within the same organisation; but are (ii) not so large that the Team would be required to train more than 500 managers.

This brief explanation gives an indication of our departure from usual practice in the categorisation of Medium-to-Large sized Organisations. Our experience to date suggests this departure is also warranted on theoretical [as well as empirical] grounds, as single site (micro-businesses) face a different workplace and operational context to muti-site Medium-to-Large sized enterprises. The latter group of organisations are often struggling to make the transition from a small business approach to employment relations, which tends to be less formal and less appropriate for multi-site organisations; but many do not yet have the scale of the Very Largest Organisations to justify a dedicated HR team or extensive outsourcing arrangements.

Currently this protocol sets out a minimum target for the number of units that will be needed to secure sufficient statistical power. We present a-priori calculations that have provided orders of magnitude regarding sample size, based on estimates of the average number of units within organisations; the average number of managers and reports within each of these units. As the project progresses, the team will utilise simulation for final power calculations, as we have extensive heterogeneity in unit size and function; the approach to randomisation is via batching from a dynamic pipeline of organisations; most of which operate in highly competitive markets. Each randomisation of units is carried out within-organisation and there is some stratification internally [where we have a mix of operational and head office functions]. There is a growing literature that considers statistical power in the face of cluster size variability[11] and we aim to add to this.

This is one of a number of innovative aspects to the study that also presents new challenges. Another is our focus on managers and team leaders who we would argue are often 'hard to reach'. For instance, in many of the organisations we are engaging with,

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[10] See for instance, Lam, L. T., Wong, P. and Lam, M. K. (2019), "Protocol for a phase III wait-listed cluster randomised controlled trial of an intervention for mental well-being through enhancing mental health literacy and improving work friendliness in Hong Kong", *Trials* volume 20, Article number: 672; Hosie, A. et al. (2018), "Multicomponent non-pharmacological intervention to prevent delirium for hospitalised people with advanced cancer: study protocol for a phase II cluster randomised controlled trial", *BMJ Open* Vol. 9, Issue 1.
[11] Sandra M Eldridge, Deborah Ashby, Sally Kerry, (2006), Sample size for cluster randomized trials: effect of coefficient of variation of cluster size and analysis method, *International Journal of Epidemiology*, Volume 35, Issue 5: pp 1292–1300; Zhan D, Xu L, Ouyang Y, Sawatzky R, Wong H (2021) Methods for dealing with unequal cluster sizes in cluster randomized trials: A scoping review; Liu J, Xiong C, Liu L, Wang G, Jingqin L, Gao F, Chen L, Li Y (2021), Relative efficiency of equal versus unequal cluster sizes in cluster randomized trials with a small number of clusters, *Journal of Biopharmaceutical Statistics* 31(2): pp 191-206; Kristunas CA, Smith KL, Gray LJ. (2017), An imbalance in cluster sizes does not lead to notable loss of power in cross-sectional, stepped-wedge cluster randomised trials with a continuous outcome, *Trials*, 18, Article number: 109.

managers do not have a company email address and if they do, it is shared. In addition, many managerial posts are currently unfilled but may have new starters when we begin. Many employee reports we are considering do not have email addresses and/or are on temporary contracts. These and other issues are challenges for the research, but they also speak of the challenges facing organisations in these sectors who wish to train managers and gain insights across all employees. This is also an important driver behind our approach to manage a constantly changing pipeline of organisations that express interest in principle; engaging with them to secure further commitment and then randomising in batches.

Intervention

The Skilled Managers training intervention is hosted on the *aNewSpring* Virtual Learning Environment [VLE]. The training can be accessed via an App and much of the latest development has focused on ensuring mobile compatibility for managers who have little time to engage with content. It comprises four main modules: (i) Effective communication; (ii) Feedback & difficult conversations; (iii) Managing conflict; and (iv) Conflict resolution. Managers [learners] must undertake the training in a systematic way, only being able to move through the training from (i) to (iv), after completing each module in turn; but can dip in and out at any point over the period of a month. From beta testing and piloting, this final version of the training takes between 2 and 4 hours depending on the depth of engagement by a manager learner - some managers can take longer if they engage with additional content, such as podcasts. Key features of the training include:

- A diagnostic questionnaire that allows the team to categorise a manager's conflict management style (based on the Rahim Organisation Conflict Inventory-II[12]), completed by each manager prior to (i) and again after completion of (iv).
- Core content is delivered via short videos and text; and links are provided to podcasts and other content that users may find of interest.
- Within each module there are tests of practical people skills using quizzes [providing feedback].
- Simulations within each module take learners through a variety of scenarios and at each stage give a range of possible options for action.
- There are points where learners are provided with key learning points and given opportunities for reflection.

This constitutes the core content that is hypothesised to change manager practice, changing the way they interact with their reports and leading to performance enhancement. In addition, the team have found that the provision of an option to book [via the platform] 15 minute 1-2-1 consultations with a member of the team, is popular with managers and organisations, and improves engagement [even where these are not used by managers on the platform].

When managers have completed the training, they are given access to a 'Toolkit' which essentially allows all content to be accessed in a way that supports the retention of skills learnt. For instance, a manager who has completed the training may have little time to plan for a difficult conversation and wishes to remind themselves of key pointers. The toolkit allows them to choose content according to whether they only have 5 minutes [in which case they get 'brief tips to remember']; or longer.

Since the presentation on 3rd August 2022, the following final decisions have been made regarding the protocol:

- The training must be completed in sequence. Previous pilots and tests had allowed managers to dip in and out of each module out of sequence. There are practical arguments for and against either approach, but from a research perspective we would

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[12] Rahim, M.A. (1983). A measure of styles of handling interpersonal conflict, *Academy of Management Journal*, 26(2): pp.368-376.

prefer sequencing, not least because e.g. the questionnaires; simulations and quizzes allow us to gauge the extent to which treatment is improving a manager's skills set between start and finish of the course (though this could be over the period of one day or one month). Most organisations also prefer this approach.

- Similarly, there has been some debate over the extent to which access to the Toolkit should be predicated on completion of the training. To better ensure that a treatment impact can be identified, if one exists, the decision has been made to (i) provide access to the toolkit immediately for managers who complete the training within the month; and (ii) turn on access to the toolkit for all registered managers after a month has passed - whether or not they have engaged with the platform. This allows the team to work with each organisation in the period after completion of training, to encourage use of the toolkit prior to the Pulse Survey at 22 weeks.

The use of a VLE now allows the team to gauge 'dosage' and the potential for this to have impacted behaviour - in the case of each individual manager, we collect data on engagement with each module; the Rahim instrument; quiz and simulation outcomes. These metrics and qualitative aspects of the study are considered under *Implementation and process evaluation.* The logic model for primary and secondary outcomes is:

Figure 1: Skilled Managers Logic Model
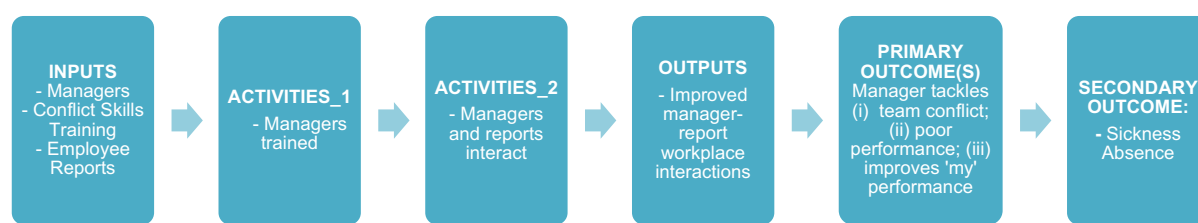
The following sections detail compelling arguments for consideration of more than one PRIMARY OUTCOME. For instance, managers who are more willing to tackle and resolve conflict in their team may remain unwilling to tackle poor performance. Furthermore, it is quite possible that the training improves their ability to tackle these issues in the team, but the extent to which individual staff feel they are helping to improve their performance could remain unchanged. A key INPUT in the logic chain is training in conflict skills and therefore this protocol assumes the following:

PRIMARY OUTCOME_1: *To what extent do you agree with the statement, "If there is conflict in the team, my line manager helps resolve this quickly".*

However, initial sample size calculations are also presented for a second primary outcome:

PRIMARY OUTCOME_2: *To what extent do you agree with the statement, "Poor performance in my team is tackled effectively".*

The brief discussion here would suggest a further primary outcome from the Pulse survey:

To what extent do you agree with the statement, "Talking to my line manager helps me improve my performance".

As data are collected, we will present findings from Principal Component and Confirmatory Factor Analysis to consider the specific approach to testing of impacts beyond Primary Outcome_1. As regards Secondary Outcomes, sickness absence is emerging as a performance indicator that is collected by organisations as standard across sector, size

bands and locations. This will only be shared with the team at unit-level and is therefore subject to different sample size calculations. The headline target of 300 units relates to the power calculations for primary outcome indicators.

As in many existing studies of managerial training interventions (Ichniowski and Shaw, 1999; Bloom and Van Reenen, 2007; Bloom et al., 2013, 2019), **the control condition** is one of Business As Usual (BAU) training. Mandating that the control group of managers receive no training over the period of an intervention lasting 6 months or more is not feasible. In each organisation, a semi-structured initial interview with a key stakeholder (typically the gatekeeper) is carried out and an organisational-level questionnaire administered. These capture quantitative and qualitative information on the extent to which managers across treatment and control receive additional training interventions during the SM intervention; and the extent to which any such training in the past has tackled issues of conflict competence/people management skills. The control group are within the same organisation and the wait-listed nature of the evaluation means they are aware they will receive the intervention following a period of 6 months.

The first batch of five organisations are scheduled to begin SM Training in the month from wb/ 10th October 2022; a second batch will begin during the following month; and so on. There are currently an approximate 40 organisations at an advanced stage of discussions and a similar number at an earlier stage in the pipeline [exact numbers vary on a weekly basis]. All have completed a detailed questionnaire asking the reasons for their interest, and basic information on the company, and supplied an organogram [or similar]. This questionnaire acts as a way of prioritising engagement in the initial stages of the pipeline and the information will be used to describe any selection on observables along this pipeline; and compare to population level business demography data.

The team have further organisations on a waiting list and the aim is to continue to build sample size in a process of sequential batching, to achieve sufficient statistical power. The calculations presented in the following section on statistical power, provide an indication of early calculations prior to beta/pilot testing; and an up-to-date target that aims to accommodate the potential for extensive cluster heterogeneity and the use of more than one primary outcome variable. These provide orders of magnitude that have allowed the SM team to plan for likely volumes involved in pipeline engagement and batching. Specific power calculations will emerge as the evaluation progresses and the team are able to use simulation techniques to accommodate cluster heterogeneity.

Impact evaluation

Research questions

The overall project seeks to answer the question of whether training designed to develop the conflict competence of line managers, improves measures of workplace engagement and performance?

Primary 1: What is the difference in how managers deal with conflict, as measured by the responses of [employee] reports to a Pulse Survey, in units whose managers have received the Skilled Managers treatment; compared to the responses of reports in control units that receive business-as-usual training?

The primary indicator will be captured at the individual report level, from responses to one question in the 10-question Pulse Survey administered before the SM training starts and at a point 22 weeks later. The following section on *Outcome Measures* details the specific variable used to gauge any change in management practice.

Secondary: What is the difference in performance, as measured by unit-level sickness absence rates, of employee reports in units whose managers have received the Skilled

Managers treatment; compared to that seen in control units that receive Business-As-Usual training?

We do not know in advance the exact nature of performance data that will be shared with the team across organisations - performance indicators differ in each context and whilst sickness absence is emerging as a standard secondary indicator, this remains a proxy for performance. This protocol is written with sickness absence as the likely *Secondary* indicator utilised across organisations.

The theoretical and practice-based arguments for analysis of more than one primary outcome are strong; and analyses of secondary outcomes will only be possible at the cluster level. These aspects of the study push up required sample sizes substantially. Power calculations are provided for consideration of orders of magnitude, to meet the requirements for analysis of Primary Outcome_1 and Primary Outcome_2.

Table 1: Trial design

Trial design		Two-arm, cluster randomised, wait listed
Unit of randomisation		Units of operation [departments/branches] within an organisation
Stratification variables		Within organisations, stratify according to (a) back-office functions (b) operational 'shop floor'
Primary outcomes	Variables	Primary_1: To what extent do you agree with the statement, "If there is conflict in the team, my line manager helps resolve this quickly" Primary 2: To what extent do you agree with the statement, "Poor performance in my team is tackled effectively".
	Measure	Likert scale [1-5], staff Pulse Survey
Secondary outcome(s)	Variable	Rates of Sickness Absence
	Measure	% sickness absence in unit, organisation MI data
Baseline for primary outcome	Variable	Pulse Survey administered to employees prior to treatment
	Measure	Likert scale [1-5], staff Pulse Survey
Baseline for secondary outcome	Variable	MI data collected by organisation
	Measure	% Sickness absence in unit, organisation MI data

Randomisation

The SM team manage a dynamic pipeline of organisations that have expressed interest in principle; have completed a questionnaire detailing company structure, their motivations for inclusion and shared an organogram of the organisation. Discussions between the organisation and SM team clarify whether the organisation is appropriate for the research [having a management/report structure that allows clustering by department/branch/unit] and the organisation is willing to adhere to the terms of the evaluation.

At the point where a *Participation Agreement* has been signed and the structure of clustering agreed, the organisation sets a start date 6 weeks from the point of this agreement. During

this 6-week period the team use an organisation's organogram as the basis for randomisation. Randomisation is carried out separately for each organisation as they reach the point of committing fully to the training and evaluation; with the organogram and meetings providing the information needed for stratification and creation of distinct units/clusters to be randomised to treatment and control.

Clustering and Stratification: one of the key challenges for this study is the creation of a theoretically and empirically justified approach to our criteria for the type/level of randomisation within each organisation; that can be applied systematically across organisations. There is substantial variation within and between organisations in the size of departments, branches, manufacturing locations and other units used to create clusters; and this is accompanied by variation in how these units are structured between organisations.

This study tests for impacts amongst employee reports, arising from a treatment administered to their line manager(s). Therefore, a key criterion for the creation of clusters is that they reflect line-management responsibilities. Initial discussions with organisations clarify the extent to which they have a structure that can be split into clusters of staff with clear line-management responsibility (i.e. not overlapping); and the extent to which these are separated geographically and/or operationally. This allows the team to create clusters of employees who interact on a personal and operational basis; and have some distance from other clusters – so that if a manager achieves improved outcomes, they will be reflected in the responses of their reports, but will not spill over to other units, teams and managers.

This is a relatively straightforward theoretical justification. It is in the practical implementation that challenges arise. Here we set out some of the key issues that have arisen from this approach to randomisation and decisions made, beginning with a challenge that helps clarify our **approach to levels**.

Geographically separate outlets [whether retail, hospitality, contract services etc] are ideal as they present a low potential for contamination across treatment and control clusters. However, an issue we have encountered with this type of unit is how to allocate area/regional managers with cross-cutting responsibilities.

Consider the example of Organisation X that has 8 geographically separate retail branches and a head office with 4 separate departments - (i) Accountancy/Finance; (ii) HR/Marketing; (iiii) IT/sales and (iv) Logistics. If Organisation X confirms these 12 branches/departments have the required operational/geographic separation, we would ideally randomise at this level – the line managers trained in units (i) to (iv) and the eight branches will have an equivalent level of seniority, over employee reports[13].

However, in Organisation X, we may have two area managers each with responsibility for 4 of the 8 branches. Some organisations have an understandable desire to include area managers; and in some limited cases, suggest they need to be trained to support the branch managers. An approach that randomised at area-manager level in Organisation X would reduce the number of clusters to 6. There would be two units - each incorporating an area manager, four branches and their managers - and four head office units, incorporating first line managers. As with the issue of cluster size variability, this complication in our statistical approach to levels is driven by a combination of practical and theoretical considerations.

In most instances, organisations are content to train at the level of branch manager [using the example of Org X] and have area managers untrained in the first wave of wait-listed treatment. In discussion with organisations, this is our preferred option. Whilst there may be concerns that a treatment impact is less likely in branches where line managers, but not the area manager, has been trained, this approach does not risk contamination across clusters, from area managers with cross-cutting responsibilities, and can more clearly be argued to be

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[13] We would consider this as 'first line manager level', including branch managers, assistant managers and in some organisations team leaders with the relevant line management responsibilities.

randomising at the same level as back-office units within organisations. However, in a small number of instances, organisational structures are such that we are forced to randomise and cluster at the level of area manager – for instance, in organisations that have branch manager vacancies being filled by area managers; or where there is a real potential for the organisation to drop out because of this issue.

This randomisation at area manager level is our least preferred option and in a small number of organisations where this is an issue, we prefer to work towards a compromise – with randomisation at the level of branch manager, but all area managers also trained. Depending on the number of organisations that are eventually randomised using this option, the data collected will be used to consider the implications of these decisions – that is, potential for contamination across treatment and control when area managers are trained; and potential for dissolution of treatment impact, where they are not [see *Implementation and process evaluation*]. In all these contexts, the data collected allow us to clearly differentiate the approaches taken and the approach to randomisation provides a within-organisation treatment and control comparison.

Clearly, the extent to which these different options are pursued is dictated by the team's interaction with organisations – so the extent to which we do or do not have area manager engagement is endogenous to the organisation. However, as branches are randomised independently of whether area managers are or are not trained, we will have randomly allocated instances of the deviations from our preferred approach. This will allow us to shed some light on a debate within the literature, where managers are seen to lack confidence in tackling conflict, due to a lack of senior management support[14]. The power calculations in this protocol are not focused on testing this issue, rather it is an issue of implementation and process evaluation.

It is hopefully clear why one would wish to consider separately [via **stratification**] back-office and front-of-house/shop-floor units. The SM intervention is designed to equip managers with conflict resolution skills and our approach to stratification recognises that the nature of conflict, and the wider workplace context, differ on factory or retail 'shop floors', when compared to head or back-office operations. For instance, there are often greater opportunities for home-working and other flexibilities in head/back-office operations, whilst employees on the 'shop-floor' are more often dealing directly with customers and/or daily production targets. These differences impact both the nature of management challenges and the potential for treatment impacts.

It is worth noting that variability in cluster size (both in terms of number of employee reports and managers) and additional variability in function (above and beyond any shop floor/back-office distinction) have been considered as drivers for additional stratification. For instance, we have considered stratification according to unit size, but across organisations there is substantial variability in what might constitute a 'large' or 'small' cluster; and the same applies to operational variability above and beyond the stratification chosen.

Randomisation: Having identified which clusters to allocate to the two strata, a different seed is used for each organisation and stratum [recorded], obtained from a site generating random numbers for this purpose[15]. Units in stratum one [operational clusters] are randomly ordered; units in stratum 2 randomly ordered [head office clusters] and then the first 50% of the randomised list of units for each stratum are allocated to treatment.

Ultimately our approach to randomisation is driven by the realities of engagement with organisations working in dynamic competitive environments. A managed pipeline provides batches of organisations that are ready to start the trial at a specific point in time – for many, missing this window of opportunity removes them from the study. As each organisation

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[14] Saundry, R., Wibberley, G. and Jones, C. (2015) 'The Challenge of Managing Informally', *Employee Relations,* 37:4, 428-441.
[15] https://www.random.org/integers/?num=1&min=100000&max=999999&col=5&base=10&format=html&rnd=new

reaches a point of being ready to begin mainstage, the SM team work at pace to randomise within that organisation and begin the trial. This does mean that in some cases managers are aware of whether they are in the initial treatment group (all managers are aware they will be treated at some point), at the time Pulse Survey responses are secured from their employee reports. All Pulse Survey responses, randomisations and manager correspondences are however time stamped, so we can identify instances where the baseline from employee reports is not secured prior to the randomisation outcome being revealed to their managers.

Participants

As suggested above, organisations are self-selecting and in discussion with the SM team a decision is made on whether their structure allows cluster RCT. Organisations provide an organogram, which details the entire organisation and in the majority of cases all parts of the organisation are in scope[16]. These organograms detail the number of managers in each unit and the number of employee reports. In some cases there is a question of whether regional/area managers are included in the randomisation, but other than this, there are no exclusion criteria – any individual with a line management, team leader or other leadership role within the cluster is considered in-scope for training; and all employees within the cluster are requested to complete the pulse survey, as well as being covered by KPIs in the organisation MI data.

Sample size calculations

These calculations consider the sample size required for PRIMARY OUTCOME_1 [*To what extent do you agree with the statement, "If there is conflict in the team, my line manager helps resolve this quickly"*]; and how this changes if the study is to capture a second primary outcome - PRIMARY OUTCOME_2 [*To what extent do you agree with the statement, "Poor performance in my team is tackled effectively"*].

Original calculations provided the team with order of magnitude targets regarding desired sample size, but whilst these were further developed as the intervention moved from face-to-face to online, they did not initially reflect the potential for higher numbers of organisations engaging with the project. Early calculations assumed that large organisations would contribute 10 clusters [Depts/Branches] and medium-sized enterprises 4 clusters, on average - together with the assumption that total number of individual reports in each cluster would average 25:

• Scenario 1: No. of clusters [2 larger, 15 smaller] 80
• Scenario 2: No. of clusters [3 larger, 20 smaler] 110
• Number of arms [control and treat] 2

This provided a Minimum Detectable Effect Size [MDES] of 0.20 with 80 units and 0.17 with 110 units. Assuming an average of 4 managers per cluster, scenario 2 would suggest an estimate of 440 managers and 2,750 reports.

As the project has progressed, the potential for an online offer to be administered across a much larger number of organisations has been realised; together with emerging levels of variability in cluster size and other challenges, possibly necessitating these higher numbers. Calculating exact figures a-priori is a challenge and the study will utilise simulation to update power calculations, as the specifics of our extensive heterogeneity in unit size and function emerge. Utilising averages and other simplifying assumptions, provides us with **a target of 300 units** which we calculate using the following assumptions:

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[16] In a small number of organisations, some aspects of the organisation are considered out of scope for randomisation – for instance, where there are departments that will experience significant operational/structural change during the period of evaluation. This detail is captured in the data collected.

Initial power calculations assumed that (i) there is allocation of 50% to treatment and 50% to control; (ii) we are able to collect about 10 additional covariates that have some explanatory power at the level of the individual; (iii) able to collect about 10 additional covariates that have some explanatory power at the level of the unit/group[17]; and (iv) that we desire a statistical power of 80% [working with stat. sig. of 0.05 and 2 tailed test].

The Intra-cluster correlation is assumed 0.12 for these initial calculations. In our context, this is an indication of the proportion of 'outcome' variability across groups that is attributable to managers – the higher this variability (in the normal run of things) then the harder it is to detect an impact from treatment, as it will be harder to identify this effect amongst the 'normal' variability in management practice and therefore outcomes of their reports. The value of 0.12 is relatively conservative [i.e. not too low], but work by Bloom and Van Reenen, (2007) and Bloom et al., (2013, 2019) would seem to suggest high levels of management variability within the same organisation [at least in the US] and therefore we consider other values.

Initial power calculations have been superseded as beta testing has allowed us to create an offer that has attracted more organisations than originally envisaged; and the move online allows delivery at a larger scale. In contrast, a number of additional issues have become apparent, such as cluster size variability and comparison of the level at which randomisation is undertaken across organisations. To provide an indication of the compounding effects of less favourable assumptions on our MDES, we drop the average unit size to 5 employee reports; utilise an ICC of 0.2 (rather than 0.12); reduce the number of covariates to 2 in both instances set out under footnote 16 and suggest they only explain 0.1 (down from 0.2) and 0.1 (down from 0.4) of variance. Using these assumptions, we estimate an MDES of 0.18. with 300 units, in the case where we test for only one primary outcome. If we adapt this for two outcomes, using the Bonferroni correction, we obtain an MDES of 0.20.

The nature of this study is such that these 300 units are seen as a minimum target, required to secure sufficient power in the face of a number of statistical challenges. There are various limitations to these calculations, not least concern that the Bonferonni correction is very conservative and does not account for correlated outcome measures. However, the returns to additional investment in a-priori calculations, given the lack of information, are low. Rather, as information becomes available from initial batches of organisations engaged in the study, simulation of more exact power calculations and an updating of this document seem a better use of resource.

The target of 300 units provides an order of magnitude that will be required for the study, and Table 2 sets out the parameters used in these initial calculations, as well as those that will be secured from initial batches of trial organisations and utilised in more detailed simulations. It is important to note that the following table presents some worse-case scenario assumptions – specifically, whilst we utilise a figure of 5 employee reports per unit, this is a minimum cluster size across the variety of cluster sizes we expect to secure. The average cluster size is still expected to be around 25 reports and so whilst the number of staff reports here is 1,500 in total (in line with this modelling of a minimum cluster size of 5); we would still expect to capture outcomes from 7,500 reports (as suggested in the summary table at the start of this document).

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[17] The assumption is that the 10 covariates under (ii) explain a proportion of 0.2 of the individual variance and under (iii) the assumption is that the proportion of variance explained is 0.4.

Table 2: Sample size calculations

Minimum Detectable Effect Size (MDES)		0.20
Pre-test/ post-test correlations	level 1 (Individual report)	TBC[18]
	level 2 (Unit)	TBC
	level 3 (Organisation)	TBC
Intracluster correlations (ICCs)	level 2 (Unit)	0.2
	level 3 (Organisation)	
Alpha[19]		0.025
Power		0.8
One-sided or two-sided?		2
Minimum cluster size		5 employee reports
Number of units	Intervention	150
	Control	150
	Total	300
Number of staff reports	Intervention	750
	Control	750
	Total	1,500

Baseline measures

The following 10 question Pulse Survey is administered in each organisation. At a point at least 2 weeks prior to treatment start [SM training] the Pulse Survey link/QR code is sent out to all staff [including managers] across treatment and control units. The SM team provide the organisation with text for communication and discuss the best way to secure responses – for instance, posters are made available to the organisation with QR codes, and these can be put up in staff break rooms. All managers are asked to encourage their reports to complete the survey, which is fully mobile-compatible and only takes about 2 minutes. Date stamps are secured for all responses, so that any late responses which potentially overlap with treatment start can be dropped from analysis as part of sensitivity testing.

1. On a scale of 1 to 10, with 10 being most likely, how likely is it that you would recommend this company to a friend or family member?
2. To what extent do you agree with the statement, "I think that my organisation respects individual differences (e.g. cultures, working styles, backgrounds etc)".
3. To what extent do you agree with the statement, "It's easy for me to get feedback on my performance".
4. To what extent do you agree with the statement, "Good performance in my team is recognised".
5. To what extent do you agree with the statement, "Poor performance in my team is tackled effectively".
6. To what extent do you agree with the statement, "I often experience work-related stress that impacts my health and job performance".
7. To what extent do you agree with the statement, "If there is conflict in the team, my line manager helps resolve this quickly".
8. To what extent do you agree with the statement, "Talking to my line manager helps me improve my performance".
9. To what extent do you agree with the statement, "I have a good relationship with my line manager".
10. To what extent do you agree with the statement, "I am happy in my role and am not thinking of leaving".

This survey is then administered to the same individuals at a point 22 weeks from treatment start date (wave 2 treatment starts in week 24) and then again, 22 weeks after the start of wave 2 treatment. We cannot know in advance the exact nature of performance data that will be shared with the team across organisations, but sickness absence is emerging as a standard secondary indicator. Baseline indicators of this are secured from organisations via their Management Information systems, most of whom can provide this data at the unit level.

The survey instruments are taken from a combination of the Acas People Survey; CIPD Workplace Conflict Survey; NHS England People Survey; Workplace Employment Relations Survey [WERS] and a variety of additional references[20].

Primary outcome

Primary Outcome_1 is secured from responses to question 7; Primary Outcome_2 is secured from responses to question 5; and in previous sections we set out theoretical arguments for the responses to Question 8 to be considered as a separate outcome. This will be our starting point for analysis, but as the project progresses, we will also carry out Principal Component/Confirmatory Factor Analysis to consider the specific approach to the testing of impacts for primary outcomes. This will identify whether any grouping of primary outcomes into composite indicators seems justified.

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[20] CIPD, Acas, Greater Manchester Employment Charter (2021) *Soft skills in hard times: why good people management matters more than ever*; Hoffman, M. and Tadelis, S. (2020), "People Management Skills, Employee Attrition and Managers Rewards: an Empirical Analysis", forthcoming *Journal of Political Economy* and NBER Working Paper 24360.

The nature of our intervention and its potential impacts require more than one outcome to secure practical and theoretical insight. For instance, the SM training intervention has the real potential to negatively impact responses to questions 9 and 10 for some reports, if managers have previously been 'avoiding' tackling performance issues with these staff members [a category captured with the Rahim instrument]. In contrast, one may hypothesise that responses to questions 5 and 7 may improve within the same units, as other staff members observe their managers being more willing to tackle conflict and poor performance.

Given this, any combining of responses to all 10 questions into one composite measure is not appropriate as a way of mitigating concerns over multiple inference. In contrast, there is no one outcome indicator that captures the potential nuance of treatment impacts. In the first instance we therefore consider responses to Question 7 as the primary indicator, as it has the potential to capture the most straightforward potential treatment impact, where managers with improved conflict competence and confidence tackle conflict in their team. The second primary outcome is captured from responses to Question 5, as this is a key avenue for productivity impacts, from any such improvements in manager confidence and competence.

Secondary outcome: monthly/quarterly % days of sickness absence per unit, secured from organisational MI data.

Compliance

The online nature of the intervention allows collection of detailed information on the extent of compliance with the Skilled Managers intervention. At a point 6 weeks before managers are first registered for the SM intervention, an organisation agrees the units in scope for randomisation and in the following two weeks confirms final numbers of (i) managers/team leaders and (ii) employee reports, in each unit to be randomised. At this point the randomisation outcome is communicated to the organisation, which provides details of the managers [first name, last name and email address] to the team; and the team provide the required number of access codes [ANS licences], together with standard texts for the organisation to use in their communication – alerting managers to the training and giving detailed guidance on how to register on the SM platform and begin the training treatment.

The SM team then carry out all correspondence with the achieved sample of treated managers, via the ANS platform, collecting detailed dosage (dose plus frequency) information on those who register and engage with the training[21]. Comparison of the original information provided by the organisation, the detail of managers on the platform and their engagement, allows us to capture an <u>initial</u> measure of compliance. The information collected includes time spent on each module on the platform, skills evaluation questionnaires, simulation outcomes and self-reflection for each manager - also providing information on fidelity, in this online context.

After 2 to 3 weeks [depending on the size of our achieved sample of treated managers], the SM team contact the organisation and further encourage compliance amongst managers who have not yet registered or had any observed activity on the platform. It is important to note that whilst organisations are encouraged [and keen to] suggest that the training is mandatory, it is made clear to all treated managers that engagement in the research is voluntary; and if they choose not to allow data collection, they continue with the training in the same way as other users.

As suggested earlier, even after the month of training treatment has finished, and we have an indication of the initial level of compliance; there is still an opportunity to reduce the negative impacts of drop-out, as all treated managers (whether or not they have engaged with the treatment) are given access to the Toolkit. This provides access to all the SM materials including templates etc. in a mobile-compatible flexible way, and even those who have not engaged with the original training materials, may be hypothesised to secure a

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[21] Managers are provided with participant information and on registration are asked permission for their data to be used in the study.

treatment impact. At a point 3 weeks from the end of the initial one-month SM training intervention, the organisation is sent a standardised report setting out the baseline Pulse Survey findings, SM engagement and other indicators of interest. At this point the organisation is asked to encourage managers to utilise the Toolkit even if they have not yet engaged with the intervention. All engagement with the Toolkit is captured in detail and this provides us with measures of compliance and dosage between weeks 4 and 22, to compare to initial levels.

The SM team have not specified thresholds or minimal values for individual participants to be considered compliant. A key contribution from the current study is our ability to measure in detail the engagement of each individual, with the training and subsequent Toolkit. However, at unit level, if we were to observe zero managers engaging with either the training or the subsequent toolkit there would be no apparent chance of securing impact across this unit. However, as long as we observe at least one manager in a unit engaging with the platform, there is clear potential for them to share any lessons with other managers in the unit informally. As a result, we set compliance at this lowest of levels.

Analysis

Primary outcome analysis

At a point at least 2 weeks prior to treatment start [SM training] the Pulse Survey link/QR code is sent out to all staff [including managers] across treatment and control units. Individual responses to the following question(s) constitute the dependent variable for analysis of the primary outcome, captured 22 weeks after treatment start. Capturing the change in this variable from baseline to this point, is the primary outcome of interest – showing if the conflict competence of managers has translated into a willingness/confidence to tackle difficult workplace issues.

The baseline Pulse indicators are captured across treatment and control employee reports at the point an organisation is informed of randomisation; and managers are informed when the baseline indicators begin to be captured from their employees. We would ideally take the baseline measurement before managers are alerted to randomisation in all instances, but many organisations insist on advanced notice to managers for operational reasons; and are keen not to burden managers with multiple messages that relate separately to the Pulse Survey and the Skilled Managers training intervention. Time-stamps are retained on all correspondence and activities, so that this issue can be tackled statistically, as we are not able to dictate order to all companies.

Dependent variable: Individual Pulse Survey response at week 22

Primary Outcome_1: To what extent do you agree with the statement, "Poor performance in my team is tackled effectively".
Primary Outcome_2: To what extent do you agree with the statement, "If there is conflict in the team, my line manager helps resolve this quickly".

1. Strongly Agree
2. Agree
3. Neither agree nor disagree
4. Disagree
5. Strongly Disagree
   Don't know

Covariates and modelling:

Randomisation involves stratification according to whether the unit (i) is a back-office or head-office function; as opposed to a (ii) front of house/shop floor; as this helps to obtain

balanced groups on a key unit characteristic that is an important predictor of outcome. From the Pulse Survey, each employee report has an organisation-level indicator and a unit-level treatment/control and strata indicator. The Pulse Survey response for an individual at benchmark will be used as a covariate in the regression, that has response to the same question at 22 weeks as the dependent variable. However, the specific way this covariate features in the model is subject to some uncertainty, depending on response rates. Specifically, in situations where we have:

- No responses observed for any employee in a particular unit for either (i) the second wave [22 week] Pulse Survey or (ii) both the baseline and second wave, we have no impact data for that unit. We can identify whether these missing data are within a unit that is treated or control; and the extent of manager compliance within the treatment unit.
- This is an extreme version of what will likely happen in many instances, where we secure responses from a proportion of employees within each unit; at both baseline and week 22, but have concerns over non-random selection into Pulse response.

There are different ways we can approach this analysis depending on the specific nature of this non-response. In the Pulse Survey we request that respondents input a unique number that does not identify them, but allows the team to link individual responses across the benchmark and 22-week Pulse Survey. In analyses that utilise **all responses in the second wave**, we will have many situations where an individual-level benchmark Pulse Survey response does not exist[22]. In contrast, an analysis that utilises only **the subset of wave 2 observations** where we are able to link individual Pulse Survey responses, is more straightforward but more highly self-selected.

From piloting we have obtained good response rates for benchmark Pulse Surveys [70 to 80%] but this drops off for the second wave [50 to 60%]; and our ability to link individual responses across waves via a unique identifier has been low [less than 25%]. During the mainstage we will engage with organisations to ensure the highest response rates possible; and it will be important to carry out logistic regression analysis of missingness across treatment status and other observable characteristics, to ensure that the pattern of missingness is not systematically different between treated and control units. All analyses will be carried out using an Intention to Treat (ITT) approach where possible - even where we observe responses in treated units where no manager has engaged with either the initial training or subsequent Toolkit, units will be considered as treated.

Modelling: multi-level/random effects, and fixed effects, models

Data will be modelled as multi-level [Organisation, Unit, Individual]. Any modelling of impact that adopts a random effects approach is valid in contexts where we utilise rich data at the individual level, to accommodate the potential for non-random selection of reports into different units/organisations[23]. In contrast, fixed effects modelling is more appropriate when random effects remain correlated with regressors (see Clarke et. al., 2010 for more detail). The aim is to estimate core RE and FE models and compare outcomes, to gauge which seems a better fit to the modelling challenge. Model development will involve estimation of random effects/intercept models, also referred to as 'multilevel' or 'mixed models'; and some estimation of provider Fixed Effects models.

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[22] Analysis of all second wave pulse responses will include (i) individuals with a first wave response (covariate) that we can link to a second wave response (dependent var); (ii) those for whom we see the second wave response, but who we do not see the first wave response – even though there may be one [but no matching unique identifier]; and (iii) those who are similar, but who simply did not answer the first time around [there is a question to ask in second wave, *Is this your first response?*].
[23] http://www.bristol.ac.uk/media-library/sites/cubec/migrated/documents/technical-annex11.pdf

Dependent variable: % sickness absence in first quarter after week 22

Dependent variable is at unit level, so statistical power will be lower for this unit-level analysis.

Covariates: **% sickness absence in the quarter prior to SM training start**

Treatment indicator is at unit level, but individual manager treatment intensity/activity is observed.

Implementation and process evaluation

Research questions and methods

The following questions/aims will be investigated using data collected from the SM platform, semi-structured interviews and the pulse surveys:

Supplementary 1: explore the relationship between conflict competence, management practice and employee engagement.

Supplementary 2: develop a model for managerial training and development which can be replicated in other settings.

Key features of the training include the capturing of detailed quantitative indicators of manager engagement with the treatment [see *Compliance*] and measures that capture their levels of conflict competence at points throughout the training:

- A diagnostic questionnaire that allows the team to categorise a manager's conflict management style (based on the Rahim taxonomy), completed by each manager, once on starting and once on completing the training.
- Within each module we obtain the results of tests of practical people skills using quizzes; and the scored outcomes of simulations within each module that take learners through a variety of scenarios and at each stage give a range of possible options for action.

In addition, there are qualitative fields for managers to complete on the platform

- There are points where learners are provided with key learning points and given opportunities for reflection.

In the week during which the Pulse Survey is first administered, a semi-structured interview is carried out with a senior member of the management and/or HR team. This provides information on the organisational context and any challenges that units have faced. In addition, as detailed above in the *Analysis* section we have a variety of indicators at the unit and organisation level that will further facilitate analysis of supplementary questions 1 and 2.

Cost evaluation

The approach to costing will consider (i) set-up costs of the Skilled Managers training platform; (ii) the relatively low costs for support of operation and a licence for each registration, resulting in low Marginal Cost; and (iii) the opportunity cost of managers time whilst undertaking the training. The calculation of costs from these inputs will follow the approach in Saundry and Urwin (2021) The Cost of Conflict. This publication details the approach to, for instance, calculation of the opportunity cost of managers time; as well as the value of negative outcomes avoided through improved conflict resolution [such as anxiety and depression that lead to sickness absence].

Ethics and Data Protection

Original arrangements had Sheffield University as the lead Research Organisation and therefore the formal process of research ethics submission and approval for data collection and analysis during Beta testing [during the Covid lockdowns 2020 and 2021] was submitted [and approved] at Sheffield University. On transfer of the project to Westminster, an ethics submission [and approval] was sought across Westminster and Sheffield universities in November 2021 [detailing the process for pilot of the cluster RCT in early 2022]. After the pilot an update to this was submitted at both organisations [incorporating proposed changes to the mainstage evaluation that arose from the pilot]; and a final update is submitted alongside completion of this final protocol, in both institutions.

Some examples of the changes that were made following the pilot study ethics submission:

- In the process of finalising details of how to carry out the Pulse [People] Survey with the pilot organisation, we are now being much less 'intrusive' - when compared to what was detailed in the Nov 2021 ethics submission. This update now details these less intrusive approaches to data collection and the changes to documentation that this implies.
- In addition, as the pilot has developed we have (i) added an option for 1-2-1 advisory 15 minute meetings with managers [via online meets]; and (ii) have identified a need to collect more organisation-level qualitative and quantitative information [via online interviews with line managers and other key organisational stakeholders] than was covered in the ethics agreed re: beta-testing.

Participant information is provided to employees [managers and reports] by the company in their processes of communication and as links on the SM training, and Pulse Survey, platforms. These and other documents, are detailed below.

Data from the study will be used to create a public use file via the UK Data Service, for information collected during the Mainstage. As part of the training delivery it is necessary to retain some personal details of the learners on the ANS platform, but this will never be linked to Pulse Survey responses and only pseudonymised data will be retained from the SM training by the research team - all data on the ANS platform will be destroyed on completion of the project.

Skilled Managers, Productive Workplaces

An Economic and Social Research Council [ESRC] funded study

Many thanks for your interest Skilled Managers. This brief provides an overview of the project, outlines the potential benefits for your organisation and explains what we will require from participants. It provides a unique opportunity to upskill your line managers while contributing to ground-breaking research, which aims to improve managerial practices and boost productivity in the UK.

What is the aim of the project?

Skilled Managers, Productive Workplaces is an ESRC-funded research project exploring the link between management practices, employee engagement and organisational performance. Although we know that line managers often lack people management skills, we don't have any hard evidence that bridging this capability gap will have a positive impact on the productivity of the teams they manage. Therefore, we have developed an online training intervention designed to help managers to handle difficult workplace issues more effectively. We now want to test this intervention to see whether it changes managers' practice and, in turn, whether this translates into improved performance.

How will your organisation benefit?

The project aims to boost the conflict confidence of your managers while providing your organisation with vital insights into development and promotion of future management training.

If your organisation takes part in our study, your line managers will have access to our Skilled Managers online training course. Once they complete this, they will also have 12-months free access to our online Toolkit. The Toolkit provides quickfire advice and solutions for everyday problems that line managers face and contains additional resources that aim to embed learning and help managers put this into practice.

For larger organisations, we are also prepared to make bespoke changes to the course to reflect your specific context. This can include branding, links to your own policies, procedures and HR tools and also specific scenarios that your managers commonly face.

In summary, your organisation will benefit from:

- Free training for all those line managers taking part in the research
- 1-2-1 video conflict coaching sessions for participating managers
- Free 12-month access to our Skilled Managers Toolkit for all participating managers
- Detailed evaluation of the impact of the intervention on staff engagement

What does Skilled Managers include?

Skilled Managers focuses on building strong relationships and developing the communication skills needed to prevent difficult workplace issues from escalating. However, if conflict does develop, it also provides managers with the techniques they need to contain and resolve it. It is a 'light touch' intervention, designed for managers with very little time, working in high stress environments.

The course covers 4 main modules: Effective Communication; Feedback and Difficult Conversations; Decision-making and Intervention; and Resolving Conflict in Your Team. Each module contains short video lectures, discussions and insights from leading experts, downloadable templates and simulations designed to test managers' learnings from the modules. It is fast, flexible and accessible. The course takes most managers between 2 and 3 hours to complete and can be accessed over the period of a month.

Your line managers will also have access for 12 months to an online interactive toolkit that supports them in their day-to-day people management challenges. The toolkit contains a wide range of additional advice and guidance, however it is fully searchable so that managers can simply plug in a key word to find immediate and relevant advice. The toolkit can also be linked to your own HR processes and systems.

What will you need to provide?

Prior to starting the training, we will need to interview key stakeholders who can provide us with an overview of your organisation's conflict management context. We will also need to get a clear idea of your workplace structures.

We would then need to discuss the best way to capture 'benchmarks' of employee engagement and performance prior to training. For instance, this might be through regular people surveys and performance indicators. If there is no standing survey and/or performance data wecan utilise to capture 'before' and 'after' measures, we are happy to conduct a Pulse survey consisting of 10 questions designed by the research team.

The research team will work with you to identify distinct groups/units of employees whose managers will be included in the research. These distinct groups may be defined according to the workplace unit and/or groups of employees reporting to a certain manager. Although all these managers will eventually receive the training, in order to ensure the validity of the evaluation, some managers will be randomly allocated to a 'treatment' group. The other managers will form a 'control' group. The 'treatment' group will receive the training first and this will then be extended to the 'control' group at a later date, to be agreed.

All information will be treated in confidence, and we have robust measures in place for data protection. The anonymity of all participants will be preserved, and a Memoranda of Understanding will be drawn up before work begins, to agree specific components of the research and mutual obligations and resource commitments. Throughout the project, the research team will work in partnership with you to ensure its success.

Want to get involved?

Please contact a member of our team at skilledmanagers@westminster.ac.uk if you wish to meet with the project team or have any other questions.

Skilled Managers

Strengthening communication and conflict resolution skills

What is the aim of the course?

Skilled Managers aims to help line managers build strong relationships with their team members and develop the communication skills they need to prevent difficult workplace issues from escalating. However, if conflict does develop, it also provides managers with the techniques they need to contain and resolve it. It is a 'light touch' intervention, designed for managers with very little time, working in high stress environments.

What does the course cover?

The course is run over 4 modules:

Effective Communication

Having conversations with our team is something that managers do regularly, but are we getting the most out of these conversations? How can we use conversations to build trust within our teams and what might the outcomes be if we do this effectively?

Feedback and difficult conversations

No one enjoys giving a member of their team negative feedback, but what happens if we ignore poor performance or behaviour? Can conversations that may start off as "difficult" have positive outcomes, and if so how can managers maintain the positive change in behaviour?

Deciding to intervene

Managers are best placed to spot minor issues before the escalate into more serious conflict situations. So how do we decide what the best action is to take? When and how should managers intervene in conflict in their teams.

Resolving conflict in your team

Conflict between members of staff can have a large impact on an entire team. So how do we resolve these issues? What tools can we use to create effective resolutions that meet every parties' needs?

Each module contains short video lectures, discussions and insights from leading experts, downloadable templates and simulations designed to test managers' learnings from the modules. It is fast, flexible and accessible. The course takes most managers between 2 and 3 hours to complete and can be accessed over the period of a month.

Once managers have completed the course you will also have access to an online interactive toolkit that supports managers in their day-to-day people management challenges. The toolkit contains a wide range of additional advice and guidance, however it is fully searchable so that managers can simply plug in a key word to find immediate and relevant advice.

Skilled Managers

Information for participants

What is the aim of the project?

To investigate the relationship between management practices, employee engagement and organisational performance. *Skilled Managers – Productive Workplaces* is an online training intervention that provides managers with the skills they need to handle complex and difficult workplace issues, including when managing remotely. The project will explore changes in managers' practice, the quality of their relationships with staff, and evaluate whether this translates into improved performance. (see https://skilledmanagers.org).

How am I involved?

Your employer has agreed to take part in this project and has nominated you to take part in the training intervention. This comprises of a training course equivalent to around 2-4 hours of online learning and 11 months access to a specially designed online toolkit. Informed by the latest management research, the training is designed to equip line managers with the skills they need to manage more effectively and to impact positively on employee engagement and performance. The training focuses on a range of skills including communication, giving effective feedback, decision-making and intervention, difficult conversations, and conflict resolution.

What information will we be gathering?

We will be gathering the following data as you complete the course:

- **Test and activity scores** – these will be built into the course to help you assess your own progress and put your learning into practice. However, they will also give us an indication of whether the course has had a positive impact.

- **Completion of different elements of the course** – we want to see whether learners complete all the elements of the course or whether there are some parts that they miss out.

- **Time spent on different elements of the course** – we would like to assess how engaged learners are by seeing how much time they spend on different activities.

- **Course evaluation** - at the end of the course, you'll get the chance to give us more feedback on the course and suggestions as to how it could be improved.

Is this confidential?

Yes, all data will be collected in confidence and stored securely. Your anonymity will also be protected. Your individual data, such as test scores, will not be provided to your employer or anyone outside the research team. However, data from the project as a whole may be used to provide feedback to participating organisations and develop publications. This could include quotations from participant feedback. However, your identity will be protected.

Do I have to take part?

Your participation is entirely voluntary. If you do not wish to take part in the training, you should talk to your employer. If after the training, you wish to withdraw your data, you should contact us at the email below, within 7 days.

For more information, please contact us at skilledmanagers@westminster.ac.uk. In addition if you have any concerns regarding the conduct of the project you should first email skilledmanagers@westminster.ac.uk setting out your concerns. However if you are unsatisfied with the response to raising your concern or if you do not wish to raise the issue with the research team you should email the Project Lead, Professor Peter Urwin at urwinp@westminster.ac.uk.

Pulse Survey Data Confidentiality

You are being invited to take part in a research study *Skilled Managers* which is funded by the UK Economic and Social Research Council. The project is led by the University of Westminster and University of Sheffield, in partnership with the Advisory, Conciliation and Arbitration Service (Acas). The research team has obtained the required ethics approval to carry out this study and this note provides details of how the data will be used:

What information will we be gathering?

We will be gathering and analysing the responses you provide to the Pulse questionnaire. We are not asking for any personal information and your responses do not identify you as an individual. We will ensure that any published findings are not disclosive of your identity. The anonymised data will be archived for reuse by UK researchers investigating the links between management capability and staff engagement, via deposit in a recognised repository managed by the UK Data Service.

Data confidentiality

All data will be collected in confidence and stored securely. Your individual data will not be provided to your employer and any feedback to participating organisations will ensure your identity is protected. The four-digit number we are asking you to create, simply allows the research team to analyse how individual responses to the survey change over time.

- Your participation in this survey is entirely voluntary.
- You have the right to withdraw at any time without giving a reason.
- You have the right to ask for your data to be withdrawn, as long as this is practical.
- Your responses are anonymous and will be kept confidential. We are not asking for any personal information and your responses do not identify you as an individual. We will ensure that any published findings are not disclosive of your identity. The four-digit number we are asking you to create, simply allows the research team to analyse how individual responses to the survey change over time. The anonymised data will be archived for reuse by UK researchers investigating the links between management capability and staff engagement, via deposit in a recognised repository managed by the UK Data Service.
- Our use of the data, and any sharing of the data with other researchers, will comply with the requirements of the Data Protection Act 2018 and the General Data Protection Regulation.

Do I have to take part?

Your participation is entirely voluntary, and you do not have to answer the Pulse Survey. If you wish to withdraw your data after answering the Pulse Survey; if you want to file a complaint; or have any other issues you would like to bring to our attention, contact us on the email address below.

If you have any concerns about your experience of taking part in the research, you can contact the research team by emailing skilledmanagers@westminster.ac.uk

Personnel

University of Westminster:

Frankie Saundry [FS]
- Lead on organisational engagement and pipeline management
- Manage course creation and delivery with RAS
- Qualitative research

Fatima Maatwk [FM]
- Support FS across pipeline, course creation and engagement
- Qualitative research

Alex Bowyer [AB]
- Lead on data collection, curation and quantitative analysis
- Manage Pulse survey creation and delivery

Sharon Mason [SJM]
- Support AB/FS in data collection and curation
- Quantitative research

Trudy Ward [TW]
- Support FS across pipeline, course creation and engagement
- Qualitative research

Richard Saundry [RAS]
- Lead on course creation and delivery
- Support FS in organisational engagement
- Qualitative research and support PJU with subject expertise

Peter Urwin [PJU]
- Principle Investigator and project lead

University of Sheffield:

Paul Latreille [PL]
- Qualitative research and support PJU with subject expertise

Timeline

This protocol hopefully makes clear that engagement with a dynamic pipeline of organisations; sequential batching of groups of organisations and a variety of additional challenges, necessitate the specifying of target sample numbers to achieve a suitable MDES. Similarly, timelines need to retain some flexibility.

The first organisations begin SM training wb/ 10th Oct 2022 and we expect that the process of subsequent batching will secure 300 units by end of March 2023.

Risks, as of Oct 2022

ID	Category	Risks	Prob (1-5)	Risk impact (0-20)	Mitigation	Impact on projects	Risk Owner	Risk post mitigation (0-20)	Trend	Comments
001	Research	Inability to recruit participant organisations	1	20	Undertaking more pro-active recruitment drive via targeted direct approaches, existing networks, key stakeholders, PAB networks & targeted approaches via Acas	Would not be possible to undertake the evaluation if no sites for the study	PI/Acas	3	Returned to a low-risk position	Recent webinar promotion and subsequent engagement has been extremely successful
002	Other	Major disruption due to COVID-19	3	20	The move to an online offer is a significant mitigation, as this 'works with' the likely workplace impacts of Covid moving forward	Large scale disruption including lock-down of areas would continue to make it difficult to recruit/administer	All	5	Continued trend improvement in position	The key issue here is how the UK deals with winter flu and Covid. Orgs will be engaged in the research by then, but covid may still disrupt