



# ROADS AUSTRALIA 2021 FELLOWSHIP PROJECT

## FINAL REPORT

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## How did we approach our 2021 Fellowship Project to better understand the psychosocial risk posed by work demand and inform on the effectiveness of work re-design interventions?

Our team has developed a systematic approach to the delivery of our 2021 Fellowship Project. We have elected to investigate whether '*Increased employee involvement in workforce planning decreases job stress and increases employee wellbeing*'. Our approach, key steps and outcomes, and further detail on Steps 1 – 5, were detailed in our Scoping Paper (Balachandran, et al., 2021). In accordance with the RA Fellowship project briefing pack, a summary of project outcomes, lessons learnt and recommended next steps are shown in the Table below, with further detail provided in the proceeding sections.

DELIVERABLE	OUTCOME	LESSON LEARNT	RECOMMENDATION
<b>Review of 2020 group project</b>	Lessons learnt and knowledge transfer to 2021 Project	Timing of survey collection to avoid holidays, simple survey questions, and survey fatigue.	Further research into existing "Stop light" style data collection tools to reduce survey fatigue.
<b>Quantitative data collection tool</b>	Daily survey to understand work demand and hours, with a wellbeing indicator. Google Forms was selected as the data collection medium for ease of access, mobile compatibility, and real time updates.	Google Forms was a robust data collection tool, and data analysis was embedded in the tool reducing processing time post collection.	Google Forms for future data collection. Deploy the quantitative survey weekly in line with time sheeting procedures.
<b>Qualitative survey development</b>	Weekly survey (including an opportunity to provide additional commentary) to understand environmental components of work demand and hours, and stress	Split of measurable and verbatim data provided insights into Pilot Group wellbeing and job stress.	Deploy the qualitative survey in Week 1, 3, 5, and 7 to limit survey fatigue.
<b>Pilot Group and Communication plan</b>	31 team members from Mott MacDonald Sydney office from various grades, sectors and projects. Focus on proactive engagement with the Mott MacDonald Executive Leadership team and Pilot Group through <i>Insights</i> sessions	<i>Insights</i> sessions were positively received, and valuable feedback was provided, allowing the Pilot Group and Executive Leadership team to provide further understanding of the impact of workforce planning on job stress and employee wellbeing.	Further redundancy in participant number by expanding geography and focusing on specific organisational or project teams.
<b>Work re-design intervention</b>	A focus on primary interventions, three options were explored: scheduled breaks, increased work control, and increased social support.	Engagement with the Executive Leadership team and the Pilot Group when selecting the work re-design intervention was positively received.	Couple the workload control work re-design intervention with increased social support to increase on-going participation of Pilot Group.
SCOPING PAPER SUBMISSION			
<b>Deploy quantitative data collection tool and the qualitative data collection</b>	Daily quantitative data collection tool consisted of four questions and a ranked (0-5) wellbeing indicator provided understanding of daily stress levels. Weekly qualitative data collection tool based on the WHO-5 and three additional tailored questions provided measurable data, verbatims provided qualitative data.	Engaging with the Pilot Groups' Health and Wellbeing consultant enable the selected questions to minimise time spent responding to the survey and avoid any 'triggering' questions	Follow world-wide guidelines, practices, and tools to select questions for surveys
<b>Deploy your chosen work redesign intervention</b>	The selected work re-design intervention focused on workload control through the 'Big 3' template. A simple Red, Amber, Green (RAG) tool was utilised to prioritise competing tasks as they arise throughout the week.	The work re-design intervention was chosen in collaboration with the Pilot Group to ensure that it resonated with most of the group.	Integrate the Big 3 template into the existing organisational systems for feedback.
<b>Conclude quantitative data collection and deploy survey for a second time</b>	Baseline data was collected for a three-week period through the daily and weekly data collection tools. The work re-design intervention was introduced at the start of Week 4, daily and weekly data collection continued for an additional four weeks, resulting in seven weeks of total data collection. Questions remained consistent for the entire duration of the data collection period.	Longer intervention period to allow time for behavioural change to strengthen.	Increase the survey collection period to expand the data set and see true cultural / behaviour change
<b>Present findings to executive leadership team</b>	The Executive Leadership team was engaged twice during the Project through <i>Insights</i> sessions, briefings, and email updates. Findings were presented to the Executive Leadership team on 27 September 2021.	The Executive Leadership team considered the Project a success because of the increased communication and support for the team.	Follow up with the Leadership team to discuss if there is a need and opportunities to further develop similar activities within the organisation.
<b>Prepare report findings for submission</b>	The results of the quantitative and qualitative data collection showed limited success of the re-design intervention on decreasing job stress and increasing employee wellbeing	Please refer to the 'Lessons learnt' and 'Next steps'	Run qualitative survey fortnightly and quantitative survey twice or once a week.

Table 1 Project deliverables and associated outcomes

## How did we collect qualitative and quantitative data and what did the data tell us about job stress and employee wellbeing?

### Our methodology

In accordance with our Scoping Paper (Balachandran, et al., 2021), qualitative and quantitative data was collected to understand the Pilot Groups' 'well-being' prior to, and after the implementation of the selected work re-design intervention. The data was collected from Monday 26 July 2021 to Friday 10 September 2021, under NSW COVID lockdown and associated work from home conditions. Data collection response rates for the entire collection period are shown in the Table below.

Our Communication Plan described in Figure 2 of our Scoping Paper (Balachandran, et al., 2021) was developed to select the specific Pilot Group members and provide a framework for engagement for the project duration.

The Communication Plan was executed as planned and enabled us to gain informative Insights from Mott MacDonald (the Australian Executive team) and from the project participants (the Pilot Group). These Insights were used to inform the planning of our project, survey collection particulars, details work re-design interventions and generate feedback. The Figure below highlights the key milestones during the data collection and feedback process.

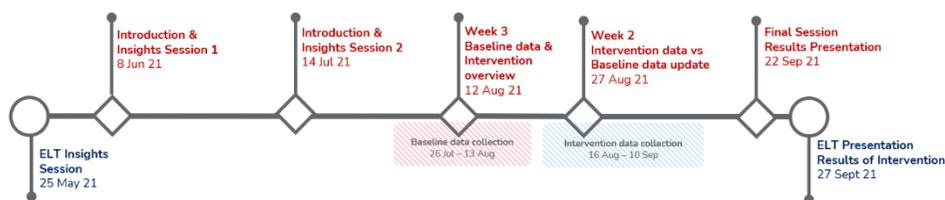


Figure 1 Key project milestones

Baseline data (pre-intervention) was collected from Monday 26 July 2021 to Friday 13 August 2021. This data obtained prior to trialling our intervention were considered a baseline from which the results obtained during the intervention could be relatively measured, and an assessment as to the numerical success of the intervention could be undertaken. The work redesign intervention was implemented on Monday 16 August 2021. Study data (post-intervention) was collected from Monday 16 August 2021 to Friday 10 September 2021.

### Data collation participation

Our Trial Group consisted of 31 team members from Mott MacDonald Sydney office from various grades, sectors, and projects. Our approach to proactive engagement with the Mott MacDonald Executive Leadership team and Pilot Group through Insights sessions was detailed in our Scoping Paper (Balachandran, et al., 2021).

The RA Fellowship project briefing pack recommended a minimum sample size of 20 people as per the following Table, the daily (average) and weekly sample size fall short of this benchmark. Our data collection results, and Trial Group feedback highlighting potential causes for decreased response rate are discussed in the following sections.

WEEK   DATES	QUANTITATIVE RESPONSES (Daily No.)	QUANTITATIVE RESPONSES (Daily AVG)	QUALITATIVE RESPONSES (Weekly No.)
1   26 July – 30 July	97	19.4	11
2   2 August – 6 August	95	19	17
3   9 August – 13 August	93	18.6	13
4   16 August – 20 August	76	15.2	12
5   23 August – 27 August	64	12.8	11
6   30 August – 3 September	63	12.6	10
7   6 September – 10 September	54	10.8	11

Table 2 Data collection response information

As per the preceding Table, the number of quantitative survey responses declined by an average of 23% over the collection period, whereas the qualitative response rate remained stable. We identified the risk of survey fatigue in our Scoping Paper (Balachandran, et al., 2021) and targeted our Pilot Group to have redundancy in numbers, as well as developing a communications plan to bring participants on the journey. Despite the successful implementation of the communications plan, which included mechanisms to reach out regularly to the Pilot Group, survey numbers continued to fall away during the survey period.

## Quantitative survey results

From data collection inception on 26 July 2021, daily quantitative surveys were deployed comprised of 4 (four) questions focused on understanding hours worked, work breaks, patterns around work outside of usual business hours (breaks) and stress levels. As 99% of the Pilot Group was in Sydney, the totality of work hours were undertaken at home both pre and post work redesign intervention.

**Hours Worked** | Post work re-design implementation, the number of hours worked per day decreased as per the Figure below. A slight increase of 2.2% in the number of Pilot Group members working greater than twelve hours was noted.

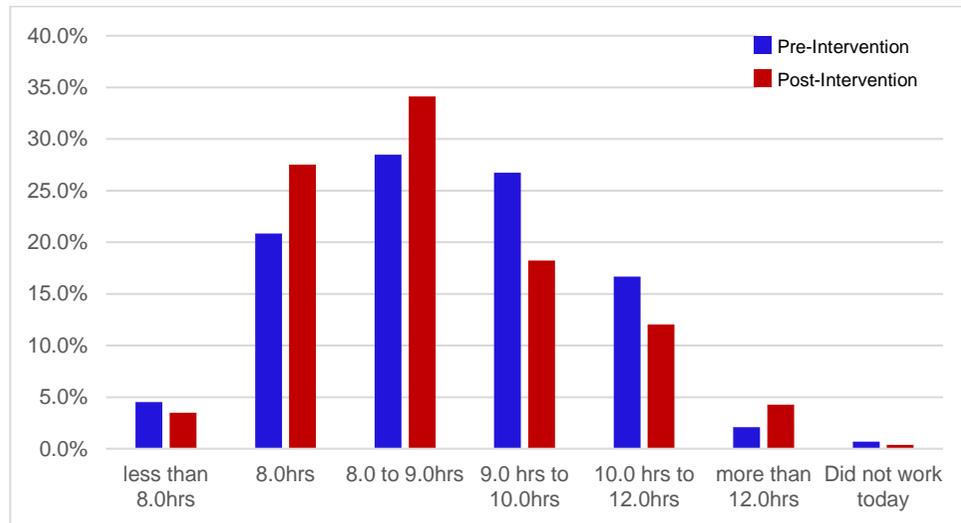


Figure 2 Hours worked results

**Non-work periods (breaks)** | The length of breaks taken across the survey period increased when compared with the baseline period, as shown in the Figure below. A reduction in the incidence of the Pilot Group taking less than half an hour break (improvement of 13.7%) has been offset by staff taking longer breaks of between half and one hour (increased by 10.5%), and between one and two hours (increased by 3.3%). A slight reduction in the incidence of staff not taking a break during the workday was noted (down from 1.4% to 0.8% of responses).

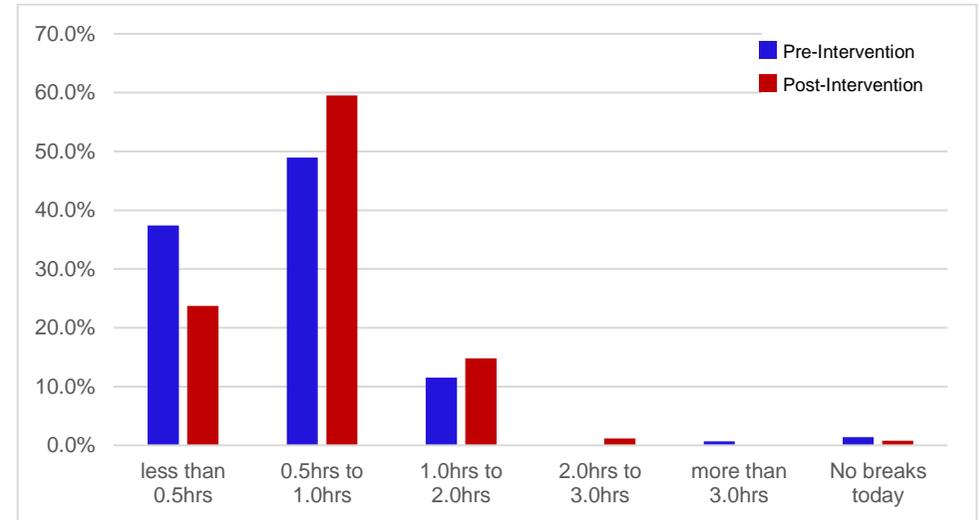


Figure 3 Non-work periods (breaks) results

**Stress levels** | To measure team wellbeing the data collection included a self-assessment of stress level at the end of each day. The metric asked the team member to match their personal feelings around their performance set against the pressure they were feeling on that day on a scale of 1 (low) to 5 (extreme). The results, shown in the Figure below, pre and during the work re-design intervention indicated an increasing stress following the deployment of the work re-design intervention with cases of extreme and very high stress increasing by 6.0% and 2.1% respectively. This increase in stress level occurred despite the trends of working less hours and more/longer breaks taken during the workday.

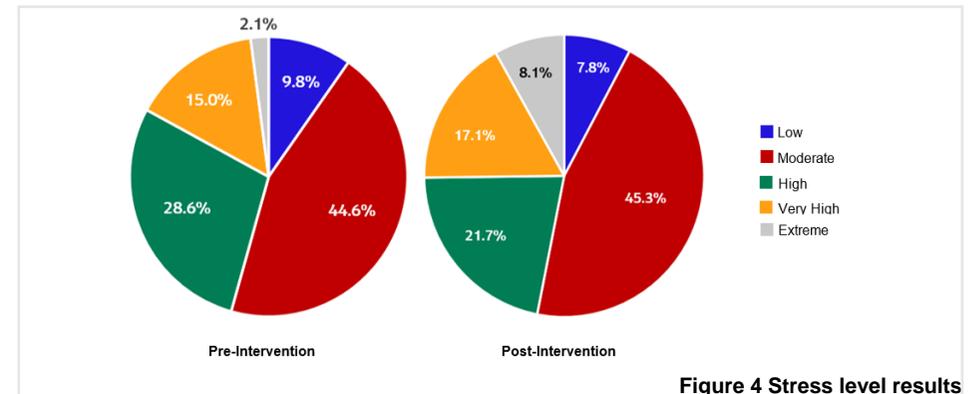


Figure 4 Stress level results

## Qualitative survey results

From data collection start on 26 July 2021, weekly qualitative surveys were deployed to collect data relating to mental wellbeing using the WHO-5 scoring matrix, tailored questions related to workload and verbatims. The WHO5 and tailored questions provided quantitative data and the verbatims provided qualitative data, results are discussed in the following sections.

**Impact of home life on work life and COVID19** | The commencement of the survey coincided with the commencement of a COVID19 lockdown, which may have impacted the Pilot Group’s views around mental wellbeing. While a qualitative question was included on personal stress, it was difficult to ascertain whether stress or events outside of work influenced the results.

**WHO 5** | The WHO-5 methodology requires individual responses to the five questions to be summed, resulting in a maximum reportable score of 25 points (Regional Office for Europe WHO, Health for All, Target 12). There was not a statically relevant difference in results pre- and post- intervention as summarised in the following Table.

	PRE-INTERVENTION	POST-INTERVENTION
Responses (No.)	40	45
Raw Score Range <sup>1</sup>	5-20	5-21
Mode	13	10
Median	13	12
Wellbeing Score (AVG.)	13.25/25	12.31/25
Wellbeing Score (AVG. %)	49.40	49.24

<sup>1</sup> minimum 0; maximum 25

Table 3 WHO5 qualitative survey response data

Results of the qualitative data collection are shown in the following Figures. The most significant changes between pre and post intervention deployment include:

- An improvement in respondents feeling active and vigorous more than half the time (or better) up 9% from 36% to 45%
- A deterioration in feelings of cheerfulness and being in good spirits more than half the time (or better) down 11% from 68% to 57%
- A deterioration in feelings of daily life being filled with things that interest more than half the time (or better) down 16% from 64% to 48%

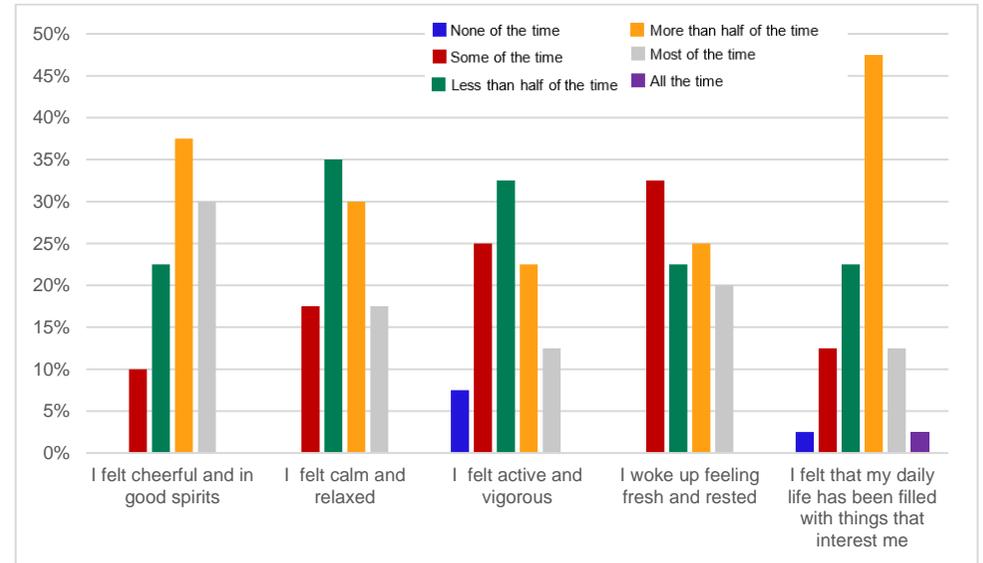


Figure 5 Pre-Intervention WHO5 survey results

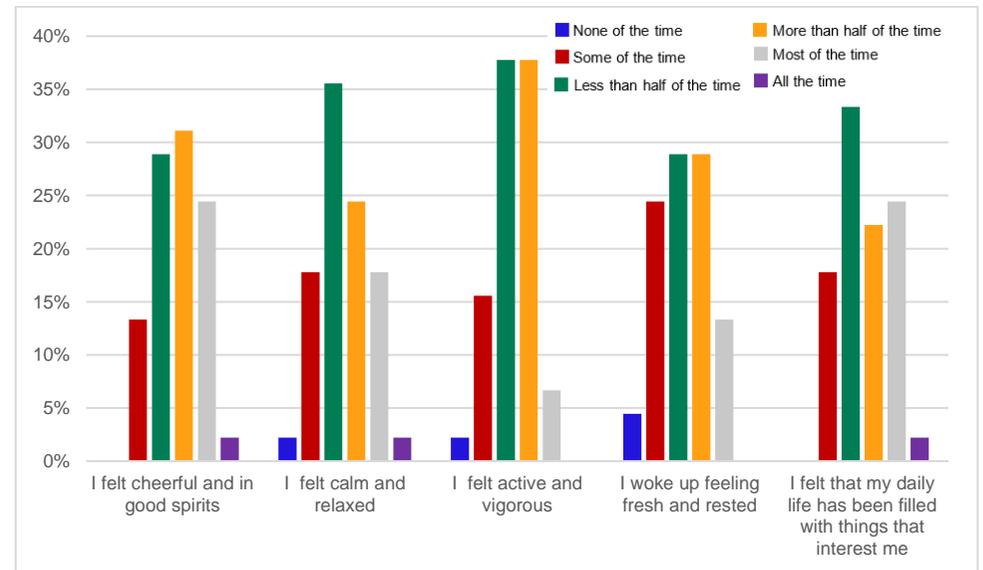


Figure 6 Post-Intervention WHO5 survey results

**Additional tailored questions** | By applying a similar grouping assessment method to the responses of the three work related questions to evaluate the effect of the work re-design intervention on 'work engagement', results again showed little discernible change between pre and post work re-design intervention:

	PRE-INTERVENTION	POST-INTERVENTION
Responses (No.)	40	45
Raw Score Range <sup>1</sup>	5-13	5-14
Mode	9	11
Median	9	9
Wellbeing Score (AVG.)	9.375	9.44
Wellbeing Score (AVG. %)	62.5	62.93

<sup>1</sup> minimum 0; maximum 15

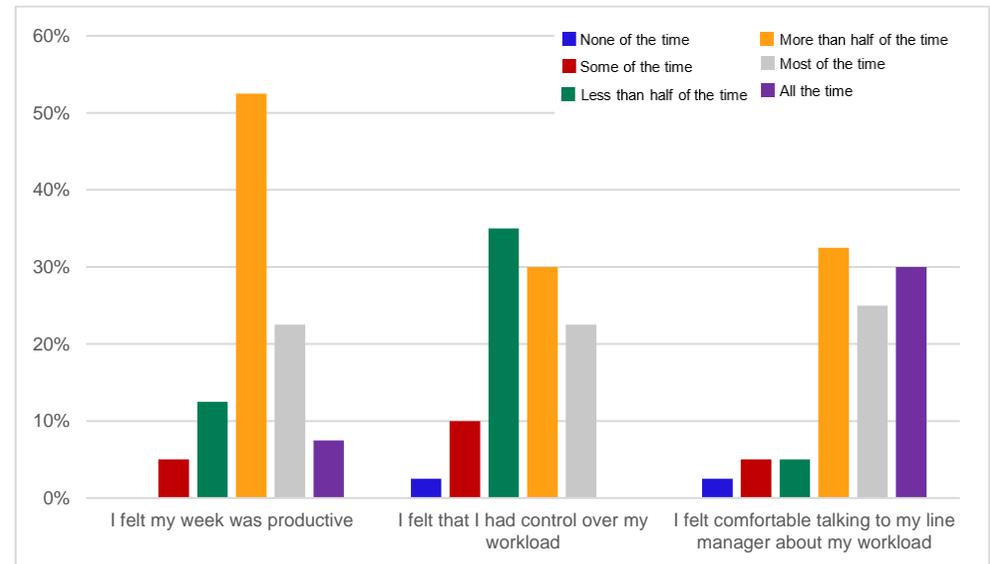
**Figure 7 Additional tailored questions response data**

Closer inspection of the individual scoring around the work engagement questions, reveals the most significant changes between pre and post intervention deployment being:

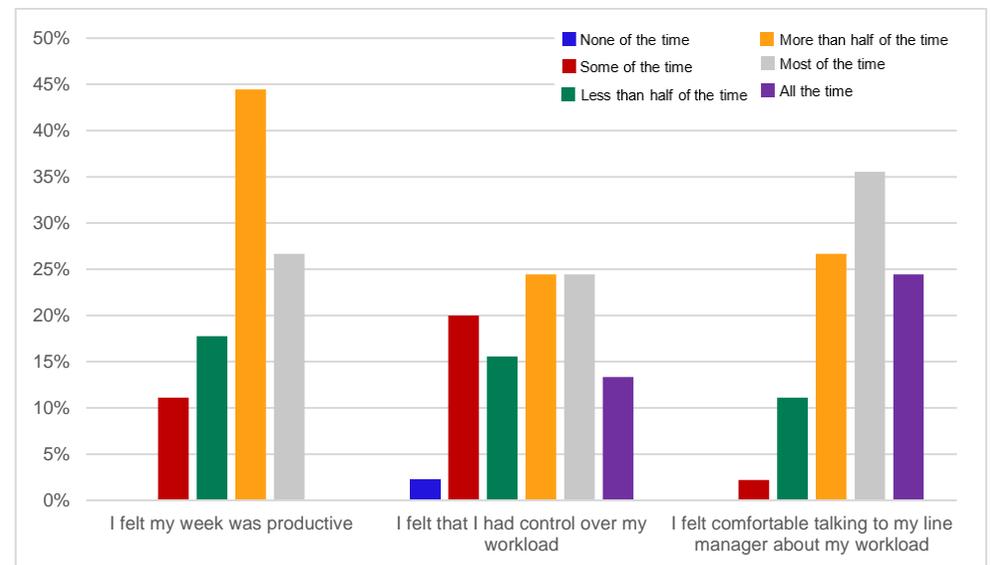
- An improvement in respondents feeling they had control over their workload more than half the time (or better) up 8% from 53% to 61%
- An improvement in lines of communication between staff and their line manager, with 36% of staff indicating they feel comfortable talking to their line manager 'most of the time' (up from 25% pre intervention)
- A deterioration in a sense that their workweek was productive more than half the time (or better) down 7% from 84% to 71%

The weekly qualitative survey allowed for the Pilot Group to provide any free text comments they thought would be relevant to their survey submission for that week. Of the 85 qualitative survey responses there were 13 comments provided. Of these comments, seven referenced challenges related to the Covid19 pandemic situation (including balancing home schooling, and a longing for halted leisure activities/interests). Five comments referred to stress associated with deliverable submission deadlines. Of note, those who submitted survey results with accompanying comments around meeting deadlines also inferred a limited sense of control over their workload by way of their scoring.

Pre- and Post-Intervention results from the additional tailored questions are shown in the Figures below.



**Figure 8 Pre-Intervention additional tailored question results**



**Figure 9 Post-Intervention additional tailored questions results**

**Verbatims** | The feedback from the data collection verbatims is included in the final section of this report (Figure 11). Key findings from the verbatims include:

- **Control** | Respondents felt more in control of their week and the intervention assisted with keeping work demand front of mind throughout the week.
- **Priorities** | Coming up with the 'Big 3' items made people reflect on what was really important and urgent at the start of the week and helped them set their priorities.
- **Communication** | People liked the quick way to let their line manager know of anything they required from them. When asked whether this is something they would continue doing going forward, the response was yes. '
- **Stress** | Some people found that even though they had selected their 'Big 3', other tasks came up through the week and even though they did a RAG assessment, all tasks accumulated for the end of the week which added to the stress if they hadn't completed them.
- **Increased structure** | Participants mentioned that big 3 helped identify the 3 most important things which assisted with structuring your work. But can increase stress as it acts as a reminder when you haven't been able to do what you planned
- **Increase in task comprehension** | Participants mentioned that the element of the process where you explain what you need to do and what they need to know was helpful. Helped identify the salient points on what they needed to be aware of for their workload or for members in their team that reported to them.
- **Workload support** | The process as a secondary benefit assisted participants in reaching out to their managers, having open conversations, and asking for resources they needed which had previously been a more difficult process.

## What was the effectiveness of our work re-design intervention in relation to reducing job stress and increasing employee wellbeing?

Our Scoping Paper (Balachandran, et al., 2021) outlined our approach to data collection and engagement with the Pilot Group and Executive Leadership team. The Paper (Table 3) also outlined key risks and mitigations to the data collection methodology, in undertaking data collection and implementing the work re-design intervention some of these risks were actualised. Details of our selected work re-design intervention and outcomes are detailed below.

### Selected work re-design intervention

Consistent with industry's approach to managing work health and safety risks through a hierarchy of controls, primary interventions focus on eliminating or reducing instances of psychological harm in the workplace as opposed to relying on the treatment of individuals presenting with job related stress illnesses.

Based on an appreciation for the statistics around job related stress in the construction industry, we selected an intervention (The Big 3 Template) which promotes an increase in individual work control for our 2021 Fellowship project. Details of the selected intervention are provided in the Table below.

Intervention   <b>INCREASED WORK CONTROL</b>		
Description	Benefits	Risks
Staff are empowered to take control of their workday and work week by agreeing their 'Big 3' priorities with management at the start of the week with follow up review at the end of the week.	- Individuals can dictate their priorities and focus on a set number of tasks to meet those priorities	- Potential for unforeseen urgent tasks to be imposed on staff
Recognising how variable workloads can be, we would also propose a simple RAG tool to prioritise tasks throughout the week, as competing demands change.	- Increased individual participation and buy-in to work planning	

Figure 10 Work re-design intervention and associated risks and benefits

We selected The Big 3 template in consultation with the Trial Group and Executive Leadership team, as our re-design intervention because:

- **This intervention is sustainable and scalable** | The forecast program of works is extensive, and we believe this intervention is the most likely to be sustained during busy periods, as it is mutually beneficial to the individual and organisation to align on priorities during periods of increased work demand. The intervention may present opportunities for the organisation to identify and plan around workload peaks and troughs.
- **This intervention facilitates regular communication between team members and management** | The Mott MacDonald Executive team has indicated support for this intervention because it might lead to more effective communication between managers and staff, particularly when one of the parties is feeling stressed and overwhelmed.
- **This intervention enables the team member to control their workload** | The Pilot Group considered this their optimal intervention because it allows them to be involved in workload planning, prioritisation of tasks and escalation of workload concerns.

### Effectiveness of the selected work re-design intervention

The purpose of our work re-design intervention was to decrease employee's job stress and increase employee's well-being. The quantitative component of the daily and weekly data collection results presented in the preceding section indicates limited success of the re-design intervention on decreasing job stress and increasing employee wellbeing. A summary of findings include:

- An improvement during the trial period when compared with the baseline period. A reduction in the incidence of the Pilot Group taking less than half an hour break (improvement of 13.7%) has been offset by staff taking longer breaks of between half and one hour (increased by 10.5%), and between one and two hours (increased by 3.3%).

- The number of hours worked per day appeared to improve during the trial of the work re-design intervention with marked improvements illustrated with more people working an eight-hour day (increase of 6.7%) and working between eight and nine hours (increase of 5.6%), compared with a reduction in those working the longer nine-to-ten-hour days (reduction of 8.5%), and ten to twelve hours (reduction of 4.7%). A slight increase (2.2%) in the incidence of workdays greater than twelve hours was noted.

The quantitative components (verbatim) of weekly survey results indicated that the work re-design intervention had a positive impact on a team member work control (being more organised), communication with their manager and job stress levels. as described below:

- The intervention assisted with keeping work demand front of mind throughout the week.
- Coming up with the 'Big 3' items made people reflect on what was important and urgent at the start of the week and helped them set their priorities.
- People liked the quick way to let their line manager know of anything they required from them. When asked whether this is something they would continue doing going forward, the response was yes.
- The work redesign benefitted more junior members of the Pilot Group providing a means by which they could proactively discuss workload with their Team Leader.
- Feedback from the Pilot Group and Executive Leadership is that the work re-design improved staff engagement on workload and assisted participants in reaching out to their managers, having open conversations, and asking for resources they needed which had previously been a more difficult process
- It was 'beneficial' that we were in lockdown for the full trial period as it reduced the number of variables but recognise that lockdown has likely impacted the results as work and personal life are intertwined and stress may be more related to external non-work-related factors

The inconsistency between the quantitative data and verbatims renders the effectiveness of our redesign as inconclusive. Our 2021 Fellowship group recommends the impact of the selected re-design on decreasing employee job stress and increasing employee wellbeing to be further investigated through:

- Increasing the Trial Group size by rolling the data collection across geographies
- Rolling out the data collection across numerous organisations
- Introducing the data collection and work re-design to specific teams or project groups
- Introducing a longer survey period as work behavioural changes may require a longer implementation period realise effectiveness and provide conclusive results.

## What did our Pilot Group and Executive Leadership team say about our project and the associated outcomes?

*Insights* (Balachandran, et al., 2021) sessions held throughout the data collection period and verbatim feedback questions in the weekly survey collection provided feedback from the Pilot Group. The feedback from the Pilot Group focused on the work re-design intervention, their stress levels and the data collection methodology. The Executive Leadership Team was engaged throughout the Project, their feedback and that of the Pilot Group are shown in the Figure below.

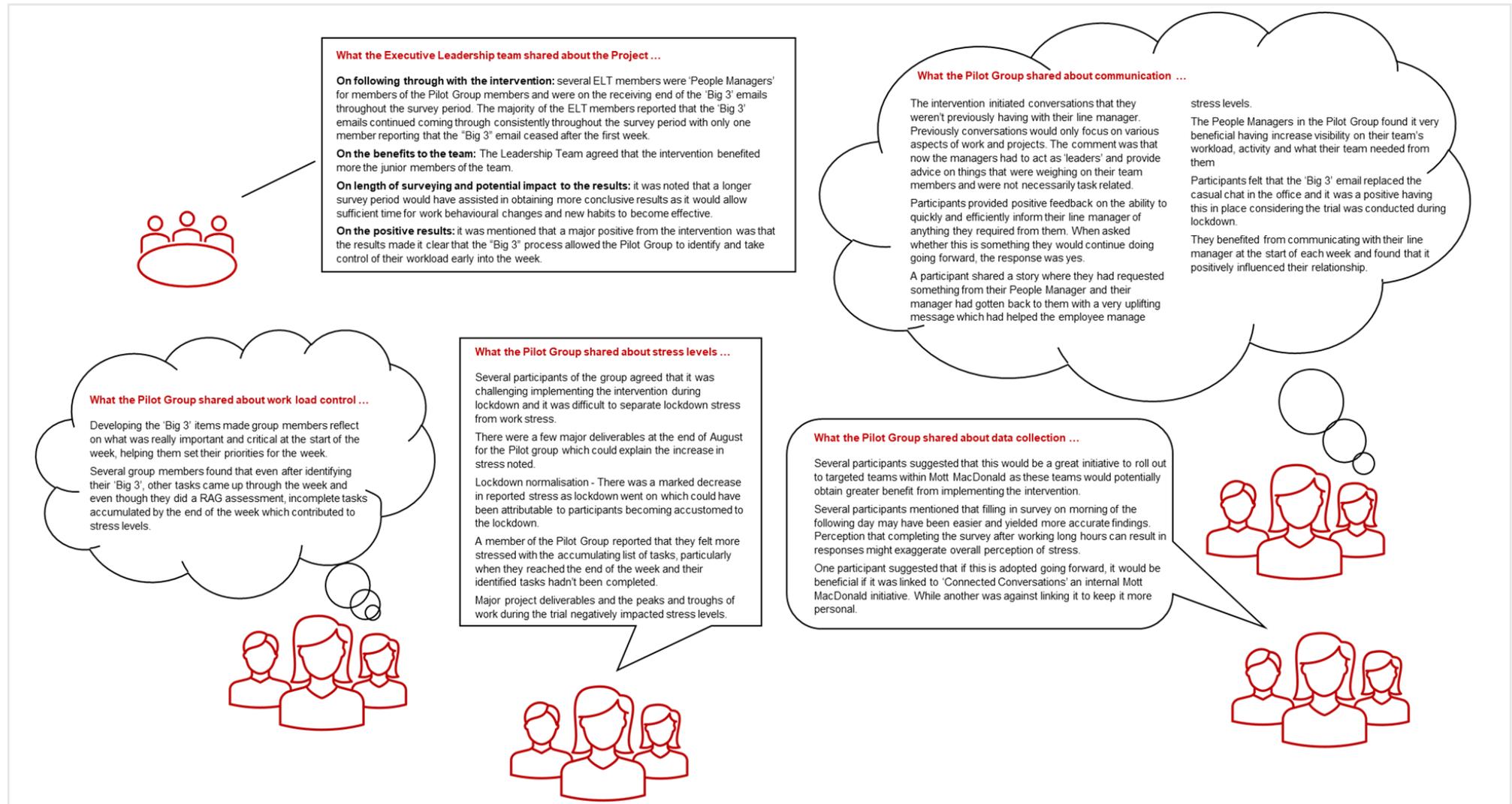


Figure 11 Pilot Group and Executive Leadership team feedback

## What have we learnt and what are the next steps to continue the investigation of the impact of work re-design on employee stress and wellbeing?

### Lessons Learnt

**Ongoing communication and sharing data with the pilot group throughout the project allowed us to maintain engagement from the group** | Survey fatigue did occur however this was minimised due to the ongoing engagement, sharing results, and input into recommendations throughout the project.

**Our intervention had an impact on workload control** | Junior and mid-level staff benefited the most from the intervention, providing the following benefits:

- A structured plan to and increased visibility of workload
- Increased communication between staff and line managers
- Enhanced relationships between staff and line managers

**Our intervention had a positive impact on employee wellbeing** | As gathered through our verbatims, our intervention facilitated a decrease in job stress by:

- Increased planning, communication and transparency about an individual's workload can assist reduce stress.
- Where staff have trusted relationships with their managers, feeling comfortable discussing their workload, assists in prioritising workload which in turn minimises stress levels.
- All staff have multiple factors (professional and personal) that contribute to their stress level, which peak and trough at various times. This needs to be considered and acknowledged by people and project managers.

**Meaningful behaviour and cultural change occur progressively over time** | It would be beneficial to run the trial for a longer period to (hopefully) see variation in the qualitative results around stress levels resulting from work demand.

### Next Steps

Based on the outcomes of our Project and the feedback received, our Group recommend that following Next Steps.

#### **PILOT GROUP ORGANISATION**

**Post project feedback** | Members of the Pilot Group have elected to continue using the Big 3 template for workload control. Follow up with the Pilot Group in December 2021 (four-month post intervention) to check-in and understand the impact of the Big 3 template on employee wellbeing and job stress.

**Integration of the Big 3 template into organisational processes** | The Pilot Group organisation will investigate the opportunity to deploy our Project more broadly across their organisation.

**Continue the discussion around workload control and job stress and employee wellbeing** | Consider the establishment of a peer group (social support group) in conjunction with the Big 3 workload control to encourage and normalise conversation and increase awareness around workload control, job stress, and employee wellbeing.

#### **ROADS AUSTRALIA**

**To implement a true primary intervention around workload control, change will need to occur at an industry level** | Roads Australia could continue the conversation and facilitate true change by placing workload control on the Policy Agenda and creating a working group comprised of Client organisations, Contractors and Consultants to investigate embedding standard working hours and wellbeing targets into contracts, similar to Diversity and Inclusion metrics.

## References

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