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iMOVE

Working from Home: Employee Perspectives - Work

APPENDIX 5B

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Working from Home: Employee Perspectives - Work

APPENDIX 5B

Prepared by

Caroline Knight

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Project steering committee

Claire Thompson, Department of Transport

Renlong Han, Department of Transport

Damien Martin, Department of Planning, Lands and Heritage

John Chortis, Department of Planning, Lands and Heritage

Wes Soet, Main Roads WA

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About PATREC

The Planning and Transport Research Centre (PATREC) is a collaboration between the Government of Western Australia and local universities, constituted to conduct collaborative, applied research and teaching in support of policy in the connected spaces of transport and land use planning. The collaborating parties are: The University of Western Australia, Curtin University, Edith Cowan University, Department of Transport, Main Roads Western Australia, Western Australian Planning Commission and the Western Australian Local Government Association.

Publisher

Planning and Transport Research Centre
The University of Western Australia (M087)
35 Stirling Highway, Crawley, WA 6009
+61 8 6488 3385
patrec@uwa.edu.au
https://patrec.

Executive Summary

This report is part of a wider research project to provide in-depth knowledge on the spatial incidence of WFH, the extent of travel reduction that it can deliver and the associated productivity benefits. In understanding these aspects based on actual experience in Perth there has also been an opportunity to develop a suit of policy initiatives designed to support the positive aspects of continued WFH, to capitalise on the wider benefits to society. Three primary streams of research were undertaken to build knowledge on: Employer perspectives; Employee perspectives; Travel patterns and scenarios to future travel based on different rates of WFH.

This report is an Appendix (5B) to the final project report: Working from Home: Changes in Transport Demand – the Case of Greater Perth - Overview Report. This report (Appendix 5B) contains technical details of the research sub-component: Employee perspectives –work (Figure E1).

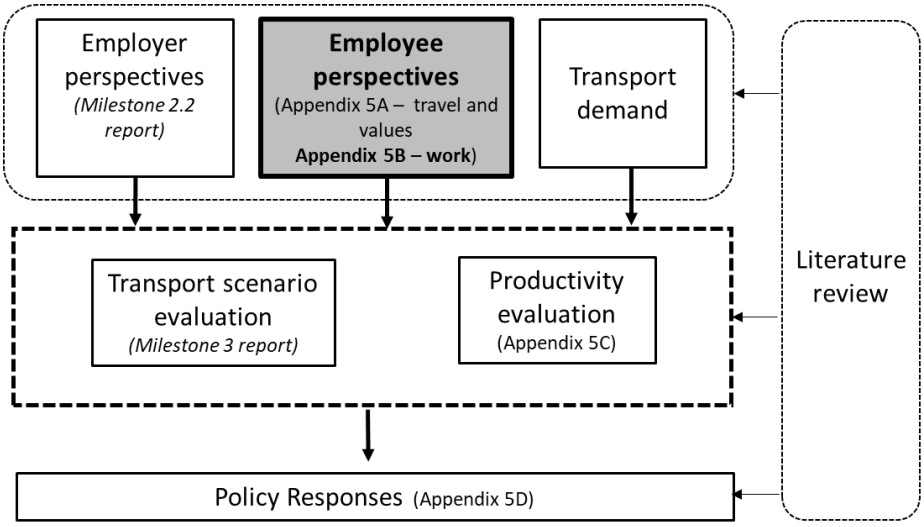

Figure E1: Research sub-components summarised in the Overview report with technical detail provided in previous milestone reports (indicated in italics) or as appendices (5A-D) to the Overview report

The aim of the work survey module was to understand employee work experiences over time when working from home in comparison to other locations, and the impact on wellbeing and performance. Potential implications for work practices, and managerial and policy responses follow below. Specifically, this report presents findings from descriptive statistics and longitudinal analyses (repeated measures analysis of variance, predictive hierarchical regressions, latent profile analysis) focused on the three work module survey waves.

In keeping with the Wave 1 Report, we refer to three different work location groups throughout this report: i) mostly in the workplace (WPL); ii) mostly from home (WFH); and iii) hybrid, referring to time spent working in the workplace and at home, whether that be part days or whole days. This report focuses first on trends when considering the whole sample (Time 1 n=1526; Time 2 n=912; Time 3 n=612), then focuses on findings from the matched sample (people who responded to all three work module survey waves) to explore longitudinal relationships within individuals (n=377). Finally, this report explores the work design profiles of hybrid workers at Time 1 (n=386), particularly considering their experiences at home and in the workplace. Relationships with wellbeing at Time 2, and predictors of the profiles are explored. This deeper dive into the work experiences of hybrid workers is important as managerial and organisational policy could be informed by the findings, including whether and how hybrid work is carried out. This could have a direct impact on transport demand and policy.

Key highlights from the general analyses

- Work experiences, wellbeing, and performance across the whole sample **remained stable** over time, with only anxiety and depression significantly improving at Time 3 compared to earlier time points (Figure E2).

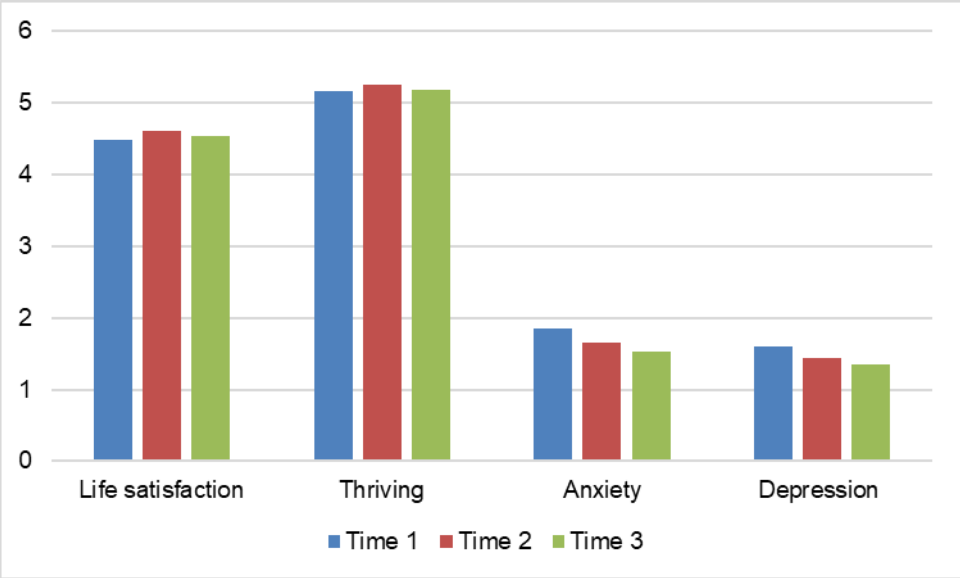

Figure E2. Mean scores for each general wellbeing outcome for each of the three time points (*Note.* Life satisfaction and thriving were measured on a 7-point scale; anxiety and depression were measured on a 4-point scale)

- Across the whole sample for each wave there was an increase in the number of people working mostly in the office and mostly at home but a decrease in the number of hybrid workers (Figure E3). These trends may reflect reduced anxiety concerning the pandemic, or increased support for remote working by some employers, but could also reflect sample bias.

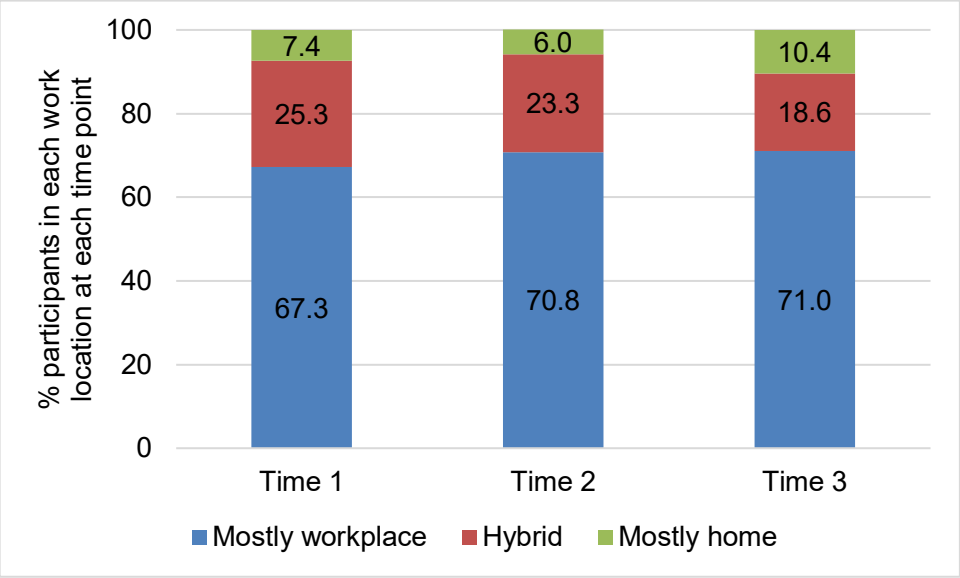

Figure E3. Percentages working in each work location group across the three time points

- When considering the **matched sample**, 10.2% stayed hybrid across the three waves, 57.3% stayed working in the workplace, 2.5% stayed working from home, and 30% switched between work location groups over the waves (e.g. from hybrid work to full time in the workplace or vice versa)(Figure E4).

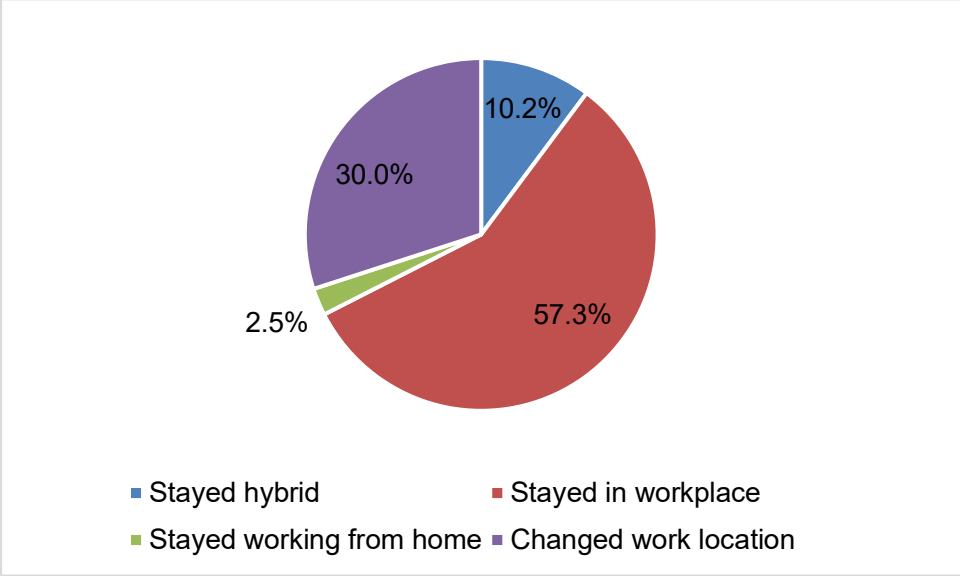

Figure E4. Percentage of people who stayed in the same work location, or moved between work location groups, across the three time points (n=377)

- Work location across the waves depended on **occupation and industry**, with those in flexible occupations and industries more likely to remain hybrid (Figures E5 and E6).

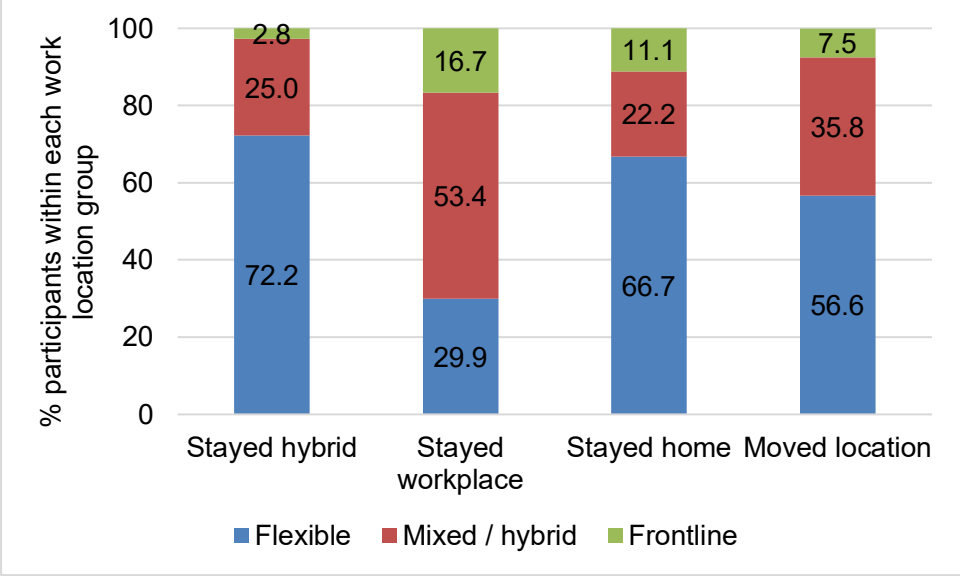

Figure E5. The percentage of participants within each work location group who were in flexible, mixed / hybrid, or frontline occupations (n=355)

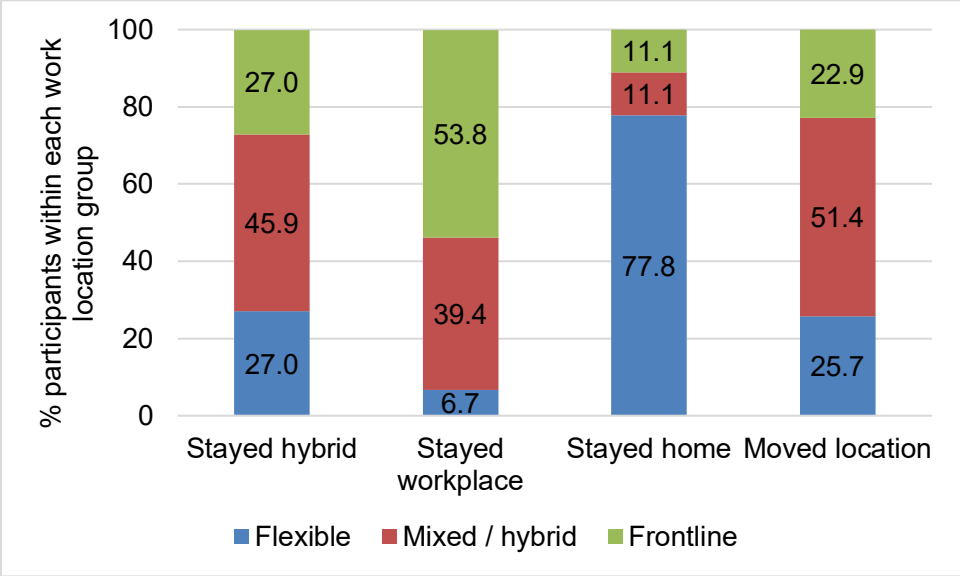

Figure E6. The percentage of participants within each work location group who were in flexible, mixed / hybrid, or frontline industries (n=363)

- Those who stayed hybrid over the three time points **had greater influence over where they worked**, and perceived that they were **more proactive**, than those who stayed in the workplace (Figures E7 and E8).

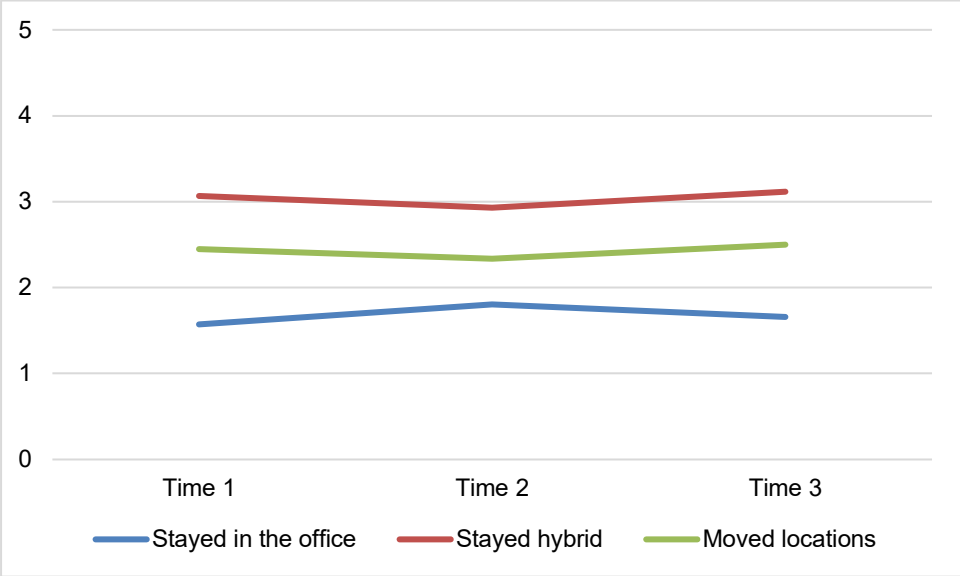

Figure E7. Mean scores for "influence over where work" for each work location group across the three time points

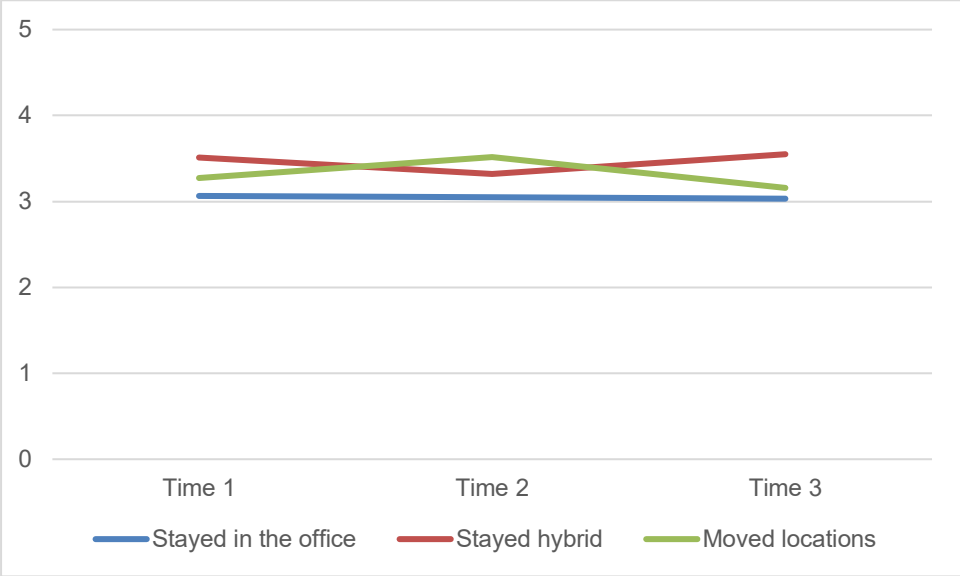

Figure E8. Mean scores for "proactivity" for each work location group across the three time points

- Hierarchical regression analyses using Time 1 predictors to predict Time 2 outcomes revealed that **colleague support was an important driver of job satisfaction, lower loneliness, and higher adaptivity and proactivity**, while **high home-work conflict drove burnout**. Lower home-work conflict drove vigour, job satisfaction, proficiency and productivity. This concurs with established work design literature that shows that job resources drive positive outcomes and job demands drive negative outcomes.

Findings related to hybrid work design profile analysis

- Profile analysis of the hybrid workers revealed that **hybrid work design profiles were similar between work locations** (home and workplace). That is, levels of autonomy, support, workload and monitoring were similar whether working from the workplace or home.
- Overall, **four distinct hybrid work design profiles** were observed which varied in terms of work characteristics (Figure E9): 1) a profile low in close monitoring with average resources (autonomy and support) and workload (neutral, low monitoring profile); 2) a profile high in close monitoring with low resources and workload (passive, high monitoring profile); 3) a profile very low in monitoring with high resources and above average workload (active, low monitoring profile); and 4) a profile very high in monitoring with above average resources and the highest workload (demanding, high monitoring profile)

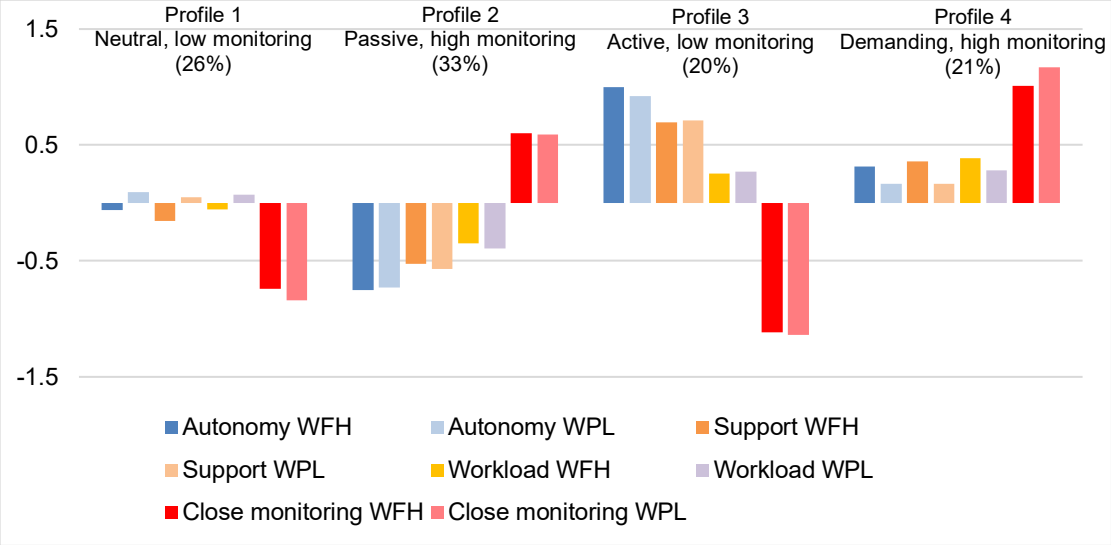

Figure E9. The final latent four profile solution demonstrating differences in the levels of autonomy, support, workload, and close monitoring between profiles (*Note.* N=386; profile indicators were based on factor scores, where mean=0, +/- 1 standard deviation; WFH=working from home; WPL=workplace).

- The Time 2 general wellbeing outcomes, life satisfaction and thriving, were predicted by profiles high in autonomy and support (profiles 3 & 4)(Figure E10).
- Time 2 anxiety and depression was highest in profiles where close monitoring was highest (profiles 2 and 4)(Figure E10), regardless of the level of job resources, demonstrating how **monitoring individuals can lead to stress, irrespective of the level of job resources**. This suggests that **job resources are not effective for buffering the negative effect of close monitoring on wellbeing**.

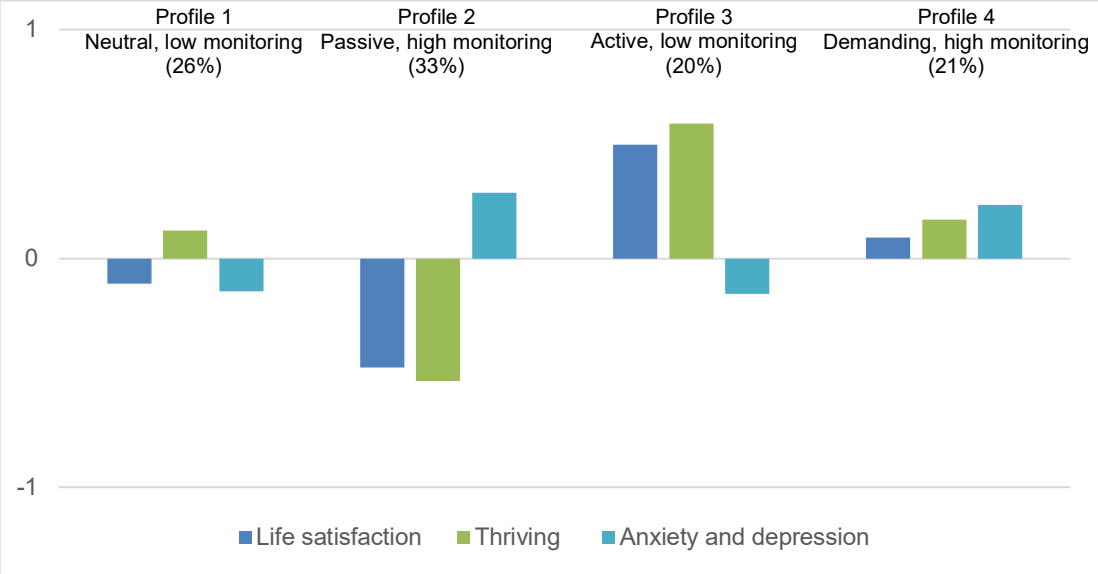

Figure E10. Relationships between the latent four-profiles solution and the outcomes life satisfaction, thriving, and combined anxiety and depression (*Note.* N=199; outcomes were based on factor scores, where mean=0, +/- 1 standard deviation; movement of hybrid workers to other work location groups (i.e. workplace, home) between Time 1 and 2 was controlled for).

- **Flexible occupations predominated** in all profiles except profile 2, which comprised a higher proportion of mixed / hybrid and frontline occupations
- 18-24 year olds were over-represented in profile 2. People in this profile also reported the lowest influence over work location, and having the least suitable places to work. These people may be in junior roles less suited to remote work, which could explain the relatively high monitoring which characterised this profile as managers may be distrusting of these employees.
- 25-44 year olds tended to be in profile 4, and in more senior and professional roles, which may explain why these people perceived job resources (autonomy, support) to be relatively high. Despite this, this profile was characterised by the highest close monitoring, which suggests that monitoring transcends hierarchy, with managers being monitored by their managers.

Key takeaways and implications for practice

Based on the findings, there are three key takeaways:

- The frequency with which people work from home is likely to continue to vary considerably until the pandemic situation becomes more stable and organisations and individuals work out what works best for them longer term. This will make it difficult to predict transport demand in the immediate future.
- It is important to note that working from home is not possible in many professions and occupations, with only around a quarter of employees in our Time 1 sample reporting to work in a hybrid fashion. This suggests that hybrid work is likely to remain an option only for some employees.
- **The overall quality of work is more important to consider than whether individuals work from home or the workplace**. Whilst hybrid work comes with benefits such as reduced commuting stress, and increased time for other things, it also comes with challenges such as the tendency for managers to closely monitor employees, increasing

stress, or increased loneliness if needs for support and connection are not met (Knight et al., 2022; Parker et al., 2020). Therefore, considering how to design good quality work holistically is critical for wellbeing and performance.

Potential implications for practice

- Our findings suggest that hybrid workers are likely to have the highest wellbeing and perform better when they have plentiful job resources (autonomy and support), manageable workloads, and are not closely monitored. This was true for both the workplace and home settings. Raising organisational and managerial awareness of the challenges with closely monitoring employees (e.g., via electronic monitoring or constant messaging) may facilitate the use of more positive ways of managing individuals. Regular check-ins with employees, for example, is a positive way of engaging with employees.
- Our findings also suggested that colleague support was an important driver of wellbeing, adaptivity and proactivity. Managers could support social connection in the workplace and at home by promoting buddy systems where colleagues can pair up with someone who they can contact for advice and support, or a listening ear. Managers could also create informal opportunities for colleagues to connect when they are in the workplace, as support in the workplace was found to buffer the impact of remote work on loneliness (Knight et al., 2022).
- Creating flexible work policies within organisations helps to formalise the ability of employees to work from home, meaning that employees have the right to ask for flexible working options no matter whether their immediate manager supports it or not.

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1. Purpose and structure

The work survey module contributes to the overall conceptual model by unpacking how individuals' experience of work when working from home impacts their wellbeing and performance, and the organisational and work factors which drive this relationship. Work experiences and outcomes are likely to impact how often individuals work from home, and whether managers allow it, and thus feeds into the overall aim of this project, which is to understand how and why working from home is and will impact transport demand in WA.

More specifically, the aim of the work survey module was to understand employee work experiences over time when working from home in comparison to other locations, and the impact on wellbeing and performance. Potential implications for work practices, and managerial and policy responses follow below. Specifically, this report presents findings from descriptive statistics and longitudinal analyses (repeated measures analysis of variance, predictive hierarchical regressions, latent profile analysis) focused on the three work module survey waves.

In keeping with the Wave 1 Report, we refer to three different work location groups throughout this report: i) mostly in the workplace (WPL); ii) mostly from home (WFH); and iii) hybrid, referring to time spent working in the workplace and at home, whether that be part days or whole days. This report focuses first on trends when considering the whole sample (Time 1 n=1526; Time 2 n=912; Time 3 n=612), then focuses on findings from the matched sample (people who responded to all three work module waves) to explore longitudinal relationships within individuals (n=377). Finally, this report explores the work design profiles of hybrid workers at Time 1 (n=386), particularly considering their experiences at home and in the workplace. Relationships with wellbeing at Time 2, and predictors of the profiles are explored. This deeper dive into the work experiences of hybrid workers is important as managerial and organisational policy could be informed by the findings, including whether and how hybrid work is carried out. This could have a direct impact on transport demand and policy.

2. Trends across time for the whole sample

At Time 1, the sample size for the work survey was 1526, at Time 2 it was 912, and at Time 3 it was 612. Figures 1, 2, 3 and 4 display the **whole sample** means for each of the work characteristics, organisational support questions, work wellbeing, work performance, and general wellbeing outcomes measured across all three waves. The figures show that the means were very similar across all the waves for all variables, suggesting stable work, wellbeing, and performance experiences across time for the sample as a whole.

Repeated measures ANOVAs conducted on the whole sample revealed that there were significant differences over time for scheduling autonomy, colleague support, anxiety and depression. In particular, respondents reported:

- significantly higher scheduling autonomy at Time 2 (mean=3.74, SD=.89) than at Time 1 (mean=3.6, SD=.98). At Time 1, WA had just emerged from a short, sharp lockdown which may have reduced some people's ability to schedule their own work.
- significantly lower colleague support at Time 3 (mean M=3.74, SD=.85) than at Time 2 (mean=3.86, SD=.85). This could be an artifact of the different samples between Time 1 and 3, with attrition and sample top-up being required at Time 2 and 3.
- significantly lower anxiety and depression at Time 3 (mean=1.58, SD=.1.56; mean=1.39, SD=1.6, respectively) than at either Time 1 (mean=1.85, SD=.1.74; mean=1.60, SD=1.63, respectively) or Time 2 (mean=1.73, SD=.1.72; mean=1.51, SD=1.64, respectively). This could reflect an easing of fear around the pandemic and adaptation to life in its wake.

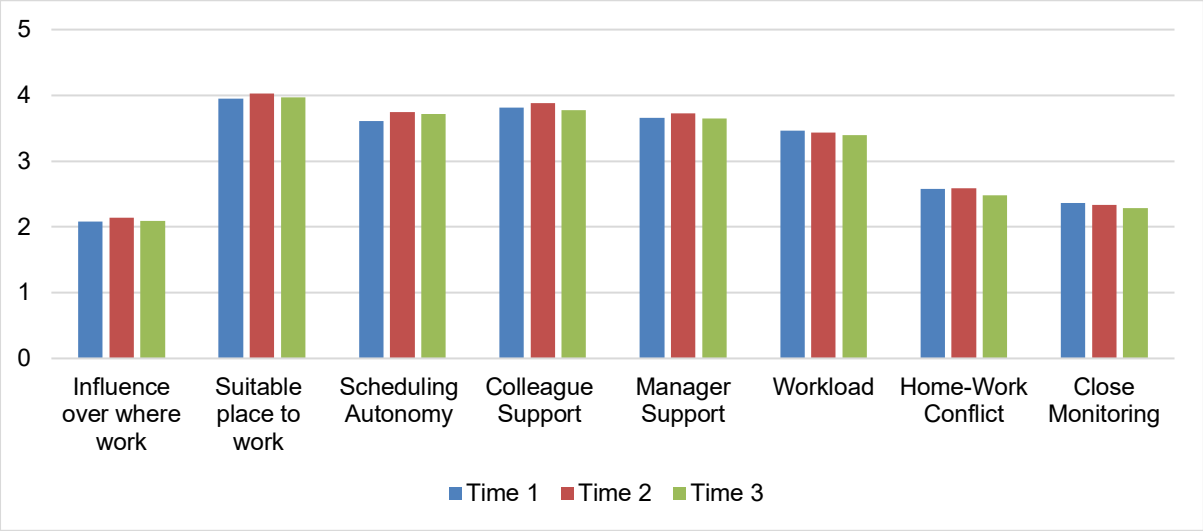

Figure 1. Mean scores for each work characteristic for each of the three time points (*Note.* All measures were on a 5-point scale (1=Strongly disagree; 5=Strongly agree))

Figure 2. Mean scores for the organisational support questions for each of the three time points (*Note.* All measures were on a 5-point scale (1=Strongly disagree; 5=Strongly agree))

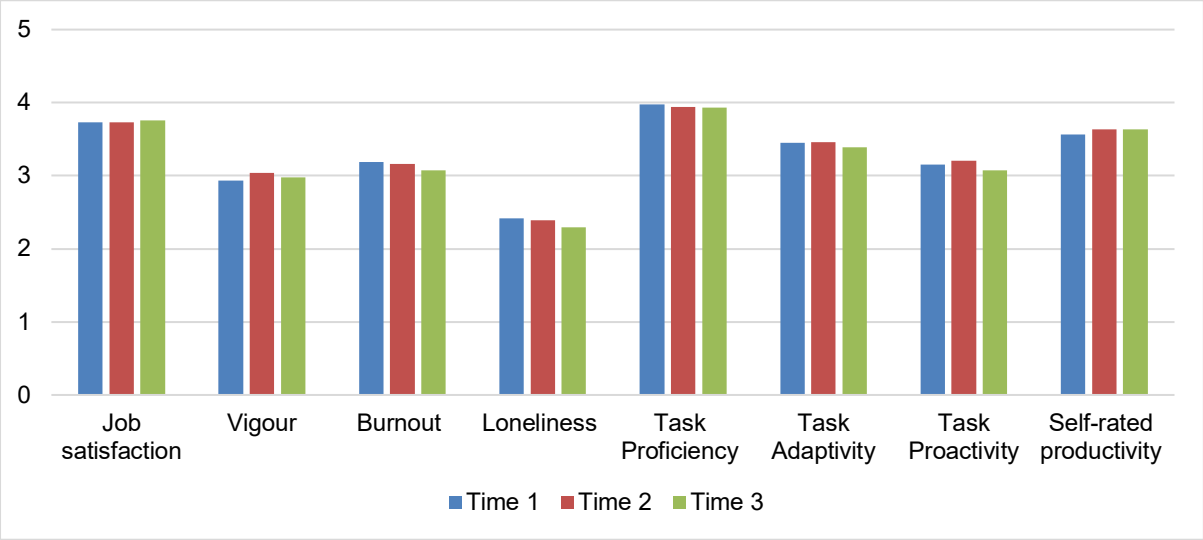

Figure 3. Mean scores for each work wellbeing and performance outcome for each of the three time points (*Note.* All measures were on a 5 point scale (1=Strongly disagree; 5=Strongly agree))

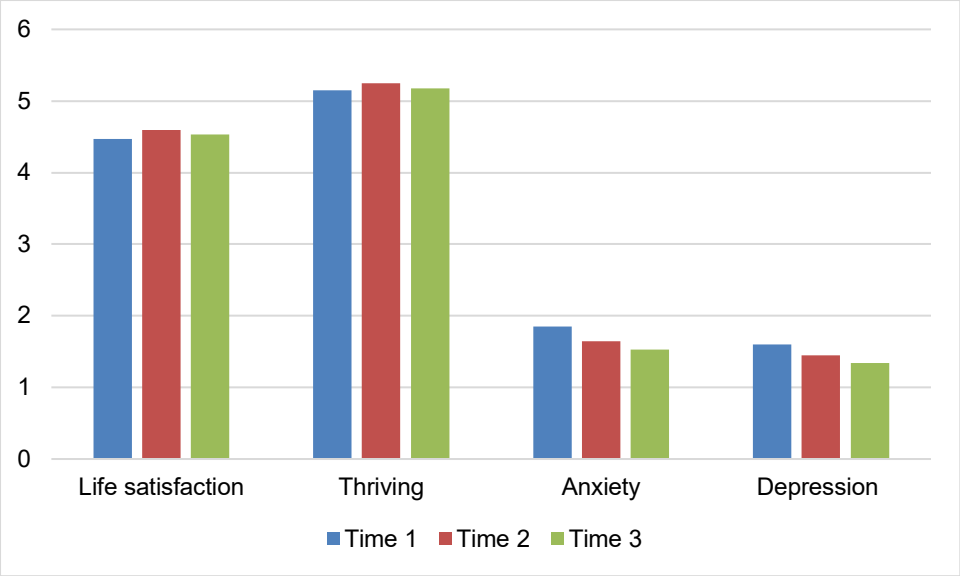

Figure 4. Mean scores for each general wellbeing outcome for each of the three time points (*Note.* Life satisfaction and thriving were measured on a 7-point scale; anxiety and depression were measured on a 4-point scale)

3. Work location across time

When considering the whole sample, there were, in general, approximately equal proportions of people working in each work location group at each time point (Table 1). The largest proportion worked mostly in the office (~70%). The most notable difference was that at Time 3, there was a smaller proportion of hybrid workers than at Time 1 or 2, which may reflect reduced anxiety concerning the pandemic and increasing confidence in a return to a "new normal". This would support the findings that anxiety and depression significantly reduced over time. There was also a larger proportion of people working mostly from home, which could reflect increased support for remote working by some employers. It could also reflect sample bias due to dropout, or a bias in the top-up sample for this way of working.

Table 1. Percentages working in each work location group across the three Time points

Work location	Time 1		Time 2		Time 3	
	n	%	n	%	n	%
Mostly workplace	1027	67.3	627	70.8	423	71.0
Hybrid	386	25.3	206	23.3	111	18.6
Mostly home	113	7.4	53	6.0	62	10.4
Total n	1526	100	912	100	596	100

Note. n=sample size.

4. The matched sample

Those who completed the **work module surveys at all three time points** comprise what we refer to as the **matched sample** (n= 377). Across the three time points, 37 (10.2% of the matched sample participants) stayed hybrid, 208 (57.3%) stayed mostly working from the workplace, and 9 (2.5%) stayed mostly working from home. 109 (30%) participants moved between work location groups across time points (e.g., from hybrid to the workplace or vice versa). Data was missing for the remaining 14 participants.

The matched sample comprised 63% female, with 42% aged between 25 and 44. The average number of hours worked was 33.3, the average number of hours simultaneously caring and working for children was 4.3, and the average number of hours that a partner was also working from home was 1.7.

4.1. Relationships between work location group and demographics

Cross-tabulations were used to explore the demographic characteristics of people within each work location group, and chi-square tests were used to assess whether membership of the four work location groups were influenced by key demographic variables. We focused on the following demographics (Tables 2-5):

- Gender (male vs female)
- Age (decade categories)
- Occupation, categorized into three groups: i) ‘Frontline’ (>75% in the workplace, e.g., sales workers and machinery operators); ii) ‘Flexible’ (<55% in the workplace, e.g., managers and white-collar professionals); and iii) ‘Mixed/hybrid’(55-75% in the workplace, e.g., trade and community service workers)
- Industry (Table X), categorized into three groups: i) ‘Frontline’ (>70% in the workplace, e.g., manufacturing, healthcare and food services); ii) ‘Flexible’ (<50% in the workplace, e.g., telecommunications and financial services); and iii) ‘Mixed/hybrid’ (all remaining industries).

Analyses revealed that participants’ work location over the three time points was not dependent on age or gender (Tables 2 & 3). However, significant relationships were observed between work location and both occupation and industry (Tables 4 & 5). For example, people who stayed hybrid over the three time points were heavily concentrated in ‘flexible’ occupations (72.2%), and much less prevalent in ‘frontline’ occupations (2.8%). Similarly, people who stayed at home were also heavily concentrated in ‘flexible’ industries (77.8%).

Table 2. Results of cross tabulation between work location across time and gender

Work location group across time	Female		Male		Total n
	n	%	n	%	
Stayed hybrid	19	51.4	18	48.6	37
Stayed workplace	133	63.9	75	36.1	208
Stayed home	6	66.7	3	33.3	9
Moved location	70	64.2	39	35.8	109
Total n	228	62.8	135	37.2	363

Note. n=sample size.

Table 3. Results of cross tabulation between work location across time and age

Work location group across time	18-24		25-34		35-44		45-54		55-64		65+		Total n
	n	%	n	%	n	%	n	%	n	%	n	%	
Stayed hybrid	2	5.4	11	29.7	16	43.2	4	10.8	3	8.1	1	2.7	37
Stayed workplace	17	8.2	67	32.2	47	22.6	44	21.2	32	15.4	1	0.5	208
Stayed home	1	11.1	1	11.1	6	66.7	0	0	1	11.1	0	0	9
Moved location	8	7.3	43	39.4	35	32.1	12	11	10	9.2	1	0.9	109
Total n	28	7.7	122	33.6	104	28.7	60	16.5	46	12.7	3	0.8	363

Note. n=sample size.

Table 4. Results of cross tabulation between work location across time and occupation

Work location group across time	Flexible		Mixed/hybrid		Frontline		Total n
	n	%	n	%	n	%	
Stayed hybrid	26	72.2	9	25	1	2.8	36
Stayed workplace	61	29.9	109	53.4	34	16.7	204
Stayed home	6	66.7	2	22.2	1	11.1	9
Moved location	60	56.6	38	35.8	8	7.5	106
Total n	153	43.1	158	44.5	44	12.4	355

Note. n=sample size.

Table 5. Results of cross tabulation between work location across time and industry

Work location group across time	Flexible		Mixed/hybrid		Frontline		Total n
	n	%	n	%	n	%	
Stayed hybrid	10	27	17	45.9	10	27	37
Stayed workplace	14	6.7	82	39.4	112	53.8	208
Stayed home	7	77.8	1	11.1	1	11.1	9
Moved location	28	25.7	56	51.4	25	22.9	109
Total n	59	16.3	156	43.0	148	40.8	363

Note. n=sample size.

4.2. Trends across time according to work location

Repeated measures analysis of variance (ANOVA) statistical models were used to determine whether there were significant mean differences across time for work characteristics, wellbeing and performance, between work location groups. For this analysis, we focused only on the matched sample (n=377). We also focused on comparing three specific groups of people:

i) those who worked in the workplace across the three time points (n=208)
ii) those who were hybrid across the three time points (n=37)
iii) those who moved work locations across the three time points (n=215)

We did not include those who worked from home across the three time points due to the low sample size for this group (n=9), which would have decreased the robustness of our results.

Significant mean differences were observed for the variable, “influence over where work”, with significantly higher mean scores observed for hybrid workers compared to those in the workplace, and for hybrid workers compared to those who moved locations (see Figure 5). There was also a significant mean difference between those who stayed in the workplace and those who moved work locations, with the latter group scoring higher. These results suggest that those who stayed hybrid and moved work locations had more influence over where they worked than those who stayed in the workplace. This is in accordance with our expectations.

A significant interaction between groups and across time was also observed for “proactivity”, with those who stayed hybrid rating their proactivity as significantly higher than those who stayed in the workplace (Figure 6). This suggests that those who move between the workplace and home to work need to actively take steps to ensure they can adapt to the different environments efficiently and effectively. Needing to do this may enable these people to develop their proactivity skills and use them in other areas of their work.

No other significant differences in mean scores between groups and across time were observed for work characteristics, organisational support variables, wellbeing, or performance.

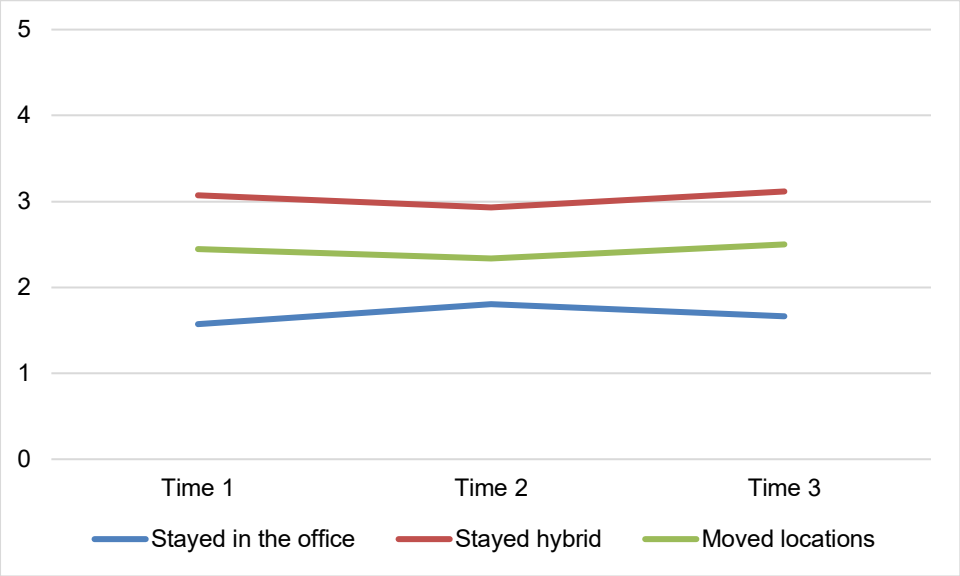

Figure 5. Mean scores for "influence over where work" for each work location group across the three time points

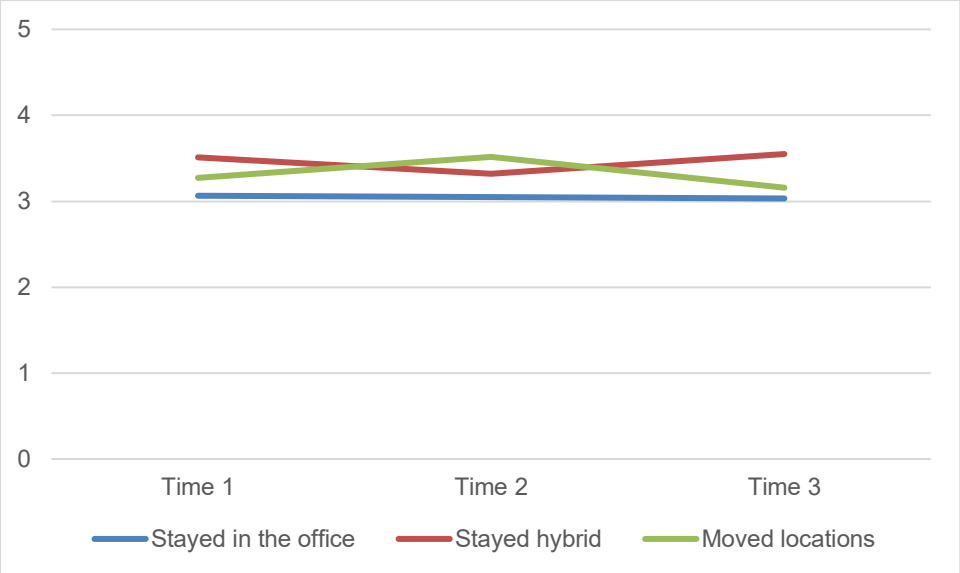

Figure 6. Mean scores for "proactivity" for each work location group across the three time points

5. Predictive relationships between work characteristics and outcomes

As work characteristics were stable across time and did not vary between those who stayed in the same work location group across time and those who did not, regression analyses were conducted to investigate causal relationships between multiple predictors at Time 1 and **outcomes at Time 2**. Due to attrition over time, the matched sample size between Time 1 and 2 was also considerably larger (n=498) than that between Time 1 and 3, meaning greater statistical power and robustness of results could be achieved by involving Time 1 and 2 only.

In the following, a series of predictive hierarchical regression models are presented which demonstrate the impact of work characteristics measured at Time 1 on work wellbeing and performance outcomes measured at Time 2, over and above a number of other potential predictors: key person demographics (age and gender); occupation; work location; and the relevant baseline (Time 1) measure of the outcome.

A summary of the key findings follows:

- Higher influence over work location, and lower home-work conflict and close monitoring, were significant drivers of vigour
- Higher colleague support and lower home-work conflict drove job satisfaction
- Higher workload and home-work conflict drove burnout
- Lower colleague support drove loneliness
- Lower home-work conflict drove proficiency and productivity
- Higher colleague support drove adaptivity and proactivity

These findings concur with the job-demands resources model (Bakker et al., 2007) which theorises that job resources (e.g., autonomy, support) are motivational and drive positive job attitudes and wellbeing, while job demands (e.g. workload) drive a health impairment process leading to poorer wellbeing.

5.1. Predictors of vigour

in combination, key person demographics, occupation, work location, Time 1 vigour, and work characteristics explained 38.5% of the overall variance in vigour at Time 2 (Figure 7). Work characteristics explained 3.3% of the variance over and above the other factors included in the model. Perceived influence over the location of work, and close monitoring were significant work design predictors, with higher scores indicating higher vigour at Time 2. In contrast, higher workload and home-work conflict significantly predicted lower vigour at Time 2. The proportion of hours working from home and degree of colleague support did not significantly predict Time 2 vigour.

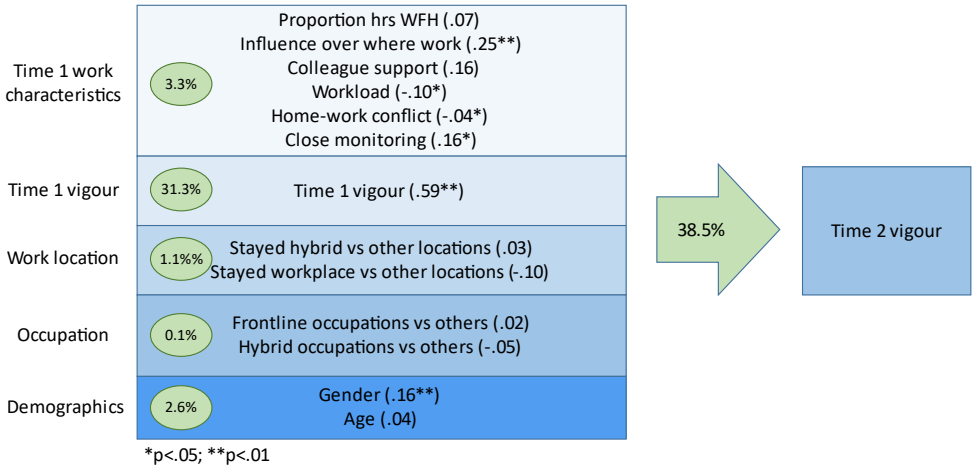

Figure 7. Results of hierarchical regression analysis investigating predictors of Time 2 vigour

5.2. Predictors of job satisfaction

In combination, key person demographics, occupation, work location, Time 1 work satisfaction, and work characteristics explained 20.3% of the overall variance in work satisfaction at Time 2 (Figure 8). Work characteristics explained 5.3% of the variance over and above all the other predictors in the model. In particular, colleague support significantly predicted work satisfaction at Time 2, while home-work conflict significantly predicted lower work satisfaction at Time 2. The proportion of hours spent working from home was not a significant predictor, suggesting that social connection at work and tolerable job demands were more important for overall work satisfaction.

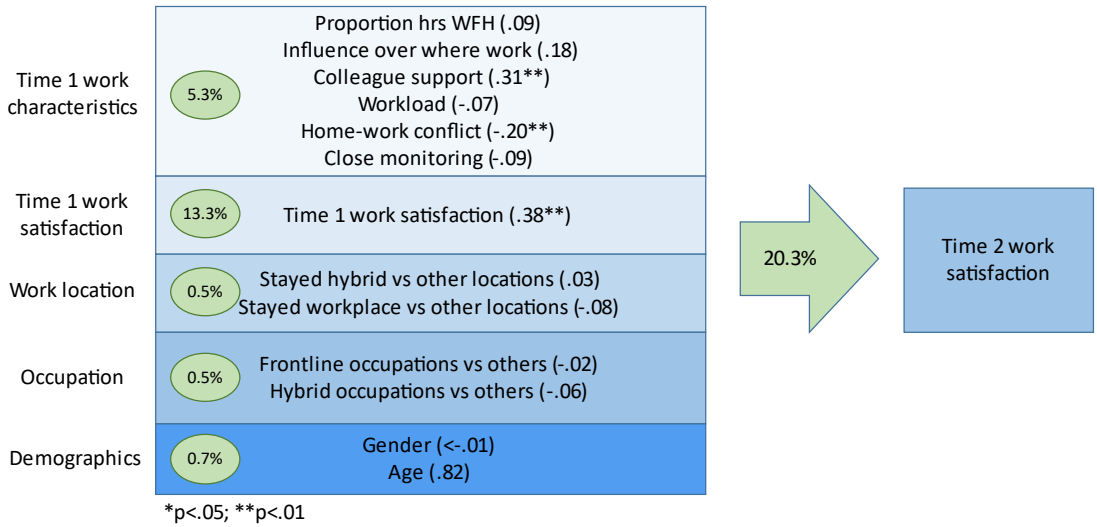

Figure 8. Results of hierarchical regression analysis investigating predictors of Time 2 work satisfaction

5.3. Predictors of burnout

In combination, key person demographics, occupation, work location, Time 1 burnout, and work characteristics explained 30.7% of the variance in Time 2 burnout (Figure 9). Work characteristics were explained 3.9% of the variance over and above all the other predictors in the model. As the proportion of time spent WFH increased, the degree of burnout experienced at Time 2 significantly decreased, suggesting that working from home can be beneficial for an individual's wellbeing. However, higher workload and higher home-work conflict significantly predicted higher levels of burnout, suggesting that job demands are important drivers of burnout irrespective of work location. Finally, burnout significantly decreased as age increased, which could suggest that older people are better able to manage work demands and potential work stress.

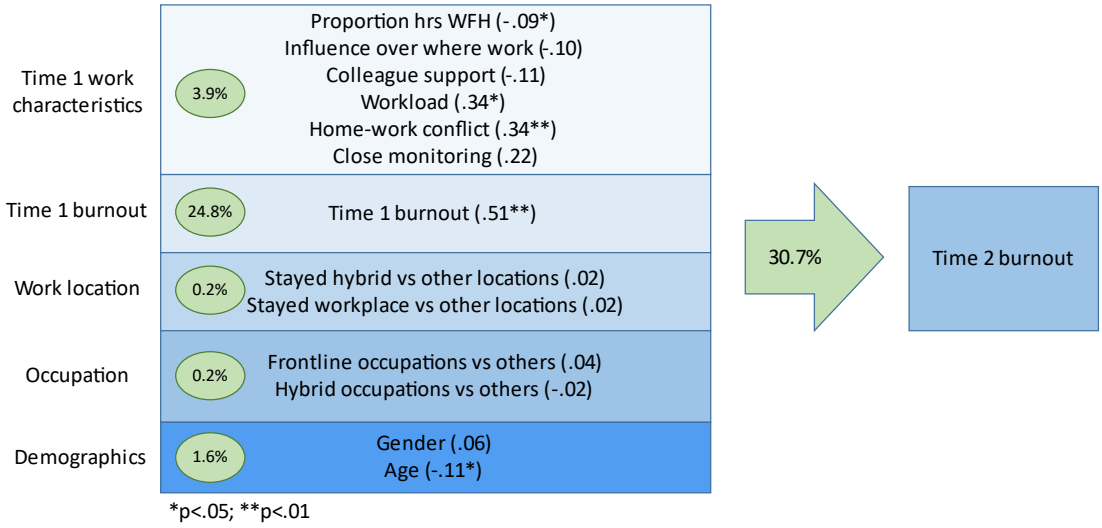

Figure 9. Results of hierarchical regression analysis investigating predictors of Time 2 burnout

5.4. Predictors of loneliness

In combination, key person demographics, occupation, work location, Time 1 loneliness, and work characteristics explained 28.7% of the overall variance in Time 2 loneliness (Figure 10). Work characteristics explained 2.3% of the variance over and above the other factors in the model, with lower colleague support significantly predicting higher loneliness. This is as expected, and concurs with research and theory that shows meaningful connections and relationships with colleagues is important to satisfy the basic human need for belonging, and drive wellbeing. There were no other significant relationships between Time 1 work characteristics and Time 2 loneliness. Of note, work location did not significantly predict loneliness, suggesting that it really is the degree of connection workers experience with others that protects against loneliness, not work location. This also concurs with findings reported by Knight et al (2022) based on wave 1 data.

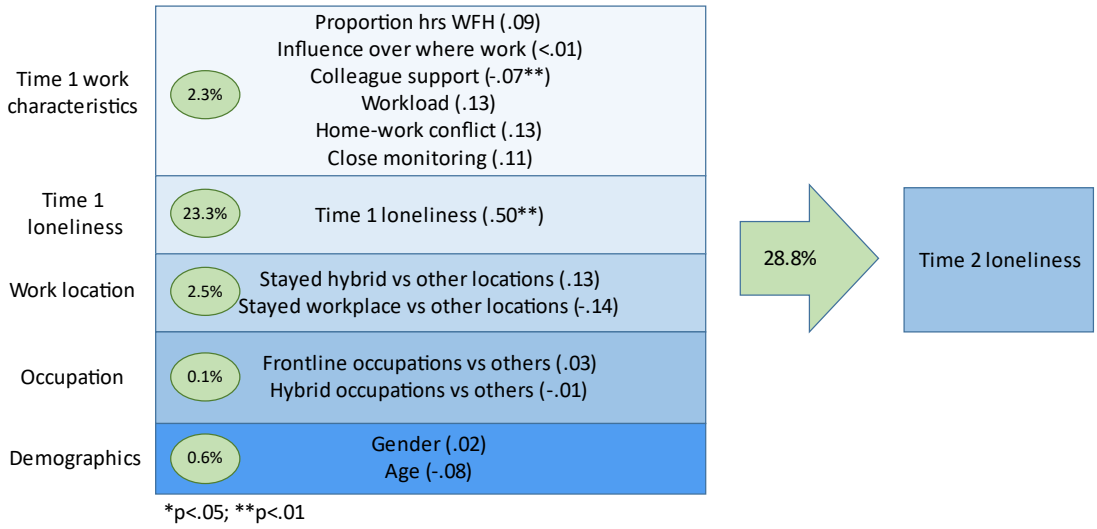

Figure 10. Results of hierarchical regression analysis investigating predictors of Time 2 loneliness

5.5. Predictors of task proficiency

In combination, key person demographics, occupation, work location, Time 1 task adaptivity, and work characteristics explained 33.1% of the overall variance in Time 2 task proficiency (Figure 11). Work characteristics explained 3% of the variance over and above the other variables in the model. In particular, higher time 1 home-work conflict significantly predicted lower Time 2 task proficiency, likely because interference with work due to home demands is distracting and prevents deep work and focused attention, limiting the ability of individuals to develop and maintain proficiency. None of the other work characteristics in the models were significant predictors. Being male, and being younger in age, also predicted lower task proficiency. This could in part be due to younger workers having less acquired knowledge and experience to enable them to be more proficient. Further research is required to unpack why males may be less proficient than females.

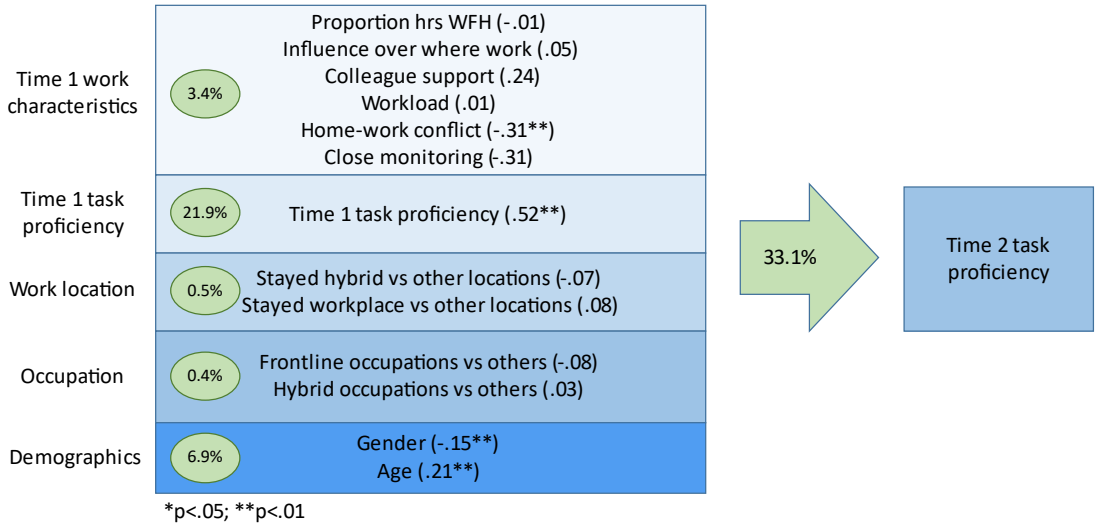

Figure 11. Results of hierarchical regression analysis investigating predictors of Time 2 task proficiency

5.6. Predictors of task adaptivity

In combination, key person demographics, occupation, work location, Time 1 task adaptivity, and work characteristics explained 12.7% of the overall variance in task adaptivity at Time 2 (Figure 12). Work characteristics explained 3% of the variance over and above the other variables in the model. In particular, higher colleague support significantly predicted higher task adaptivity, likely because colleagues are important sources of help and information. Work location and occupation also played a significant role in predicting task adaptivity at Time 2. People who stayed in the workplace across the three time points reported significantly lower task adaptivity than people who stayed hybrid or moved work location group. Those in hybrid occupations also reported significantly lower task adaptivity than those in frontline or fully flexible occupations. This could be due to constraining factors which meant they couldn't adapt, such as lack of resources or certain types of support (e.g., specific knowledge, computer software).

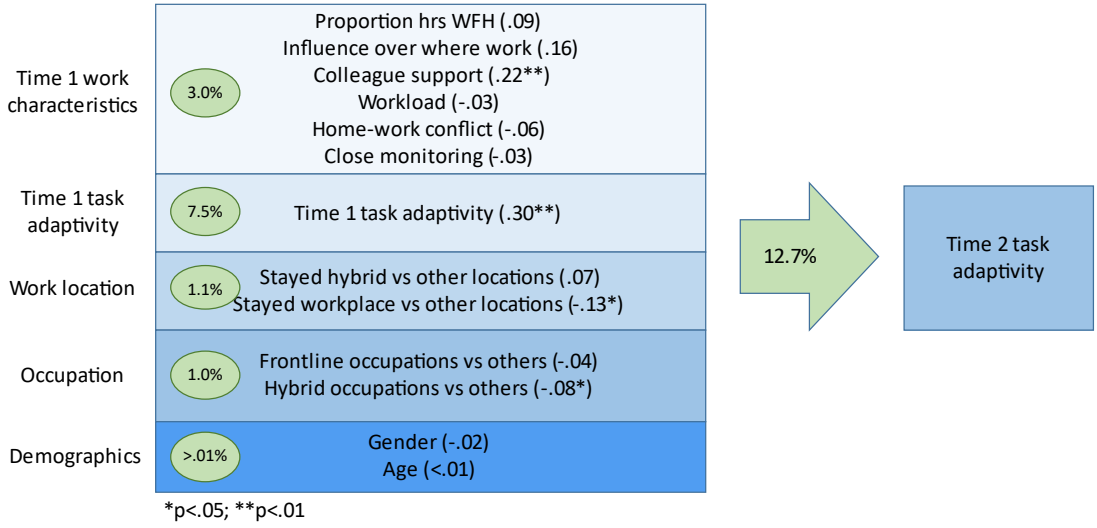

Figure 12. Results of hierarchical regression analysis investigating predictors of Time 2 task adaptivity

5.7. Predictors of task proactivity

In combination, key person demographics, occupation, work location, Time 1 task proactivity, and work characteristics explained 21.1% of the overall variance in Time 2 task proactivity (Figure 13). Work characteristics explained 3% of the variance, with Time 1 colleague support significantly predicting Time 2 proactivity. This is again likely because gaining timely assistance from colleagues is motivational and enables individuals to progress their work. Working in the workplace across the three timepoints as opposed to hybrid work or moving across locations between time points, predicted lower Time 2 proactivity. This is interesting, and again suggests constraining factors preventing those in the workplace from engaging in proactive behaviours.

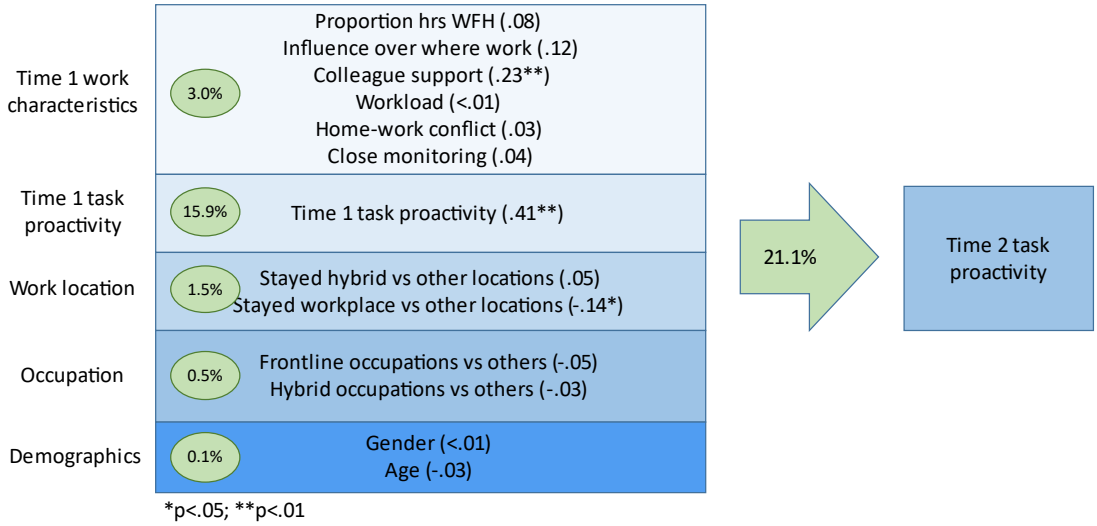

Figure 13. Results of hierarchical regression analysis investigating predictors of Time 2 task proactivity

5.8. Predictors of productivity

In combination, key person demographics, occupation, work location, Time 1 productivity, and work characteristics explained 26.8% of the overall variance in Time 2 productivity (Figure 14). Work characteristics explained 4% of the variance over and above the other factors in the model. Higher colleague support and lower work-home conflict significantly predicted higher productivity. These results are in line with expectations, suggesting that when it comes to meeting work goals, help from others is enabling, and high work demands can be hindering. In addition, older people were significantly more likely to report being more productive than younger people, possibly due to having established effective work routines and practices over time, and having a deeper knowledge and experience within their role than younger people.

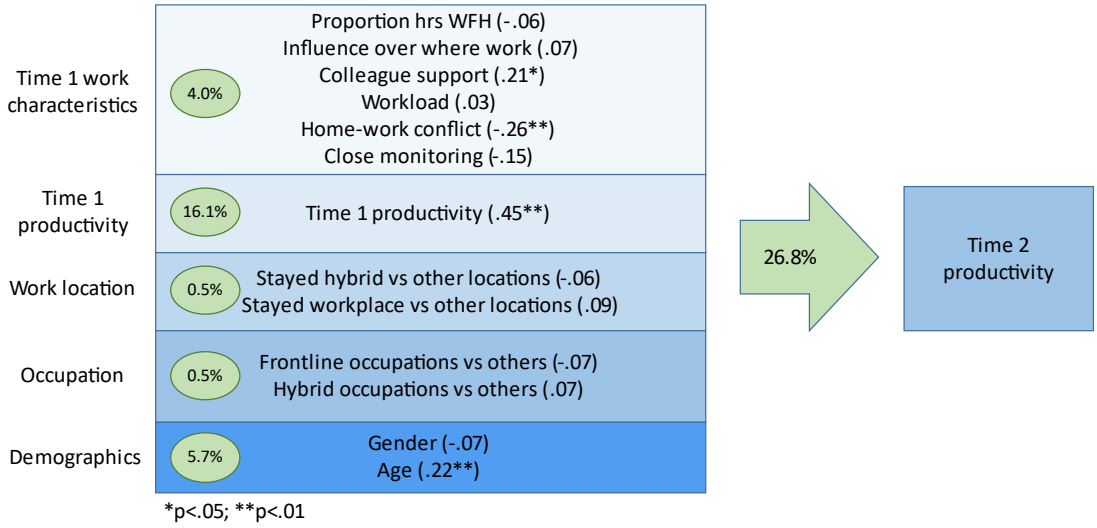

Figure 14. Results of hierarchical regression analysis investigating predictors of Time 2 productivity

6. Hybrid work design profiles and relationships with wellbeing

A unique feature of this research study is that we asked hybrid workers in our study (N=386) to respond to the same questions about their work experiences when considering the workplace and when considering working from home. This allowed a novel investigation into the nature of work design across locations for the same set of people. Previous working from home research has exclusively focused on comparing work experiences across independent samples working in different locations. However, hybrid work has risen to unprecedented levels since the pandemic began and looks set to stay, hence understanding work experiences when people work across different locations, and how these impact outcomes, could inform individual and organisational policy and practice.

The design of this study allowed us to focus on hybrid workers and explore whether different natural subgroups of people experiencing similar work characteristics existed in the population, and if so, how these linked to wellbeing outcomes. Individuals are embedded within work environments and thus experience many different work characteristics simultaneously. They therefore experience their jobs as a 'whole' rather than a discrete set of individual work characteristics. Adopting a person-centred approach (latent profile analysis), these holistic experiences are captured and meaningful natural subgroups existing within a population can be identified (i.e. not defined a priori) as unobserved heterogeneity can be modelled (McLarnon & O'Neill, 2018; Morin et al., 2016). In particular, person-centred approaches model interactive effects between several variables which are easily interpretable (Morin et al., 2020), and can account for the holistic impact of included variables on outcomes. Person centred approaches are therefore particularly suited to exploring the holistic impact of work design characteristics on outcomes.

6.1. Analytical method

Best practice recommendations were used to conduct latent profile analysis (LPA; McLarnon & O'Neill, 2018; Morin et al., 2016). First, confirmatory factor analyses were conducted in M*plus* to assess the fit of the Time 1 work design characteristics using standard goodness of fit statistics. We included scheduling autonomy, social support (combined manager and colleague support[1]), workload, and close monitoring[2] associated with the workplace, and the same variables associated with working from home as profile indicators. Factor scores (mean=0, +/-1 SD) were created for these variables from the best fitting factor analysis model and used in LPA in order to standardise the results and facilitate ease of interpretation. LPA was used to estimate models with one to six profiles, and standard fit indices informed the number of optimal profiles to extract (Masyn, 2013; Morin et al., 2011; Morin et al., 2016).

Following identification of the best fitting profile solution, relationships with Time 2 general wellbeing outcomes (life satisfaction, thriving, anxiety and depression[3]) were assessed using the BCH function (Morin et al., 2016), and again using factor scores from factor analyses of the

[1] Manager and colleague support were first included separately in initial LPA but were very similar across the profiles that resulted, hence we combined them into a single construct to increase parsimony and ease of interpretation.
[2] We did not include home-work conflict as a job demand as the literature is divided as to whether this construct is a demand or an outcome of work design.
[3] For simplicity, anxiety and depression were combined into one "wellbeing" outcome following factor analysis.

outcomes[4]. General wellbeing outcomes were considered most appropriate for this analysis as hybrid workers responded to these specific questions in general, as opposed to in relation to either the workplace or home, indicating their holistic wellbeing. Understanding the impact of hybrid work design profiles on holistic wellbeing is a fruitful avenue for understanding how managers and organisations can support positive wellbeing and associated performance. At Time 2, 199 of the original 386 hybrid workers in our sample responded. We did not investigate relationships at Time 3 due to considerable further attrition. We included movement out of hybrid work at Time 1 to fully workplace or home-based work at Time 2 as a control in our analyses.

6.2. Results

6.2.1. A four-profile hybrid work design model

The final profile solution consisted of four profiles (Figure 15). This solution contained distinct profiles which differed in shape, suggesting meaningful differences between them. Statistically, this was also the most optimal solution, as indicated by the fit statistics[5]. Notably, the nature of the work design indicators for the workplace and working from home was similar within each profile. This suggests that the hybrid workers in our sample experienced similar work design when in the workplace and when working from home.

More specifically:

- Profile 1 comprised 26% of the sample and was characterised by average levels of autonomy, support, and workload both in the workplace and at home, and below average monitoring. We refer to this profile as “neutral, low monitoring”.
- Profile 2 comprised 33% of the sample, the largest proportion, and was characterised by below average autonomy, support, and workload across both work locations, and relatively high close monitoring. We refer to this profile as “passive, high monitoring”, as the low levels of resources reflect the “passive” profile of the job demands-resources (JD-R) model (Bakker & Demerouti, 2007).
- Profile 3 comprised 20% of the sample. These people experienced the highest levels of autonomy and support, with moderate workload, both when in the workplace and at home. They also experienced the lowest monitoring. We refer to this profile as “active, low monitoring”, as the high levels of resources reflect the “active” profile of the JD-R model.
- Profile 4 comprised 21% of the sample and was characterised by above average autonomy, support, and workload both in the workplace and at home, and the highest level of close monitoring. We refer to this profile as “demanding, high monitoring” as the high levels of workload suggest demanding jobs.

[4] For further information about the method, please contact Caroline Knight at caroline.knight@curtin.edu.au

[5] Detailed statistical procedures have been omitted from this report for simplicity. Please contact Caroline Knight at caroline.knight@curtin.edu.au for specific details.

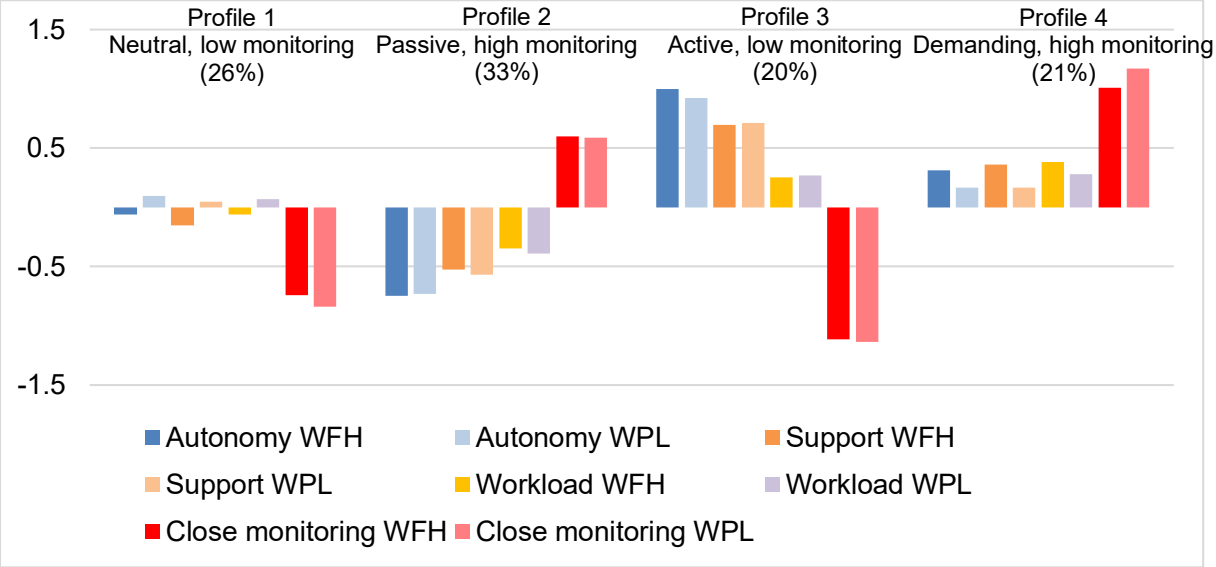

Figure 15. The final latent four profile solution demonstrating differences in the levels of autonomy, support, workload, and close monitoring between profiles (*Note.* N=386; profile indicators were based on factor scores, where mean=0, +/- 1 standard deviation; WFH=working from home; WPL=workplace).

6.2.2. Associations with general wellbeing outcomes

There were interesting relationships between the four-profile work design model and general wellbeing outcomes (Figure 16 and Table 6). Observations are as follows:

- Life satisfaction was highest in Profile 3 which comprised the highest resources (autonomy and support), moderate workload, and the lowest close monitoring. This is in keeping with the work design literature which suggests that high resources and moderate demands drive wellbeing. Life satisfaction was significantly lower in profile 1 than profile 3, and was significantly lower in profile 2 than either profile 3 or 4. In profiles 1 and 2, resources were much lower than in profiles 3 and 4, providing further evidence that resources drive wellbeing.
- Thriving was also highest in profile 3, and significantly higher in profiles where autonomy and support were highest (profiles 3 and 4 compared to profiles 1 and 2). All pairwise comparisons were significant except for between profiles 1 and 4. This is likely because resources drive the relationship with thriving and these did not differ dramatically between profiles 1 and 4.
- Anxiety and depression was highest in profile 2 where resources were lowest and close monitoring was relatively high. In profile 4, anxiety and depression was marginally lower than in profile 2 despite higher resources. Notably, close monitoring was even higher in this profile than profile 2, suggesting that close monitoring drives an increase in anxiety and depression. This was clearly observed as when close monitoring was lower (profiles 1 and 3), anxiety and depression was lower.

In summary, the resources, autonomy and support, appeared to drive positive wellbeing outcomes while close monitoring drove anxiety and depression. It was also notable that it was possible to experience life satisfaction and thriving whilst also experiencing relatively high anxiety and depression (e.g. see Figure X, profile 4). However, at the highest levels of anxiety and depression, resources were also low, while close monitoring was relatively high. This suggests that resources may - to some extent at least - buffer the impact of close monitoring on poor wellbeing.

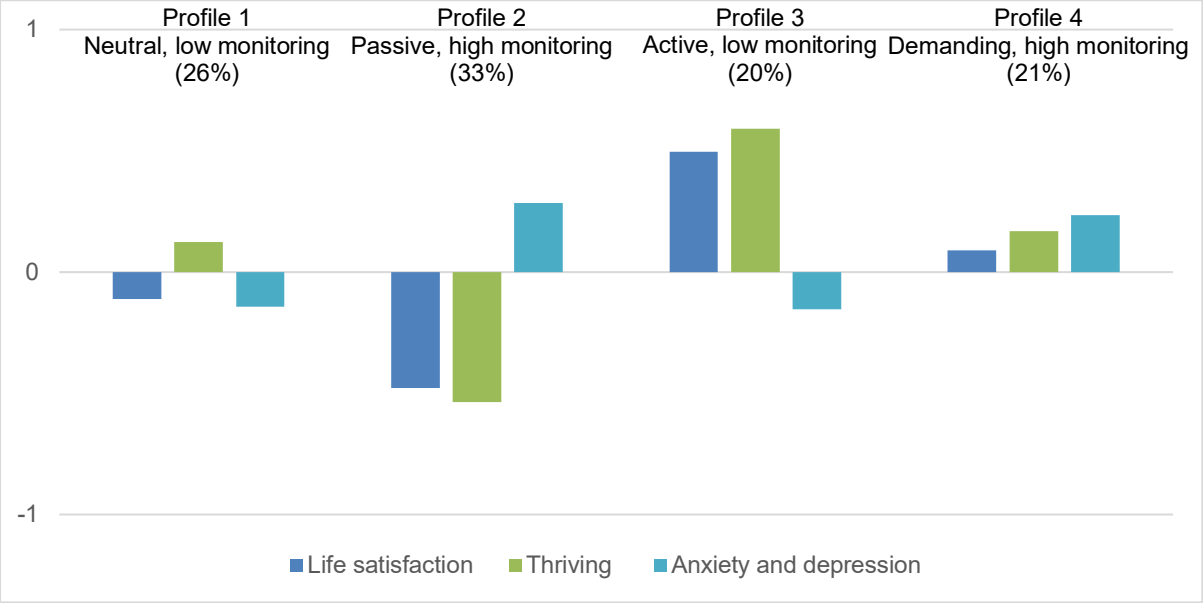

Figure 16. Relationships between the latent four-profiles solution and the outcomes life satisfaction, thriving, and combined anxiety and depression (*Note.* N=199; outcomes were based on factor scores, where mean=0, +/- 1 standard deviation; movement of hybrid workers to other work location groups (i.e. workplace, home) between Time 1 and 2 was controlled for).

Table 6. Outcome means and pairwise comparisons between profiles (n=199)

Hybrid profiles	Life satisfaction mean	Thriving mean	Anxiety and depression mean
P1: Neutral, low monitoring	-0.11	0.12	-0.14
P2: Passive, high monitoring	-0.48	-0.53	0.29
P3: Active, low monitoring	0.50	0.59	-0.15
P4: Demanding, high monitoring	0.09	0.17	0.24
Profile comparisons	**Mean difference**	**Mean difference**	**Mean difference**
P1 vs P2	0.37	0.66**	-0.43**
P1 vs P3	-0.61**	-0.47**	0.01
P1 vs P4	-0.20	-0.05	-0.38**
P2 vs P3	-0.97**	-1.13**	0.44**
P2 vs P4	-0.57**	-0.71**	0.05
P3 vs P4	0.41	0.42*	-0.39**

Note. Outcomes were based on factor scores, where mean=0, +/- 1 standard deviation; movement of hybrid workers to other work location groups (i.e. workplace, home) between Time 1 and 2 was controlled for; P=profile.
*p<.05; **p<.01

6.2.3. Predictors of hybrid group membership

To understand whether there were any clear predictors of profile membership, associations between demographics (gender, age, occupation, industry) and other potential predictors (Time 1 influence over work location and suitability of workspace), and profile membership were explored.

Cross-tabulation between occupation and profile membership revealed significant differences in the proportions of people in flexible, hybrid, and frontline occupations between each of the four hybrid work design profiles (Table 7). As expected, a large proportion of people in each profile were in flexible occupations (e.g. professionals, managers) and likely to be able to choose where they worked. It is notable that a lower proportion were in flexible occupations in profile 2 than the other profiles. This profile was characterised by low resources and relatively high monitoring (Figure 15), which may reflect the fact that these people were not in jobs well suited to hybrid work, even if they were in typically 'flexible' occupations. This is supported by the fact that a larger proportion of people in profile 2 than in other profiles were based in mixed / hybrid occupations (39.8%) and frontline occupations (18%).

Cross-tabulation between age and hybrid profile revealed significant differences (Table 8). Younger people (18-34 years) tended to belong to profiles 1 and 2, with a particular over-representation of 18-24 year olds in profile 2 (20.9% of all those in profile 2 compared to 11% or less in the other profiles). Younger people may be just starting out in careers and are likely to be in more junior positions which may explain why those in profile 2 particularly perceived lower resources than those in other profiles (Figure 15). This may also be why high monitoring was observed in profile 2; younger employees may have less work experience, be less established within an organisation, and be less trusted by managers. Further research would be required to explore these suppositions.

In contrast, the largest proportion of people aged 25-44 years were in profile 4 (79% of all those in profile 4). These people perceived above average resources but also reported the highest monitoring. This is surprising as profile 4 also comprised a higher proportion of people in flexible occupations, and suggests that despite having a job which can be carried out from home, employers are still keen to monitor productivity.

Cross-tabulations between gender and profile membership, and industry and profile membership, revealed no significant differences.

Table 7. Results of cross-tabulation revealing proportions of people in flexible, mixed / hybrid, and frontline occupations in each of the four hybrid work design profiles (n=386)

Hybrid profiles	Flexible		Mixed / hybrid		Frontline		Total n
	n	%	n	%	n	%	
P1: Neutral, low monitoring	65	67.0	27	27.8	5	5.2	97
P2: Passive, high monitoring	54	42.2	51	39.8	23	18.0	128
P3: Active, low monitoring	50	66.7	24	32.0	1	1.3	75
P4: Demanding, high monitoring	49	60.5	24	29.6	8	9.9	81
Total	218	57.2	126	33.1	37	9.7	381*

Note. Occupation was categorized into three groups: i) 'Frontline' (>75% in the workplace, e.g., sales workers and machinery operators); ii) 'Flexible' (<55% in the workplace, e.g., managers and white-collar professionals); and iii) 'Mixed/hybrid'(55-75% in the workplace, e.g., trade and community service workers); Industry was categorized into three groups: i) 'Frontline' (>70% in the workplace, e.g., manufacturing, healthcare and food services); ii) 'Flexible' (<50% in the workplace, e.g., telecommunications and financial services); and iii) 'Mixed/hybrid' (all remaining industries); P=profile; n=sample size.
*6 cases contained missing data hence the total is below 386.

Table 8. Results of cross-tabulation revealing proportions of people in each age group in each of the four hybrid work design profiles (n=385)

Hybrid profiles	18-24		25-34		35-44		45-54		55-64		65+		Total
	n	%	n	%	n	%	n	%	n	%	n	%	n
P1: Neutral, low monitoring	6	6.1	33	33.3	24	24.2	22	22.2	13	13.1	1	1.0	99
P2: Passive, high monitoring	27	20.9	43	33.3	40	31.0	12	9.3	7	5.4	0	0	129
P3: Active, low monitoring	3	3.9	23	30.3	28	36.8	10	13.2	9	11.8	3	3.9	76
P4: Demanding, high monitoring	9	11.1	32	39.5	32	39.5	7	8.6	1	1.2	0	0	81
Total n	45	11.7	131	34.0	124	32.2	51	13.2	30	7.8	4	1.0	385*

Note. P=profile; n=sample size.
*1 case contained missing data hence the total is <386.

One-way ANOVAs were conducted to understand whether an individuals' perceived influence over their work location, or their perception of whether they have a suitable place to work, influenced hybrid profile membership. Key results are as follows (see also Figure 17):

- People in profile 3 reported the highest influence over where they work overall (mean=3.24; SD=1.17) as well as the most suitable work environment (mean=4.39; SD=.56).
- People in profile 2 reported the lowest scores on these aspects (mean=2.29, SD=1.0; mean=3.37, SD=.76, respectively).
- Influence over work location was significantly higher in profile 3 than 1 or 2, and also significantly higher in profile 4 than either 2 or 3.
- Suitability of work location was significantly higher in profiles 1, 3 and 4 than profile 2, and significantly higher in profile 3 than 1.

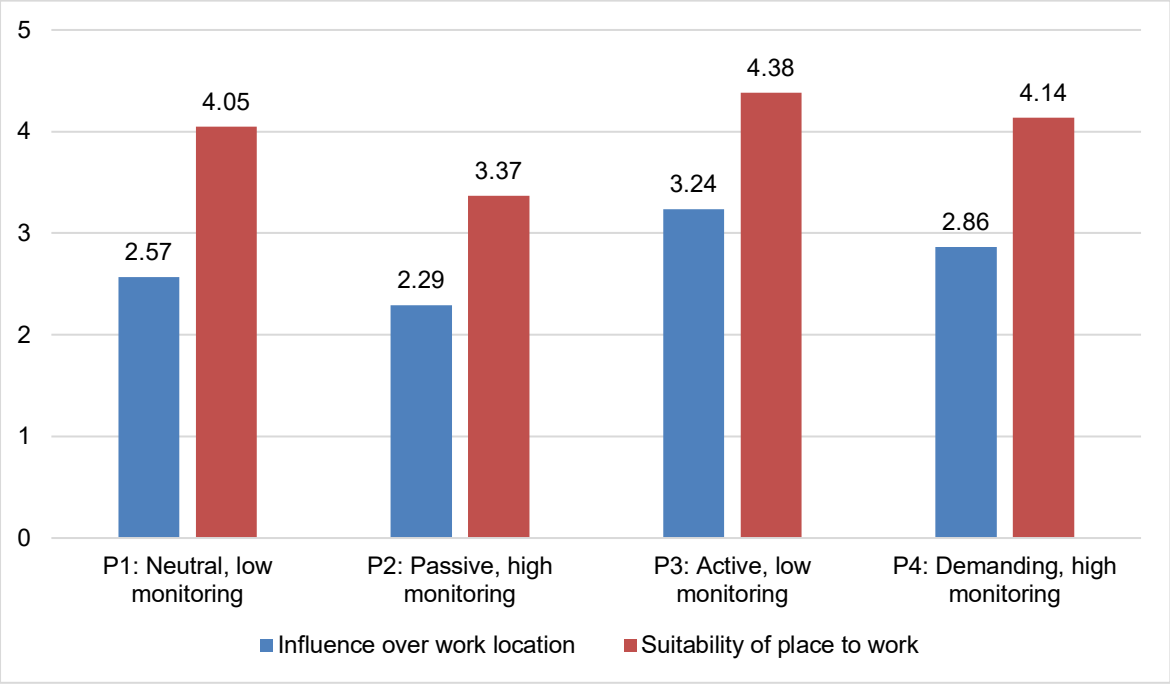

Figure 17. Results of one-way ANOVAs demonstrating significant mean differences between hybrid work design profiles for "influence over work location" and "suitable place to work" (*Note.* P=profile)

6.2.4. Movement out of hybrid work between Time 1 and 2

At Time 1, there were 386 hybrid workers. At Time 2, 199 of these workers remained in the sample (187 dropped out). Of these 199, 111 remained hybrid workers, 69 moved from hybrid working to the workplace, and 19 moved from hybrid working to working from home full time.

Cross-tabulation revealed that there were significant differences between the hybrid work design profiles as to who moved out of hybrid working and who didn't (Table 9). Proportionately more people stayed hybrid in profile 4 (78.9%) than any other profile. This is interesting as this profile was characterised by the highest monitoring, suggesting that managers did not trust their employees to work from home effectively. Less than 50% of those in profiles 1 and 2 were also working in a hybrid fashion at Time 2. Most people in both these profiles moved to the workplace at Time 2, with the largest proportion moving from profile 2 (48.4%). Profiles 1 and 2 were both lower in resources (autonomy and support) than profiles 3 and 4, but profile 4 was also characterised by high close monitoring. It is possible that managers of workers in profile 2 did not trust their employees to work from home effectively and requested a return to the office. Those in profile 1 may have moved to the workplace for other reasons, such as having a job more suited to

working from the workplace, being requested to by their organisation, or not having a positive hybrid work experience.

A considerable proportion (15.8%) from profile 1 also moved to working from home full time. This may be because these people were not closely monitored yet had adequate resources, and thus enjoyed their experience of working from home. These people may have also have had a personal preference for it, driving the switch from hybrid to full time remote work.

Cross-tabulation was used to explore whether those who moved out of hybrid work differed from those who did not on key demographics (gender, age, occupation, industry). There were no significant differences observed. Further research is needed to clarify why different proportions of people moved out of hybrid work from different profiles.

Table 9. Results of cross-tabulation revealing proportions of people who stayed hybrid, moved to the office full time, or moved to working from home full time between Time 1 and 2 (n=199)

Hybrid profiles	Stayed hybrid		Moved to workplace		Moved to WFH		Total n
	n	%	n	%	n	%	
P1: Neutral, low monitoring	28	49.1	20	35.1	9	15.8	57
P2: Passive, high monitoring	28	45.2	30	48.4	4	6.5	62
P3: Active, low monitoring	25	59.5	13	31.0	4	9.5	42
P4: Demanding, high monitoring	30	78.9	6	15.8	2	5.3	38
Total	111	55.8	69	34.7	19	9.5	199

Note. P=profile; WFH=working from home; n=sample size

6.2.5. Summary of hybrid work design profile results

Key results from analyses focusing on the Time 1 hybrid workers (n=386) are summarised below:

- Four distinct Time 1 hybrid work design profiles emerged: i) a “neutral, low monitoring” profile low in close monitoring with average resources (autonomy and support) and workload (26% of sample); ii) a “passive, high monitoring” profile high in close monitoring with low resources and workload (33% of sample); iii) an “active, low monitoring” profile very low in monitoring with high resources and above average workload (20% of sample); and iv) a “demanding, high monitoring” profile very high in monitoring with above average resources and workload (21% of sample)
- The Time 2 general wellbeing outcomes, life satisfaction and thriving, were predicted by profiles high in resources (profiles 3 & 4), supporting literature which theorises that having high resources at work enables the satisfaction of needs for autonomy, competence, and relatedness, and leads to higher wellbeing.
- The Time 2 variable, anxiety and depression, was highest in profiles where close monitoring was highest, demonstrating how monitoring individuals can lead to stress.

This is likely due to employees feeling distrusted by their managers, and tethered to their desks.

- Occupation, age, influence over work location, and suitability of the workspace all predicted which profiles individuals were in.
  - Flexible occupations predominated in all profiles except profile 2, which comprised a higher proportion of mixed / hybrid and frontline occupations.
  - 18-24 year olds were over-represented in profile 2, which suggests this profile characterises the hybrid work design of people starting out in their careers, and who tend to be in more junior roles less suited to remote work. In contrast, 25-44 year olds tended to be in profile 4, and in more senior and professional roles. These people experienced the highest monitoring, although they also perceived above average levels of resources.
  - Those in profile 2 reported the lowest influence over work location and suitability of workspace, which is likely associated with the finding that these people tended to be younger and in more junior roles. Managers may constrain the autonomy of these individuals and may trust them less to work from home effectively without monitoring. These people may not have access to their preferred workspace in the workplace or may not have set up their home space effectively yet.
- 199 of the Time 1 hybrid workers responded at Time 2. Of these, 111 remained in hybrid work at Time 2, while 69 moved to working full time in the office, and 19 to full time remote work. Those who were in profile 4 tended to stay in hybrid work, possibly reflecting the fact that these people were more likely to be in flexible occupations. Those in profiles lower in resources (profiles 1 & 2) tended to move out of hybrid work to working in the workplace. This could reflect the fact that these people tended to be in less flexible occupations and younger, with lower influence over where they worked.

7. Key takeaways and implications for practice

7.1. Key takeaways

- The frequency with which people work from home is likely to continue to vary considerably until the pandemic situation becomes more stable and organisations and individuals work out what works best for them longer term. This will make it difficult to predict transport demand in the immediate future.
- It is important to note that working from home is not possible in many professions and occupations, with only around a quarter of employees in our Time 1 sample reporting to work in a hybrid fashion. This suggests that hybrid work is likely to remain an option only for some employees.
- **The overall quality of work is more important to consider than whether individuals work from home or the workplace.** Whilst hybrid work comes with benefits such as reduced commuting stress, and increased time for other things, it also comes with challenges such as the tendency for managers to closely monitor employees, increasing stress, or increased loneliness if needs for support and connection are not met (Knight et al., 2022; Parker et al., 2020). Therefore, considering how to design good quality work holistically is critical for wellbeing and performance.

7.2. Potential implications for practice

- Our findings suggest that hybrid workers are likely to have the highest wellbeing and perform better when they have plentiful job resources (autonomy and support), manageable workloads, and are not closely monitored. This was true for both the workplace and home settings. Raising organisational and managerial awareness of the

challenges with closely monitoring employees (e.g., via electronic monitoring or constant messaging) may facilitate the use of more positive ways of managing individuals. Regular check-ins with employees, for example, is a positive way of engaging with employees.

- Our findings also suggested that colleague support was an important driver of wellbeing, adaptivity and proactivity. Managers could support social connection in the workplace and at home by promoting buddy systems where colleagues can pair up with someone who they can contact for advice and support, or a listening ear. Managers could also create informal opportunities for colleagues to connect when they are in the workplace, as support in the workplace was found to buffer the impact of remote work on loneliness (Knight et al., 2022)
- Creating flexible work policies within organisations helps to formalise the ability of employees to work from home, meaning that employees have the right to ask for flexible working options no matter whether their immediate manager supports it or not.

8. Limitations

There are two key limitations which should be considered when interpreting the results, and which affected the type of analyses which could be run.

1. The analyses were restricted by a large dropout which left a small matched sample relative the number who completed Time 1 (n=377 compared to n=1526). This decreases power, especially when looking at differences between groups.
2. Many people moved locations across the three time points (n=215 matched sample) making it harder to determine longer term effects of a particular group (e.g., staying hybrid)

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