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Preface

The impact of work on the health and wellbeing of employees is both complex and multi-faceted. Work can have both a positive and a negative impact on physical and emotional wellbeing. In particular, stress is a major issue within the workplace, being associated with poor sleep, fatigue, chronic pain and musculoskeletal disorders, amongst other problems. Nurses and midwives work at the frontline of healthcare delivery, and are particularly susceptible to high levels of work-related stress. Interventions designed to buffer the effects of work-related stress are now recognised as being of high importance to organisations, particularly those with high numbers of frontline employees, such as the healthcare sector.

Happy People is the latest innovation in workplace wellbeing. Created by Anna-Louise Bouvier and the Happy Body at Work Team, and commissioned by ABC Commercial, this engaging 6-week health and wellbeing campaign is designed to improve the mental and physical resilience and performance of employees. Evidence based education is delivered via gamified digital technology across four key lifestyle areas of Energy, Mood, Stress and Sleep.

In order to support the implementation of the Happy People program, the Happy Body at Work Team and ABC Commercial have partnered with Macquarie University to provide a detailed analysis of the data generated from this innovation. This report has been compiled and written by Associate Professor Taryn Jones in consultation with Professor Catherine Dean, from the Department of Health Professions, Faculty of Medicine and Health Sciences, Macquarie University. The report is designed to provide corporate leadership teams with more detailed information about the impact of the Happy People program on the health and wellbeing of their employees, and assist with guiding future health and wellbeing initiatives and investment within these organisations.
Acknowledgements

This report has been written and produced by Associate Professor Taryn Jones, PhD, BAppSc(Phty), APAM; in consultation with Professor Catherine Dean, PhD, MA, BAppSc(Phty), APAM, Department of Health Professions, Faculty of Medicine and Health Sciences, Macquarie University.

The authors would also like to acknowledge the following people in the production of this report:
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Sharon Richens – Business Partner, Happy Body at Work
Deborah O'Leary – Business Manager, ABC Commercial
Julie Taliana – Operations Co-ordinator, ABC Commercial
Emily Sutherland – Administration, ABC Commercial

…and the rest of the Happy Body at Work Team who contributed to the production of the Happy People program.
Executive Summary

HAPPY PEOPLE – THE PROGRAM
Happy People is the latest innovation in workplace wellbeing. It comprises a 6-week campaign that aims to improve mental and physical resilience of employees and enhance performance within teams. A multi-layered evidence-based program with gamified digital technology delivers ‘bite-sized’, ‘snackable’ content across four key, interrelated lifestyle pillars – Energy, Sleep, Mood and Stress, and is accessible 24 hours a day, 7 days a week on employee’s mobile devices. The Happy People pilot program was rolled out to over 2700 nurses and midwives in Victoria between July and September 2017.

THE KEY FINDINGS

EXCEPTIONAL ENGAGEMENT
• 2761 employees were registered with the Happy People program
• 53% successfully onboarded during the program period (1474 employees)
• 94% of onboarded users creating at least one goal within the program during the program period
• 92% collecting tokens driving team competition
• 91% collecting individualised feedback

OUTSTANDING RETENTION
• 71% of onboarded users maintained engagement in the final week of the program

IMPROVEMENTS IN ENERGY, SLEEP, STRESS, AND MOOD
• Statistically significant improvements in incidental physical activity levels
• Statistically significant reductions in levels of stress
• 65% report becoming more aware of things that impact energy levels, with statistically significant increases in reported levels of energy
• 55% report becoming more aware of stress levels and 59% learning strategies to cope with daily pressures
• 59% report gaining of strategies to help with sleep, with statistically significant improvements in quantity of sleep
• Statistically significant reductions in proportions of nurses and midwives reporting their body limits them, and those that report levels of physical exhaustion that leaves little capacity for much else outside of work including socialising and enjoying life

BENEFITS TO OVERALL HEALTH AND WELLBEING
• 63% report finding the Happy People program beneficial to their overall health and wellbeing
• 59% report that participation in the Happy People program was demonstrative of ORGANISATION X caring about the challenges that its employees face both at home and at work
SUMMARY OF MAIN FINDINGS

BEFORE

PHYSICAL
- 54% exercise less than 3 hours a week, and 31% reporting that they sit for 4 hours or more a day outside of work hours.
- 51% are frequently tired or exhausted.
- 86% report two or more physical complaints - most common complaints were back pain & neck tension (both 51%), and headaches (43%)
- 30% report their body gets them through work but leaves them with little capacity for much else

SLEEP
- 60% reported sleeping 7 hours or less each time they go to bed
- 29% reported their sleep was frequently broken or limited and 24% reported difficulty getting to sleep
- Sleep was disturbed by worries about personal issues (62%) and work (60%)

STRESS & MOOD
- 24% reported feeling stressed most of the time, with stress significant associated with levels of energy
- 41% reported difficulty in knowing how to respond to another individual’s mood
- 47% reported difficulty in letting go after having to manage a situation with a patient or colleague who was angry or upset and 14% reported their emotions can sometimes get the better of them.

AFTER
- Statistically significant increase in levels of incidental physical activity
- Statistically significant improvement in levels of energy
- Statistically significant reduction in levels of stress
- Statistically significant reduction in proportions of nurses and midwives reporting levels of physical exhaustion that leaves little capacity for much else outside of work including socialising and enjoying life
- 65% report increased awareness of things that impact their level of energy
- 55% report being more aware of their stress levels
- 59% reporting learning strategies to help them cope with the pressures of their daily role
- 55% reported learning strategies to help them manage their emotions
- 51% reported learning strategies that assisted them to better manage patients who were angry or upset.
- 59% report learning strategies to assist their sleep

This report provides detailed information and results of the pilot trial of the Happy People program undertaken by over 2700 employees in Victoria, Australia, between July and September 2017. It outlines the pre-program status of the staff who participated, as well as the engagement metrics and post-program results of the Happy People program.
1. Introduction

The impact of work on people’s health is complex and multi-faceted, with evidence that work can have either a positive or a negative impact on physical and emotional wellbeing\(^1\). In particular, stress is now being recognised as a major issue within the workplace with significant costs for organisations, individuals and families\(^2,3\). Stress is recognised to be related to fatigue\(^4\), as well as impacting the immune system\(^5\), and being linked to chronic pain and other musculoskeletal disorders\(^3,6\). It is related to poorer workplace relations, lower productivity, reduced quality of work and an increase in complaints\(^7\).

Employees working at the frontline within organisations, such as nurses and midwives within the health sector, rate highest in the number of stress-related claims made by employees in Australia\(^8\). Work pressure from high work demands, interpersonal conflict, and performance pressures accounts for around 50% of all psychological injury claims\(^2\). Psychological injuries account for approximately 15% of body areas affected by injury in Australian nurses\(^9\). Furthermore, stress-related workplace injuries result in the longest absences from work, with more than half (55%) of those individuals who suffered stress or other mental conditions as a result of their work being absent from work for 5 days or more\(^1\).

Frontline health professionals, in particular nurses, show a higher number of risk factors for stress, including emotional demands, high workload and work pressure, and the impact of shift work\(^10,11\). High workloads have been identified as a predominant source of stress in Australian nurses, in particular the nature of these high workloads being persistent leading to difficulties in delivery of optimal care\(^10\). A population that enters the health system with an increasingly complex health status further complicates the high workloads that nurses and midwives face\(^12\). Nurses and midwives also face a higher level of emotional stress than many other occupations given the high level of care and empathy involved in their role, and the impact of dealing with death and other catastrophic events\(^10\). Additionally, nurses and midwives face workplace aggression from patients, relatives as well as colleagues within the nursing and medical sectors which increase workplace stress\(^10\).

Increasingly, organisational factors are also impacting the level of stress experienced by nurses and midwives. The nursing role has changed over time to incorporate greater administrative, strategic and managerial tasks on top of traditional patient care tasks\(^10,13\). This adds to an increased pace of work, which exacerbates the psychological strain experienced by nurses and midwives\(^14\). High psychological strain has been shown in Australian nurses to affect sleep quality and impair recovery from the overall demands of work in between shifts\(^14\).

Nurses and midwives also must manage to operate within the 24/7 nature of the healthcare sector. Shift work, and the resulting fatigue associated with this, impacts not only on stress, but also on other aspects of health\(^10\). Shift work is associated with adverse health outcomes, such as poor dietary intake, reduced physical activity, smoking and, overweight and obesity\(^15\). Poor quality sleep and sleep disorders can result from the misalignment of circadian rhythm, impairing levels of alertness, impacting decision-making and mood\(^15,16\). The presence of high levels of stress and fatigue in Australian nurses is associated with diminished mental health\(^17\), and impacts nurses and midwives both at work and at home\(^10\). Furthermore, the impact of high levels of stress
and fatigue has consequences that extend beyond the individual employee and their family, to the organisational level with an increase in absenteeism and staff attrition\textsuperscript{18}. This can further exacerbate the stress and fatigue levels of other employees, creating a cyclical and rippling effect within an organisation.

Reducing work-related stress involves complex and multi-faceted interventions targeting individual, managerial and organisational levels. Improving the emotional skills and resilience of nurses and midwives can impact positively on an individual’s level of happiness at work with positive outcomes on work-family conflict levels and levels of emotional exhaustion\textsuperscript{10,19}. This effect is further moderated by the contribution of servant leadership, i.e. the kind of leadership that is centred on creating opportunities for subordinates to progress within the organisation, and prioritise innovation and employee wellbeing\textsuperscript{10}. This emphasises the importance of an organisational approach to employee wellbeing, which buffers the effects of work-related stress\textsuperscript{20}.

Happy People is the latest innovation in workplace wellbeing. It comprises a 6-week campaign that aims to improve mental and physical resilience of employees and enhance performance within teams. Happy People is a multi-layered program that utilises a gamified web browser app as part of a comprehensive engagement strategy. Evidence based education is delivered across four key, interrelated lifestyle pillars – Energy, Sleep, Mood and Stress. Content addressing each of these pillars is delivered over 7 days, and is accessible 24 hours a day, 7 days a week via the browser based app on employee’s mobile devices. Pillar content has been distilled to 'bite-size', 'snackable' tips designed to deliver key messages in an effective manner for maximum engagement and uptake.

The Happy People program engages employees at a personal level with the application of personal goals for home and work, as well as with daily, personalised tips based on individualised feedback entered into the app in a simple 4-point daily wellbeing quiz. Employees are also able to interact in teams, aimed at increasing the conversation and awareness of health and wellbeing within the organisation. The Happy People program provides a shared language and concepts that can destigmatise conversations around low mood and stress, and suggestions for where staff can seek help.

The Happy People program begins and ends with surveys providing anonymous data for analysis by Associate Professor Taryn Jones from Macquarie University. De-identified, aggregate engagement metrics are also collected, enabling the generation of a rich source of data for analysis and reporting. This can assist organisations to more specifically target ongoing wellbeing investment and resourcing, ensuring the future health and wellbeing of employees is optimised.
2. Methodology

All survey data are collected in *Typeform* via a link within the Happy People browser app. Data on engagement are generated by the ABC Commercial and Happy Body at Work teams, with Macquarie University being provided de-identified data only. All statistical analyses were conducted using *IBM Statistical Package for Social Sciences (SPSS)* version 24 for Macintosh and Microsoft Excel for Mac 2011 (version 14.7.0). Descriptive statistics were used to analyse all categorical variables, with presentation of frequencies, percentages and proportions. Where percentages are presented, data may not sum to exactly 100% due to rounding to the nearest full percentage point. Correlational analyses were conducted using Spearman’s rank coefficient, or Pearson Chi-Square for binomial data. Comparisons between pre-and post-program data were conducted using Spearman’s rank coefficient, or McNemar’s Test for binomial data. In all cases p-values of significance were set at p<.05. Correlational strength was generally regarded to be weak and not meaningful at levels between -0.3 to 0.3, moderate when between -0.5 to -.03 or 0.3 to 0.5; and strong if between -1.0 and -0.5 or 0.5 to 1.0. Comparisons of proportions were conducted using the PEDro confidence interval calculator ([www.pedro.org.au](http://www.pedro.org.au)) with calculations of absolute risk reductions with 95% confidence intervals presented.
3. Pre-program status

3.1 DEMOGRAPHICS

WHO ARE WE?
916 nurses and midwives responded to the pre-program survey. Of these, 874 (95.4%) consented for their anonymous responses to be analysed within this report. Therefore, all analysis within this pre-program section of this report is based on 874 respondents unless otherwise stated.

GENDER
869 participants responded to this question, with a higher number of females noted.

![Gender Distribution Chart]

AGE
872 participants responded to this question, with over one-third of respondents (34%) aged between 20-29 years.

![Age Distribution Chart]
WORK LOCATION
874 participants responded to this question, with over half of the respondents (63%) working at Location A and Location B.

WORK HOURS
869 participants responded to this question, with nearly three-quarters of respondents (72%) working between 25 to 40 hours.
MANAGERS AND TEAM LEADERS

Participants were asked to indicate if they held a managerial or leadership role, such as a Unit Manager, Team Leader or Service Manager. 871 participants responded to this question, with 198 respondents (23%) reporting they held a managerial or leadership position.

There was a weak positive association between work hours and managerial role ($r_s = .267, p = .000$), with those in a management or team leader position more likely to report slightly longer work hours. Similarly, those in a managerial or leadership position were slightly more likely to be older ($r_s = .236, p = .000$), however age and work hours were not correlated ($r_s = -.017, p = .611$). There was also no association between gender and managerial roles ($X^2 (1) = 1.101 p = .294$).
3.2 ENERGY

HOW ACTIVE ARE NURSES AND MIDWIVES?

REGULAR EXERCISE
Participants were asked to indicate how much time in their average week is dedicated to exercise. 873 participants responded to this question. Overall, over half of the respondents (55%) reported exercising less than 3 hours a week.

INCIDENTAL ACTIVITY
Participants were also asked to describe their general levels of activity over an average day. 873 participants responded to this question. The majority of the respondents (70%) reported they were generally active over the day.
Male respondents were more likely to engage higher amounts of deliberate exercise a week than their female counterparts ($X^2 (1) = 7.784, p = .005$), with 63% of male respondents reporting they do 3 or more hours of exercise a week as opposed 44% of female respondents. There was, however, no significant difference between males and females in levels of incidental physical activity ($X^2 (1) = 1.761, p = .185$).

There was no significant association in the frequency of deliberate exercise with either the age of the respondents ($r_s = .006, p = .857$) or their work hours ($r_s = -.009, p = .793$). Whilst there were significant associations with incidental activity and both the age of respondents ($r_s = -.126, p = .000$) and their work hours ($r_s = .069, p = .041$), these associations were so weak they are not likely to be of importance. There was, however, a moderate and significant association between the frequency of deliberate exercise over the week and reported level of general physical activity over the day ($r_s = .343, p = .000$), with those who engage in more deliberate exercise also more likely to report higher levels of incidental activity.

**TIME SPENT SITTING**

Participants were asked to describe how long they spent sitting outside of work hours. 872 participants responded to this question. Nearly one-third of respondents (31%) reported sitting for more than 4 hours when they were not at work.

![Bar chart showing time spent sitting]

There was a moderate association between the amount of time spent sitting outside of work hours and reported level of incidental physical activity over the day ($r_s = .462, p = .000$), with those who are generally more active less likely to sit for lengthy period of time outside of work hours. There was also a significant association between length of sitting time and amount of deliberate exercise ($r_s = .205, p = .000$), however this was at a level that is weak and not likely to be meaningful. This was a similar finding when sitting time was compared with age ($r_s = -.151, p = .000$), and the number of hours worked ($r_s = .088, p = .010$), where significant associations were found, but at a level that is not likely to be of impact.
HOW MUCH ENERGY DO NURSES AND MIDWIVES HAVE?

ENERGY LEVELS

Participants were asked to describe their general levels of energy. 872 participants responded to this question. Just over half of the respondents (51%) reported frequently feeling tired or exhausted.

There was a statistically significant moderate correlation between reported energy levels and the level of incidental daily physical activity reported ($r_s = .377$, $p = .000$), with those who are more active over the day more likely to report higher levels of energy. Lower level positive associations were also seen between energy levels and the amount of deliberate exercise ($r_s = .288$, $p = .000$) and reported length of time spent sitting outside of work hours ($r_s = .241$, $p = .000$). Energy levels were not associated with gender ($X^2 (1) = 3.069$, $p = .080$), or hours worked ($r_s = -.043$, $p = .208$), whilst a significant association was detected with age ($r_s = -.147$, $p = .000$), but this is not likely to be meaningful.
HOW DO NURSES AND MIDWIVES FEEL ABOUT THEIR BODIES?

BODY PERCEPTION

Participants were asked a number of questions about their bodies, and how they believed their bodies helped them to get things done at work and in their personal life. 874 participants responded to these questions. The percentage of respondents who answered ‘Yes’ to each question is presented in Table 1.

Table 1: Proportion of respondents answering ‘Yes’ to body perception statements posed.

<table>
<thead>
<tr>
<th>Body perception statement posed to participants</th>
<th>Respondents answering ‘Yes’ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>My body enables me to achieve everything required of me in my work and personal life</td>
<td>23%</td>
</tr>
<tr>
<td>My body limits me and I’d like to work on improving that</td>
<td>11%</td>
</tr>
<tr>
<td>Typically I have the stamina to work through a particularly demanding work day</td>
<td>59%</td>
</tr>
<tr>
<td>Greater than one demanding shift per week is challenging for me to manage</td>
<td>9%</td>
</tr>
<tr>
<td>Multiple demanding shifts in a week leaves me too exhausted to keep going</td>
<td>18%</td>
</tr>
<tr>
<td>My body gets me through my work day but after that I have little capacity for much else</td>
<td>30%</td>
</tr>
<tr>
<td>At times, my physical exhaustion prevents me from attending work</td>
<td>5%</td>
</tr>
<tr>
<td>At times, my physical exhaustion prevents me from socialising and enjoying life outside of work</td>
<td>25%</td>
</tr>
</tbody>
</table>

Of note, only 23% of respondents believed that their body allowed them to achieve everything that is required of them in both their work and personal lives. Nearly one-third of participants (30%) felt that their body could get them through a work day but left them with little capacity for much else, whilst one-quarter (25%) reported that, at times, their level of physical exhaustion prevented them from socialising and enjoying life outside of work hours.

Female respondents were more likely to report that their bodies can get them through their work day, but that they have little capacity for much else ($X^2 (1) = 7.872, p = .005$), with 14% of males respondents reporting this as an issue in comparison to 31% of female respondents. Similarly, 13% male respondents reported that physical exhaustion prevented them from socialising and enjoying life outside of work, in comparison to 26% of females ($X^2 (1) = 5.539, p = .019$). Further comparisons with exercise, incidental physical activity and energy are shown in Table 2.
Table 2: Proportions of respondents (%) within dichotomised deliberate exercise, incidental physical activity and energy level groups answering ‘Yes’ to each statement posed.

<table>
<thead>
<tr>
<th>Body perception statements posed to participants</th>
<th>Deliberate Exercise (n=873)</th>
<th>Incidental physical activity (n=873)</th>
<th>Energy (n=872)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 hours or more a week (n=400)</td>
<td>Less than 3 hours a week (n=473)</td>
<td>Generally active (n=611)</td>
</tr>
<tr>
<td>My body enables me to achieve everything required of me in my work and personal life</td>
<td>31%</td>
<td>17%</td>
<td>26%</td>
</tr>
<tr>
<td></td>
<td>$X^2 (1) = 22.495, p = .000$</td>
<td>$X^2 (1) = 10.943, p = .001$</td>
<td>$X^2 (1) = .024, p = .878$</td>
</tr>
<tr>
<td>My body limits me and I’d like to work on improving that</td>
<td>6%</td>
<td>15%</td>
<td>6%</td>
</tr>
<tr>
<td></td>
<td>$X^2 (1) = 18.341, p = .000$</td>
<td>$X^2 (1) = .358, p = .549$</td>
<td>$X^2 (1) = 33.508, p = .000$</td>
</tr>
<tr>
<td>Typically I have the stamina to work through a particularly demanding work day</td>
<td>62%</td>
<td>56%</td>
<td>54%</td>
</tr>
<tr>
<td></td>
<td>$X^2 (1) = 3.018, p = .082$</td>
<td>$X^2 (1) = 4.527, p = .033$</td>
<td>$X^2 (1) = 28.676, p = .000$</td>
</tr>
<tr>
<td>Greater than one demanding shift per week is challenging for me to manage</td>
<td>9%</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>$X^2 (1) = .024, p = .878$</td>
<td>$X^2 (1) = .226, p = .635$</td>
<td>$X^2 (1) = 2.298, p = .130$</td>
</tr>
<tr>
<td>Multiple demanding shifts in a week leaves me too exhausted to keep going</td>
<td>16%</td>
<td>19%</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>$X^2 (1) = .831, p = .362$</td>
<td>$X^2 (1) = .358, p = .549$</td>
<td>$X^2 (1) = 9.688, p = .002$</td>
</tr>
<tr>
<td>My body gets me through my work day but after that I have little capacity for much else</td>
<td>21%</td>
<td>37%</td>
<td>26%</td>
</tr>
<tr>
<td></td>
<td>$X^2 (1) = 29.064, p = .000$</td>
<td>$X^2 (1) = 15.814, p = .000$</td>
<td>$X^2 (1) = 82.874, p = .000$</td>
</tr>
<tr>
<td>At times, my physical exhaustion prevents me from attending work</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td></td>
<td>$X^2 (1) = .727, p = .450$</td>
<td>$X^2 (1) = .124, p = .725$</td>
<td>$X^2 (1) = 6.036, p = .014$</td>
</tr>
<tr>
<td>At times, my physical exhaustion prevents me from socialising and enjoying life outside of work</td>
<td>19%</td>
<td>29%</td>
<td>21%</td>
</tr>
<tr>
<td></td>
<td>$X^2 (1) = 12.127, p = .000$</td>
<td>$X^2 (1) = 16.191, p = .000$</td>
<td>$X^2 (1) = 48.439, p = .000$</td>
</tr>
</tbody>
</table>

NB: Cells shaded in red show a statistically significant difference between groups ($p<.05$)
PHYSICAL COMPLAINTS

Participants were asked to identify whether they experience a range of common physical complaints. 874 participants responded to this question. Overall, 86% of participants reported 2 or more physical complaints. Back pain and neck tension were the most commonly reported issues with over half (51%) of respondents reporting these complaints, whilst 43% complained of headaches and 32% of sore feet.

Type of physical complaint

<table>
<thead>
<tr>
<th>Physical Complaint</th>
<th>% Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back pain</td>
<td>51</td>
</tr>
<tr>
<td>Neck tension</td>
<td>51</td>
</tr>
<tr>
<td>Headaches</td>
<td>43</td>
</tr>
<tr>
<td>Stomach issues</td>
<td>25</td>
</tr>
<tr>
<td>Dodgy knees</td>
<td>19</td>
</tr>
<tr>
<td>Hip pain</td>
<td>16</td>
</tr>
<tr>
<td>Shoulder or arm problems</td>
<td>19</td>
</tr>
<tr>
<td>Sore feet</td>
<td>32</td>
</tr>
<tr>
<td>None of the above</td>
<td>13</td>
</tr>
</tbody>
</table>

There was no significant association between number of body complaints and gender ($r_s = .083$, $p = .015$), age ($r_s = .046$, $p = .171$) or number of hours worked ($r_s = -.004$, $p = .904$). There were also no significant differences in the type of body complaints reported by men or women ($X^2(1)$ range from .013 to 3.164, $p > .05$).
There were low level associations between the number of physical complaints reported and amount of deliberate exercise reported \((r_s = .176, p = .000)\), incidental physical activity \((r_s = .147, p = .000)\) and the amount of time spent sitting \((r_s = .113, p = .001)\), although these are not likely to be meaningful. However, there was a moderate significant association with reported levels of energy \((r_s = .343, p = .000)\), with those who have a lower number of physical complaints more likely to report a higher level of energy.
3.3 SLEEP

HOW WELL ARE NURSES AND MIDWIVES SLEEPING?

SLEEP QUANTITY
Participants were asked to report how many hours sleep they generally get when they slept. 868 participants responded to this question. Over half of respondents (60%) reported sleeping for no more than 7 hours.

![Sleep Quantity Chart]

SLEEP LATENCY
Participants were asked to best describe how long it took them to get to sleep each night. 871 participants responded to this question. Although the majority of respondents reported no significant problems getting to sleep, nearly one-quarter (24%) did report difficulties with getting to sleep.

![Sleep Latency Chart]
SLEEP QUALITY
Participants were asked to best describe how well they slept each night. 871 participants responded to this question. The majority of respondents (71%) reported minimal problems with sleep quality, however 29% of respondents did report frequent or prolonged waking disrupting sleep quality.

There was a moderate correlation between how long a respondent reported it took them to go to sleep and how well they reported sleeping ($r_s = .365, p = .000$), with those who reported taking a shorter time to go to sleep also more likely to report a better quality of sleep. The quantity of sleep was also significantly associated with both sleep quality ($r_s = -.272, p = .000$) and sleep latency ($r_s = -.222, p = .000$), however these associations were weaker.

SLEEP & GENDER
Age was significantly associated with the length of time spent asleep ($r_s = -.164, p = .000$), sleep latency ($r_s = -.095, p = .005$) and sleep quality ($r_s = .123, p = .000$), although none of these associations were of a level that is likely to be meaningful. Male respondents were more likely to report sleeping less than 7 hours ($X^2 (1) = 10.458, p = .001$), with 79% of male respondent reporting sleeping for 7 hours or less, as opposed to 59% of female respondents. There were no significant associations between gender and either the descriptions of sleep quality ($X^2 (1) = .002, p = .963$), or time taken to get to sleep ($X^2 (1) = .101, p = .750$).

SLEEP, ACTIVITY & ENERGY
The amount of deliberate exercise respondents performed did not have any association with the amount of time they slept when they went to bed ($r_s = .000, p = .989$), or how well they reported sleeping ($r_s = .055, p = .108$). There was a weak association detected between exercise and sleep latency ($r_s = .077, p = .024$) but this is not likely to be of importance. General levels of incidental physical activity over the day also had no association with sleep quantity ($r_s = .029, p = .395$), sleep quality ($r_s = .021, p = .541$), or time taken to get to sleep ($r_s = .036, p = .291$). Significant associations were found between reported levels of energy by respondents and sleep quantity ($r_s = -.102, p = .003$), sleep latency ($r_s = .136, p = .000$), and sleep quality ($r_s = .219, p = .000$), however all were relatively weak and at a level unlikely to be of importance.
CAUSES OF SLEEP DISTURBANCE

Participants were asked about what commonly disturbed their sleep. In total, 874 participants responded to this question. Of note, 60% of respondents reported that their sleep was disturbed by worries about work and 62% by thoughts of personal stuff, whilst shift work was also a problem for over one-third of respondents (39%).

Overall, 82% of respondents reported that three or more different factors were disturbing their sleep.
The number of factors respondents reported as disturbing sleep was significantly associated with how quickly respondents reported they could get to sleep ($r_s = .294, p = .000$), as well as how well they reported sleeping ($r_s = .208, p = .000$), and the number of hours respondents reported sleeping ($r_s = -.095, p = .005$), although all of these associations were relatively weak. This is similar for the low level association between the number of factors disturbing sleep and age ($r_s = -.151, p = .000$), which is also of a level that is unlikely to be of importance. There was no association between the number of factors disturbing sleep, and either gender ($r_s = .049, p = .150$) or the number of hours worked ($r_s = .004, p = .917$).

Looking at specific factors related to work that disturb sleep, shift work disturbing sleep was significantly associated with higher sleep latency ($X^2 (1) = 13.550, p = .000$), with 30% of those who reported difficulties getting to sleep citing shift work as a factor disturbing their sleep as opposed to 19% of those who didn’t. However, shift work disturbing sleep was not associated with either sleep quantity ($X^2 (1) = .302, p = .582$) or quality ($X^2 (1) = 1.076, p = .300$). This is similar for those who reported worries about work disturbing their sleep, where a significant association was found with sleep latency ($X^2 (1) = 9.505, p = .002$), with 27% of those who reported difficulties getting to sleep reporting their sleep is disturbed by worries about work as a factor disturbing their sleep as opposed to 18% of those who didn’t. However, there was no association with sleep quantity ($X^2 (1) = .087, p = .768$) or sleep quality ($X^2 (1) = 3.317, p = .069$).

**HOW WELL ARE NURSES AND MIDWIVES UNWINDING IN THE EVENINGS?**

**EVENING BEHAVIOURS**

Participants were questioned regarding their use of smartphones, laptops/iPads and televisions in the evening before bed, as well as consumption of coffee and alcohol. In total, 874 participants responded to this question. Smartphones and television were used at this time by most respondents (74% and 73% respectively).

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>% Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smartphone</td>
<td>74</td>
</tr>
<tr>
<td>Laptop/iPad</td>
<td>21</td>
</tr>
<tr>
<td>Television</td>
<td>73</td>
</tr>
<tr>
<td>Coffee</td>
<td>5</td>
</tr>
<tr>
<td>Alcohol</td>
<td>12</td>
</tr>
<tr>
<td>Nothing</td>
<td>6</td>
</tr>
</tbody>
</table>

Participants were questioned about how frequently they fell asleep in front of the television. In total, 872 participants responded to this question. A substantial proportion of respondents (40%) reported that they tend to fall asleep in front of the TV.
There was no statistically significant correlation between how frequently a respondent reports falling asleep in front of the television and reported sleep quality ($r_s = -.027, p = .423$). While there was a significant association with time spent sleeping ($r_s = .100, p = .003$) this is weak and not likely to be important.

**WHAT TYPE OF BODY CLOCK DO NURSES AND MIDWIVES PERCEIVE THEY HAVE?**

Participants were questioned about whether they felt they were a morning person, a night owl, or pretty good at any time of the day. In total, 872 participants responded to this question, with a fairly even spread between all options.
3.4 STRESS

HOW STRESSED ARE NURSES AND MIDWIVES?

LEVEL OF STRESS

Participants were asked to rate the level of stress they felt generally. 873 participants responded to this question. Although the majority of respondents (76%) reported experiencing no or minimal amounts of stress, nearly one-quarter (24%) of respondents reported feeling higher level of stress most of the time.

There was no significant association between the level of stress reported and respondent’s gender ($X^2 (1) = 1.673, p = .196$), or the number of hours they work ($r_s = .037, p = .277$). There was a significant association with age ($r_s = -.090, p = .008$), but this is weak and not likely to be of importance.

STRESS, ACTIVITY & ENERGY

Stress levels were significantly associated with reported levels of energy ($r_s = .417, p = .000$), with those who are more stressed also more likely to report lower levels of energy. Higher stress levels were also significantly associated with lower levels of exercise reported ($r_s = .194, p = .000$), greater amounts of time spent sitting time outside of work ($r_s = .139, p = .000$), and lower levels of incidental activity ($r_s = .171, p = .000$), although these were much weaker associations.

STRESS & PHYSICAL COMPLAINTS

The level of stress respondents reported was associated with the number of physical complaints reported ($r_s = .288, p = .000$), although again, this association was not strong. When specific physical complaints were examined, higher levels of stress were associated with physical complaints in nearly all areas of the body, including reports of back pain ($X^2 (1) = 11.188, p = .001$), neck tension ($X^2 (1) = 30.237, p = .000$), headaches ($X^2 (1) = 30.471, p = .000$), stomach issues ($X^2 (1) = 10.507, p = .001$), shoulder or arm problems ($X^2 (1) = 

Report prepared by Associate Professor Taryn Jones (taryn.jones@mq.edu.au) 25
9.039, p = .003), knee problems ($X^2 (1) = 8.176, p = .004$), and sore feet ($X^2 (1) = 11.767, p = .001$). In respondents who reported back pain, 28% reported higher levels of stress compared to 19% of without back pain. In those reporting neck tension, 31% reported higher levels of stress as opposed to 16% without neck tension. In those with headaches, 33% reported higher stress levels as opposed to 17% without headaches, and in those with stomach issues 32% reported higher levels of stress compared with 21% of those who didn’t have stomach complaints. Similarly, 33% of respondents with shoulder or arm pain, 32% of those reporting knee problems and 31% of those with sore feet reported higher stress levels, as opposed to 22% of those without upper limb pain or knee pain and 20% of those without sore feet.

**STRESS & SLEEP**

Stress levels were not significantly associated with the length of time spent sleeping ($r_s = -.059, p = .085$). There was a weak association between stress and both descriptions of sleep quality ($r_s = .164, p = .000$), and the length of time taken to get to sleep ($r_s = .152, p = .000$), as well as with the number of factors disturbing sleep ($r_s = .283, p = .000$), however these are weak associations and not likely to be meaningful. When factors disturbing sleep were examined in more detail, there were significant associations detected between stress levels and the three factors related to worrying, including worries about work ($X^2(1) = 29.672, p = .000$), worries about personal issues ($X^2(1) = 29.541, p = .000$), and worries about finances ($X^2(1) = 29.587, p = .000$). In respondents who reported their sleep being disturbed by worries about work 30% reported higher levels of stress compared to 14% of those who didn’t report worries about work disturbing sleep. In those reporting sleep disturbances due to personal concerns, 30% reported higher levels of stress as opposed to 14% of those not reporting personal concerns disrupting sleep. In those with financial concerns disturbing sleep, 36% reported higher stress levels as opposed to 19% in those not reporting financial concerns disrupt their sleep. Higher stress levels were also significantly associated with reports of pain disturbing sleep ($X^2(1) = 14.541, p = .000$), with 34% of those who reported pain disturbing sleep also reporting higher levels of stress as opposed to 21% of those who didn’t report pain to disturb their sleep. Finally, 31% those who reported that phones or other devices disturbed their sleep also reported higher stress levels, as opposed to 22% of those not disturbed by devices ($X^2(1) = 5.155, p = .023$).

**STRESS & BODY PERCEPTION**

When stress levels were evaluated against the questions related to body perception, higher stress levels were found to be significantly associated with negative responses to nearly all of the body perceptions questions. Of the respondents who reported high levels of stress, 90% also reported that they did not believe their body enabled them to achieve all that was required of them at work and in their personal lives, as opposed to 73% of those with lower stress levels ($X^2(1) = 27.710, p = .000$). Of those who reported they didn’t typically have the stamina to work through a particularly demanding work day, 31% reported higher stress levels ($X^2(1) = 16.837, p = .000$), as opposed to 19% of those who felt they did have the stamina. Furthermore, 39% of those who report that working multiple demanding shifts leaves them too exhausted to keep going also reported higher levels of stress, as opposed to 20% of those who did not report this to be the case ($X^2(1) = 24.653, p = .000$). Similarly, higher stress levels were also significantly associated with a perception of a body that can get a
respondent through a workday but not have the capacity for much else \( (X^2(1) = 39.036, p = .000) \), with 38% of individuals who had this perception reporting higher stress levels as opposed to 18% of those that didn’t have this perception.

Respondents who reported that they believed their body limited them were also more likely to report higher stress levels \( (X^2(1) = 17.855, p = .000) \), with 41% of respondents who felt this to be the case reporting higher levels of stress as opposed to 22% of those who didn’t perceive their body limited them. In those who reported that, at times, physical exhaustion prevents them from attending work, 50% reported high levels of stress, as opposed to 22% of those not reporting exhaustion causes absenteeism \( (X^2(1) = 16.016, p = .000) \). Finally, higher stress levels were also associated with respondents reporting that, at times, they have a level of physical exhaustion that prevents them from socialising and enjoying life outside of work \( (X^2(1) = 44.263, p = .000) \), with 40% of respondents who reported this level of physical exhaustion also reporting higher levels of stress as opposed to 18% of respondents who didn’t.
3.5 MOOD

HOW DO NURSES AND MIDWIVES RESPOND TO THE MOOD OF OTHERS?

EMOTIONAL INTELLIGENCE

Participants were asked to best describe how they believe they understand and respond to the moods of others. 867 participants responded to this question. Overall, greater than half of the respondents (56%) believe they can both understand and respond well to the moods of others, however a substantial number of respondents (41%) felt that, despite usually being perceptive about another person’s mood, they didn’t always know what to do about responding appropriately to it.

There was no significant association between emotional intelligence and respondents gender ($r_s = .003$, $p = .941$), age ($r_s = .006$, $p = .859$), or the number of hours they work ($r_s = .017$, $p = .616$). Emotional intelligence was also not significantly associated with the level of exercise ($r_s = .047$, $p = .168$), or reported number of physical complaints ($r_s = .034$, $p = .311$), and only weakly associated with incidental physical activity reported ($r_s = .082$, $p = .016$), reported energy levels ($r_s = .078$, $p = .022$), and levels of reported stress ($r_s = .120$, $p = .000$). Neither was it associated the length of time spent asleep ($r_s = -.001$, $p = .986$) or descriptions of sleep quality ($r_s = .047$, $p = .170$). There were also no meaningful associations between this reported response to an individual who is angry or upset, and any of the questions posed to participants in regards to their perceptions of their body as a mean of achieving things at work and at home.

RESPONDING TO THE MOOD OF OTHERS (EMOTIONAL RESILIENCE)

Participants were asked to best describe how they handle things when they have to deal with a patient or client who is angry or upset. 857 participants responded to this question. Less than half of the respondents (40%) reported that they cope well with these situations. A significant number of respondents (47%) reported that it takes a while for them to get over things after the event, whilst 14% of respondents reported some difficulty in
managing their emotions and remaining calm these situations.

There was no significant association between the manner in which respondents report they respond to the moods of others and the number of hours they work ($r_s = -.036, p = .295$), and only very weak associations with a respondents gender ($r_s = .069, p = .045$) and age ($r_s = -.074, p = .031$).

**MOOD, ACTIVITY, ENERGY & THE BODY**

Similarly to emotional intelligence, there was no significant association with the level of exercise ($r_s = .004, p = .909$), and only weak associations with incidental physical activity reported ($r_s = .085, p = .013$), reported number of physical complaints ($r_s = .077, p = .024$). There were no significant associations between the reported response to an individual who is angry or upset, and any of the questions posed to participants in regards to their perceptions of their body as a mean of achieving things at work and at home. There was a significant association between the manner in which respondents report they respond to the moods of others and their reported energy levels ($r_s = .161, p = .000$), although this was weak and not likely to be meaningful.

**MOOD & SLEEP**

Sleep was also not strongly associated with resilience, with no association observed with quality of sleep ($r_s = .060, p = .082$), and only a very weak association with sleep quantity ($r_s = .087, p = .011$), that is unlikely to be of importance.

**MOOD & STRESS**

There were significant associations between the manner in which respondents report they respond to the moods of others associated and reported levels of stress ($r_s = .168, p = .000$), as well as their reported ability to read the mood of other people ($r_s = .192, p = .000$), although these associations were both weak and not likely to be of importance.
4. Engagement

4.1 ONBOARDING AND RETENTION

ONBOARDING & OVERALL ENGAGEMENT

In total, 2761 nurses and midwives were registered with the Happy People program. Of these, 1474 (53%) onboarded during the program period. Overall program engagement metrics for those that onboarded were very high, with 94% of onboarded users creating at least one goal during the program period, 92% collecting tokens and 91% collecting individualised feedback based on personal information entered into the Happy People App.
RETENTION

Retention throughout the program was very high, with key metrics showing 71% of onboarded users maintaining engagement in at least one component of the Happy People application during each week of the program.

![Graph showing retention metrics](image)

### KEY RETENTION METRICS

<table>
<thead>
<tr>
<th>Week</th>
<th>Created goal</th>
<th>Completed daily quiz</th>
<th>Viewed daily card</th>
<th>Collected feedback</th>
<th>Collected tokens</th>
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<tr>
<td>2</td>
<td>82%</td>
<td>78%</td>
<td>73%</td>
<td>80%</td>
<td>80%</td>
</tr>
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<td>75%</td>
<td>72%</td>
<td>76%</td>
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<tr>
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<td>71%</td>
<td>67%</td>
<td>66%</td>
<td>68%</td>
<td>70%</td>
</tr>
</tbody>
</table>
4.2 GOALS

WHAT ARE THE HAPPY PEOPLE GOALS?
During the Happy People program users are able to set goals related to the Pillar of focus for that week – Energy, Sleep, Mood or Stress. Users choose from four goal options related to home and four options related to work. This allows users to engage more deeply in the content covered in that week, and relate the content to both their work and personal goals.

OVERVIEW OF GOALS FOR VICTORIA’S NURSES AND MIDWIVES
Creating goals was found to be one of the most popular aspects of the Happy People program, with 94% of onboarded users creating at least one goal during the duration of the Happy People program timeframe. Overall, 9174 goals were created by nurses and midwives, of which 8128 (89%) were reported as being completed. Engagement in creating goals related to all four pillars across the program remained high with across the four pillars of Energy, Sleep, Mood and Stress.

![Bar chart showing the percentage of onboarded users who created goals for each program pillar.](image-url)
ENERGY

In total 84% of onboarded users created a goal related to the Energy pillar. The most popular goal for home was to “Exercise and move more”, whilst for work it was to “Cope better with a demanding shift”.

### Energy goals: Home

- **36%** Exercise & move more
- **21%** Feel like connecting with friends and family
- **21%** Make better food choices
- **22%** Get extra chores done

### Energy goals: Work

- **39%** Cope better with a demanding shift
- **35%** Feel more enthusiastic about my work
- **16%** Engage more with my team
- **10%** Connect more with patients
SLEEP

In total 79% of onboarded users created a goal related to the Sleep pillar. The most popular sleep goals for home were to “Have energy to exercise more” and to “Get more things done”, whilst for work over half of the users who set a sleep goal wanted to “Think more clearly”.

### Sleep goals: Home

- 33% Have energy to exercise more
- 33% Get more things done
- 18% Be less grumpy
- 16% Have more energy for my friends & family

### Sleep goals: Work

- 51% Think more clearly
- 23% Have more energy for my team
- 6% Be more patient with colleagues & patients
- 6% Arrive on time, ready to go
MOOD
In total 77% of onboarded users created a goal related to the Mood pillar. The most popular goal for home was to “Feel more in control”, whilst for work it was to “Cope better with demanding situations”.

### Mood goals: Home
- Feel more in control 38%
- Recognise the impacts of my mood 18%
- Deal better with conflict 26%
- Connect more with my family 18%

### Mood goals: Work
- Cope better with demanding situations 50%
- Understand how to lift myself when I am feeling down 25%
- Be more receptive with the mood of others 18%
- Connect better with my family 7%
STRESS

In total 73% of onboarded users created a goal related to the Stress pillar, despite this being in the final week of the program. The most popular goal for home was to “Feel balanced and connected”, whilst for work the most popular selection was to “Feel calmer and more in control”.

**Stress goals: Home**

- Feel balanced and connected: 39%
- Be more relaxed: 26%
- Let go after a difficult shift: 18%
- Cope with challenges: 17%

**Stress goals: Work**

- Feel calmer & more in control: 48%
- Cope better with difficult situations: 30%
- Recognise it is time to ask for support: 15%
- Connect more with patients: 7%
4.3 DAILY PERSONAL QUIZ

THE DAILY PERSONAL QUIZ EXPLAINED

Users of the Happy People program had the option of completing a daily quiz made up of four questions based on the four pillars of energy, sleep, mood and stress. The results of the quiz immediately generated a personalised tip for improving their energy levels, sleep, mood or stress levels based on their responses to the four questions. The questions and response options for the daily quiz were:

1. How are your energy levels today?
   - Fully charged
   - Pretty good
   - Battery a bit low
   - Running on empty

2. How did you sleep last night?
   - Really well
   - Pretty good
   - Not that well
   - Really badly

3. What’s your mood like today?
   - Really great
   - Pretty good
   - A bit flat
   - Really flat

4. How stressed do you feel today?
   - I am coping really well
   - Not too bad
   - Under the pump
   - Overwhelmed

OVERVIEW OF PERSONAL DAILY QUIZ ENGAGEMENT FOR ORGANISATION X

In total, 90% of onboarded users opened a quiz at least once during the Happy People program, with a total of 33,827 quizzes opened. Of these users, 100% completed a quiz at least once, 81,930 with individual quiz questions answered. Retention over the program was tracked, with 78% of onboarded users opening a quiz in Week 2 and 67% in Week 5. Once opened, 91% of quizzes were completed throughout the program.
4.4 MESSY – MAGNIFICENT SCALE

MESSY – MAGNIFICENT SCALE EXPLAINED
Following each week, users were asked to rate how they felt about their week overall on a sliding scale from “Very Messy” to “Very Magnificent”. The visual analogue scale was animated with a Happy People figure that changed in appearance as the user manipulated the scale. Responses were then categorised into four groups: “Very Messy”, “A Bit Messy”, “A Bit Magnificent” and “Very Magnificent”. Proportions of users within each category were then compared over time.

OVERVIEW OF MESSY-MAGNIFICENT SCALE ENGAGEMENT FOR ORGANISATION X
Overall, 86% of onboarded users engaged with the Messy-Magnificent scale at least once over the Happy People Program, with a total of 4376 responses collected. Over half of onboarded users (55%) remained engaged in the scale in the final week (Week 6).
5. Intra-program status

5.1 DAILY PERSONAL QUIZ RESULTS

**ENERGY**

Energy levels across the program were generally high, with 67% of responses recording energy levels of “Fully charged” or “Pretty good”. In comparison to Week 2, the proportion of users reporting the highest level of energy, “Fully Charged” increased by 6% at Week 5 which was statistically significant with a 95% CI of 5% to 8%.

![Energy Pie Chart]

**SLEEP**

The majority of sleep responses across the program indicated positive comments in regards to sleep, with 27% of responses indicating users were sleeping “Really well”, and another 45% of responses indicating a “Pretty good” night’s sleep. There was a statistically significant increase of 6% in the proportion of users reporting that they slept “Really well” between Week 2 and Week 5 of the program (95% CI 4% to 8%).

![Sleep Pie Chart]
**MOOD**

Across the program daily responses to mood remained positive in 72% of cases, with 51% reporting mood to be “Pretty good” and another 21% stating they felt “Really great”. There was a statistically significant increase of 5% in the proportion of users reporting that they felt “Really great” in Week 5 when compared to that in Week (95% CI 3% - 6%).

![Mood Pie Chart]

**STRESS**

In total, 87% of responses to the daily quiz question regarding stress indicated users levels of stress were manageable, with only 3% of responses indicating levels of stress that were overwhelming. There was a small, non-statistically significant decrease of 1% in the proportion of users reporting “I am coping really well” in Week 5 when compared to that in Week 2 (95% CI -3% - 1%).

![Stress Pie Chart]
5.2 MESSY – MAGNIFICENT SCALE RESULTS

FROM MESSY TO MAGNIFICENT

Proportions of users categorised as “Very Messy”, “A Bit Messy”, “A Bit Magnificent” and “Very Magnificent” were examined across all time points, with detailed results outlined in the figure below. Overall, 61% of responses were on the Magnificent side of the scale, with only 9% of responses reporting weeks that were “Very Messy”.

![Graph showing proportions of users across different weeks]

There was a statistically significant 5% increase in the proportion of users who reported they felt a “Very Magnificent” from Week 3 to Week 6 (95% CI 1% - 8%). However, there was also a non-statistically significant 2% increase from Week 3 to Week 6 in the proportion of respondents reporting they felt “Very Messy” (95% CI -1% - 4%).
6. Post-program status

In total, 860 users participated in the post-program survey, 58% of all onboarded users. Overall, 810 individuals provided consent for their survey data to be analysed by the Macquarie University team. This represents 55% of all onboarded users and 94% of all post-program survey participants. Of these, 541 respondents had also completed and provided consent for analysis of both pre- and post-program surveys, which is 37% of all onboarded users. This section presents the overall post-program survey data for 810 nurses and midwives.

WORK LOCATION

808 participants responded to this question, across 7 sites.

Also, similarly to the time of the pre-program survey 199 respondents (25%) reported they held a managerial or leadership position, such as a Unit Manager, Team Leader or Service Manager.
6.1 ENERGY

ENERGY AWARENESS

Participants were asked whether, in comparison to prior to the Happy People program, they believed that they were more aware of things that affect their energy levels. Overall, there were 806 responses to this question. Responses were very positive with 65% of respondents reporting that they now believed they were more aware of things impacting their energy levels, while another 29% of respondents reported they believed that they already had a good understanding of these things.

There were no significant differences based on gender in regards to reports of being more aware of the things that affect their energy levels ($\chi^2(6) = 10.022, p = .124$). While there was a statistically significant difference in awareness of things affecting energy levels with the respondent’s age ($r_s = -.097, p = .025$), the correlation was so small as to be highly unlikely to be meaningful. This was similar for the association seen with pre-program energy levels ($r_s = .110, p = .010$).
**POST-PROGRAM ENERGY LEVELS**

Participants were asked to rate their energy levels on the same scale as the pre-program survey. 809 participants responded to this question. Pre- and post-program responses are shown in the figure below:

There was a statistically significant 12% improvement in the proportion of respondents reporting good levels of energy from 49% at the pre-program survey to 61% at the post program survey (95%CI = 7% to 17%). Specifically, in those that completed both the pre- and post-program survey (n=539) there was a significant improvement between the pre-program and post-program surveys (McNemar Test $p = .000$) with 58% of these respondents reporting good levels of energy following the program as opposed to 48% before the program.

There was also a significant difference between males and females in regards to their post-program energy levels ($X^2(1) = 11.273, p = .004$), with only 18% of male respondents reporting low levels of energy as opposed to 44% of female respondents. There was a statistically significant difference in energy levels based on age ($r_s = -109, p = .011$), however this is at a level that is unlikely to be meaningful.
POST-PROGRAM PHYSICAL ACTIVITY LEVELS

REGULAR EXERCISE

Similarly to prior to the Happy People program participants were asked to indicate how often they exercised over an average week. 809 participants responded to this question. Pre- and post-program responses are shown in the figure below:

Overall, 49% of respondents report that they spend 3 hours or more engaged in deliberate exercise a week, as opposed to 46% at the time of the pre-program survey. This was a non-statistically significant 3% improvement (95%CI = -3% to 7%). However, in those that completed both the pre- and post-program survey (n=540) there was a significant improvement between the pre-program and post-program surveys (McNemar Test \( p = .001\)), with 48% of these respondents reporting that they spend 3 or more hours per week engaged in exercise as opposed to 42% prior to the program. Similarly to the time of pre-program survey, there was a significant difference between males and females in regards to their post-program exercise levels (\( X^2(1) = 10.527, p = .001\)), with a greater proportion of males continuing to engage in at least 3 hours of exercise weekly than females (72% and 46% respectively). Also in line with the pre-program results, higher levels of deliberate exercise were associated with higher levels of reported energy (\( r_s = .273, p = .000\)), although the association remains weak.
INCIDENTAL ACTIVITY

Participants were also asked to describe their general levels of activity over an average day on the same scale as prior to the Happy People program. 808 participants responded to this question. Pre- and post-program responses are shown in the figure below:

At the time of the post-program survey 76% of respondents reported they were generally active for at least half the day, as opposed to 70% prior to the Happy People program, a statistically significant 6% improvement (95%CI = 2% to 10%). In those that completed both the pre- and post-program survey (n=539) there was a significant improvement between the pre-program and post-program surveys (McNemar Test \( p = .011 \)) with 73% of these respondents reporting that they were generally active for at least half the day following the program as opposed to 68% before the program. There were no significant differences between males and females in regards to their post-program incidental activity levels (\( \chi^2(1) = .070, p = .792 \)), and although there was a statistically significant association with age (\( r_s = -.166, p = .000 \)), this is of a level that is unlikely to be meaningful.

There was a statistically significant association between post-program reported levels of incidental physical activity and post-program energy levels, with those who reported higher levels of incidental activity also more likely to report higher levels of energy post-program (\( r_s = .315, p = .000 \)). Incidental activity and deliberate exercise were also correlated post-program (\( r_s = .299, p = .000 \)), although this was weak.
POST-PROGRAM BODY PERCEPTION

Participants were asked the same questions about their bodies as they did at the time of the pre-program survey. 810 participants responded to these questions. A comparison of the percentage of respondents who answered ‘Yes’ to each question at the different time points is presented in Table 3.

Table 3: Pre- and post-program comparison of the proportion of respondents answering ‘Yes’ to body perception statements posed.

<table>
<thead>
<tr>
<th>Body perception statement posed to participants</th>
<th>Respondents answering ‘Yes’ (%)</th>
<th>% change between pre- and post-program (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>My body enables me to achieve everything required of me in my work and personal life</td>
<td>23% (n=874) 27% (n=810)</td>
<td>+4% (0% to 8%)</td>
</tr>
<tr>
<td>My body limits me and I’d like to work on improving that</td>
<td>11% 6%</td>
<td>-5% (-8% to -3%)</td>
</tr>
<tr>
<td>Typically I have the stamina to work through a particularly demanding work day</td>
<td>59% 63%</td>
<td>+4% (-1% to 8%)</td>
</tr>
<tr>
<td>Greater than one demanding shift per week is challenging for me to manage</td>
<td>9% 10%</td>
<td>+1% (-2% to 4%)</td>
</tr>
<tr>
<td>Multiple demanding shifts in a week leaves me too exhausted to keep going</td>
<td>18% 15%</td>
<td>-3% (-6% to 1%)</td>
</tr>
<tr>
<td>My body gets me through my work day but after that I have little capacity for much else</td>
<td>30% 23%</td>
<td>-7% (-11% to -3%)</td>
</tr>
<tr>
<td>At times, my physical exhaustion prevents me from attending work</td>
<td>5% 2%</td>
<td>-3% (-4% to -1%)</td>
</tr>
<tr>
<td>At times, my physical exhaustion prevents me from socialising and enjoying life outside of work</td>
<td>25% 16%</td>
<td>-8% (-12% to -4%)</td>
</tr>
</tbody>
</table>

NB: Cell shaded in red show a statistically significant difference between groups (p<.05)
In addition to the above statistics, those respondents who completed both pre- and post-program surveys (n=541) were examined specifically for any statistically significant changes between the two time points, pre-program and post-program. In these 541 respondents there was a statistically significant decrease in the proportion of participants who reported that, at times, their physical exhaustion prevents them from attending work (McNemar Test $p = .043$), with 5% of this group of respondents reporting this to be an issue before the program as opposed to 3% after the program. A significant change was also seen in those respondents who completed both pre- and post-program surveys (n=541) in regards to the response to the belief that their body limits them and they would like to work on improving that, with a reduction from 13% before the program to 6% after the program (McNemar Test $p = .000$). In regards to those that held a belief that their body gets them through the work day but leaves little capacity for much else, in those respondents that completed both pre- and post-program surveys (n=541), there was a significant reduction from 30% before the program to 25% following the program (McNemar Test $p = .040$). There was also a significant reduction in the proportion of respondents who completed both pre- and post-program surveys (n=541) who reported that their physical exhaustion limits them from socialising and enjoying life outside of work from 26% to 18% (McNemar Test $p = .000$).

**STRATEGIES TO HELP EASE ACHES AND PAINS**

Participants were asked whether they had learnt strategies to help them ease any aches or pains they were feeling during the Happy People program. Overall, there were 806 responses to this question. Overall, 42% of the respondents reported that they had learnt some helpful strategies, whilst another 34% reported that they didn’t have any issues to begin with.

There was a weak, but statistically significant association between reported learning of strategies to help ease any aches and pains with the number of aches and pains reported in the pre-program survey ($r_s = .113$, $p = .009$).
6.2 SLEEP

STRATEGIES TO IMPROVE SLEEP

Participants were asked whether they had learnt strategies to help them sleep better during the Happy People program. Overall, there were 807 responses to this question. Responses were very positive with 59% of respondents reporting that they had learnt some strategies to help with sleep, although for many (45%) they were still learning how to apply them effectively in order to assist their sleep.

There was no association between reported learning of strategies to improve sleep and the number of factors that respondents reported disturbing their sleep pre-program ($r_s = -.040, p = .358$), pre-program descriptions of sleep quality ($r_s = .050, p = .244$), pre-program time taken to get to sleep ($r_s = -.061, p = .158$), or pre-program time spent asleep ($r_s = .048, p = .268$).
**POST-PROGRAM SLEEP QUANTITY**

Participants were asked to report how many hours they spent in bed each night on the same scale as the pre-program survey. 807 participants responded to this question, with over half of respondents (60%) reporting they spend 7 hours or more asleep when they go to bed. There was a slight difference in the wording of the responses from the time of the pre-program survey so only post-program results are presented in this figure.

![Bar chart showing sleep duration](chart.png)

There was a statistically significant 20% reduction in the proportion of respondents reporting they got no more than 7 hours sleep from between the time of the pre- and post-program surveys (95%CI = 15% to 24%), although it should be noted that this result needs to take into consideration the difference in wording of the responses from the pre-program to the post-program survey. Furthermore, in those that completed both the pre- and post-program survey (n=538) there was a significant improvement between the pre-program and post-program surveys (McNemar test $p = .000$), with 60% of those completing both surveys reporting that they slept less than 7 hours prior to the program compared with 41% after the program.

Reported sleep duration post-program was not associated with post-program levels deliberate exercise ($r_s = -.059, p = .096$), or incidental activity levels ($r_s = .002, p = .956$). There was a weak association with post-program levels of energy ($r_s = -.086, p = .015$), however this is of a level that is unlikely to be meaningful.
POST-PROGRAM SLEEP LATENCY

Participants were asked specifically about how long it took for them to get to sleep when they went to bed. Overall, there were 805 responses to this question. Overall, responses indicate that the vast majority of respondents (78%) do not take long to fall to sleep.

There was no significant change in the proportion of respondents reporting they had no or minimal difficulties getting to sleep between the time of the pre- and post-program surveys (1% change; 95%CI = -3% to 5%). More specifically, in those that completed both the pre- and post-program survey (n=535) there was no significant change between the pre-program and post-program surveys (McNemar test \( p = .640 \)).

There were weak associations between lower post-program sleep latency and higher post-program levels of energy (\( r_s = .181, p = .000 \)), levels of deliberate exercise (\( r_s = .144, p = .000 \)), and incidental daily activity (\( r_s = .128, p = .000 \)), however these are again unlikely to be of importance.
**POST-PROGRAM SLEEP QUALITY**

Participants were asked specifically about their sleep quality. Overall, there were 807 responses to this question. Overall, responses indicate that the vast majority of respondents (72%) do not have significant problems with sleep quality.

There was no significant change in the proportion of respondents reporting good quality of sleep between the time of the pre- and post-program surveys (1% change; 95%CI = -3% to 5%). Additionally, in those that completed both the pre- and post-program survey (n=538) there was no significant change between the pre-program and post-program surveys (McNemar test \( p = .358 \)).

There was a weak association between post-program levels of energy and post-program sleep quality \( (r_s = .262, p = .000) \), with those who sleep better tending to report higher levels of energy. Similarly, there were also weak associations between post-program sleep quality and both deliberate exercise \( (r_s = .143, p = .000) \), and incidental activity \( (r_s = .117, p = .001) \), with those reporting higher amounts of exercise and incidental activity also tending to report slightly better sleep quality. However, all these associations were of a level that is unlikely to be of importance.

There was a significant association between post-program sleep quality and sleep latency \( (r_s = .367, p = .000) \), with those reporting less difficulty getting to sleep also tending to report better quality of sleep overall. There was also a significant association between quantity of sleep and sleep quality \( (r_s = -.321, p = .000) \), with those sleeping longer slightly more likely to also report better quality of sleep. Additionally, sleep quantity was also weakly associated with sleep latency \( (r_s = -.222, p = .000) \), with those who reported lower sleep latency also tending to report longer duration of sleep.
6.3 STRESS

STRESS AWARENESS

Participants were asked whether they believed that they were more aware of their stress levels in comparison to the commencement of the Happy People program. Overall, there were 808 responses to this question. Responses were again very positive with 55% of respondents reporting that they were more aware or gaining a better awareness of their stress levels.

There was no statistically significant correlation between respondents who reported improved awareness of their stress levels and the pre-program level of stress reported ($r_s = -.057, p = .182$), or reported pre-program ability to manage patients or colleagues who are angry or upset ($r_s = -.001, p = .982$). There was a weak association pre-program reported level of emotional intelligence ($r_s = .112, p = .010$), but this is of a level that is unlikely to be of importance.
POST-PROGRAM LEVEL OF STRESS

Similarly to prior to the Happy People program participants were asked to rate the level of stress they felt generally. 806 participants responded to this question. Pre- and post-program responses are shown in the figure below:

There was a statistically significant 7% improvement in the proportion of respondents reporting low levels of stress from 76% at the pre-program survey to 83% at the post program survey (95%CI = 3% to 11%). This significant change was replicated in the specific examination of the 538 respondents who completed both pre-program and post-program surveys (McNemar Test $p = .000$), with 74% of these respondents reporting low levels of stress as opposed to 83% after the program.

There was no significant association between the level of stress reported post-program and respondent’s gender ($X^2 (1) = 1.749, p = .186$), however there was a significant positive association with post-program energy levels ($r_s = .416, p = .000$) with those who reported less stress more likely to report higher levels of energy. There were also significant associations detected between post-program levels of stress and post-program incidental activity levels ($r_s = .184, p = .000$), and deliberate exercise levels ($r_s = .099, p = .005$), but these were much weaker.
STRATEGIES TO HELP COPE WITH DAILY PRESSURES

Participants were asked whether they had learnt strategies to help them cope better with the daily pressures of their role during the Happy People program. Overall, there were 808 responses to this question. Over half of the respondents (59%) reported that they felt that they had learnt some useful strategies to help them cope from the Happy People program.

There was no significant association between reported learning of strategies to help cope with the daily pressures of work with reported levels of stress either pre-program ($r_s = -.057, p = .182$), or post-program program ($r_s = .047, p = .187$). However, learning of these coping strategies was associated significantly with reported improvements in awareness of the things that affect the respondent's levels of stress ($r_s = .610, p = .000$).
6.4 MOOD

STRATEGIES TO HELP MANAGE EMOTIONS

Participants were asked whether they had learnt strategies to help them manage their emotions when they are feeling angry or upset. Overall, there were 808 responses to this question. Responses were positive, with 55% of respondents reporting that they had learnt useful strategies for managing emotions, whilst another 35% felt that they already did this well prior to starting the Happy People program.

There was no significant association between reported learning of strategies to help manage personal emotion levels when feeling angry or upset with either pre-program reported level of emotional intelligence ($r_s = .029, p = .505$), or pre-program reported ability to manage angry or upset patients or colleagues ($r_s = .067, p = .123$). There were also statistically significant relationships between respondents reporting that they had learnt strategies to help them manage their emotions when they are feeling angry or upset, and those who reported higher levels of energy post-program ($r_s = .253, p = .000$), higher levels of deliberate exercise post-program ($r_s = .107, p = .002$), and higher levels of incidental activity post-program ($r_s = .140, p = .000$), however all these associations were relatively weak and not likely to be meaningful. There was also a weak association with reported post-program stress levels ($r_s = .101, p = .004$), and again not likely to be meaningful.
STRATEGIES TO HELP MANAGE BETTER WHEN A PATIENT OR CLIENT IS ANGRY OR UPSET

Participants were asked whether they had learnt strategies to help them manage better when they have a patient or client who is angry or upset. Overall, there were 808 responses to this question. Over half of the respondents (51%) reported that they had learnt some helpful strategies, whilst another 36% felt that they already did this well prior to starting the Happy People program.

There was no significant association between the reported levels of emotional intelligence pre-program, and the learning of strategies to help manage better when a patient or colleague is angry or upset ($r_s = .064, p = .137$), and although there was a statistically significant association with the reported ability to manage these situations at the time of the pre-program survey ($r_s = .097, p = .025$), this association is very weak and not likely to be meaningful. There was a statistically significant relationship between respondents reporting success in learning strategies to help them manage angry or upset patients or colleagues and those that reported they had learnt strategies to help them manage their emotions when they are feeling angry or upset ($r_s = .567, p = .000$), and become more aware of stress levels ($r_s = .522, p = .000$), as well as a statistically significant correlation with those who reported they had learnt strategies to help them cope with the daily pressures of their job ($r_s = .545, p = .000$). However, there was only a weak correlation with post-program stress levels ($r_s = .144, p = .000$).
6.5 OVERALL HEALTH & WELLBEING

BENEFITS TO OVERALL HEALTH & WELLBEING

Participants were asked to rate how beneficial they believed the Happy People program was to their overall health and wellbeing. All 810 participants responded to this question. Responses were very positive, with 63% of respondents reporting finding the Happy People program provided some level of benefit to their overall health and wellbeing.

MOST HELPFUL PILLAR

Participants were asked to report which of the four pillars of the Happy People program had they found most helpful - Energy, Sleep, Mood or Stress. Overall, there were 810 responses to this question, with a fairly even distribution between all the pillars. In addition, 65% of respondents reported that they shared information learnt in the Happy People program with family, friends or colleagues.
SERVANT LEADERSHIP

Participants were asked to report where they felt the Happy People program demonstrated that ORGANISATION X cares about some of the challenges they face both at work and at home. Overall, there were 807 responses to this question, with 59% agreeing that this program did demonstrate that ORGANISATION X cares about the challenges their employees face.
7. References


Happy Body At Work (HBAW) was created in 2013 by leading physiotherapist, author and mind/body expert, Anna-Louise Bouvier, in partnership with the ABC. To date, our Programs have rolled out to over 25,000 employees throughout many leading public and private sector organisations, including a 10 country global pilot across four continents for the Ashurst law firm.

HAPPY PEOPLE is the latest innovation in workplace wellbeing. This engaging 6 week campaign improves the mental and physical resilience and performance of your teams. Gamified digital technology delivers evidence-based education across four key lifestyle areas of ENERGY, MOOD, STRESS and SLEEP.

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