

SRI LANKA'S HEALTHIEST WORKPLACE — **AIA Vitality** —

THE 2018 MARKET HEALTH REPORT FOR
SRI LANKA



HEALTHIER, LONGER,
BETTER LIVES



EUROPE

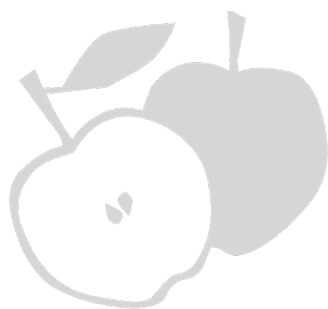


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EXECUTIVE SUMMARY

Thank you for taking part in the 2018 Sri Lanka's Healthiest Workplace by AIA Vitality. In this, its first year, 53 organisations, representing a combined workforce of 2,221 employees, participated in the survey. The wider Healthiest Workplace survey, encompassing Australia, Hong Kong, Malaysia, Thailand and Sri Lanka, saw participation from 393 organisations, representing a combined workforce of 26,408 employees.

A growing body of research on corporate wellness indicates that proactive management of employees' physical and mental health can produce a range of important business benefits – including a reduction in absence, greater staff engagement and productivity, and a reduction in staff turnover. The aim of the Sri Lanka's Healthiest Workplace study is to better understand the interaction between employees' lifestyle choices, general health, and business critical outcomes such as engagement and productivity, with a view to positively adding to the evidence base in this area.

The study was developed by AIA Group Corporate Solutions (GCS) and is delivered in partnership with RAND Europe. Having inherited Britain's Healthiest Workplace that started in 2013 and has helped nearly 370 organisations, AIA brought this to Asia for the first time in 2017 to support organisations to improve understanding of their employees' personal health and wellbeing.

HOW TO READ THIS REPORT

This report analyses survey responses from all 53 organisations and 2,221 employees in Sri Lanka. Their results are benchmarked against other markets participating in the Healthiest Workplace, specifically Hong Kong, Malaysia and Thailand (combined in the Asian markets benchmark) and Australia.

The main outcomes and indicators from the survey are presented in the dashboard shown on the next page. A detailed analysis of the employees who took part in the survey is provided in Appendix A.

SRI LANKA'S DASHBOARD

CATEGORY	INDICATOR	SRI LANKA ¹	ASIAN COUNTRIES ²	AUSTRALIA ³
Key outcomes				
Long-term health	AIA Vitality Age gap (in years) ⁴	5.2	5.3	3.5
Short-term work impairment	Days lost per employee per year ⁵	53.2	73.8	49.3
Work engagement	% low engaged ⁶	8.3%	13.2%	14.0%
Determinants of health, productivity and engagement				
Lifestyle health	% with insufficient physical activity	32.7%	42.0%	9.8%
	% not eating a healthy diet	91.5%	87.9%	54.1%
	% current smokers	12.8%	9.2%	9.3%
	% exceeding alcohol guidelines	1.1%	1.3%	15.9%
	% sleeping less than 7 hours per night	46.4%	50.1%	26.9%
Clinical health	% obese	10.6%	13.8%	17.6%
	% with severe musculoskeletal problems ⁷	7.6%	7.4%	.%
Mental health	% with moderate or severe symptoms of depression	12.9%	6.4%	5.8%
	% with 1 or more work-related stress factors	59.5%	49.6%	53.2%
	% with a lot of financial concerns	33.6%	20.8%	11.1%
Employee characteristics				
Survey respondent profile	% male	61.3%	38.8%	42.8%
	Average age	32.5	35.9	39.2
	Average income	LKR 92,595	-	-

For full descriptions of these outcomes and determinants please see the relevant sections of the report – p. 9 for lifestyle health; p. 20 for mental health; p. 24 for clinical health.

- 1 The green/amber/red colour codes correspond to significantly better/similar/significantly worse results than the Asian markets benchmark, defined as being 5 per cent (for Vitality Age gap and days lost) or 2 percentage points better/worse than the benchmark, respectively. Based on 2,221 employee responses from 53 organisations from Sri Lanka.
- 2 Based on 21,277 employee responses from 304 organisations from the Asian markets.
- 3 Based on 2,910 employee responses from 36 organisations from Australia.
- 4 AIA Vitality Age as described on p. 7. The AIA Vitality Age gap refers to the average difference between the AIA Vitality Age and actual age of the employees.
- 5 Work impairment due to absenteeism and presenteeism, as measured using the Work Productivity and Activity Impairment (General Health) scale, see Appendix B.
- 6 Utrecht Work Engagement scale, see p. 30.
- 7 Employees who had to take time off work in the past 12 months due to musculoskeletal pain or discomfort. This question was not asked in Australia.

A smiling woman with dark hair, wearing a blue button-down shirt and grey trousers, stands in an office. She holds a clear water bottle with a blue cap in her right hand and a rolled-up blue mat under her left arm. A gold watch is visible on her left wrist. The background shows a white shelving unit with blue folders and a potted plant.

PART ONE – YOUR EMPLOYEES

OVERALL HEALTH RISK PROFILE

Increasingly, research is being conducted into the impact of people's lifestyle choices on their health, mortality and productivity. The Global Burden of Disease Study 2015 revealed that non-communicable causes account for 71.3% of all global deaths [1], while research conducted using Sri Lanka's Healthiest Workplace data has shown that lifestyle behaviours are significant drivers of short-term productivity loss. As such, supporting employees to make healthier choices is a critical part of any human resources and productivity management strategy.

AIA VITALITY AGE

AIA Vitality Age was developed by Discovery Health Ltd in association with the University of Cape Town and is underpinned by hundreds of international evidence-based academic research studies.

AIA Vitality Age shows the impact of a range of lifestyle, clinical and mental wellbeing risks on an individual's long-term health. The difference between a person's AIA Vitality Age and their actual age is referred to as their AIA Vitality Age gap, which corresponds to the predicted impact of these risks on their life expectancy. If a participant is particularly fit and healthy, their AIA Vitality Age could be lower than their actual age. However, for the majority of people, AIA Vitality Age will be higher than actual age.

From an employer perspective, the lower the average difference between AIA Vitality Age and actual age, the healthier the participating employees in the workforce.

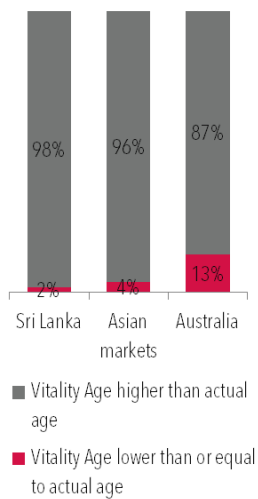
A strong link has been identified between the AIA Vitality Age gap and productivity loss. Across all participants in Sri Lanka's Healthiest Workplace, the results demonstrate that each additional year of AIA Vitality Age gap corresponds, on average, to 3 additional days of lost productive time per employee per year due to ill-health-related absenteeism and presenteeism.

For Sri Lanka, the average difference between respondents' AIA Vitality Age gap of 5.2 years and the benchmark averages of 5.3 years for the Asian markets and 3.5 years for Australia means that each of the employees could be gaining 0.5 and losing 5.0 additional days of productive time per annum compared to the benchmarks, respectively.

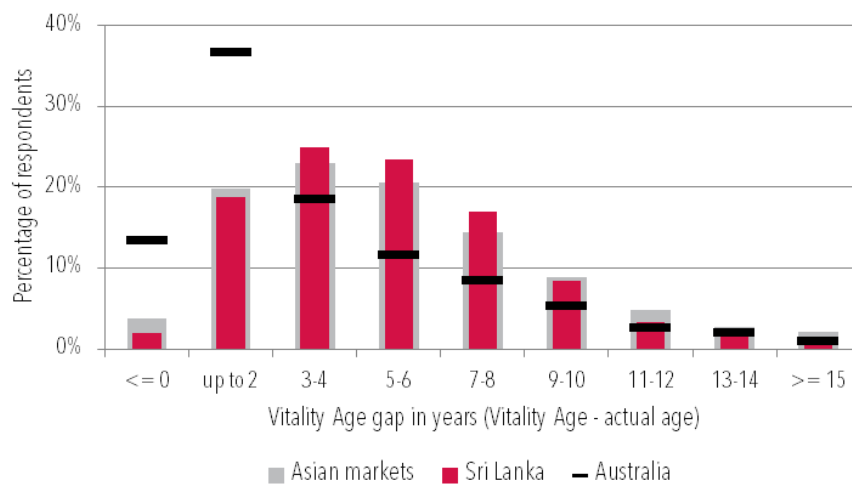
AIA VITALITY AGE
IS BASED ON
MODIFIABLE LIFESTYLE
AND CLINICAL RISK
FACTORS.

98% OF YOUR
EMPLOYEES HAVE
AN AIA VITALITY
AGE HIGHER THAN
THEIR ACTUAL AGE,
COMPARED TO THE
BENCHMARKS OF 96%
AND 87%.

VITALITY AGE GAP OVERVIEW



DISTRIBUTION OF THE AIA VITALITY AGE GAP



LIFESTYLE HEALTH

Smoking, excessive alcohol consumption, poor nutrition and physical inactivity are important modifiable risk factors. Encouraging employees to make healthy choices will not only help prevent chronic disease, but should also have a beneficial impact on productivity and work performance and engagement.

The following sections show the employees' behaviour with regard to lifestyle choices, highlight where they are most at risk, and offer some suggestions on how to positively influence this. More detail on workplace health interventions can be found on page 37.

For each risk factor, the following definition of risk applies.

Physical activity refers to the percentage of employees who are doing less than the recommended 150 minutes of moderate-intensity or 75 min of vigorous-intensity exercise each week.

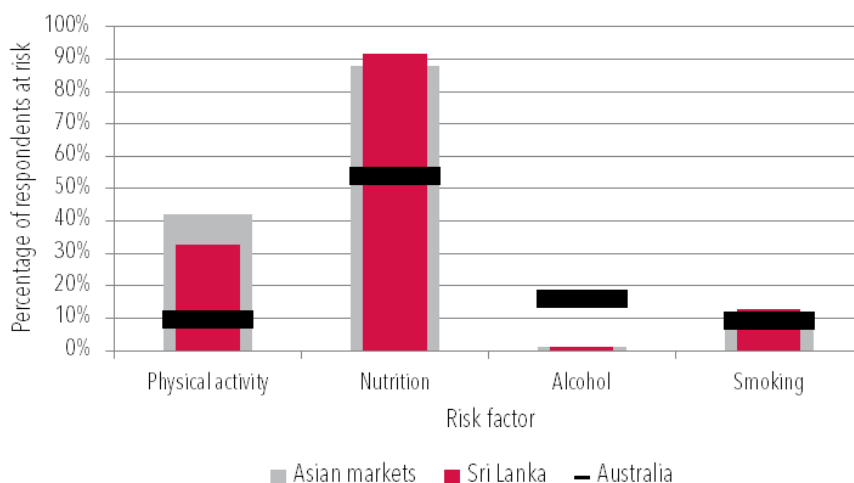
Nutrition refers to the percentage of employees who indicate they do not eat a balanced diet. A balanced diet is one based on recommended servings of fruits, vegetables, and whole grains, avoiding excessive portions of high-fat meats, high-fat dairy, added fat, trans fats, salt and sugary drinks.

Smoking refers to the percentage of employees who currently smoke cigarettes, cigars or pipes.

Alcohol refers to the percentage of employees drinking more than the recommended limit of 14 units of alcohol each week.

The graph below illustrates the proportion of the employees who are at risk as a result of their lifestyle indicators being outside of the healthy range, compared to both the benchmarks.

LIFESTYLE RISK INDICATORS



THE EMPLOYEES IN SRI LANKA ARE MOST AT RISK FOR NUTRITION.

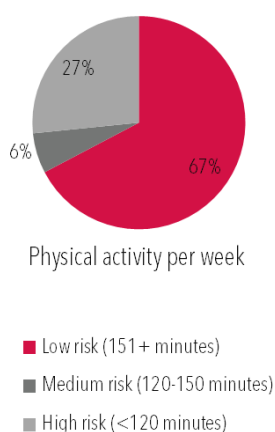


PHYSICAL ACTIVITY

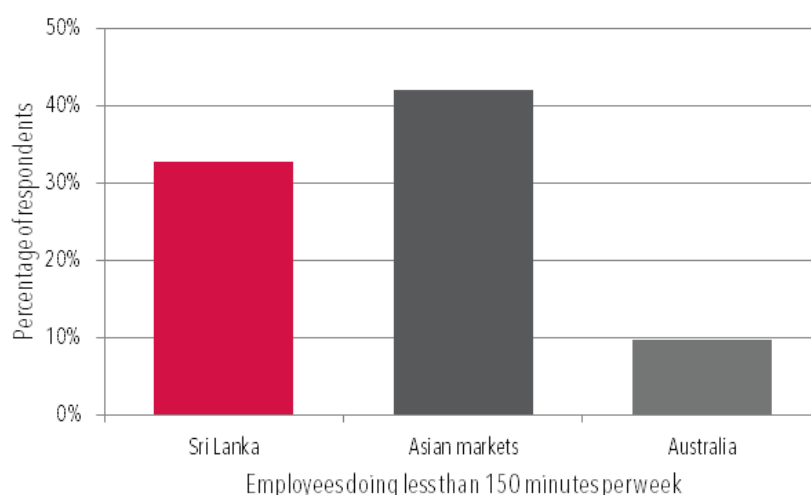
Physical activity guidelines recommend that in order to reap the cardiovascular health benefits of exercise, people should do at least 150 minutes of moderate-intensity physical activity per week – five sessions of 30 minutes each per week [2]. However, research shows that even doing 120 minutes of at least moderate-intensity physical activity per week may reduce the risk of type 2 diabetes or metabolic syndrome [3].

The following graph compares the proportion of the employees who are not engaging in adequate amounts of physical activity to the two benchmarks. 33% of the analysed employees are at risk, with physical activity levels below 150 minutes per week, compared to 42% in the Asian markets and 10% in Australia.

YOUR EMPLOYEES' PHYSICAL ACTIVITY LEVELS



OVERALL PHYSICAL ACTIVITY RISK PROFILE



Most organisations indicate that their employees are sedentary for a large part of their working day. Sedentary time, defined as time spent sitting at desks or in meetings, also increases a person's risk for disease, beyond the negative impact of insufficient physical activity. As an employer, you may be able to take steps to encourage employees to be as active as possible during their time at work. This may include encouraging employees to:

- take the stairs instead of the lift
- walk, run or cycle during lunch
- walk, run or cycle part or all of their way to work
- walk to colleagues' desks instead of phoning them

Wearable devices and mobile apps are becoming increasingly popular to keep track of daily physical activities. Such devices can indicate, for example, the number of steps taken in a day or calories burnt. Of the

analysed employees, 22% indicate that they use a wearable health device such as a fitness band or a fitness activity tracker.

On average, organisations in Sri Lanka offer 2 of the 15 physical activity interventions asked about in the survey. A summary of the use and effectiveness of these interventions is provided in the table below, with a detailed analysis of each intervention provided in the section titled “Workplace health interventions – facilities and services”, commencing on page 37.

EFFECTIVENESS OF PHYSICAL ACTIVITY INTERVENTIONS

	SRI LANKA	ASIAN MARKETS	AUSTRALIA
% of participants aware of the interventions on offer	8.4%	13.8%	24.3%
% of participants participating in at least one of the interventions (of those who are aware)	61.6%	69.3%	62.6%
% of participants who feel the interventions positively impacted their health	85.1%	92.9%	90.1%

NUTRITION

One can assess an individual’s diet by measuring the intake of certain types of foods either positively or negatively associated with chronic diseases. These food groups are principally:

Fruit and vegetables: the consumption of fruit and vegetables is measured by the number of servings a person consumes in a day. The World Health Organization and the Food and Agriculture Organization of the United Nations (FAO) have recommended that individuals consume at least 400 grams of fruit and vegetables a day [4], which is equivalent to five servings [5].

Whole grains: found in foods including wholegrain bread, cereals such as oats, barley, millet, brown rice and whole wheat pasta. The FAO recommends that carbohydrate foods, under which whole grains are listed, make up around 55% of the energy we eat [6].

Added salt: the World Health Organization advises that adults eat no more than 5g of salt per day. As our diets are generally already high in salt, adding salt can constitute a health risk [7].

WITHIN THE KEY
NUTRITION ELEMENTS,
EMPLOYEES’ DIETS ARE
POOREST IN THE AREA
OF WHOLE GRAINS.

The healthy range intakes of each of these food groups are indicated in Appendix C. Nutrition risk, as shown in the graph below, is assessed as a composite score on the basis of each of these different nutrition elements.

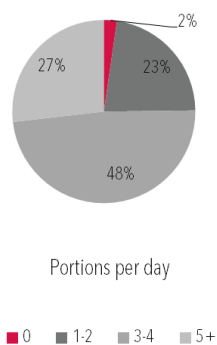


OVERALL NUTRITION RISK PROFILE

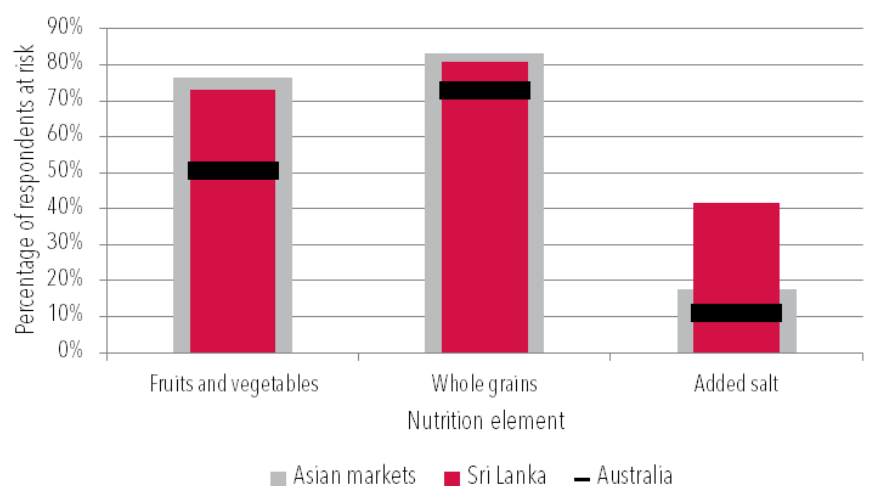


Overall, 100% of the employees are at risk for at least one nutrition element. Within the key nutrition elements, the employees' diets are poorest in the area of whole grains. In addition, in the side chart, we examine the severity of the employees' nutrition risk, using consumption of fruit and vegetables as an indicator of overall diet. Data collected through Sri Lanka's Healthiest Workplace has shown that fruit and vegetable intake is the nutritional element which can be most easily addressed in the workplace, with 43% of organisations across the whole Healthiest Workplace study indicating they offer fresh fruit and vegetables.

FRUIT AND VEGETABLE INTAKE



EMPLOYEES AT RISK FOR KEY NUTRITION ELEMENTS



One of the barriers preventing people from eating healthily is that healthy food can be more expensive than unhealthy food. Subsidising healthier food items available in the workplace (often accompanied by increasing the cost of unhealthy foods) can be an effective way of helping to overcome this barrier [8].

On average, organisations in Sri Lanka offer 2 of the 11 nutrition interventions asked about in the survey. A summary of the use and effectiveness of these interventions is provided in the table below, with a detailed analysis of each intervention provided in the section titled “Workplace health interventions – facilities and services”, commencing on page 37.

EFFECTIVENESS OF NUTRITION INTERVENTIONS

	SRI LANKA	ASIAN MARKETS	AUSTRALIA
% of participants aware of the interventions on offer	11.2%	19.1%	25.3%
% of participants participating in at least one of the interventions (of those who are aware)	88.1%	91.3%	96.5%
% of participants who feel the interventions positively impacted their health	88.3%	90.4%	78.3%

SMOKING

The harmful effects of smoking are well known. Smoking, both active and passive, is associated with a range of cancers, coronary heart disease, heart attack, stroke, peripheral vascular disease (damaged blood vessels), cerebrovascular disease (damaged arteries that supply blood to your brain), and chronic bronchitis. Approximately 6 million deaths are estimated to be caused by smoking every year [9].

13% of employees are current smokers, compared to the average of 9% in the Asian markets and 9% in Australia.

10% of employees do not currently smoke, but have done so in the past. Of this group, 1% stopped smoking 15 or more years ago, meaning their risk of smoking-related diseases is significantly reduced. 8%, on the other hand, stopped smoking 5 years ago or less.

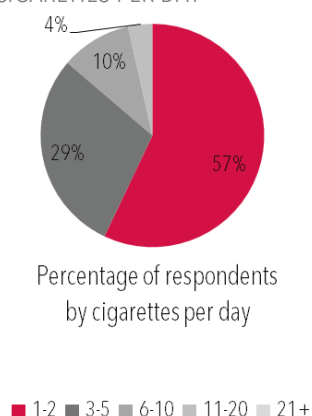
There is some evidence to suggest that smoking is related to absence, with the cost of absence due to smoking e.g. in the UK measuring £1.4 billion in 2011. Furthermore, this outcome was only one cost of

13% OF EMPLOYEES
ARE CURRENT
SMOKERS.

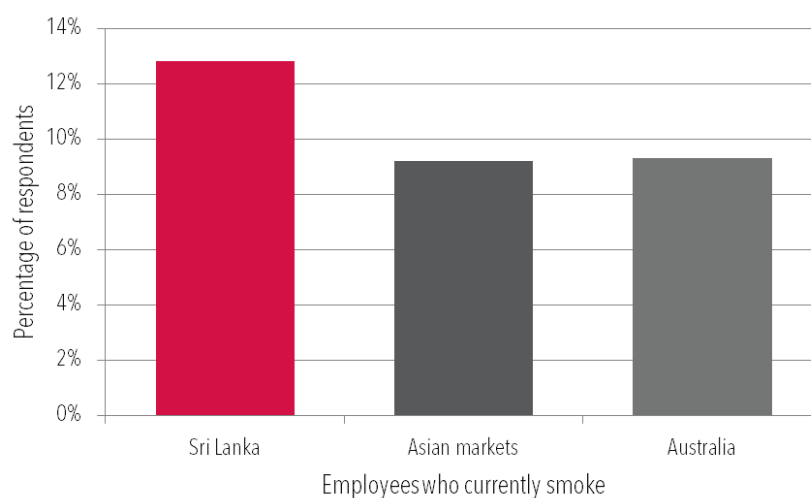
smoking in the workplace. Other indirect costs include productivity lost to smoking breaks and the cost of cigarette-related fire damage [10].

The graphs below compare the proportion of employees who currently smoke to the various benchmarks, as well as providing a detailed breakdown of the number of cigarettes smoked each day by current smokers.

CURRENT SMOKERS:
CIGARETTES PER DAY



OVERALL SMOKING RISK PROFILE



On average, organisations in Sri Lanka offer less than 1 of the 6 smoking interventions asked about in the survey. A summary of the use and effectiveness of these interventions is provided in the table below, with a detailed analysis of each intervention provided in the section titled "Workplace health interventions – facilities and services", commencing on page 37.

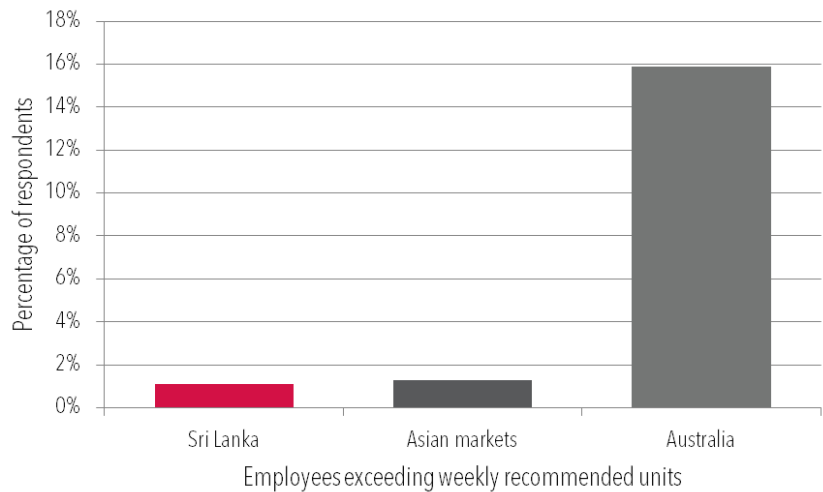
EFFECTIVENESS OF SMOKING INTERVENTIONS

	SRI LANKA	ASIAN MARKETS	AUSTRALIA
% of participants aware of the interventions on offer	1.6%	8.1%	5.6%
% of participants participating in at least one of the interventions (of those who are aware)	57.7%	47.6%	8.4%
% of participants who feel the interventions positively impacted their health	80.0%	92.4%	81.0%

ALCOHOL

Akin to smoking, the negative effects of alcohol on health are well known. Sustained consumption of levels of alcohol above recommended guidelines has been associated with higher risks of mortality [11, 12]. Furthermore, both higher-than-average alcohol consumption and heavy episodic drinking have been linked to various cancers, heart disease and stroke [13]. Given the increasing evidence of the adverse health effects of alcohol, the World Health Organization launched a global strategy to reduce the harmful effects of alcohol [14]. In addition, in some countries consuming alcohol is not encouraged or is prohibited for Muslims (e.g. in Malaysia).

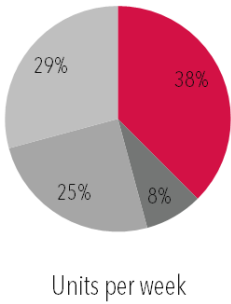
OVERALL ALCOHOL RISK PROFILE



1% of employees exceed recommended weekly consumption limits; 10% binge at least once a month.

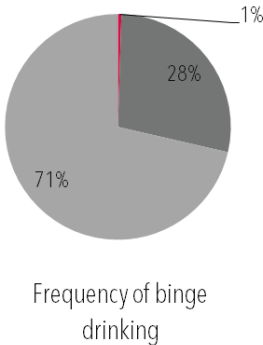
On average, organisations in Sri Lanka offer less than 1 of the 3 alcohol interventions asked about in the survey. A summary of the use and effectiveness of these interventions is provided in the table below, with a detailed analysis of each intervention provided in the section titled "Workplace health interventions - facilities and services", commencing on page 37.

HEAVY DRINKERS:
DRINKING PATTERNS



■ 14-16 ■ 17-18 ■ 19-20 ■ 21+

BINGE DRINKERS



■ Almost daily ■ Weekly ■ Monthly

EFFECTIVENESS OF ALCOHOL INTERVENTIONS

	SRI LANKA	ASIAN MARKETS	AUSTRALIA
% of participants aware of the interventions on offer	3.7%	7.9%	1.7%
% of participants participating in at least one of the interventions (of those who are aware)	57.9%	45.3%	0.0%
% of participants who feel the interventions positively impacted their health	100.0%	95.5%	n/a

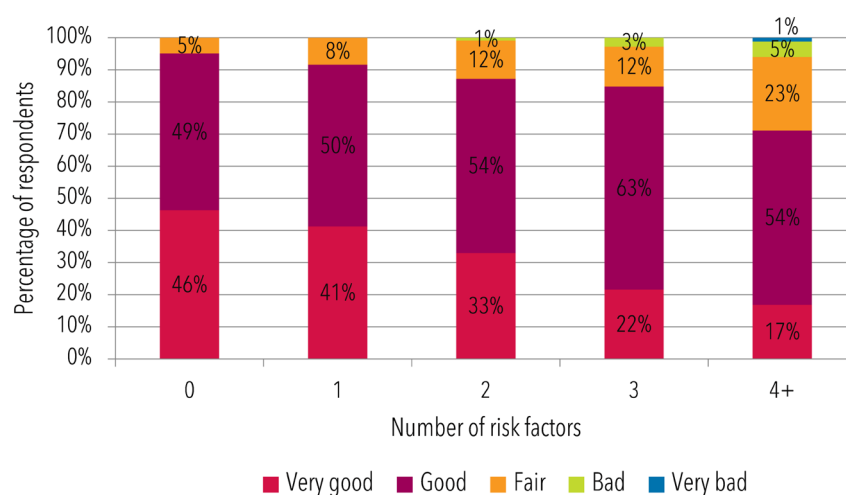
OF THE 8% OF EMPLOYEES WHO HAVE FOUR OR MORE RISK FACTORS, 71% BELIEVE THEY ARE IN 'GOOD' OR 'VERY GOOD' HEALTH.

HEALTH PERCEPTION AND MOTIVATION TO CHANGE

People are less likely to make changes to their lifestyles if they perceive themselves to be healthy. Therefore, it is important for employees to have a realistic perception of their health. Sometimes employees with multiple risk factors perceive themselves to be in good or very good health. Though some of the risk factors presented may be mild, not symptomatic, or controlled, perceived good health may indicate specific cases in which employees do not have good awareness of underlying risks to their health.

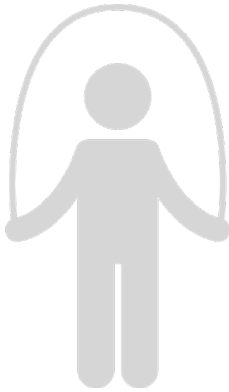
The graph below shows the percentage of the employees with respective numbers of risk factors⁸ relative to how they would describe their health.

EMPLOYEES' HEALTH PERCEPTION AND RISK PROFILE



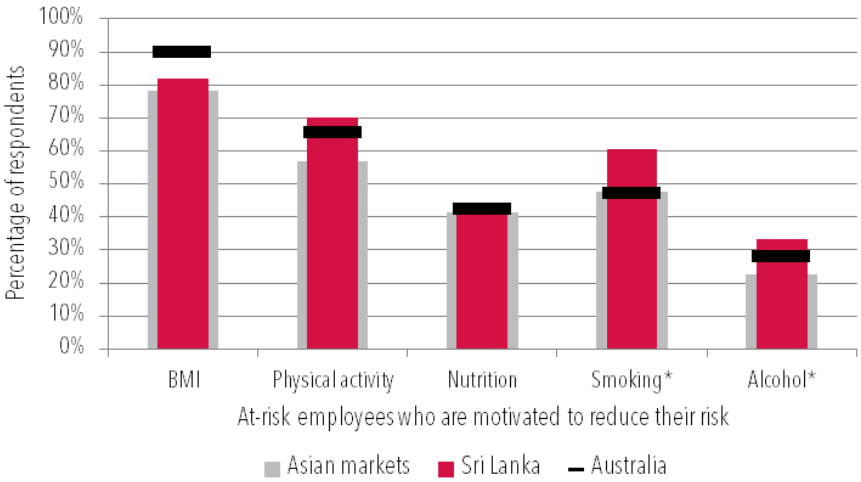
8

These include high BMI, low physical activity, poor nutrition, current smoking, and excessive alcohol consumption.



Awareness of our risk factors is not always sufficient to actually improve our health. Motivation is considered a key component of behavioural change and understanding employees' motivations can be crucial to designing effective interventions [15]. The areas in which respondents in Sri Lanka are most motivated to change are physical activity and weight.

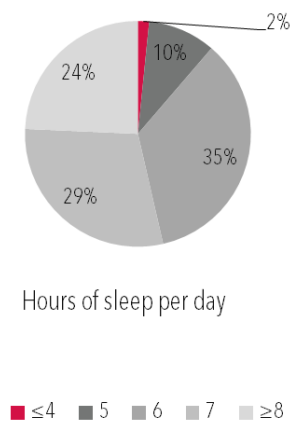
MOTIVATION TO CHANGE BEHAVIOUR BY RISK FACTOR



* The percentages for alcohol and smoking are only based on those employees who consume alcohol or are active smokers.

46% OF EMPLOYEES
REPORT GETTING LESS
THAN 7 HOURS OF
SLEEP PER NIGHT.

SLEEP PATTERNS



SLEEP

Long working hours, increasing out-of-hours connectivity and work-related stress are all factors associated with sleep problems in workers who would not normally be classified as being at risk for sleep disorders. Furthermore, the opposite is also true – sleep problems have been shown to increase the probability of developing severe mental health conditions [16]. In addition, workers who report shorter amounts of sleep are more likely to avoid social interactions at work [17]. The graphs below show the hours of sleep reported by employees. 46% of employees reported getting less than 7 hours sleep in a 24-hour period, the optimal level of sleep from both a health and productivity perspective.

SLEEP PATTERNS: HOURS OF SLEEP PER NIGHT

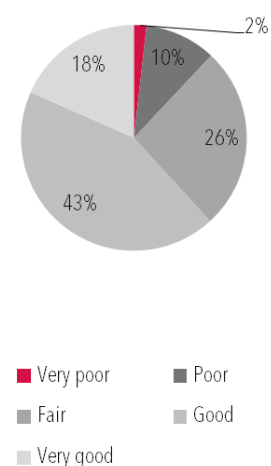


Poor sleep quality is associated with impairments at work, such as reduced concentration and difficulties with organising work. Among the analysed respondents, 12% indicated they had poor or very poor quality sleep during the week preceding the survey. The following graph shows the issues mentioned by the employees which are preventing them from sleeping well.

SLEEP QUALITY PATTERNS



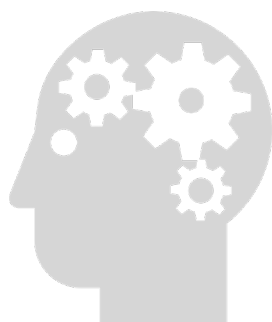
SLEEP QUALITY



On average, organisations in Sri Lanka offer less than 1 of the 5 sleep interventions asked about in the survey. A summary of the use and effectiveness of these interventions is provided in the table below, with a detailed analysis of each intervention provided in the section titled “Workplace health interventions – facilities and services”, commencing on page 37.

EFFECTIVENESS OF SLEEP INTERVENTIONS

	SRI LANKA	ASIAN MARKETS	AUSTRALIA
% of participants aware of the interventions on offer	6.2%	7.9%	7.4%
% of participants participating in at least one of the interventions (of those who are aware)	65.0%	70.8%	67.9%
% of participants who feel the interventions positively impacted their health	93.1%	92.3%	81.3%



MENTAL WELLBEING

Mental health and wellbeing is related to a wide range of factors such as poor lifestyle behaviours, health concerns, and financial concerns. Other workplace issues such as stress, organisational culture, leadership, and bullying can also impact upon the mental health and wellbeing of staff. Increasingly, mental health is being recognised as one of the key drivers of general health and wellbeing, and has been found to substantially impact productivity and engagement in the workplace.

WORK-RELATED STRESS

Work-related stress represents a significant problem internationally, and can affect organisational performance, including absenteeism, productivity and turnover. In the UK, for example, work-related stress accounts for around two-thirds of all new cases of work-related ill-health. It is estimated that about 10.5 million working days are lost yearly due to work-related stress, depression and anxiety [19]. High levels of work-related stress can impact staff absence and turnover and negatively affect the productivity and performance levels of employees.

In Sri Lanka's Healthiest Workplace, work-related stress was measured using seven items from the UK Health & Safety Executive (HSE) Management Standards Indicator Tool.⁹ Using this tool, stress is measured using the following statements:

Control: I have a choice in deciding what I do at work (never/seldom)

Role: I am clear what my duties and responsibilities are (never/seldom)

Managerial support: My line manager encourages me at work (disagree/strongly disagree)

Peer support: I receive the respect at work I deserve from my colleagues (disagree/strongly disagree)

Change: Staff are always consulted about change at work (disagree/strongly disagree)

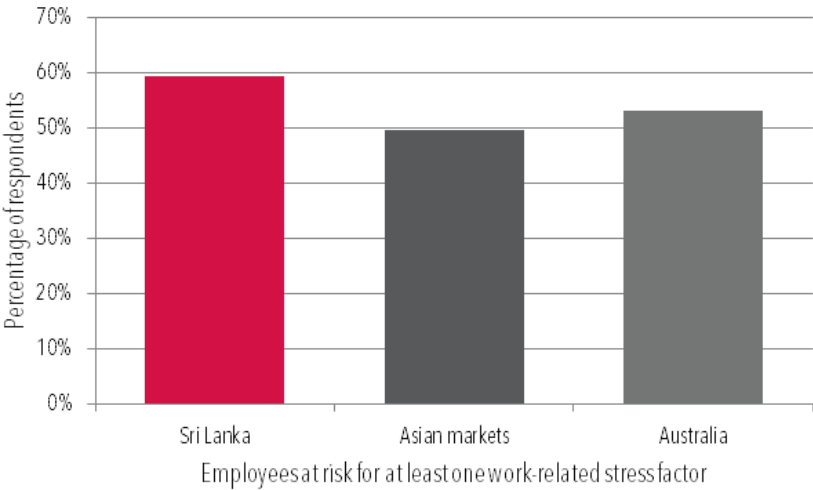
Relationship: Relationships at work are strained (agree/strongly agree); and, I am subject to bullying at work (often/always)

Demands: I have unrealistic time pressures (often/always)

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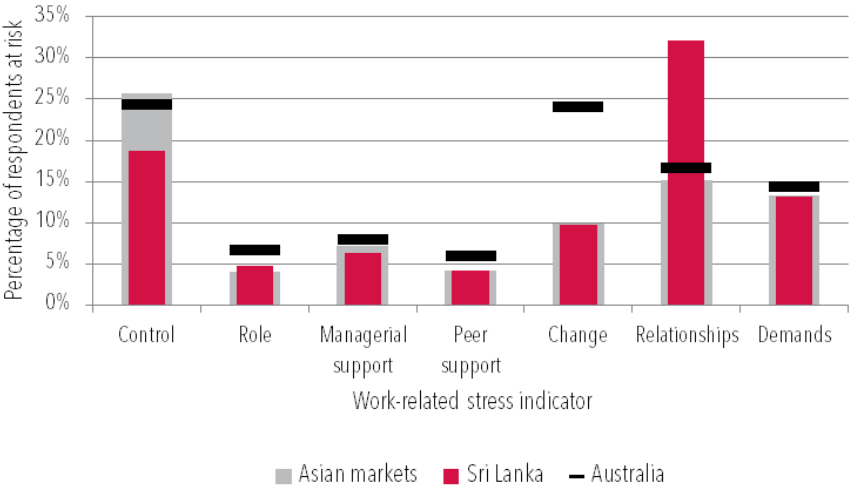
<http://www.hse.gov.uk/stress/standards/notesindicatortool.htm>

OVERALL STRESS RISK PROFILE



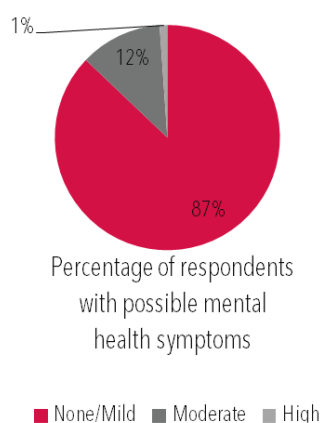
60% of the analysed employees are subject to at least one dimension of work-related stress. Additionally, 34% of employees were subject to bullying at the workplace, 8% of whom indicated that they were bullied often or always.

BREAKDOWN OF WORK-RELATED STRESS INDICATORS



13% OF EMPLOYEES
HAVE HIGH LEVELS
OF ANXIETY OR
DEPRESSIVE
SYMPTOMS.

SEVERITY OF DEPRESSIVE SYMPTOMS

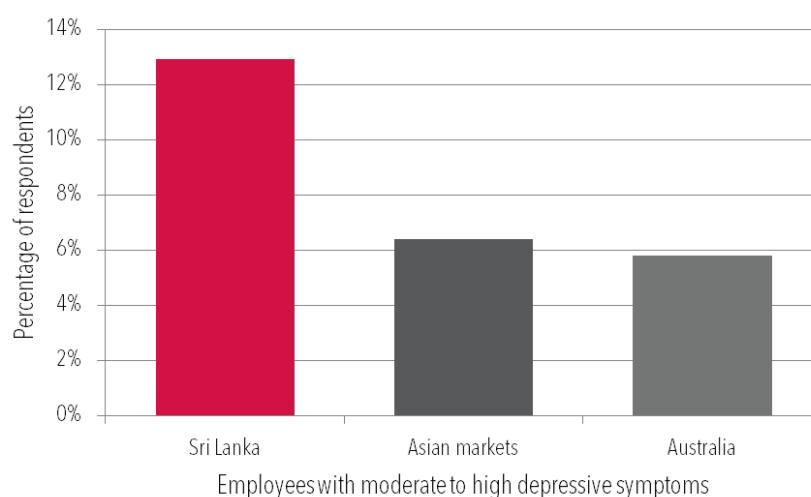


DEPRESSIVE SYMPTOMS

The Kessler Psychological Distress Scale [20], a six-item questionnaire, is intended to yield a measure of distress based on questions about anxiety and depressive symptoms that a person has experienced in the most recent four-week period.

Depression, anxiety and stress can impact significantly on both mental and physical health. Stress management techniques and, where necessary, professional counselling can help address this risk factor in the work context [21].

OVERALL ANXIETY AND DEPRESSION RISK PROFILE



On average, organisations in Sri Lanka offer 2 of the 14 mental wellbeing interventions asked about in the survey. A summary of the use and effectiveness of these interventions is provided in the table below, with a detailed analysis of each intervention provided in the section titled "Workplace health interventions - facilities and services", commencing on page 37.

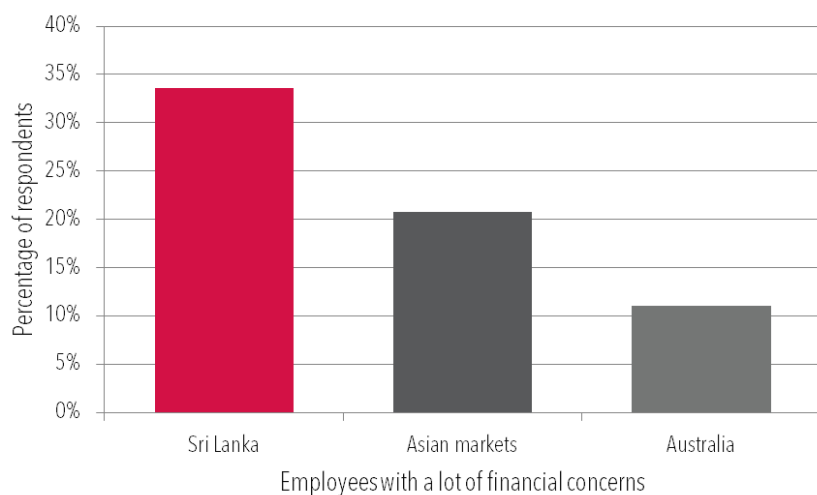
EFFECTIVENESS OF MENTAL HEALTH AND WELLBEING INTERVENTIONS

	SRI LANKA	ASIAN MARKETS	AUSTRALIA
% of participants aware of the interventions on offer	9.1%	11.4%	24.2%
% of participants participating in at least one of the interventions (of those who are aware)	55.7%	64.5%	45.6%
% of participants who feel the interventions positively impacted their health	88.0%	90.9%	79.6%

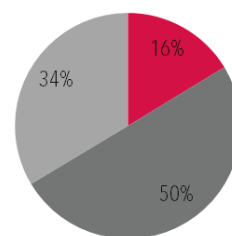
FINANCIAL CONCERNS

One factor potentially underlying mental health problems is financial concerns, which can cause depression and damage relationships [22]. It is measured using the following question: Do you have financial concerns at present? 34% of the analysed employees noted they had a lot of financial concerns at present.

OVERALL FINANCIAL CONCERNS RISK PROFILE

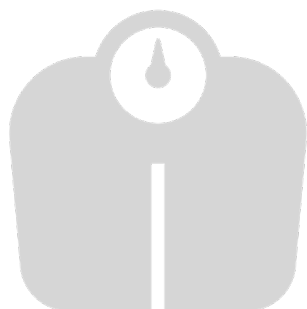


EXTENT OF FINANCIAL CONCERNS



Percentage of respondents with financial concerns

■ None ■ A little ■ A lot



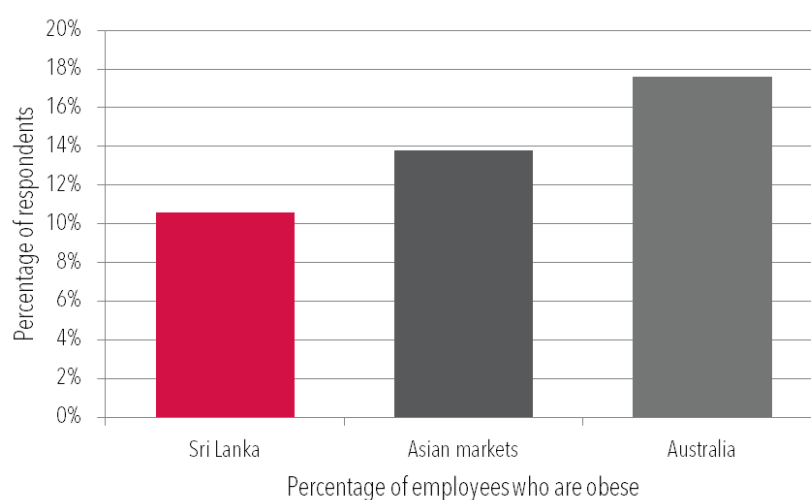
CLINICAL HEALTH

Clinical risk factors can refer to either a range of indicators that act as precursors for disease, or to existing health conditions. This report classifies these as body mass index, biometric indicators such as blood pressure and cholesterol, musculoskeletal conditions, and chronic health conditions. Many of these clinical factors are closely linked to the lifestyle behaviours outlined previously.

BODY MASS INDEX (BMI)

BMI is a measure of a person's weight in relation to their height. A healthy BMI is considered to be in the range 18.5 to 24.9. A BMI of 25 or over puts a person at increased risk for heart disease, high blood pressure, and even certain cancers [23, 24, 25]. Employees with a BMI of 30 or more or of less than 18.5 are classified as obese and underweight, respectively. Studies show that even modest weight loss (around 5%) can have beneficial effects on health, medical expenditures, and improve quality of life [26].

OVERALL BODY MASS INDEX RISK PROFILE



40% of the analysed employees are either overweight or obese. Of the employees who have a BMI classified as 'overweight', 89% reported that their waist circumference is within the healthy range (less than 88 cm for women and less than 101cm for men) and are therefore classified as low risk. In particular, waist circumference can be a more accurate measure of

body composition for those with large muscle mass. Adjusting for waist circumference, the percentage of the employees who are overweight or obese reduces to 14%, compared to the benchmarks of 16% for the Asian markets and 24% for Australia.

HEALTH SCREENING AND CLINICAL INDICATORS

Employees can monitor their clinical risk factors by undergoing regular screening tests to assist in the early detection and treatment of chronic diseases.

The three most commonly screened biometric indicators are blood pressure, cholesterol and blood glucose.

High blood pressure, even 'minor high' blood pressure (referred to as prehypertension), is a risk factor for a range of conditions – in particular, stroke [27]. Values of 140 over 90 are considered as first stage hypertension according to international standards, with values above that posing increasing health risk [28].

Cholesterol is measured in milligrammes per decilitres of blood (mg/dl). While cholesterol is a product produced by the body it is also found in foods, which can raise cholesterol in the body to unhealthy levels.

Blood glucose, or blood sugar, can be measured in different ways, and the survey asked about non-fasting or random blood sugar levels.

37% OF THE
EMPLOYEES HAVE
HAD ALL THREE OF
BLOOD PRESSURE,
CHOLESTEROL AND
GLUCOSE TESTED IN
THE PAST 12 MONTHS.

37% of the analysed employees have had all three of blood pressure, cholesterol and glucose tested in the past 12 months.

The tables below summarise both employees' awareness of, and the percentage who are at elevated risk for, these clinical factors.

HEALTH SCREENING PARTICIPATION AND RISK

	PERCENTAGE OF RESPONDENTS TESTED IN PAST 12 MONTHS (PERCENTAGE AT RISK IN PARENTHESES)*		
	SRI LANKA	ASIAN MARKETS	AUSTRALIA
Blood pressure	68% (45%)	84% (48%)	80% (46%)
Cholesterol	46% (6%)	57% (9%)	50% (8%)
Blood glucose	50% (4%)	57% (4%)	46% (4%)
All 3	37% (0%)	48% (0%)	39% (0%)

* Of those who recalled their result.

72% OF EMPLOYEES
REPORT SYMPTOMS
OF ONE OR MORE
MUSCULOSKELETAL
CONDITIONS.

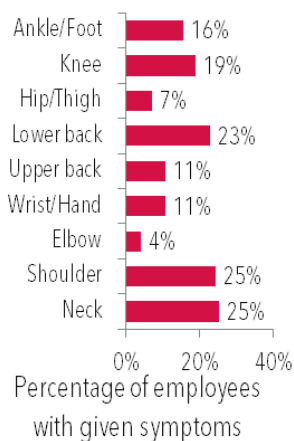
MUSCULOSKELETAL CONDITIONS

Musculoskeletal (MSK) disorders relate to any health problem involving muscles, bones and joints. MSK problems are very common, and many forms may arise through contemporary forms of office work. Indeed, lack of positive practice to support people with musculoskeletal disorders in work can have different types of costs, from lost earnings, to reduced productive working time and early retirement, with an accompanying strain on both household incomes and the national welfare system [29, 30].

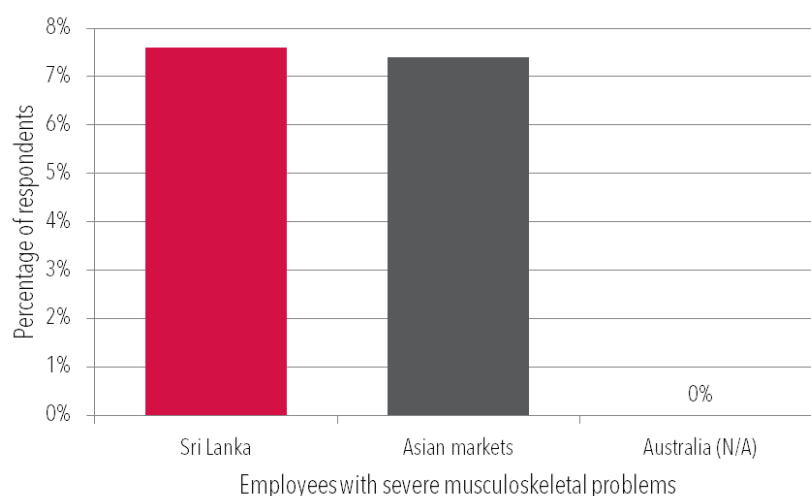
72% of employees reported one or more musculoskeletal conditions, compared to the benchmarks of 84% and 84% for the Asian markets and Australia, respectively.

The most common symptoms reported in Sri Lanka are lower back and shoulder while 28% of the employees report no symptoms. 23% of the analysed employees indicate that their condition prevented them from doing normal work at home or away from home and 8% indicate that the pain or discomfort caused them to take time off work.

COMMON MUSCULOSKELETAL SYMPTOMS



OVERALL MUSCULOSKELETAL CONDITIONS RISK PROFILE



CHRONIC CONDITIONS

Chronic conditions have become much more common as populations age and new treatments allow people to live longer with diseases. There are a number of important lifestyle factors that increase the risk for developing a chronic condition, such as smoking, poor diet, lack of exercise, and harmful alcohol use, among others. Employees reported whether they had been told by a doctor that they had one or more of the following chronic

disease risk factors or conditions, including high blood pressure, high cholesterol, diabetes, heart disease, stroke or cancer. 29% of the analysed employees reported one or more chronic conditions compared to 28% in the Asian markets and 37% in Australia.

The table below shows the percentage of employees at risk for preventable common chronic conditions; in other words, those that may be prevented through early detection, improved diet, exercise, and treatment therapy.

EMPLOYEES AT RISK FOR PREVENTABLE COMMON CHRONIC CONDITIONS

	SRI LANKA	ASIAN MARKETS	AUSTRALIA
Heart condition or disease	0.8%	1.1%	1.3%
Kidney condition or disease	1.3%	0.6%	0.7%
Cancer	0.0%	0.3%	0.5%
Diabetes	3.3%	2.4%	1.7%
High blood pressure	2.8%	6.3%	5.4%

On average, organisations in Sri Lanka offer 4 of the 19 health support interventions asked about in the survey. A summary of the use and effectiveness of these interventions is provided in the table below, with a detailed analysis of each intervention provided in the section titled “Workplace health interventions – facilities and services”, commencing on page 37.

EFFECTIVENESS OF HEALTH SUPPORT INTERVENTIONS

	SRI LANKA	ASIAN MARKETS	AUSTRALIA
% of participants aware of the interventions on offer	13.1%	20.6%	18.1%
% of participants participating in at least one of the interventions (of those who are aware)	70.9%	84.0%	66.6%
% of participants who feel the interventions positively impacted their health	82.3%	91.9%	74.7%

THE COST OF
EMPLOYEE SELF-
REPORTED ABSENCE
AND PRESENTEEISM
IS ESTIMATED AT LKR
2,695,057 PER YEAR
ON AVERAGE FOR
ORGANISATIONS IN SRI
LANKA.

ABSENCE, PRESENTEEISM AND PRODUCTIVITY

There is substantial evidence concerning the relationship between employee health and wellbeing and an organisation's productivity.¹⁰ The link between an organisation's productivity and employee health and wellbeing can be explored through two measures – absence and presenteeism.

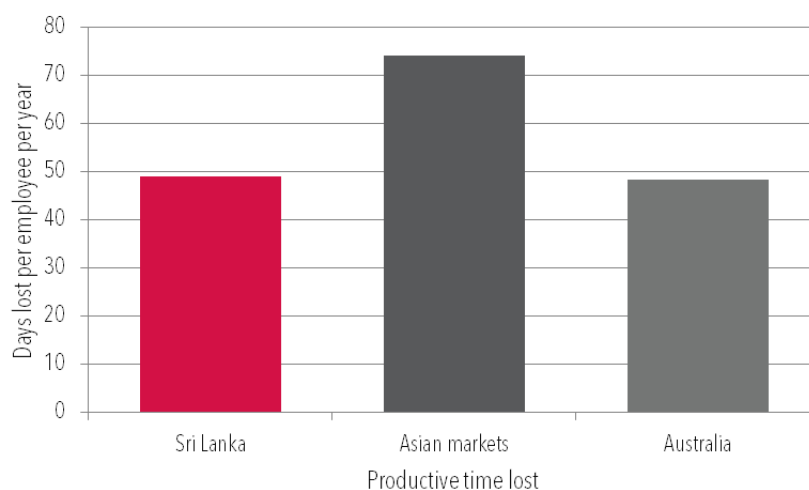
Absence refers to the actual absence of employees from work. Absence due to health problems is relatively easy to measure as detailed records of employee sickness absence are generally kept by organisations.

Presenteeism due to health problems refers to reduced productivity at work. While present at work, employees are limited or constrained by health problems to carry out their daily activities, resulting in productivity loss [31]. Contrary to absence, presenteeism due to ill health is more difficult to measure, but a range of survey tools are currently available to obtain a proxy of an organisation's presenteeism levels.¹¹

One widely validated tool to measure self-reported absence and presenteeism – and in turn, productivity loss – is the Work Productivity and Activity Impairment (WPAI) Questionnaire.¹² The WPAI has been used in a wide range of studies to measure the loss of productivity from both general health problems as well as from specific conditions. In the Sri Lanka's Healthiest Workplace survey, the general health WPAI (WPAI-GH) has been used.

The graph below expresses as a percentage the lost productive time experienced by the analysed employees as a result of health-related absence and presenteeism. This is calculated using the employees' answers to the WPAI questionnaire and their self-reported working hours per week.

OVERALL PRODUCTIVITY PROFILE



¹⁰ For an introduction see [31].

¹¹ For an overview of methods for the measurement of presenteeism see [32, 33].

¹² All information on the WPAI can be found here: www.reillyassociates.net/WPAI_General.html

Expressed as a percentage of available working hours, the employees lost 20.4% of working hours due to ill-health related absence and presenteeism in the week prior to the survey, compared to 28.3% in the Asian markets and 18.9% in Australia. This equates to 53.2 days lost per employee per year on average for Sri Lanka (assuming a five day working week). In order to quantify the productivity loss due to absence and presenteeism, the number of lost working hours is multiplied by the compensation (wage) that employees receive. This method of costing is referred to in the literature as the Human Capital Approach (HCA) and is widely used because of its computational ease.¹⁴

For Sri Lanka, the estimated average yearly cost of health-related absence and presenteeism per organisation is estimated at LKR 2,695,057.

Please note that this estimate is extrapolated from the employees who completed the survey, and is based on their self-reported absence and presenteeism during the week prior to the survey. More detail and information on determining productivity loss can be found in Appendix B.

14 Other methods also exist. However, these require much more data collection in order to generate estimates.



WORK ENGAGEMENT

Research conducted using Britain's Healthiest Workplace data has demonstrated a clear relationship between ill-health and lost productivity [34]. Indeed, the analysis shows that distinct lifestyle behaviours, for example, exercise or nutrition habits, can impact significantly on short-term productivity through presenteeism. This loss is beyond the productive time loss that employers experience due to employee absence, often driven by chronic health conditions. Two other key factors influencing employee productivity are job satisfaction and work engagement, which are discussed in detail below.

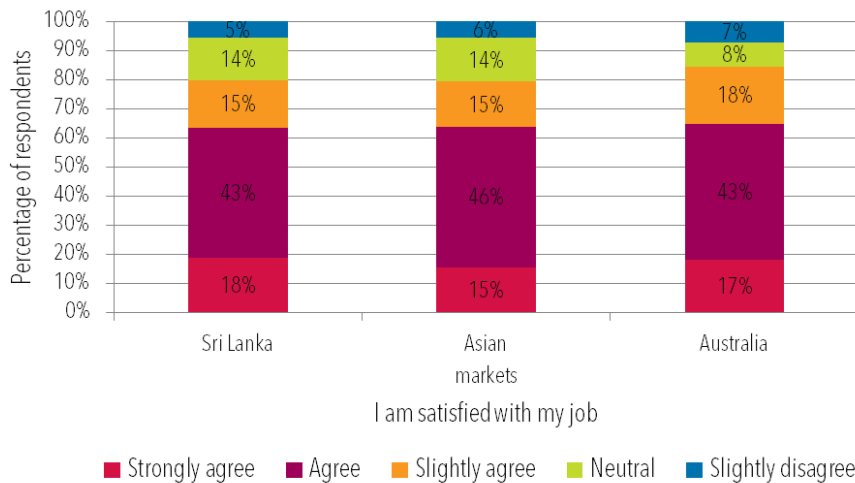
JOB SATISFACTION AND WORK ENGAGEMENT

Employee engagement refers to the amount of energy, dedication and focus people bring to their work. It is currently regarded as one of the key 'people' factors that differentiate higher and lower levels of organisational performance on a range of indicators. Evidence suggests that there is a relationship between improved lifestyle and clinical health, and increased work engagement.

The graph below indicates employee satisfaction with their jobs and in turn reflect on levels of employee engagement. The assumption underlying this measure is that satisfied employees are engaged and full of energy, which in turn will contribute to organisational performance. The link between employee satisfaction and organisational performance has been explored in various studies, which found that employee satisfaction and engagement can impact business outcomes for a wide range of organisations [35].

Job satisfaction and work engagement are measured in a number of ways. A commonly asked question to measure job satisfaction is the level of agreement with the statement: "all in all I am satisfied with my job". The response to this question is shown in the graph below.

BREAKDOWN OF EMPLOYEE JOB SATISFACTION



Work engagement comprises a wider set of dimensions related to an employee's attitude to their job and their organisation. Like job satisfaction, it is assumed to be the opposite of 'burn-out' [36]. To measure work engagement the Utrecht Work Engagement Scale-9 (UWES-9) was used, which captures the following three dimensions of work engagement through nine questions:

Vigour

- At my work, I feel bursting with energy
- At my job, I feel strong and vigorous
- When I get up in the morning, I feel like going to work

Dedication

- I am enthusiastic about my job
- I am proud of the work that I do
- My job inspires me

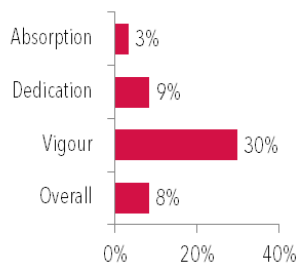
Absorption

- I am immersed in my work
- I get carried away when I am working
- I feel happy when I am working intensely

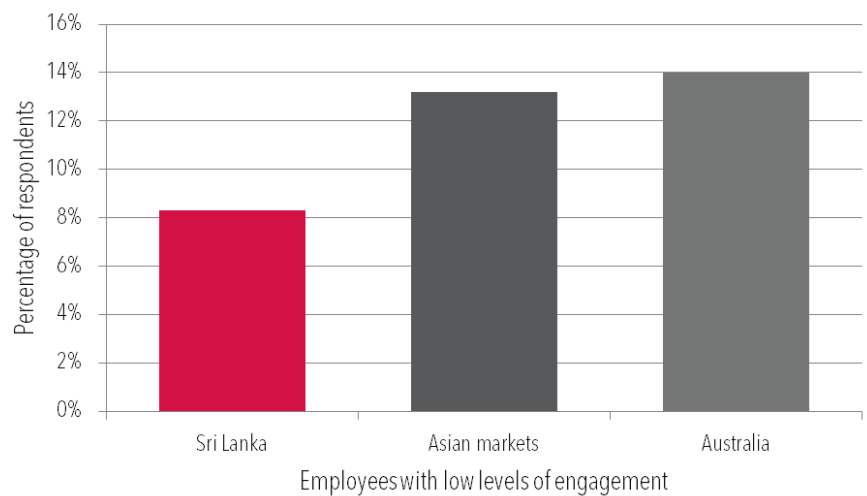
These three dimensions are defined as follows [36]: “Engagement is a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption. Rather than a momentary and specific state, engagement refers to a more persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual, or behaviour. Vigour is characterised by high levels of energy and mental resilience while working, the willingness to invest effort in one’s work, and persistence even in the face of difficulties. Dedication refers to being strongly involved in one’s work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge. Absorption is characterised by being fully concentrated and happily engrossed in one’s work, whereby time passes quickly and one has difficulties with detaching oneself from work.”

Overall 22% of the employees score high or very high for Work Engagement compared to the benchmarks of 20% in the Asian markets and 13% in Australia. The proportion of employees scoring low or very low on each of these dimensions is shown in the graph.

PERCENTAGE OF LOW ENGAGED



OVERALL WORK ENGAGEMENT PROFILE



A woman with long dark hair, wearing a teal long-sleeved shirt and white pants, is sitting in a meditative lotus position on a white desk. Her eyes are closed, and she has a calm expression. To her right is a light blue mug and a silver laptop. The background features large windows with a view of a city skyline, and the scene is brightly lit with natural light.

PART TWO – THE WORK ENVIRONMENT

There is a growing recognition of the need to develop a comprehensive organisational approach to align health promotion and human resource management practices. The quality of an employee's workplace experience has an impact on health and wellbeing. A direct relationship exists between job design, work-life balance, organisational change, and the health of the workforce. Work intensification and reorganisation, often coupled with technological change, has contributed to an increased incidence of musculoskeletal disorders and mental ill-health. In designing jobs and developing management practices, organisations are urged to make their staff feel valued by the organisation. This process motivates employees to deliver a quality product or service without excessive stress that might lead to poor health [37].



LEADERSHIP AND CULTURE

It is increasingly recognised that staff health and wellbeing is more than a matter of purely individual attention. The health, safety and wellbeing of staff can directly contribute to organisational success; a healthy workforce reduces costs in the form of sickness absence, lowers spending on staff turnover, reduces ill-health retirement and subsequently increases productivity [38]. Senior management, by taking an interest in health and wellbeing issues, are increasingly aware of the key elements to improving health and wellbeing at the workplace [39]. Line managers should play a key role in ensuring that workplaces are settings that promote good health. Good practice ensures that performance on staff health and wellbeing is regularly reported on, and discussed, at board or other management levels – and that action is taken on any existing and emerging problems with regard to the health and wellbeing of the workforce. Efficient practice further ensures that staff health and wellbeing is at the heart of line manager training, development and appraisal. At the same time, line managers should understand that the health and wellbeing of the workforce is their responsibility, and organisations should support them to act accordingly [39].

PERCEPTION OF LEADERSHIP AMONG THE EMPLOYEES

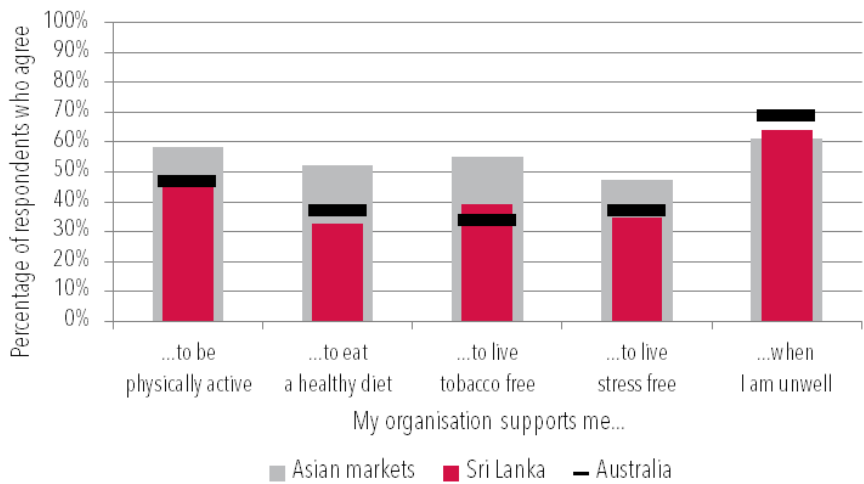
	% OF PARTICIPANTS WHO AGREE/STRONGLY AGREE		
	SRI LANKA	ASIAN MARKETS	AUSTRALIA
My line manager cares about my health and wellbeing	65%	55%	76%
My line manager encourages me at work	73%	61%	75%
Leaders view the level of employee health and wellbeing as an important indicator of the organisation's success.	60%	66%	57%



ORGANISATIONAL SUPPORT

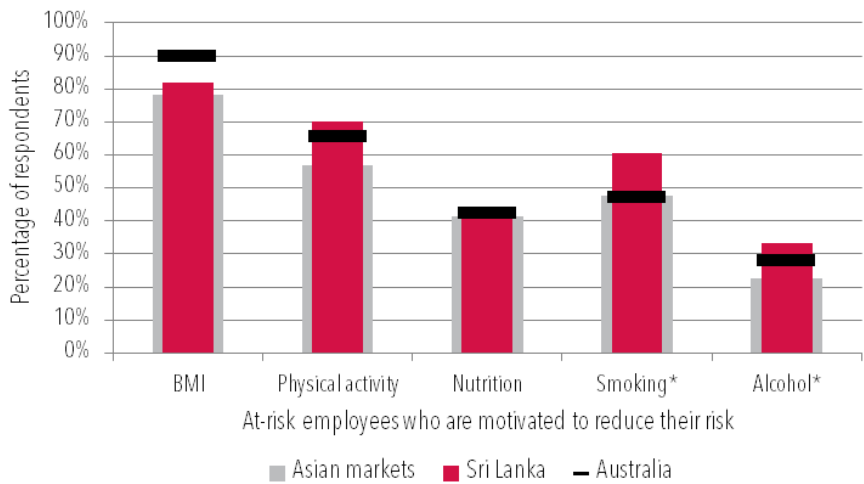
Even in areas where the employees are less willing to change of their own volition, creating an environment conducive to change and a culture of health within the organisation may provide them with extra motivation [40]. The graph below shows the areas in which employees indicate they feel supported by their organisation.

EMPLOYEE PERCEPTION OF ORGANISATIONAL SUPPORT



Linked to this, and as described earlier, the areas in which the greatest number of the employees are motivated to change are physical activity and weight.

EMPLOYEE MOTIVATION TO CHANGE



* The percentages for alcohol and smoking are based solely on those employees who consume alcohol or are active smokers.

Organisational support can express itself in various ways and the table below indicates how deeply health and wellness is embedded in an organisation's culture, through assessing levels of both investment and accountability for employee wellbeing.

KEY CULTURAL FACTORS

	PERCENTAGE/AVERAGE OF ORGANISATIONS		
	SRI LANKA	ASIAN MARKETS	AUSTRALIA
Budget for health and wellbeing facilities and services exists	65%	52%	60%
Staff health and wellbeing is discussed at the board level at least once a year	83%	82%	90%
Staff health and wellbeing is discussed at the executive committee level at least once a year	94%	82%	83%
Staff health and wellbeing is discussed at the middle management level at least once a year	91%	80%	94%
Staff health and wellbeing is discussed at all staff level at least once a year	84%	83%	97%
Providing incentives for participation and/or recognising or rewarding employees for healthy behaviour and health improvement	35%	44%	29%

WORKPLACE HEALTH INTERVENTIONS – FACILITIES AND SERVICES

Expanding on the summarised information provided earlier, the following tables provide an overview of the interventions offered by organisations in Sri Lanka and the share of other organisations in the Healthiest Workplace by AIA Vitality (AIA HW) survey that offer those same interventions.

In addition, the tables detail the percentage of employees using and benefitting from these interventions, benchmarked against utilisation and perceived benefit amongst employees from other organisations that offer the interventions.

PHYSICAL ACTIVITY

	% OF ORGANISATIONS IN SRI LANKA THAT OFFER THE INTERVENTION	% OF ORGANISATIONS IN AIA HW THAT OFFER THE INTERVENTION	% OF EMPLOYEES INDICATING THEY'VE USED THE INTERVENTION. AIA HW BENCHMARK IN PARENTHESES	% OF EMPLOYEES INDICATING THE INTERVENTION IMPROVED THEIR HEALTH. AIA HW BENCHMARK IN PARENTHESES
Provision of information on physical activity	24%	30%	58% (65%)	90% (91%)
Onsite gym or fitness facility	16%	29%	40% (62%)	88% (93%)
Offsite gym / health club membership discount	30%	32%	55% (43%)	84% (93%)
Bicycle storage facilities	16%	22%	65% (32%)	100% (93%)
Bicycle purchase scheme	5%	2%	n/a (27%)	n/a (100%)
Fitness classes	19%	27%	53% (53%)	82% (93%)
Locker room with showers available at worksite	22%	25%	49% (57%)	87% (90%)
Walk or cycle to work	14%	16%	61% (57%)	82% (93%)
Sponsored walks or runs	19%	30%	68% (56%)	74% (92%)
Corporate challenges	24%	32%	70% (55%)	63% (89%)
Running clubs or other informal groups	14%	26%	50% (52%)	100% (94%)
Bootcamps	8%	8%	n/a (39%)	n/a (96%)
Wearable fitness trackers or apps	11%	17%	72% (82%)	72% (91%)
Stairs initiatives (e.g. inviting stairs or stair challenges)	24%	20%	74% (71%)	84% (90%)
Other exercise opportunities (e.g. walking trails)	5%	13%	100% (69%)	100% (86%)

NUTRITION

	% OF ORGANISATIONS IN SRI LANKA THAT OFFER THE INTERVENTION	% OF ORGANISATIONS IN AIA HW THAT OFFER THE INTERVENTION	% OF EMPLOYEES INDICATING THEY'VE USED THE INTERVENTION. AIA HW BENCHMARK IN PARENTHESES	% OF EMPLOYEES INDICATING THE INTERVENTION IMPROVED THEIR HEALTH. AIA HW BENCHMARK IN PARENTHESES
Healthy eating information	35%	38%	76% (77%)	82% (91%)
Talks or workshops on nutrition and its health impacts	30%	32%	81% (71%)	77% (91%)
Overweight and body fat assessment for customised nutritional advices	16%	25%	52% (78%)	91% (95%)
Calorie intake calculator or canteen menus with calorie information	8%	13%	50% (75%)	100% (93%)
Healthy food alternatives at canteens	27%	17%	79% (82%)	91% (91%)
Healthy food alternatives in vending machines	3%	7%	20% (56%)	100% (87%)
Fresh fruit and vegetables in the workplace	19%	31%	64% (88%)	100% (89%)
Dietician/nutritionist services	5%	13%	n/a (60%)	n/a (93%)
Access to fresh drinking water (other than tap water)	51%	63%	98% (95%)	87% (90%)
Access to a microwave	43%	65%	79% (82%)	74% (78%)
Access to a fridge	43%	68%	85% (89%)	81% (81%)

SMOKING

	% OF ORGANISATIONS IN SRI LANKA THAT OFFER THE INTERVENTION	% OF ORGANISATIONS IN AIA HW THAT OFFER THE INTERVENTION	% OF EMPLOYEES INDICATING THEY'VE USED THE INTERVENTION. AIA HW BENCHMARK IN PARENTHESES	% OF EMPLOYEES INDICATING THE INTERVENTION IMPROVED THEIR HEALTH. AIA HW BENCHMARK IN PARENTHESES
Smoking cessation information	16%	22%	58% (41%)	80% (88%)
Online smoking cessation programme	0%	4%	n/a (44%)	n/a (91%)
Group smoking cessation programme	3%	4%	n/a (59%)	n/a (93%)
Individual smoking cessation programme	5%	12%	n/a (38%)	n/a (95%)
Cognitive Behavioural Therapy or counselling	3%	10%	n/a (45%)	n/a (86%)
Other assistance to quit smoking	11%	5%	n/a (55%)	n/a (100%)

ALCOHOL

	% OF ORGANISATIONS IN SRI LANKA THAT OFFER THE INTERVENTION	% OF ORGANISATIONS IN AIA HW THAT OFFER THE INTERVENTION	% OF EMPLOYEES INDICATING THEY'VE USED THE INTERVENTION. AIA HW BENCHMARK IN PARENTHESES	% OF EMPLOYEES INDICATING THE INTERVENTION IMPROVED THEIR HEALTH. AIA HW BENCHMARK IN PARENTHESES
Information on problem drinking	11%	16%	58% (45%)	100% (92%)
Alcohol counselling	3%	10%	n/a (42%)	n/a (94%)
Other assistance related to problem drinking	8%	4%	n/a (67%)	n/a (100%)

SLEEP

	% OF ORGANISATIONS IN SRI LANKA THAT OFFER THE INTERVENTION	% OF ORGANISATIONS IN AIA HW THAT OFFER THE INTERVENTION	% OF EMPLOYEES INDICATING THEY'VE USED THE INTERVENTION. AIA HW BENCHMARK IN PARENTHESES	% OF EMPLOYEES INDICATING THE INTERVENTION IMPROVED THEIR HEALTH. AIA HW BENCHMARK IN PARENTHESES
Information on good sleeping habits	11%	11%	62% (66%)	88% (88%)
Place where you can rest	35%	25%	66% (72%)	85% (91%)
Apps/programmes promoting healthy sleep	3%	4%	60% (65%)	100% (89%)
Events promoting healthy sleep	5%	5%	50% (54%)	100% (92%)
Other	0%	1%	n/a (n/a)	n/a (n/a)

FATIGUE

	% OF ORGANISATIONS IN SRI LANKA THAT OFFER THE INTERVENTION	% OF ORGANISATIONS IN AIA HW THAT OFFER THE INTERVENTION	% OF EMPLOYEES INDICATING THEY'VE USED THE INTERVENTION. AIA HW BENCHMARK IN PARENTHESES	% OF EMPLOYEES INDICATING THE INTERVENTION IMPROVED THEIR HEALTH. AIA HW BENCHMARK IN PARENTHESES
Information on fatigue	0%	0%	42% (58%)	80% (92%)
Fatigue management interventions	0%	0%	33% (51%)	100% (94%)

MENTAL HEALTH AND WELLBEING

	% OF ORGANISATIONS IN SRI LANKA THAT OFFER THE INTERVENTION	% OF ORGANISATIONS IN AIA HW THAT OFFER THE INTERVENTION	% OF EMPLOYEES INDICATING THEY'VE USED THE INTERVENTION. AIA HW BENCHMARK IN PARENTHESES	% OF EMPLOYEES INDICATING THE INTERVENTION IMPROVED THEIR HEALTH. AIA HW BENCHMARK IN PARENTHESES
Training on common mental health conditions (such as depression, anxiety disorders etc.)	30%	22%	57% (53%)	74% (85%)

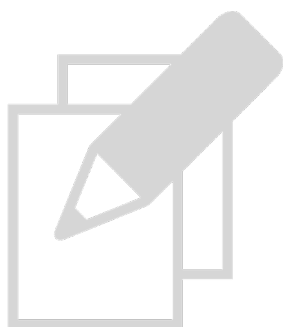
Resilience, energy or stress management classes or programmes	27%	24%	46% (56%)	100% (89%)
Mindfulness classes or programmes	27%	20%	48% (50%)	91% (85%)
Massage or relaxation classes or programmes	11%	16%	43% (64%)	100% (93%)
Counselling or psychotherapy services	30%	19%	23% (36%)	68% (89%)
Employee Assistance Programmes	41%	35%	39% (24%)	78% (85%)
Workload or time management training	32%	23%	49% (51%)	82% (88%)
Volunteering or charity work	46%	44%	61% (58%)	97% (87%)
Coaching	41%	30%	50% (46%)	85% (88%)
Other mental health support - onsite/telephone/mobile app/online	24%	17%	27% (47%)	100% (92%)
Cognitive Behavioural Therapy or other types of psychological therapy	3%	5%	100% (46%)	100% (92%)
Mental health and wellbeing information	30%	31%	36% (51%)	76% (90%)
Financial wellbeing courses or programmes	16%	20%	53% (56%)	93% (91%)
Other	0%	2%	n/a (n/a)	n/a (n/a)

DIGITAL HEALTH

	% OF ORGANISATIONS IN SRI LANKA THAT OFFER THE INTERVENTION	% OF ORGANISATIONS IN AIA HW THAT OFFER THE INTERVENTION	% OF EMPLOYEES INDICATING THEY'VE USED THE INTERVENTION. AIA HW BENCHMARK IN PARENTHESES	% OF EMPLOYEES INDICATING THE INTERVENTION IMPROVED THEIR HEALTH. AIA HW BENCHMARK IN PARENTHESES
Wellbeing app targeting a broad range of physical health, mental health and lifestyle issues	14%	15%	72% (78%)	61% (84%)
Wellbeing app targeting specific health issues, such as weight, exercise, or mental health	5%	11%	82% (78%)	67% (83%)
Online coaching	3%	5%	100% (59%)	33% (86%)
Surveys	3%	7%	0% (88%)	n/a (64%)
Digital platform incentivising healthy behaviours	11%	11%	68% (76%)	85% (86%)
Other	3%	2%	n/a (88%)	n/a (100%)

OTHER HEALTH SUPPORT

	OFFERED BY YOUR ORGANISATION	% OF ORGANISATIONS THAT OFFER THE INTERVENTION	% OF YOUR EMPLOYEES INDICATING THEY'VE USED THE INTERVENTION. COUNTRY BENCHMARK IN PARENTHESES.	% OF YOUR EMPLOYEES INDICATING THE INTERVENTION IMPROVED THEIR HEALTH. COUNTRY BENCHMARK IN PARENTHESES
Provision of health information	59%	53%	61% (65%)	71% (84%)
Clinical screening (e.g., blood glucose, blood pressure)	49%	57%	66% (80%)	82% (88%)
Condition specific screening, such as for cancer	24%	25%	30% (56%)	86% (91%)
Disease management (management of long term conditions such as diabetes, asthma, chronic obstructive pulmonary disease)	24%	25%	45% (63%)	75% (93%)
Musculoskeletal disorders prevention	11%	16%	38% (63%)	83% (96%)
Support in returning to work after illness	59%	46%	63% (41%)	87% (90%)
Employee assistance programme	43%	41%	44% (36%)	83% (87%)
Nurse advice line	22%	19%	67% (57%)	85% (91%)
Occupational health / safety programme	59%	52%	70% (66%)	90% (89%)
Vaccination (e.g. flu vaccine) onsite or in partnered clinics	16%	48%	51% (72%)	89% (93%)
On-site health clinics / medical services	46%	28%	70% (79%)	86% (91%)
Wellness days where employees have health checks and get advice on improving their wellbeing	32%	38%	73% (76%)	87% (90%)
Team discussions and activities	35%	34%	69% (77%)	81% (90%)
Workshops on physical and mental health issues	43%	39%	57% (64%)	82% (88%)
GP advice line	11%	13%	36% (56%)	75% (94%)
Virtual GP service (telemedicine)	11%	9%	38% (60%)	83% (91%)
Women health and wellness talks or workshops: fertility, healthy family planning, workplace and motherhood, disease and cancer prevention, travel medicine prevention/communicable disease prevention	27%	21%	54% (61%)	81% (90%)
Men health and wellness talks or workshops: fertility, disease and cancer prevention, travel medicine prevention/communicable disease prevention	11%	16%	41% (57%)	82% (91%)
Children disease prevention	3%	10%	50% (66%)	75% (97%)



EVIDENCE FOR EMPLOYERS

Workplace wellness programmes typically aim to change health-related behaviours of employees, such as getting smokers to quit, supporting weight loss, or promoting physical fitness. When studies assess the outcomes of health and wellbeing or wellness programmes, positive effects are found for about half of the studies [41]. Some studies have shown that mere participation in any workplace wellness programme can have an effect, as it can stimulate participants to adopt more healthy lifestyles [40]. The likelihood that programmes will actually achieve these outcomes depends on a number of factors. A recent study identified some key facilitators through a review of academic studies which may help in the design of workplace wellness programmes [42]. These can be captured as follows:

1. **Services** – a programme needs to offer a good range of services of interest to employees and that are grounded in evidence
2. **Incentives** – a programme needs to create opportunities for employees to engage. A variety of mechanisms such as ensuring access, and monetary and non-monetary rewards, can improve engagement
3. **Promotion** – broad outreach and various means of dissemination can help to inform employees of the existence and importance of a specific initiative or health and wellbeing programme
4. **Leadership** – support from both board level and direct supervisors is important to generate widespread participation
5. **Evaluation** – better programmes always aim to improve quality by monitoring progress and soliciting feedback from staff

We look at these in turn.

SERVICES

Guidance in a number of countries has put forth the concept of comprehensive wellness programmes. 'Comprehensiveness' means providing a range of offerings that target a number of health and wellbeing outcomes. Importantly, they need to be of interest to employees and as such the programmes need to be developed in consultation with employees [43, 44]. There are a number of challenges. Even when services meet the needs of certain types of employees, they may be inadequate

or unattractive to other employees. One study found significant differences in the effect of workplace factors on health outcomes in male employees versus female employees [45]. The literature suggests that more components indicate a more effective wellness programme, both in terms of participation and health and wellbeing outcomes. However, more is not always better. Recent research conducted by RAND Europe using Britain's Healthiest Workplace data found that simply offering more services without components that drive participation in, and the promotion of, health and wellbeing programmes is likely to be ineffective [46]. Services can also have more effect when combined. Some studies show that programmes combining both occupational health and safety (e.g. exposure to hazardous substances) with interventions on health behaviours (e.g. smoking) may prove more effective than programmes focused on either intervention in isolation [47].

INCENTIVES

Employees are only likely to benefit from health and wellbeing programmes if they participate. Participation remains a challenge for any health and wellbeing programme. Participation rates are typically below 50 per cent of eligible employees [48, 49, 50]. In Healthiest Workplace by AIA Vitality, we see very low participation rates below 10 per cent of eligible employees for a number of interventions that employers offer, which can undermine the logic for offering health and wellbeing programmes. Incentives are increasingly used to motivate participation. However, the level, type, and structure of incentives vary across health and wellbeing programmes, with some organisations using positive incentives (monetary or non-monetary) that may lead to higher participation, while others use alternative incentive structures like penalties for non-participation. Recent research in the US unsurprisingly suggests that incentives or penalties have different effects across sectors and worker groups (e.g. female or male workers; older and younger workers [51]). Finally, access is important. Employees clearly prefer programmes conducted at convenient times and places, including paid time off during the workday [44].

PROMOTION

Roughly half of all employers offer some type of health and wellbeing programme [52]. The data collected through Healthiest Workplace by



AIA Vitality clearly show a significant gap between what employers say they offer and what employees perceive the offer to be. It appears that awareness of some interventions among employees is low and as such the take-up of interventions is low as well. Not surprisingly, employees who use the intervention report that the intervention has benefited their health and wellbeing. This speaks to the priorities of a programme aligning with the priorities of the participant. Communication clearly needs to go beyond raising awareness of what a health and wellbeing offer is and also allow the views of employees to be represented in the design and implementation of the health and wellbeing programme. Communication can also improve the outcomes of a programme. One study showed that multiple follow-up messages throughout the running of the programme can be more successful in affecting behaviour and outcomes than one larger educational session at the start of a programme [53].



LEADERSHIP

Leadership is often recognised as one of the most important drivers of organisational change [54]. Having management involved in health promotion efforts has been linked with increased impact in terms of self-reported health and absenteeism [55]. Acknowledging the role of the workplace as a setting for health promotion is a view not necessarily held by all levels of management [50]. A qualitative study of three Canadian companies implementing interventions to manage musculoskeletal conditions found that while senior management was supportive of the interventions, middle-management was apathetic or, in one case, resistant to change [56]. In this case, participation in the programme remained low and as a result, the effectiveness of the programme was limited. The Britain's Healthiest Workplace data show that those organisations that discuss health and wellbeing at board level, report on health and wellbeing internally, or have engaged senior leadership have significantly higher participation in their health and wellbeing programmes than organisations that do not. The presence of these components by itself is also associated with higher participation in programmes.

EVALUATION

An essential component of a health and wellbeing programme is a continuous, systematic evaluation of design and impact. However, evaluations are rare among wellness programmes and where evaluation

does exist, few are systematic or continuous. This is potentially a reason for the mixed results from wellness programme evaluations and the disconnect between best practices and strategies in use [57].

One possible reason for the disconnect between research and practice in wellness programmes may be the burden that regular evaluation of programme impact presents to employers, although it seems obvious that it is impossible to know what, and to what extent, a programme is effective without proper monitoring and evaluation in place. The experience from Healthiest Workplace by AIA Vitality is that organisations with better management information on health and wellbeing also tend to have higher participation in wellbeing programmes. In addition, UK employers are becoming increasingly interested in building the evidence base around health and wellbeing programmes.

CONCLUSION

The health and wellbeing of employees makes an important contribution to business success. For this reason, a growing number of employers perceive employee wellbeing programmes as a strategic priority, particularly during challenging economic times.

Proactive management of employees' physical and mental health can produce a range of important business benefits including a reduction in sickness absence, improved productivity and staff engagement, lower staff turnover and a reduction in costs associated with recruitment.

This report provides you with an overview of the employees' unique clinical and lifestyle risk factors and assesses how they are responding to, and engaging in, the existing facilities and services offered.

Collectively this data provides a platform to implement employee wellbeing programmes to mitigate these risks and track organisation's progress. Even a small ongoing investment in the wellbeing of employees can pay big dividends for the business and help to improve the bottom line.

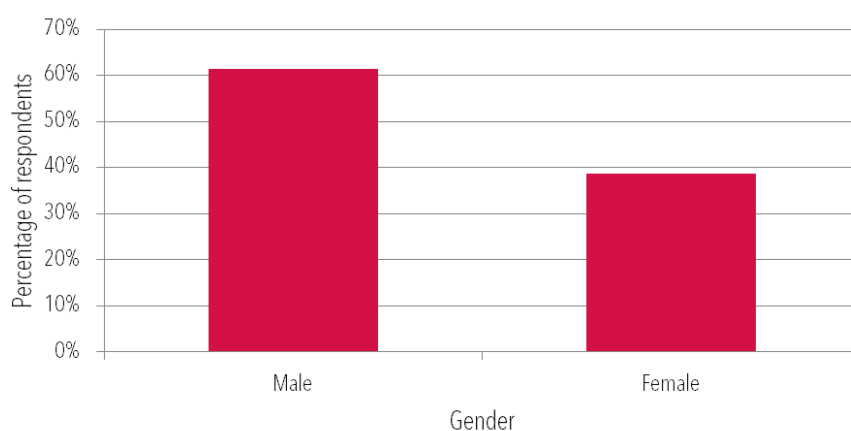
APPENDICES

APPENDIX A

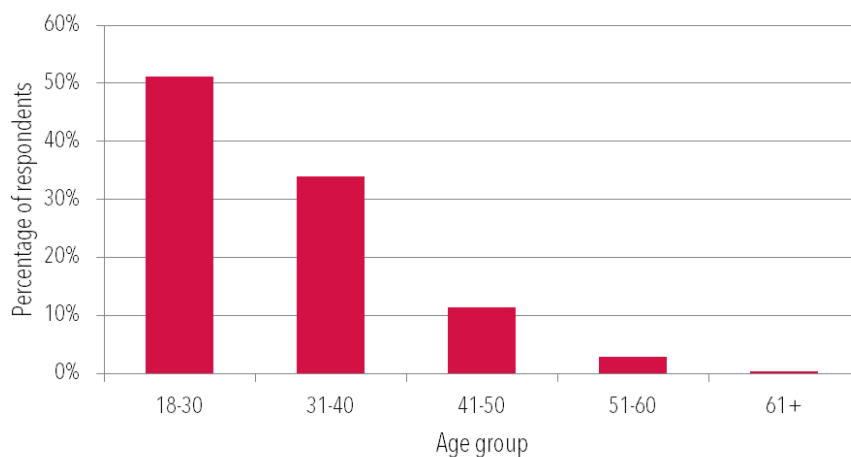
DEMOGRAPHIC BREAKDOWN OF RESPONDENTS

The 2,221 employees that finished the survey in Sri Lanka are represented in the following graphs.

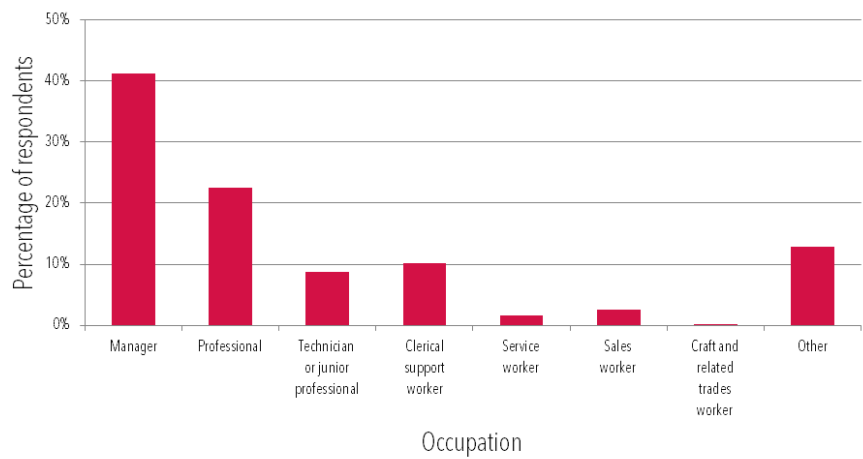
DISTRIBUTION OF RESPONDENTS BY GENDER



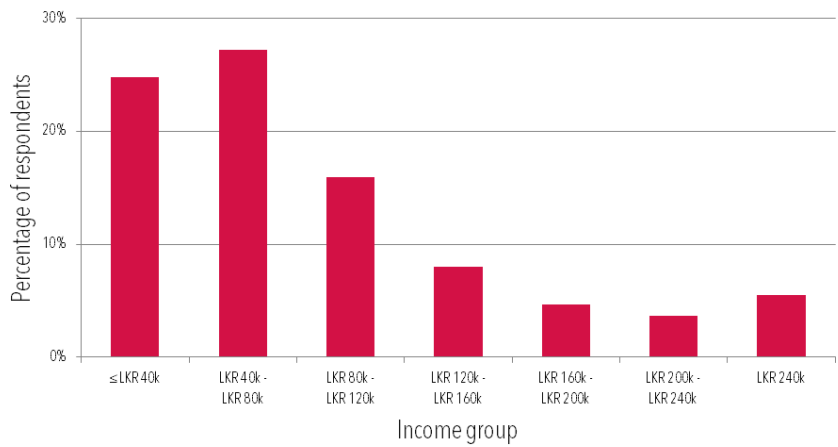
DISTRIBUTION OF RESPONDENTS BY AGE GROUPS



DISTRIBUTION OF RESPONDENTS BY JOB CATEGORY



DISTRIBUTION OF RESPONDENTS ACROSS INCOME GROUPS*



*Respondents who preferred not to provide answer are not included.

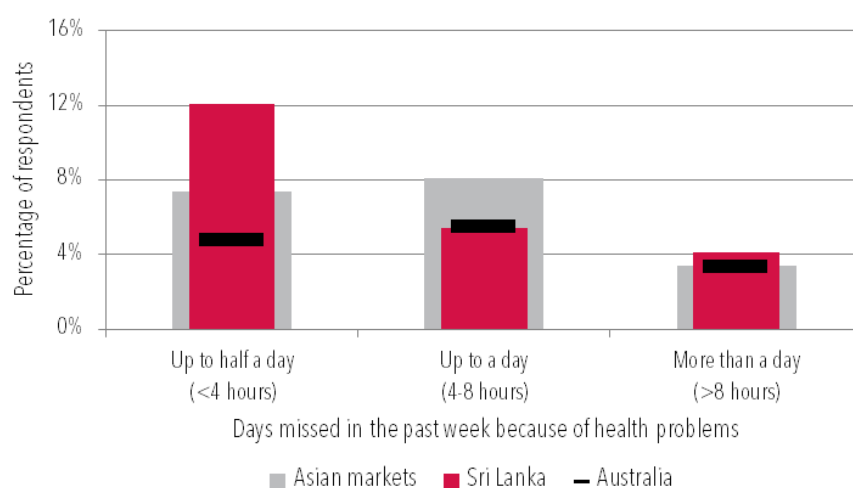
APPENDIX B

CALCULATION OF PRODUCTIVITY LOSS

The Work Productivity and Activity Impairment (WPAI) scale provides an estimate of employee absence based on absence over the week prior to the survey. This measures absence due to health problems and is based on employee self-reporting. Absence is estimated by the answer to the following question:

“During the past seven days, how many hours did you miss from work because of your health problems? Include hours you missed on sick days, times you went in late, left early, etc., because of your health problems. Do not include time you missed to participate in this study.”

ABSENCE DUE TO HEALTH PROBLEMS

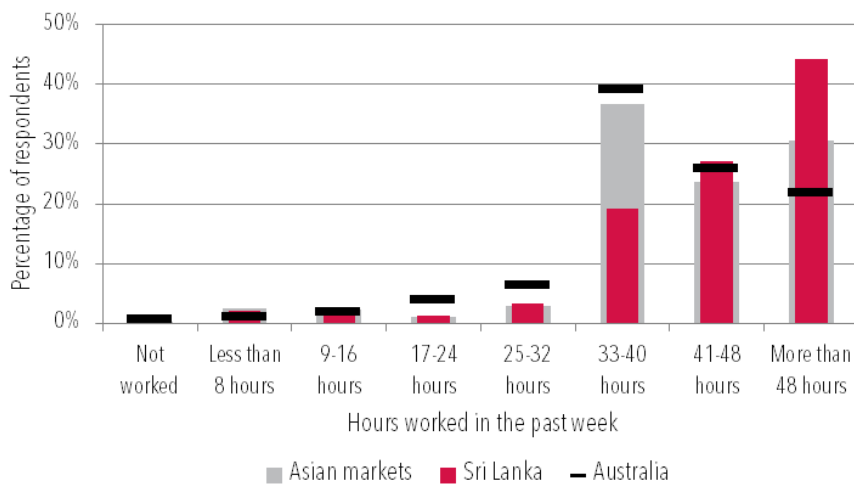


Overall, 78% of respondents in Sri Lanka did not miss any work time due to health problems.

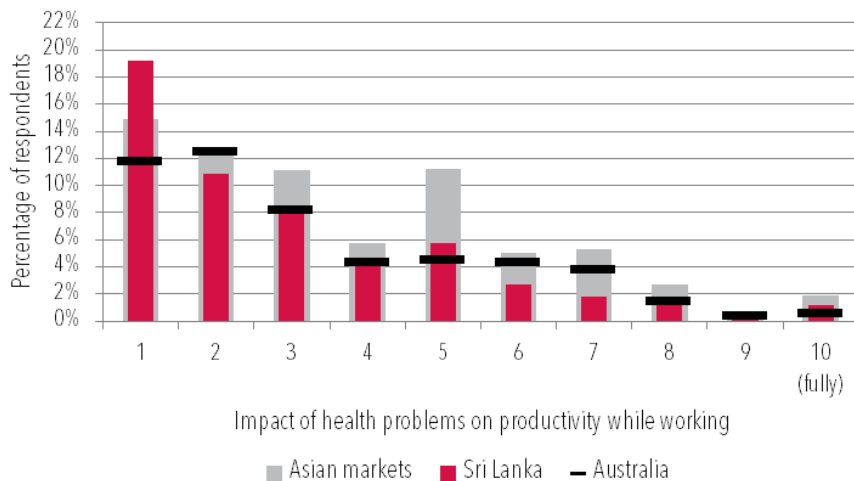
To measure presenteeism – and therefore to get a sense of reduced productivity at work – the general health WPAI (WPAI-GH) scale asks six questions (including the question on absence above). Based on the numerical answers, a number of estimates can be made which assess productivity loss when multiplied with employee wages. In short, to capture presenteeism the WPAI scale takes the total number of hours an employee has actually worked during a week (taking absence and other loss of work into account) and multiplies this measure by the ‘percent of self-estimated level of impact of health problems on productivity during the past seven days’.

Presenteeism is indicated by the answers to the following questions:

"During the past seven days, how many hours did you actually work?"



"During the past seven days, how much did your health problems affect your productivity while you were working?"



Overall, 43% of the respondents in Sri Lanka experienced no impact of health problems on productivity while working, compared to the benchmarks of 28% for the Asian markets and 48% for Australia.

APPENDIX C

RISK FACTOR DEFINITIONS USED IN THIS REPORT

Below is a description of the risk factors referred to in this report and what is considered to be the healthy range (and thus classified as low risk) for each:

HEALTH INDICATOR	DESCRIPTION	HEALTHY RANGE
Body Mass Index (BMI)	BMI is a measure of a person's weight in relation to their height	Between 18.5 and 24.9
Exercise	Cardiovascular exercise of moderate intensity, i.e. the person will breathe heavily, but should be able to talk.	At least 150 minutes of moderate intensity exercise per week or 75 minutes of vigorous exercise
Smoking	Smoking status (current, former or non-smoker)	Non-smoker
Nutrition Nutrition is a broad and complex risk factor. For the purpose of this survey, nutrition was assessed according to the following elements	Fruit and vegetables	At least 5 servings per day
	Whole grains	At least 3 servings per day
	Lean meats	Choose lean meats
	Low fat dairy	Choose low fat or fat-free dairy
	Added fat	Avoid added fats
	Trans fats	Avoid trans fats
	Added salt	Avoid added salt
	Sugary drinks	Less or equal to 1 drink per day
Alcohol	Alcohol intake where one unit is equal to 8mg of alcohol	For men and women: no more than 14 units per week
Mental wellbeing	Defined using the six-item Kessler Psychological Distress Scale	Low levels of psychological distress
Screening	Participation in annual screening	All three health screenings (blood pressure, cholesterol and glucose) completed in the past year, regardless of the results of the checks
Blood pressure	Blood pressure measured in mmHg	Lower than 130/85mmHg
Cholesterol	Total cholesterol level measured in mg/dl	Less than 200 mg/dl
Glucose	Random total glucose level measured in mg/dl	Less than 140 mg/dl

APPENDIX D

THE TEAM BEHIND THE HEALTHIEST WORKPLACE COMPETITION

About AIA & The Healthiest Workplace by AIA Vitality

AIA Group Limited and its subsidiaries (collectively “AIA” or the “Group”) comprise the largest independent publicly listed pan-Asian life insurance group. It has a presence in 18 markets in Asia-Pacific – wholly-owned branches and subsidiaries in Hong Kong, Thailand, Singapore, Malaysia, China, Korea, the Philippines, Australia, Indonesia, Taiwan, Vietnam, New Zealand, Macau, Brunei, Cambodia, a 97 per cent subsidiary in Sri Lanka, a 49 per cent joint venture in India and a representative office in Myanmar.

AIA meets the long-term savings and protection needs of individuals by offering a range of products and services including life insurance, accident and health insurance and savings plans. The Group also provides employee benefits, credit life and pension services to corporate clients. Through an extensive network of agents, partners and employees across Asia-Pacific, AIA serves the holders of 32 million individual policies and over 16 million participating members of group insurance schemes.

At AIA, we believe in the power of insurance to make a positive difference in people’s lives. We do this through our products and services as well as by actively promoting the health and well-being of our customers, employees and agents and the communities in which they live and work. We are committed to helping people to live healthier, longer, better lives.

Investing in the health and wellbeing of employees can save businesses billions of dollars every year. For example, in Asia Pacific, an average of more than 59.8 days¹⁴ are lost to absenteeism and presenteeism per employee every year, so identifying and addressing risks to employee health is critical to business performance.

For employees, participating in The Healthiest Workplace by AIA Vitality will give them a comprehensive overview of their health and wellbeing in terms of lifestyle, clinical indicators, mental health, stress and other areas that may concern them. Each participating employee will also receive a personal report detailing their unique Vitality Age.

Given that so much of our time is spent at work, we think it’s important that we understand, measure and ultimately, improve wellbeing in the workplace. That’s why we have created The Healthiest Workplace by AIA Vitality.



14 Source: The Healthiest Workplace by AIA Vitality 2017



RAND EUROPE

RAND Europe is an independent not-for-profit research institute whose mission is to help improve policy and decision-making through research and analysis. It realises its mission by undertaking objective, balanced, and relevant research and analysis; communicating findings to a wide audience, often through publications, many of which are available on its website¹⁵; working in partnership with clients; and working collaboratively with others. RAND Europe's work lies on the continuum between that of universities and consultancies, combining the academic rigour of universities and the professional, task oriented approach of consultancies. It has uniquely broad experience in the fields of health and employment, having worked for a wide range of government and charitable funders globally. RAND Europe is part of the global RAND Corporation.

RAND Europe has formal links with the University of Cambridge, for instance through the Cambridge Centre for Health Services Research (CCHSR).

REFERENCES

- [1] Wang, H., Naghavi, M., Allen, C., Barber, R. M., Bhutta, Z. A., Carter, A., ... & Coggeshall, M. (2016). Global, regional, and national life expectancy, all-cause mortality, and cause-specific mortality for 249 causes of death, 1980-2015: a systematic analysis for the Global Burden of Disease Study 2015. *The Lancet*, 388(10053), 1459-1544.
- [2] World Health Organization (2010) Global Recommendations on Physical Activity for Health. Geneva: WHO. Available at whqlibdoc.who.int/publications/2010/9789241599979_eng.pdf?ua=1[1]
- [3] Centers for Disease Control and Prevention, Physical Activity and Health. Available at: <https://www.cdc.gov/physicalactivity/basics/pa-health/index.htm>
- [4] Diet, nutrition and the prevention of chronic disease. Report of a joint FAO/WHO expert consultation, Geneva, World Health Organization, 2003 (WHO Technical Report Series, No. 916)
- [5] FAO (2017) What is a serving, 'Focus' webpage. As of 13 July 2017: <http://www.fao.org/english/newsroom/focus/2003/fruitveg2.htm>
- [6] FAO (1997) Carbohydrates in human nutrition. FAO Food and Nutrition Paper - 66. As of 13 July 2017: <http://www.fao.org/docrep/w8079e/w8079e00.htm>
- [7] WHO (2016) Salt reduction Fact sheet. As of 14 July 2017: <http://www.who.int/mediacentre/factsheets/fs393/en/>
- [8] Health and Social Care Information Centre (2015) Statistics on Smoking: England, 2015. Available at www.hscic.gov.uk/catalogue/PUB17526/stat-smok-eng-2015-rep.pdf
- [9] WHO (2015) WHO global report on trends in tobacco smoking 2000-2025. As of 14 July 2017: <http://www.who.int/tobacco/publications/surveillance/reportontrendstobaccosmoking/en>
- [10] Weng W., Ali S. F., Leonardi-Bee J. S. (2012) Smoking and absence from work: Systematic review and meta-analysis of occupational studies, *Addiction* 108: 307-319
- [11] di Castelnuovo A., Costanzo S., Bagnardi V., Donati M. B., Iacoviello L., de Gaetano G. (2006) Alcohol dosing and total mortality in men and women: an updated meta-analysis of 34 prospective studies, *Archives of Internal Medicine*, Volume 166 (22): 2437-2445.

[12] Roerecke M., Rehm J. (2013) Alcohol use disorders and mortality: a systematic review and meta-analysis, *Addiction* 108 (9): 1562-1578.

[13] Rehm J., Baliunas D., Borges G. L., Graham K., Irving H., Kehoe T., Parry C. D., Patra J., Popova S., Poznyak V., Roerecke M., Room R., Samokhvalov A. V., Taylor B. (2010) The relation between different dimensions of alcohol consumption and burden of disease: an overview, *Addiction* Vol. 105(5): 814-843.

[14] WHO (2010) Global strategy to reduce the harmful use of alcohol. As of 14 July 2017: http://apps.who.int/iris/bitstream/10665/44395/1/9789241599931_eng.pdf?ua=1

[15] European Food Information Council (2014) Motivating Behaviour Change, EUFIC REVIEW 07/2014, available at <http://www.eufic.org/article/en/expid/Motivating-behaviour-change/>

[16] Ohayon, M. M. (2002). Epidemiology of insomnia: what we know and what we still need to learn. *Sleep medicine reviews*, 6(2), 97-111.

[17] Rosekind, M. R., Gregory, K. B., Mallis, M. M., Brandt, S. L., Seal, B., & Lerner, D. (2010). The cost of poor sleep: workplace productivity loss and associated costs. *Journal of Occupational and Environmental Medicine*, 52(1), 91-98.

[18] Office for National Statistics (2016b) Personal Well-being in the UK (Annual and Three year estimates): Quality and Methodology Information. Newport: ONS

[19] Edwards, J. A., Webster, S., Van Laar, D., & Easton, S. (2008). Psychometric analysis of the UK Health and Safety Executive's Management Standards work-related stress Indicator Tool. *Work & Stress*, 22(2), 96-107.

[20] Kessler, R.C., Andrews, G., Colpe, L.J., Hiripi, E., Mroczek, D.K., Normand, S.-L.T., Walters, E.E., & Zaslavsky, A. (2002) Short screening scales to monitor population prevalences and trends in nonspecific psychological distress. *Psychological Medicine*, 32, 959-976.

[21] Hassan, E., Austin, C., Celia, C., Disley, E., Hunt, P., Marjanovic, S., Shehabi, A., van Dijk, L. V., van Stolk C. (2009). Health and well-being at work in the United Kingdom. Rand Technical Report 758.

- [22] Vinokur, A. D., Price, R. H., & Caplan, R. D. (1996). Hard times and hurtful partners: how financial strain affects depression and relationship satisfaction of unemployed persons and their spouses. *Journal of personality and social psychology*, 71(1), 166.
- [23] Bianchini F, Kaaks R, Vainio H. (2002) Overweight, obesity, and cancer risk, *Lancet Oncology*, Vol 3(9): 1005-1008.
- [24] Bogers, R. P., Bemelmans, W. J., Hoogenveen, R. T., Boshuizen, H. C., Woodward, M., Knekt, P., ... & Thorpe, R. J. (2007). Association of overweight with increased risk of coronary heart disease partly independent of blood pressure and cholesterol levels: a meta-analysis of 21 cohort studies including more than 300,000 persons. *Archives of internal medicine*, 167(16), 1720-1728.
- [25] Larsson S. C., Wolk A. (2007) Overweight, obesity and risk of liver cancer: a meta-analysis of cohort studies, *British Journal of Cancer* Vol 97: 1005-1008.
- [26] Bilger, M., Finkelstein, E. A., Kruger, E., Tate, D. F., & Linnan, L. A. (2013). The effect of weight loss on health, productivity and medical expenditures among overweight employees. *Medical care*, 51(6), 471.
- [27] Huang, Y., Cai, X., Li, Y., Su, L., Mai, W., Wang, S., ... & Xu, D. (2014). Prehypertension and the risk of stroke A meta-analysis. *Neurology*, 82(13), 1153-1161.
- [28] World Health Organization, International Society of Hypertension Writing Group. (2003) 2003 World Health Organization (WHO)/ International Society of Hypertension (ISH) statement on management of hypertension. *Journal of hypertension*, 21(11), 1983-1992.
- [29] The Work Foundation (2012) <http://www.theworkfoundation.com/Media/Press-Releases/1009/Poor-clinical-workplace-support-for-musculoskeletal-disorders-leaving-hundreds-of-thousands-facing-lost-income-job-insecurity-early-retirement>
- [30] March, L., Smith, E. U., Hoy, D. G., Cross, M. J., Sanchez-Riera, L., Blyth, F., ... & Woolf, A. D. (2014). Burden of disability due to musculoskeletal (MSK) disorders. *Best practice & research Clinical rheumatology*, 28(3), 353-366.

- [31] Koopmanschap, M., Burdorf, A., Lotters, F. (2013) Work Absenteeism and Productivity Loss at Work, In: Loisel P, Anema J (eds) Handbook of Work Disability: Prevention and Management, New York: Springer
- [32] Brooks, A., Hagen, S. E., Sathyanarayanan, S., Schultz, A. B., Edington D. W. (2010) Presenteeism: critical issues. Journal Occupational Environmental Medicine 52(11):1055-67
- [33] Mattke, S., Balakrishnan, A., Bergamo, G., Newberry, S. J. (2007) A review of methods to measure health-related productivity loss, American Journal Managed Care 13(4):211-7
- [34] Hafner, M., van Stolk, C., Saunders, K., Krapels, J., Baruch, B. (2015) Health, wellbeing and productivity in the workplace: A Britain's Healthiest Company summary report, RAND Europe report. Available at https://www.rand.org/pubs/research_reports/RR1084.html
- [35] Harter, J. K., Schmidt, F. L., Hayes, T. L. (2002) Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis, Journal of Applied Psychology, Vol 87(2): 268-279.
- [36] Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. Journal of Happiness studies, 3(1), 71-92.
- [37] Black, C. (2008) Working for a healthier tomorrow. Report for the Secretary of State for Health and the Secretary of State for Work and Pensions. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/209782/hwwb-working-for-a-healthier-tomorrow.pdf
- [38] Hassan, E., Austin, C., Celia, C., Disley, E., Hunt, P., Marjanovic, S., Shehabi, A., van Dijk, L. V., van Stolk C. (2009). Health and well-being at work in the United Kingdom. Rand Technical Report 758.
- [39] Boorman, S. (2009). NHS Health and Well Being. Final Report. London: Department of Health. Available at <http://www.nhshealthandwellbeing.org/FinalReport.html>

- [40] Anderson, B. K., Larimer, M. E. (2002) Problem drinking and the workplace: an individualized approach to prevention. *Psychology of Addictive Behaviors* 16(3):243-251
- [41] Osilla, K. C., Van Busum, K., Schnyer, C., Larkin, J. W., Eibner, C., Mattke, S. (2012) Systematic review of the impact of worksite wellness programs, *American Journal of Managed Care*, Vol.18, Issue 2: e68-e81.
- [42] Mattke, S., Liu, H., Caloyeras, J. P., Huang, C. Y., Van Busum, K. R., Khodyakov, D., Shier, V. (2013) *Workplace Wellness Programs Study, Final Report*. Santa Monica: RAND
- [43] Centers for Disease Control and Prevention. Essential Elements of Effective Workplace Programs and Policies for Improving Worker Health and Wellbeing. Available at: <http://www.cdc.gov/niosh/twh/essentials.html>
- [44] Consensus Statement of the Health Enhancement Research Organization. (2012). Guidance for a reasonably designed, employer-sponsored wellness program using outcomes-based incentives. *Journal of Occupational and Environmental Medicine*, 54(7), 889-896.
- [45] Peterson, M. (2004) What men and women value at work: Implications for workplace health. *Gender medicine*, 1(2), 106-124.
- [46] Batorsky, B., Van Stolk, C., & Liu, H. (2016) Is More Always Better in Designing Workplace Wellness Programs?: A Comparison of Wellness Program Components Versus Outcomes. *Journal of occupational and environmental medicine*, 58(10), 987-993.
- [47] Barham, K., West, S., Trief, P., Morrow, C., Wade, M., Weinstock, R. S. (2011) Diabetes prevention and control in the workplace: a pilot project for county employees. *Journal Public Health Management Practice* 17(3):233-241.
- [48] Person, A. L., Colby, S. E., Bulova, J. A., & Eubanks, J. W. (2010) Barriers to participation in a worksite wellness program. *Nutrition research and practice*, 4(2), 149-154.
- [49] Robroek, S. J., Van Lenthe, F. J., Van Empelen, P., & Burdorf, A. (2009) Determinants of participation in worksite health promotion programmes: a systematic review. *International Journal of Behavioral Nutrition and Physical Activity*, 6(1), 26.

- [50] Linnan, L. A., Sorensen, G., Colditz, G., Klar, N., & Emmons, K. M. (2001) Using theory to understand the multiple determinants of low participation in worksite health promotion programs. *Health education & behavior*, 28(5), 591-607.
- [51] Batorsky, B., Taylor, E., Huang, C., Liu, H., & Mattke, S. (2016). Understanding the relationship between incentive design and participation in US workplace wellness programs. *American Journal of Health Promotion*, 30(3), 198-203.
- [52] Buck Consultants, L. L. C. (2012). *Working well: A global survey of health promotion and workplace wellness strategies*. Buck Consultants.
- [53] Heirich, M., Sieck, C. J. (2000) Worksite cardiovascular wellness programs as a route to substance abuse prevention. *Journal Occupational Environmental Medicine* 42(1):47-56
- [54] Martins, E. C., & Terblanche, F. (2003). Building organisational culture that stimulates creativity and innovation. *European journal of innovation management*, 6(1), 64-74.
- [55] Dellve, L., Skagert, K., & Vilhelmsson, R. (2007). Leadership in workplace health promotion projects: 1-and 2-year effects on long-term work attendance. *European Journal of Public Health*, 17(5), 471-476.
- [56] Dixon, S., Theberge, N., & Cole, D. (2009). Sustaining Management Commitment to Workplace Health Programs: The Case of Participatory Ergonomics. *Relations Industrielles/Industrial Relations*, 64(1), 50-74.
- [57] Harden, A., Peersman, G., Oliver, S., Mauthner, M., & Oakley, A. (1999). A systematic review of the effectiveness of health promotion interventions in the workplace. *Occupational medicine*, 49(8), 540-548.