

# Nutrition behaviour in attraction to wellness programme



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## The Role of Nutrition Behaviours in Employee Attraction to a Workplace Wellness Program

### *Nutrition, Overweight & Obesity*

Between 1980 and 2014, obesity has more than doubled, on a global scale. In 2014 alone, over 1.9 billion adults were overweight, and of those, an alarming 600 million were obese (39% overweight, of those, 13% obese; WHO, 2015).

Using overweight and obesity incidence from a Australian longitudinal study from 2000 to 2005, Walls and colleagues (2011) estimated future prevalence of weight gain to result in less than a third of the Australian adult population categorised as healthy weight, with a 65 percent increase in obesity prevalence by the year 2025. Similarly, an American study predicted obesity prevalence and associated costs, based on national survey data (collected from 1970s to 2004). It was estimated that by the year 2030, 86.3 percent of American adults would be classified as overweight or obese, and 51.1 percent would be obese (Wang et al, 2008). Health care costs associated with overweight and obesity were predicted to double every decade by the year 2030, and account for 16 to 18 percent of total health care related costs in the U. S (Wang et al, 2008).

Poor nutrition and unhealthy eating behaviours are key contributors to overweight and obesity, with the increase in consumption of energy-dense, high fat content foods observed worldwide. Unhealthy nutrition coupled with sedentary lifestyle, and the resulting imbalance of calories consumed versus

calories expended, have been considered the primary driving force behind the ever increasing prevalence of overweight and obesity (WHO, 2015).

Serious health implications are associated with overweight and obesity. Elevations in Body Mass Index (BMI) equal to or above 25 is considered a major risk factor for non-communicable (chronic) diseases including cardiovascular disease (mostly heart disease and stroke), diabetes, musculoskeletal disorders (particularly osteoarthritis), and some cancers (including endometrial, breast and colon cancer) (WHO, 2015). Furthermore, increases in BMI have been found to be proportionally related to increases in the risk of non-communicable diseases (WHO, 2015). Various health and wellness initiatives have been developed and administered, in response to the obesity epidemic.

#### *Workplaces, easy accessible environment for WHPP*

The workplace presents a practical setting for the delivery of health promotion strategies, by providing pre-existing structure, resources, potential social and organisational support, and access to a large percentage of the adult population (Goetzel & Ozminkowski, 2008).

Workplace based health promotion programs (WHPPs) have been associated with both health and cost related benefits, including the health and wellbeing of employees, reduced medical costs, reduced absenteeism related costs, and increased productivity, mutually benefiting both the individual employee/s and larger organisation (Goetzel & Ozminkowski, 2008). Not surprisingly, the workplace is considered by the World Health Organisation as a priority setting for public health promotion (WHO, 2009).

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*Effectiveness of WHPP in improving nutrition, eating behaviours and cost benefits to organisations*

*Improving nutrition:*

Research has demonstrated the effectiveness of WHPPs in producing positive health behaviour changes in employees, particularly those targeting nutrition and physical activity, across a diverse range of workplaces, and internationally (e. g., Anderson et al, 2009; Goetzel & Ozminkowski, 2008; Mhurchu, Aston & Jebb, 2010).

A review by Mhurchu, Aston & Jebb (2010) assessing 16 studies published between 1995 and 2009, demonstrated the short term benefits of WHPPs targeting employee diets. Findings indicated workplace based health promotion programs were associated with moderate improvements in employee nutrition / dietary intake including fruit, vegetable, and total fat consumption. Of the studies included in the review, eight included employee education, and the remaining targeted changes in the workplace alone or in conjunction with an education component.

Reviews by Anderson and colleagues (2009), and Maes and colleagues (2011) demonstrated longer term benefits of WHPP, targeting employee weight related outcomes including body mass, BMI and body fat percentage. Both reviews demonstrated limited to moderate positive effects in employee weight, BMI and body fat percentage.

Anderson and colleagues (2009) assessed studies published between 1966 and 2005, with 50 percent of included studies conducted in the U. S, the

remaining were conducted in Europe, Australia, New Zealand, Japan, Canada, India, and Iceland. Only one randomised control trial (RCT) focused on nutrition, reporting weight loss of -1.17 pounds (0.53 kgs; 95% CI= -8.38 [3.80kg], +4.95 [2.25kg]), and five multi-component RCTs targeting both nutrition and physical activity indicated a pooled effect of -3.18 pounds (1.44 kgs; 95% CI= -5.88 [2.67kg], -0.50 [0.23kg]). Overall, the findings indicated moderate improvements in employee body mass between 6 and 12 months post intervention, with the authors concluding that WHPPs targeting nutrition, physical activity, or both, produce modest reductions in weight.

The review by Maes and colleagues (2011) assessed the effectiveness of 13 European based studies published between 1990 and 2010, targeting nutrition / health eating, alone, or in combination with physical activity. Effectiveness of WHPPs was assessed by nutrition, physical activity, body composition and behavioural determinants.. Findings indicated a limited to moderate positive effect of WHPPs on employee nutrition and physical activity.

Of all the studies reviewed, few looked at the effectiveness of modifying the workplace environment (Anderson et al, 2009; Mhurchu et al, 2010). However, recent research has demonstrated the benefits of an environment modification intervention, finding increases in access and exposure to nutrition information resulted in increased employee consumption of fruits and vegetables (Kushida & Murayama, 2014).

*Improving cost benefit:*

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In addition to improved health outcomes, WHPPs have also been associated with economic benefits including increased productivity, reduced absenteeism, and reduced health care costs for both the organisation and individual employee (Anderson et al, 2009; Goetzel & Ozminkowski, 2008).

Baiker, Cutler and Song (2010) conducted a meta-analysis, demonstrating the capacity of WHPPs to reduce absenteeism and health care related costs, with the majority of interventions targeting smoking, obesity, and multiple risk factors such as nutrition, alcohol consumption, blood pressure. Studies were assessed based on positive return on employer investment in WHPPs, with 36 studies assessing outcomes of absenteeism, health care costs, or both. Overall, findings indicated absenteeism and health care costs were reduced by \$2.73 and \$3.27 respectively, for every dollar invested in a WHPP. Studies were grouped based on design, and included randomised controlled trials (RCTs), matched comparisons, non-randomised trials (NRTs), non-matched designs and studies reporting only post intervention results. Costs were standardised to the 2009 dollar value. In terms of absenteeism, all studies save one, reduced the number of absentee days and only two studies demonstrated no associated cost benefit. Cost benefits were higher when absenteeism and health care outcomes were combined.

The authors noted that participation was primarily voluntary, thus selection bias may be a confounding factor and should be considered when interpreting results. Potential for publication bias was also acknowledged, due to the higher likelihood of publishing significant findings regarding positive return on employer investment, which may reduce generalisability of results. Generalisability may also be limited to larger organisations, as of <https://assignbuster.com/nutrition-behaviour-in-attraction-to-wellness-programme/>

the studies included, over 90 percent had a sample size of more than 1000 employees, and 25 percent included samples of over 10, 000. Furthermore, conclusions are limited due to the relatively short evaluation periods (studies averaged three year follow up), when considering the cost of implementing WHPPs are higher initially, with cost benefits accruing over time, indicating the need for further investigation into the long term economic savings of WHPPs.

A systematic review by van Dongen and colleagues (2011) examined the cost benefits of WHPPs targeting employee nutrition, and or physical activity. A total of 18 studies comprising four randomised, controlled trials, 13 non-randomised studies, and one modelling study were included. Two studies assessed ROI of WHPP targeting physical activity, and 16 multi component WHPP targeting nutrition, physical activity, and other unhealthy lifestyle behaviours such as smoking, and alcohol consumption. Intervention duration ranged from six months to five years (Median 23. 7 months; Mean: 21. 1 months). WHPPs were assessed using return on investment analyses, comparing program costs after initial implementation to economic savings over time. Outcome measures of benefits associated with WHPP were defined as medical and productivity costs.

The findings produced mixed results, with non-randomised studies demonstrating WHPPs linked to reduced absenteeism and medical costs, and RCTs failing to produce any evidence of financial return. Results from the NRTs must be interpreted with caution, due to possible confounding factors previously identified, such as selection bias. Although RCTs are considered ‘gold standard’, interpretation of comparisons between NRTs and RCTs are <https://assignbuster.com/nutrition-behaviour-in-attraction-to-wellness-programme/>

limited by the fact that NRTs were generally assessed over a longer time period than RCTs, and the higher costs associated at the initial stages of program implementation compared to higher benefits, lower costs over time may confound results. Furthermore, all NRTs except one were conducted in U. S, whereas all RCTs except one were conducted in Europe, and it was noted by authors that in the U. S health care costs per capita are double the costs of health care in Europe.

Jensen (2011) conducted a systematic review, analysing the effects of workplace nutrition programs on productivity and absenteeism and presenteeism, 30 studies were included, with 13 assessing productivity and economic outcomes, and the remaining studies assessing health related outcomes as a secondary measure of expected financial savings. The studies addressing economic effects were categorised via study design, and included RCTs, quasi-experimental, and observational cross-sectional studies. All intervention demonstrated reductions in employee absenteeism, and increased productivity.

Costs effectiveness of WHPP have also been investigated in smaller businesses and organisations, for example, Allen and colleagues (2012) demonstrated the cost effectiveness of a WHPP within an organisation of 172 employees. Findings demonstrated a \$10. 17 per percentage –point reduction in LDL cholesterol, \$454. 23 per point reduction in risk of coronary heart disease.



Although WHPP have been demonstrated to provide benefits, both health and cost related, they are not without barriers and challenges, and face a number of limitations reducing program effectiveness.

### *Low participation levels*

The most notable of limitations reducing effectiveness of health promotion programs delivered within a workplace based setting, is low level employee participation (Robroek et al, 2009). Roebroek and colleagues (2009) conducted a review of 23 studies, published between 1988 and 2007, to determine levels of employee participation in WHPP. Participation levels ranged from 10 to 64 percent, with a median of 33 percent (95% CI 25-42%), emphasising the need for further research investigating determinants of employee participation.

The predictive capacity of intention to participate, as a determinant of actual participation has been demonstrated. A meta-analysis by Webb and Sheeran (2006) included 47 studies, experimental in design, testing intention-behaviour phenomenon, found medium to large changes in intention resulted in small to medium changes in behaviour. Similarly, a study by Rongen and colleagues (2014) demonstrated the predictive capacity of intention to participate to actual participation at the 6 month follow up, with 21 percent of participants reporting positive intention to participate were found to be more likely to partake in WHPP when offered.

The presented evidence supports intention to participate as a predictive, albeit weak determinant of actual participation, and the need for further

research into other determinant factors contributing to higher participation intention is evident.

*Characteristics / determinants of participation / intention to participate in WHPP (GAP IN LITERATURE – health determinants not thoroughly examined)*

A study by Middlestadt and colleagues (2011) identified factors associated with intention to participate, in 279 rural service and blue collar employees. Findings from multivariate analyses of variables including demographic, health and occupation, indicated higher intention among younger individuals, employees who had been physically active in the past 30 days, and those who reported higher consumption of fruit and vegetables.

Toker, Heaney & Ein-Gar (2014) highlighted the need for research into barriers to participation, and characteristics of both participants and particularly non participants. Roebroek, et al (2009) identified a lack of research into determinants of participation, in addition to program user and non-user characteristics, with more than 80% of included studies failing to provide data on determinants of individuals opting not to participate.

Systematic review by Robroek and colleagues (2009) evaluated underlying individual, health- and work-related determinants of participation in WHPPS, analysing program characteristics that influence participation levels.

Of the studies included in the review by Robroek and colleagues (2009), a number of health-related determinants were addressed; however only one study looked at current nutrition behaviours as a determinant of participation in a WHPP.

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From the current evidence, research into the capacity of health-related factors to influence employee intention to participate, is clearly lacking. The current study aims to fill this gap, by providing insight into the role of nutrition behaviours in in employee attraction to, interest in, and intention to participate in a nutrition workplace health promotion program.

Hypotheses. Employees with healthier nutrition behaviours indicated more interest in improvement, assistance and intention to participate in workplace nutrition program than those employees with less healthy / unhealthy nutrition behaviours???

## Method

This study was conducted as part of a larger study by The Wesley Research Institute and received ethical clearance from the Uniting *Care* Health Human Research Ethics Committee (#2013. 03. 74). Study Design. The study employed a cross-sectional design, the intervention consisted of a self-report survey. The study / data collection / intervention was conducted between \_\_\_\_ and \_\_\_\_.

EXAMPLE = This study was a nonrandomized controlled trial consisting of an intervention and a minimal intervention comparison group. The study was performed for 24 weeks between October, 2009 and March, 2010. This study was part of a project conducted by the Niigata city government in Japan.

## Participants and Recruitment

Employees from a mining company and rail freight company, from several work sites located across rural and remote Queensland, Australia, were <https://assignbuster.com/nutrition-behaviour-in-attraction-to-wellness-programme/>

invited to participate in a survey. Employees were recruited via convenience sampling.

Include power analysis? Did we estimate the number of participants we required?

Work sites were selected based on \_\_\_? Employee accessibility? Rural remote sites, due to minimal access to health services?

A total of \_\_\_ employees participated / completed the health risk assessment and survey / study. Of those, \_\_\_% were male, \_\_\_% female, ranging in age from \_\_\_ to \_\_\_ (Mean: \_\_\_ years). Mining sites included \_\_\_\_\_ (N = ).

Employees were provided with a detailed information sheet, explaining / outlining the study, and informed consent was obtained prior to participation / commencement of risk assessment / survey.

## Procedure

Surveys were, both in hard copy and electronically .

Self-report data including demographic, health / nutrition behaviours, and desire for improvement, desire for assistance and intention to participate in a work-based health promotion program, were collected.

Health behaviour and nutrition items, included salt, milk (fat), and fast food consumption, and meeting national guidelines for daily fruit and vegetable intake ( National Health Survey, ABS 2011-2012).

Demographics were measured / obtained using/ with use of survey items from the National Health Survey (ABS, 2011-2012). Nutrition items measuring fat content of milk, salt intake, frequency of takeaway consumption, vegetable servings and fruit servings per day were based on items included / in National Health Survey (ABS 2011-2012) and Queensland Health survey (Overweight and Obesity, 2011).

Results

Discussion

Implications. those individuals least healthy nutrition/ health behaviours, less likely to participate in WHPP, uptake of program – may require health risk assessment and health education prior to WHPP implementation, to raise awareness and increase program reach / uptake for those more at risk of health problems / illness related to / due to poor nutrition and eating behaviours.