

10,000 Steps Working Paper Series

Paper 4:

Awareness of the 10,000 Steps Program across Queensland, 2006

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EXECUTIVE SUMMARY

This report details the awareness of the 10,000 Steps program across Queensland. This study examined the 2006 awareness levels; determined if demographic variables were associated with awareness; and finally compared the levels of awareness between 2005 and 2006.

- Approximately 43% of the Queensland population were aware of the 10,000 Steps program.
 - An estimated 36.5% of men and 48.5% of women were aware of the program.
 - An estimated 40.3% of 18-34 year olds, 42.0% of 35-44 year olds, 52.0% of 45-54 years olds and 37.3% of individuals aged 55 years and over were aware of the program.
 - An estimated 37.0% of residents from Brisbane and Moreton and 53.3% of residents from the rest of Queensland were aware of the program.
- Awareness was found to be associated with gender, age and location.
 - Women were 2.19 times more likely to be aware of the 10,000 Steps program than men.
 - The 45-54 year age group was 2.29 times more likely to be aware of the 10,000 Steps program than the 18-34 year age group. However, no differences were observed between the 18-34 year age group and the other two age groups.
 - Residents from the rest of Queensland were 2.53 times more likely to be aware of the 10000 Steps program than residents from the Brisbane and Moreton district.
 - Awareness was not found to be associated with years of education, household income, occupational category and BMI category.
- Overall, awareness of the 10,000 Steps program was found to increase by 9.0% from 2005 to 2006.
 - Awareness significantly increased in both men and women.
 - Awareness significantly increased in all age groups except for the 35-44 year age bracket.
 - Awareness significantly increased in the Brisbane and Moreton district.
 An increase was noticed in the rest of Queensland sub-sample; however this increase was not statistically significant.

INTRODUCTION

Background

10,000 Steps Rockhampton was Australia's first 'whole of community' health promotion physical activity project. Funded by Queensland Health, the Rockhampton region was chosen for a two year trial of the project in 2001. During this period, the 10,000 Steps Rockhampton Project was an exemplary model of an effective multi-strategy, multi-sector physical activity project. The project has been successful in motivating local communities, workplaces and individuals to increase their physical activity levels. As a result of the success in Rockhampton, Queensland Health provided funding for 10,000 Steps to be developed as a sustainable state-wide and beyond initiative.

10,000 Steps is committed to ongoing research, development, distribution and support of new and existing 10,000 Steps support materials at the local, state and national level, all with web-based support. The aim of this program is to increase participation in physical activity through the state and nation.

Awareness statistics of the 10,000 Steps program across Queensland were first examined during the 2005 Queensland Social Survey (QSS). This study examined the awareness of 10,000 Steps across Queensland and determined if demographic variables were associated with awareness. (1) This current report is a follow-up study of awareness statistics conducted in 2006.

Purpose of Study

The purpose of this study was to examine the awareness of the 10,000 Steps program across Queensland in 2006. Secondly, the study determined if demographic variables (i.e. gender, age, location, and education and income levels) were associated with awareness of the program. Finally, this study compared the awareness of the 10,000 Steps program across Queensland between 2005 and 2006.

Survey Method

A section of the 2006 QSS was sponsored by the 10,000 Steps project to investigate awareness of the program across Queensland. Conducted by the Population Research Laboratory (PRL) within the Centre for Social Science Research (CSSR) at Central Queensland University, the 2006 QSS is the second in a series of annual cost-shared, omnibus surveys aimed at obtaining public opinion on a range of topics held by a representative sample of Queensland residents. The QSS is comprised of core questions (e.g. publicity and social capital), demographic questions and a series of sponsored questions. This survey allows researchers and community organisations to access a credible, reliable and relatively low-cost data-collection vehicle.

The QSS was administered through the ten station Computer-Assisted-Telephone-Interview (CATI) system housed in the PRL, from July 24th 2006 until August 29th 2006. The target population was all individuals who were 18 years or older, living in a dwelling unit in Queensland and could be contacted by a direct-dialled land-based telephone service. This population was divided into two sub-samples, 1) South-East Queensland (Brisbane and Moreton district) and 2) the rest of Queensland. A random sample approach was undertaken to ensure that each member of the target population had an equal chance of selection. The survey received ethical clearance from the Human Research Ethics Committee at Central Queensland University.

Data Quality

Response Rate

The response rate calculation follows the recommended standard definitions of response rates based on the American Association for Public Opinion Research, Standard Definitions. (2) The response rate is a calculated percentage representing the number of people participating in the survey either with a completed or partially completed interview divided by the people selected in the sample. The numerator is the number of completed or partially completed interviews and the denominator includes the completed and partially completed interviews, the refusals, the sample not contacted, and other non eligible households from within the sample frame.

RR6 is the maximum response rate. The calculations for RR6 are shown below.

$$RR6 = \underline{Complete\ Interviews + Partial\ Interviews}$$
 $(Complete + Partial) + (Refusal + Non\ Contact + Other)$
 $RR6 = \underline{1220 + 21}$
 $(1220 + 21) + (1457 + 82 + 15)$

The RR6 Response Rate for the 2006 QSS was 44.40%.

Estimated Sampling Error

The sampling error is a measure of the validity of the descriptive statistics that are observed in a sample. The estimated sampling error, at the 95% confidence level, for the Rest of State area sample of 412 households and a 50/50 binomial percentage distribution is plus or minus 4.8 percentage points. The sampling error for Brisbane and Moreton statistical sub-divisions at the same level of confidence is plus or minus 3.4 percentage points. Survey estimates for the total sample of 1,241 are accurate within plus or minus 2.78 percentage points, 19 times out of 20. (3)

Data Treatment

10,000 Steps awareness in 2006 was analysed by geographical location, gender, age, years of education, household income, occupational category and body mass index (BMI).

Statistical Analyses

Prevalence estimates are presented as a percentage of the population. Logistical regression was used to describe the associations between awareness and the selected demographic measures assessed in the study. The association is presented as an odds ratio in comparison to a reference group and indicates the increased or decreased likelihood of a sub-group in the population to perform a specific behaviour. For example, an odds ratio of 1.36 indicates that the sub-group is 36% more likely to perform the specified behaviour when compared to the reference group. An odds ratio of 0.46 reveals that the sub-group is 54% less likely to perform the specified behaviour than the reference group. To compare the prevalence of awareness between 2005 and 2006 the file was split according to the various demographics and a series of t-tests for proportions were conducted. Results are displayed as a t-statistic, with the significance level set at p<0.05.

RESULTS

The Sample

Two-thirds of the participants were from the Brisbane and Moreton area, which is reflective of the population distribution in the state of Queensland. Almost 60% of the sample were 45 years or older and around 40% of the respondents earned an annual household income greater than \$52 000. Over 55% of the participants were found to be overweight or obese as determined by self reported height and weight measurements. Further demographics of the sample are presented in Table 1 (see Appendix).

Awareness of the 10,000 Steps Program 2006

Awareness of the 10,000 Steps program was determined through the following research question; 'Have you heard of the 10,000 Steps program?'. Across the total sample of Queenslanders, 42.5% of the respondents were aware of the 10,000 Steps program. The prevalence of awareness across gender, age and location variables are shown in Table 2 (see Appendix). To determine if participant's characteristics influenced awareness, crude and adjusted odds ratios were calculated. The results of the logistical regression analysis investigating the associations between demographic variables and awareness are also presented in Table 2. The crude odds ratios revealed that significant associations between awareness and gender, age group, location, years of education, household income and occupational category. When adjusting for all other variables in the model, significant associations remained for gender, age group and location. Results are discussed in the following sections.

Gender

Women (48.5%) were more likely than men (36.5%) to be aware of the 10,000 Steps program (Figure 1). When adjusting for the other variables the odds ratios revealed that women were almost 2.20 times more likely to be aware of 10,000 Steps than men.

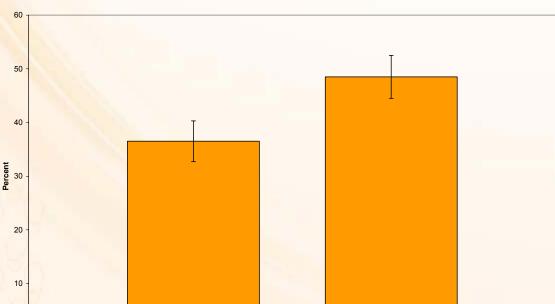


Figure 1. Percentage of respondents aware of 10,000 Steps by gender.

Women

Age Group

Participants aged 45-54 years had the highest levels of awareness of the 10,000 Steps program (52.0%). This was followed by the 35-44 year age group (42.0%) and the 18-34 year age group (40.3%). Participants aged over 55 years had the lowest levels of awareness at 37.3% (Figure 2). Adjusted odds ratios revealed that the 45-54 year age group were approximately 2.30 times more likely to be aware of 10,000 Steps than the 18-34 year age group. However, there was no significant difference in awareness between the 18-34 years olds and the other age groups.

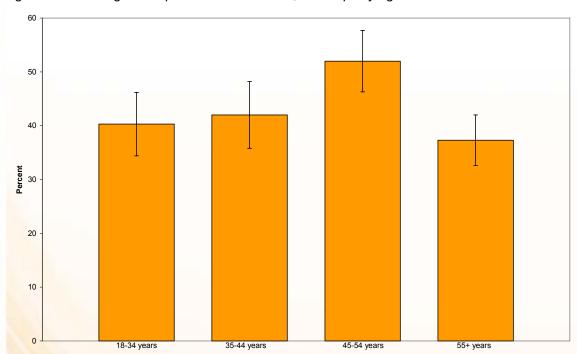


Figure 2. Percentage of respondents aware of 10,000 Steps by age.

Location

Brisbane and Moreton districts (37.0%) were less aware of the 10,000 Steps program than residents living in the rest of Queensland (53.3%; Figure 3). Residents from the rest of Queensland were 2.53 times more likely to be aware of the 10,000 Steps program than Brisbane and Moreton residents when adjusting for the other demographic variables.

Years of Education, Household Income, Occupational Category and BMI Category

Initial crude odds ratios revealed that years of education, household income and occupational category were associated with awareness of the 10,000 Steps program. Individuals with 15 years of education or more were more likely to be aware of 10,000 Steps than individuals with 0-10 years of education. Respondents earning over \$52 000 per year were more likely to be aware of 10,000 Steps than those earning \$26 000 or less per year. Finally, blue-collar workers were less likely to be aware of the 10,000 Steps program than professional workers. BMI category was not associated with awareness and was not included in the final logistical regression analysis. When adjusting for all variables in the final logistical regression model, neither years of education, household income nor occupational category were significantly associated with awareness.

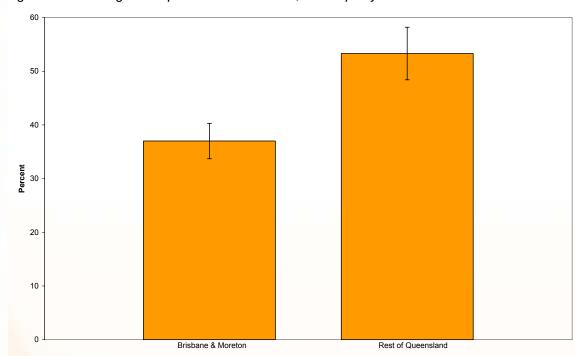


Figure 3. Percentage of respondents aware of 10,000 Steps by location.

Awareness of the 10,000 Steps Program 2005-2006

The awareness data from 2005 and 2006 was analysed to investigate trends in 10,000 Steps awareness during the past two years. The 2005 and 2006 awareness levels can be seen in Table 3 (see Appendix). To determine if the proportion of the Queenslanders aware of the 10,000 Steps program significantly changed the data file was split by each demographic variable and a series of t-tests for proportions were conducted. The results of the t-test analyses can also be seen in Table 3.

Overall, it was found that the awareness of the 10,000 Steps across Queensland significantly increased from 33.5% in 2005 to 42.5% in 2006. The awareness of 10,000 Steps significantly increased across both genders, with an additional 7.5% of men and 10.8% of women aware of the 10,000 Steps program in 2006.

From 2005 to 2006, the proportion of individuals aware of 10,000 Steps significantly increased across all age groups except for the 35-44 year olds. In the 35-44 year age group awareness of the 10,000 Steps program did increase by 7.9%, however this increase did not reach statistical significance. In the other age groups, the proportion of respondents aware of the program significantly increased by 8.4% in 18-34 year olds; 13.2% in 45-54 year olds; and 7.0% in participants aged 55 years or over.

It was found that the proportion of Brisbane and Moreton residents aware of the 10,000 Steps program significantly increased by 11% in 2006, from 26.0% to 37.0%. In the rest of Queensland awareness increased by 5.4% up to 53.3% in total, however this increase was not statistically significant.

As shown in Table 3, the proportion of individuals aware of the program also significantly increased in those with 0-10 years of education, 15 years of education or more, as well as those earning \$26 001-\$52 000 and \$52 001-\$100 000 per annum. Additionally, the proportion of respondents aware of the 10,000 Steps program significantly increased in both healthy weight and overweight or obese individuals. In all other demographic groups

the proportion of individuals aware of 10,000 Steps did increase from 2005 to 2006 by between 1.1-9.3%, however these increases were not statistically significant.

CONCLUSIONS AND RECOMMENDATIONS

With the continued dissemination of the 10,000 Steps program across Queensland and beyond, it is important to investigate and monitor the awareness of the program in the general population. Furthermore, as the program has been purposefully disseminated since 2004, it is valuable to examine and compare the awareness levels in the Queensland population over the past years. Across the total sample of Queensland residents, over 40% of the population are now aware of the 10,000 Steps program. Awareness of the 10,000 Steps program was found to be a function of gender, age group and geographical location. Finally, there has been a significant increase in the proportion of Queensland residents that are aware of the program over the past 12 months.

Awareness of 10,000 Steps was found to be associated with resident's geographical location, with residents from the rest of Queensland more likely to be aware of 10,000 Steps. This was previously due to the lack of promotion in the Brisbane and Moreton districts and it was predicted that future promotion of 10,000 Steps in Brisbane would subsequently increase awareness. (1) This appears to have occurred as the awareness of the program in the Brisbane and Moreton district has significantly increased since 2005. A significant increase was not observed across the rest of Queensland. It is suggested that the differences in likelihood of 10,000 Steps awareness that remain between the two geographical locations are due to the amount and length of previous promotion in the rest of Queensland region. 10,000 Steps did originate in regional Queensland and therefore the program has been promoted and disseminated more prominently in this area. Further promotion and continued exposure to 10,000 Steps in the Brisbane and Moreton district should continue to raise the awareness of the 10,000 Steps program in this location.

The previous study investigating awareness of the 10,000 Steps program found that awareness was lower in males, less educated individuals, 18-34 year olds and the 55 years and over age group. (1) These findings were comparable to prior research investigating the awareness of previous health promotion campaigns. (4, 5) It was subsequently recommended that these sub-groups of the population should be targeted for future promotion of the 10,000 Steps program. In the current study, it was still observed that men were less aware of the program than women; and that the 18-34 year olds and the 55 years or over age group were the least likely to be aware of the 10,000 Steps program. However, when comparing the levels of awareness from 2005 to 2006, a statistically significant increase in awareness was observed in all three of these subgroups. Therefore, while these sub-groups are still the least likely to be aware of 10,000 Steps, their awareness of the program has statistically increased by between 7.0% and 8.4% over the past 12 months. More importantly, in the current study, years of education was no longer found to be associated with awareness and there was no significant difference in the likelihood to be aware of the program across the education levels. 10,000 Steps has successfully raised awareness in these low awareness sub-groups over the past 12 months, however, further promotion is still needed to ensure awareness levels continue to rise.

In Queensland, it has been shown that women are more likely to be sedentary than men and that the prevalence of being sedentary increases with age and decreases with educational attainment. (6) It has also been revealed that physical activity participation rates are higher in Australian capital cities that in the rest of the state/territory. (7) Therefore for a physical activity program in Queensland, the most sedentary groups in the population, i.e. women, older adults, less educated residents and those from the rest of the state, would be the primary target groups for the program to reach. The 10,000 Steps program appears to be reaching the majority of these sedentary target groups in

the Queensland population. Women were more aware of 10,000 Steps than men and the residents from the rest of Queensland were more likely to be aware of 10,000 Steps than those in Brisbane and Moreton (Queensland's capital city). It was generally shown, that awareness increased with age up until the 55 years and over age group. This shows that 10,000 Steps is often reaching the older age groups that tend to be least physically active. The lack of awareness in the over 55 year age group could possibly be due to the 10,000 Steps program being predominantly internet-based. Internet usage has been found to decrease with age in Queensland, with the over 55 year age brackets having the lowest levels of internet usage. (8) Finally, the less educated sub-group seems to be the hardest to reach, as they are still displaying the lowest levels in awareness across all education categories. However, in comparison with 2005, the levels of awareness in this sub-group have significantly improved by almost 10%. Overall, it appears that 10,000 Steps is quite successful at creating awareness of the program in a large portion of the sedentary sub-groups in Queensland. Further promotion and dissemination is needed to continue raising awareness in the lower education sub-group and the 55 years and over age bracket.

Overall, 10,000 Steps has been successful in creating and raising awareness of the 10,000 Steps program across Queensland. The continued dissemination of the program across the state has seen awareness levels rise almost 10% in a 12-month period. The program has reached the majority of sedentary target groups in the Queensland population, and has successfully increased awareness levels in almost every sub-group of the population between 2005 and 2006. A significant increase in awareness levels was even observed in those sub-groups that were the least likely to be aware of the program. Further promotion and dissemination is necessary to continue raising awareness of the 10,000 Steps program across Queensland.

Future Recommendations

Based on the findings in this study, it is recommended that certain demographic groups be targeted in the future dissemination of the 10,000 Steps program. To further reach the sedentary sub-groups of the Queensland population, the 10,000 Steps program should be promoted to lower educated individuals and those aged 55 years or older. To reach groups with lower 10,000 Steps awareness, the program should be targeted towards males, residents of the Brisbane and Moreton districts and individuals aged 13-34 years and also those aged 55 years or over. Dissemination of the 10,000 Steps program to these sub-groups will further increase awareness levels of 10,000 Steps.

Follow up studies should be conducted to continue to monitor the awareness of 10,000 Steps across Queensland. However, as the 10,000 Steps program is currently disseminating nationally, it would also be valuable to assess the awareness of the program across Australia. Investigating awareness levels across Australia could give a better understanding of the dissemination of 10,000 Steps across the country and to what extent it has been promoted in other regions. Such study would also examine what subgroups of the Australian population are aware of 10,000 Steps and could determine if there are differences between the Australian states and territories.

APPENDIX: TABLES

Table 1. Demographic characteristics of the total sample of participants (n=1220)

Characteristic	n	%	Valid %
Gender			
Male	612	50.2	50.2
Female	608	49.8	49.8
Age Group			
18-34 years	264	21.6	21.8
35-44 years	246	20.2	20.3
45-54 years	296	24.3	24.5
≥55 years	404	33.1	33.4
Missing	10	8.0	
Location			
Brisbane & Moreton	814	66.7	66.7
Rest of Queensland	406	33.3	33.3
Years of Education			
0-10	294	24.1	24.5
11-12	267	21.9	22.3
13-14	174	14.3	14.5
≥15	463	38.0	38.6
Missing	22	1.8	
Household Income (per			
annum)			
Nil - \$26 000	189	15.5	21.6
\$26 001-\$52 000	200	16.4	22.9
\$52 001-\$100 000	298	24.4	34.1
> \$100 000	186	15.2	21.3
Missing	347	28.4	
Occupational Category			
Professional	397	32.5	62.0
White Collar	89	7.3	13.9
Blue Collar	154	12.6	24.1
Missing	580	47.5	
BMI Category			
Healthy weight	462	37.9	40.4
Overweight/Obese	682	55.9	59.6
Missing	76	6.2	

Table 2. Crude and adjusted odds ratios for awareness by demographic variables

Variable	n	% Aware	Crude OR	95% CI	Adjusted ^a OR ^b	95% CI
Gender						
Male	609	36.5	1.00	Reference	1.00	Reference
Female	604	48.5	1.64	1.31-2.07	2.19	1.41-3.39
Age Group						
18-34 years	263	40.3	1.00	Reference	1.00	Reference
35-44 years	245	42.0	1.07	0.75-1.53	1.00	0.58-1.74
45-54 years	296	52.0	1.61	1.15-2.25	2.29	1.35-3.88
≥55 years	399	37.3	0.88	0.64-1.22	1.21	0.64-2.26
Location						
Brisbane & Moreton	808	37.0	1.00	Reference	1.00	Reference
Rest of QLD	405	53.3	1.95	1.53-2.48	2.53	1.66-3.86

 $^{^{\}rm a}$ Odds ratios adjusted for all variables in the table and years of education, household income and occupational category $^{\rm b}$ n=472

Table 3. Awareness of the 10,000 Steps program 2005-2006.

Variable	% Aware 2005	% Aware 2006	t-test for proportions
Total	33.5	42.5	p < 0.001
Gender			-
Male	29.0	36.5	p = 0.006
Female	37.7	48.5	p < 0.001
Age Group			•
18-34 years	31.9	40.3	p = 0.042
35-44 years	33.9	42.0	p = 0.058
45-54 years	38.8	52.0	p = 0.001
≥55 years	30.3	37.3	p = 0.039
Location			•
Brisbane & Moreton	26.0	37.0	p < 0.001
Rest of QLD	47.9	53.3	p = 0.162
Years of Education			
0-10	25.6	35.4	p = 0.008
11-12	32.3	38.0	p = 0.162
13-14	42.3	43.4	p = 0.847
≥15	37.0	49.5	p < 0.001
Household Income			p + 0.001
Nil - \$26 000	30.2	36.4	p = 0.220
\$26 001-\$52 000	29.4	40.2	p = 0.019
\$52 001-\$100 000	35.8	48.5	p = 0.003
≥ \$100 000 per annum	40.4	49.7	p = 0.076
BMI Category	10.1	10.1	p 5.5.5
Healthy weight	32.7	41.7	p = 0.003
Overweight or Obese	34.4	42.8	p < 0.001

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