

Total Wellbeing Diet Online Member Study

Report Highlights: An in-depth analysis of the TWD refund offer

Gilly Hendrie & Emily Brindal

August 2018

Citation

Citation of the full report:

Hendrie GA, Brindal E (2018) Total Wellbeing Diet Online Member Survey: An in-depth analysis of the TWD refund offer. CSIRO, Australia.

Copyright

© Commonwealth Scientific and Industrial Research Organisation 2018. To the extent permitted by law, all rights are reserved and no part of this publication covered by copyright may be reproduced or copied in any form or by any means except with the written permission of CSIRO.

Important disclaimer

CSIRO advises that the information contained in this publication comprises general statements based on scientific research. The reader is advised and needs to be aware that such information may be incomplete or unable to be used in any specific situation. No reliance or actions must therefore be made on that information without seeking prior expert professional, scientific and technical advice. To the extent permitted by law, CSIRO (including its employees and consultants) excludes all liability to any person for any consequences, including but not limited to all losses, damages, costs, expenses and any other compensation, arising directly or indirectly from using this publication (in part or in whole) and any information or material contained in it.

CSIRO is committed to providing web accessible content wherever possible. If you are having difficulties with accessing this document please contact csiroenquiries@csiro.au.

Introduction

Overweight and obesity remain significant issues in Australia. The majority of the Australian adult population are considered to be overweight or obese (ABS, 2012), and the direct costs of obesity total more than 20 billion dollars (Colagiuri et al, 2010). Data from the 2011-13 Australian Health Survey suggests that over 2.3 million Australians were on a diet of some kind (ABS, 2014), which represents about 13% of the population.

The Total Wellbeing Diet (TWD) is a 12 week weight loss program which has been developed and substantiated by CSIRO over many years of clinical research. In 2005, CSIRO launched the TWD books which were hugely popular with the Australian public. It has been estimated that the TWD was adopted by around 10 per cent of Australian households and delivered weight loss benefits to 290,700 Australians (Wyld et al 2010). Then in 2015, CSIRO partnered with SP Health to launch TWD Online which provides a digital version of the weight loss program, with a number of enhancements made possible through the technology platform. For example, TWD Online provides a personalised eating plan, customised meal plans, and a handy shopping list. The online program costs individuals \$149 for the 12 week program (recently increased to \$199 from July 2018), and to date, over 50,000 people have joined the program.

A unique feature of TWD Online is the full refund offer for eligible members who successfully complete the 12 week program. To be eligible for the refund members need to record their weight in the online diary at least once per week, upload a photo each week, consent to use their story to inspire others, achieve any level of weight loss over the 12 week program, and complete a program completion survey. We believe this offer is unique in the Australian weight loss market, and we are interested to explore the characteristics of people claiming the refund and whether claiming the refund is associated with greater success on the program and different motivational factors.

The refund offer is a form of economic incentive. Other research into economic incentive based approaches to weight loss has found that economic incentives can provide significant weight loss and may keep participants engaged in a program for longer periods; however the longer term impacts of such strategies need to be explored further (Volpp et al 2008, Halpern et al 2012).

Determining the impact of TWD Online is important to optimise how the program is offered, and to improve the program in the future. In particular, an exploration of what motivates members to lose weight, including this unique refund offer, can contribute to program improvements.

Therefore the aim of this study was:

Part I: To understand whether weight loss differed between members completing at least 12 weeks of the program and who did and did not claim the TWD refund; and

Part II: To understand members' attitudes towards the TWD refund offer, and whether being eligible to receive the refund is associated with motivation and perceived success.

Method

Part I: Weight loss success of TWD members

This study was a secondary analysis of TWD Online website data downloaded in July 2018. De-identified data files were provided to CSIRO containing information on the demographic characteristics of members, height and weight at program set up, refund status, weekly weigh in data recorded in the system, and summaries of website activity. Data was provided from all members who had joined the program since its inception in late 2014. Weight change was defined as the final weight available minus the initial weight at program set up.

Extreme values of height (<1m and >3m), weight (<13kg and >250kg), BMI (<13 and >97) and age (<18 and >100) were removed from the analysis using a standardised data cleaning protocol established by CSIRO.

The aim of this analysis was to compare the weight loss of members who had completed at least 12 weeks in the program, therefore members without any weigh in data and those with less than 12 weeks (or <84 days) between program setup and their last weigh in entry were excluded. As a result 13,733 members were included in this analysis. A comparison was made, using Independent Samples t-tests, between members who did and did not claim the refund – this characteristic was identified using membership ID.

Part II: TWD Member follow-up survey

The design of this study was a single web-based survey of active and past TWD members. CSIRO designed the TWD member survey asking about motivations for weight loss, commitment to the program, and perceived success while on the program.

Members on the TWD database were invited to participate in this study via email. The email contained information about the study and a link to the survey if they chose to participate. The survey was open for 5 days only and a total of 1,249 past and present members completed the survey. The study was approved by the CSIRO Low-Risk Ethics Committee (LR: 19/2018)

Participants were asked, “In total, about how much weight did you lose on the Total Wellbeing Diet Online?”. From this question, participants were classified as having lost weight or not while on the program. Refund status and weeks on the program were determined using their membership ID and de-identified data from the TWD online system. The significance of the differences between these groups were assessed using One Way Analysis of Variance.

Four groups of members were created for comparison, including those who:

- Lost weight, logged into the system for 12 weeks or more, and claimed the refund;
- Lost weight, logged into the system for 12 weeks or more, without claiming the refund;
- Lost weight, but did not use the system for 12 weeks or more; and
- Did not lose weight

Summary of findings

Over 50,000 people have joined TWD Online since its launch in late 2014. The Online platform provides meal plans, recipes and tools to monitor weight, food intake and exercise. A unique feature of TWD Online is the full refund offer for eligible members who successfully complete the 12 week program. We believe this offer is unique in the Australian weight loss market, and this report examined the characteristics of those who received the refund and whether claiming the refund was associated with greater success on the program and different motivational factors.

The key findings for weight loss success of refunded members were:

- Almost 3,000 members who completed the program claimed the refund – this equates to about 1 in 5 members.
- Refunded members were on average a few years younger and had a slightly lower BMI than non-refunded members when starting the program, but the majority were still obese at the time of signing up.
- Refunded members lost significantly more weight than non-refunded members. On average refunded members lost 5.6kg (or 6.2% of their body weight) compared to 3.7kg (or 4% body weight) for non-refunded members.
- Obese members who received the refund lost 54% more weight than obese members who didn't receive the refund. Furthermore, 6 out of 10 lost a clinically relevant amount of weight (>5% of starting body weight), compared to 4 out of 10 non-refunded obese members.

The key motivational differences for refunded members were:

- 59.4% of those who claimed the refund reported that this offer motivated them while they were on the program.
- Those who claimed the refund were more likely to report meeting their weight loss goal compared to other groups. They also reported feeling as though they were more successful, put more effort into the program and were, overall, more satisfied with the program than all other groups.
- The refund group reported higher levels of externally focussed motivations than other groups.

The criteria to claim the refund are designed to promote behaviours that are associated with more successful weight loss. Self-monitoring is one of these behaviours which is associated with positive behaviour change. Consistent with this, we found that:

- Refunded members logged into the system and used the online weight, food and exercise self-monitoring tools more than non-refunded members.
- Greater usage of these tools was associated with greater weight loss on the TWD program.

Conclusions

The refund offer is a form of economic incentive. It has previously been reported that economic incentive based approaches to weight loss can provide significant weight loss and may keep participants engaged in a program for longer periods of time (Volpp et al 2008, Halpern et al 2012). The weight loss results for the TWD members support these previous findings.

The refund offer is designed to help members succeed with their weight loss. How well it has done this can be summarised by five points (Halpern et al 2012).

1. How *efficacious* is the refund offer – has it promoted healthy behaviour (Efficacy)?

The refunded members used the online system more often than non-refunded members, and they were more likely to keep track of their weight, food intake and exercise habits. These behaviours have been associated with greater weight loss.

2. How *acceptable* is the refund offer – what proportion of members have claimed the refund (Acceptability)?

One in five members who finished the 12 week program claimed the refund. Of those who claimed the refund, 64.5% felt that the eligibility criteria were easy to satisfy.

3. How *effective* is the refund offer – what are the differences in weight loss, and achievement of weight loss goal (Effectiveness)?

In the short-term, the refunded members lost significantly more weight than non-refunded members, were more likely to report achieving their weight loss goal, and reported higher success and satisfaction with the program than other members.

4. How *cost effective* is the refund offer – how does the cost of the refund compare to other approaches to weight loss (Cost effectiveness)?

Participants have the opportunity to spend a net cost of no money while having full access to a scientifically validated 12-week program and online support tools. We know of no other equivalent program which can be accessed for 'free'.

5. What is the *target population* for the refund – what characteristics of people are likely to claim the refund (Target population)?

Overall, 80% of TWD online members were female, 93% were overweight or obese and the average age of members was 52 years. Members who claimed the refund tended to be

younger than non-refunded members, and while still considered obese, refunded members had a slightly lower BMI when starting the program.

While the general findings of this refund offer are positive, the longer term impacts of such economic incentive based strategies need to be explored further (Volpp et al 2008, Halpern et al 2012). There are a number of considerations that should be taken into account when generalising these findings. The member survey was retrospective and while the sample size was adequate the response rate to the survey was relatively low – albeit the survey was only open for members to complete for a short period of time. Despite this, the respondents were fairly typical of the broader membership profile – being majority female, of a similar age, and refunded status. One in five members who stay on the program for 12 weeks or more claim the refund. It would be interesting to explore in more detail why 80% of people do not claim the refund.

Refunded members were more likely to report external motivations and inspirations for starting the program. Furthermore, their self-reported current weight relative to starting weight was not different to the non-refunded members who had also completed the program. While the refund has motivated these members to lose weight in the short term, it is important that the program evolves to develop their internal motivations, and that we find ways to continue to support and motivate members to achieve their longer term weight loss goals.

References

- Australian Bureau of Statistics, Australian Health Survey: First Results. 2011/12. Cat No:4364.0.55.001. 2012, Canberra: Commonwealth of Australia.
- Australian Bureau of Statistics, Australian Health Survey: First Results – foods and nutrients. 2011/12. Cat No: 4364.0.55.007. 2014, Canberra: Commonwealth of Australia.
- Brindal E. et al. Features predicting weight loss in overweight or obese participants in a web-based intervention: Randomised Trial. *JMIR*. 14:6. e173.
(<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3558051/>)
- Colagiuri S. et al., The cost of overweight and obesity in Australia. *MJA*, 2010. 192(5): p. 260-264
- Curry, Wagner, Grothaus. Intrinsic and Extrinsic Motivation for Smoking Cessation. *Journal of Consulting and Clinical Psychology*, 1990. 58(3), 310-316.
- Frederick and Ryan. Differences in motivation for sport and Exercise and their relations with participation and mental health. *Journal of Sport Behavior*, 1993. 16(3), 124-146.
- Freyne J. et al. Factors associated with persistent participation in an online diet intervention. *Extended abstracts on Human Factors in Computing Systems*. P2375-2380.
(<https://dl.acm.org/citation.cfm?id=2223805>).
- Guay, Vallerand, Blanchard. On the assessment of situational intrinsic and extrinsic motivation: The situational motivation scale. *Motivation and Emotion*, 2000. 24(3), 175-213.
- Halpern S. et al Commitment contract as a way to health. *BMJ*, 344: 22-24.
- Sheldon and Kasser. Pursuing personal goals: Skills enable progress, but not all progress is beneficial, *Personality and Social Psychology Bulletin*, 1998. 24(12), 1319-1331.
- Volpp K. et al Financial incentive based approaches for weight loss: A randomised controlled trial. *JAMA*, 2008. 300(22): 2631-2637.
- Wyld, B et al. The CSIRO Total Wellbeing Diet Book 1: sociodemographic differences and impact on weight loss and well-being in Australia. *Public Health Nutrition*, 2010. 13(12), 2105-2110.

CONTACT US

t 1300 363 400
+61 3 9545 2176
e csiroenquiries@csiro.au
w www.csiro.au

AT CSIRO, WE DO THE EXTRAORDINARY EVERY DAY

We innovate for tomorrow and help improve today – for our customers, all Australians and the world.

Our innovations contribute billions of dollars to the Australian economy every year. As the largest patent holder in the nation, our vast wealth of intellectual property has led to more than 150 spin-off companies.

With more than 5,000 experts and a burning desire to get things done, we are Australia's catalyst for innovation.

CSIRO. WE IMAGINE. WE COLLABORATE.
WE INNOVATE.