

Healthy Habits Associated with Successful Weight Loss Maintenance on a Commercial Program: Learnings from a Research Survey

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How to cite this paper: Coleman, C., Kiel, J., LaCalamita, C., Frye, N. and Provelengios, L. (2022) Healthy Habits Associated with Successful Weight Loss Maintenance on a Commercial Program: Learnings from a Research Survey. *Food and Nutrition Sciences*, 13, 453-462.

<https://doi.org/10.4236/fns.2022.135033>

Received: April 8, 2022

Accepted: May 23, 2022

Published: May 26, 2022

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Abstract

Background: Maintenance of lost weight is a challenging aspect of weight management, therefore, an online survey of OPTAVIA (“the Program”) coaches and clients was conducted to understand the habits of successful maintainers. **Methods:** Coaches and clients who lost $\geq 10\%$ body weight on the Program, had been trying to maintain their weight loss for ≥ 1 year, and maintained $> 75\%$ of their weight loss during that time were identified. Mean \pm SD were calculated for continuous variables and categorical variables were quantified using frequencies and percentages. **Results:** The analysis included 590 respondents (342 coaches, 248 clients; 84% female, 52.6 ± 11.9 years). Average weight loss was $23.7\% \pm 8.6\%$; average time in maintenance was 24.5 ± 15.8 months. The most common maintenance strategies included self-monitoring, leveraging habits learned during weight loss, food-related strategies, physical activity, establishing a healthy environment, and becoming a coach. Coaches identified several beneficial factors: higher accountability, increased self-awareness, paying it forward, aligning maintenance with their identity as a coach, being a role model, and engagement with the Program. **Conclusions:** Successful coaches and clients use behaviors consistent with existing literature combined with several unique to the Program. The novel insights from this research rest primarily on the strategy of becoming a coach to help maintain weight loss.

Keywords

Weight Loss Maintenance, Meal Replacements, Lifestyle Behaviors, Coaching, Physical Activity

1. Introduction

Two-thirds of American adults struggle with overweight or obesity, and the burden of its sequelae, including cardiovascular disease and type 2 diabetes [1] [2] [3]. Obesity also carries an additional risk of greater all-cause and cardiovascular disease mortality [1]. In addition to the morbidity and mortality associated with obesity, the economic impact is also immense. The US spends an estimated \$190 billion on obesity-related medical conditions, and the average annual medical costs for those with obesity are over \$1400 higher compared to people in a normal weight range [4] [5].

While weight loss can be achieved through a variety of modalities, long-term maintenance of lost weight has proven to be more difficult. There are several factors—environmental, behavioral, and physiological that contribute to the difficulty of weight loss maintenance and result in the typical trajectory of weight regain after weight loss. These complex biological, behavioral, and environmental factors include an obesogenic environment, waning motivation, and physiologic adaptations that are both metabolic and endocrine in nature [6]. Certain lifestyle behaviors such as self-monitoring, physical activity, and the use of meal replacements (MR) have been associated with better weight loss maintenance [7] [8]. However, weight maintenance-specific interventions targeting a better understanding of factors associated with success are needed to improve long-term outcomes [6]. The health and economic impacts of obesity cited above further highlight the importance of weight loss maintenance and maintenance-specific interventions.

OPTAVIA (“the Program”), is a comprehensive weight management program backed by peer-reviewed research demonstrating the safety and efficacy of its plans [9] [10] [11] [12] [13]. Each client has a coach (many of whom successfully lost weight with the Program) to help guide them. Most clients start with weight loss using one of the Program’s meal plans. Generally, these include MR (each 90 - 110 kcals, 11 - 15 g protein, 12 - 15 g carbohydrates, 0 - 3.5 g fat, and vitamin/mineral fortification), Lean and Green meals (self-prepared meals consisting of lean proteins, non-starchy vegetables, and healthy fats), and may include one or more healthy snacks (a serving of fruit, dairy, starch, or pre-packaged Program snack).

The core tenet of the Program is sustained behavior change through the adoption of healthy habits (“Macrohabits”). The “MacroHabits”, focus on six key areas: weight management, eating and hydration, motion, sleep, mind, and surroundings. Resources, like the Habits of Health Transformational System (HOHTS) (a textbook, interactive journal, and digital application) and an in-person and online community, help support the practice of these “MacroHabits”.

After weight loss, clients are encouraged to continue working with their coach to maintain their weight loss. However, among coaches and clients, the habits most closely associated with successful weight loss maintenance are not well-known. Therefore, the primary objective of this research was to identify the lifestyle behaviors used for weight loss maintenance by coaches and clients identified as being

successful weight loss maintainers. Surveyed behaviors included maintenance strategies previously reported in the literature as well as those specific to the Program.

2. Methods

2.1. Study Design

This research was approved by Western IRB (#2596724-44448069) and launched in November 2019. Coaches and clients were sent an email invitation to participate. Participants acknowledged their acceptance of the survey's Terms and Conditions and Privacy Policy by continuing to the survey via the unique link provided. An incentive of \$100 Amazon gift cards (ten randomly selected recipients) was offered. The intended use of the survey results was described in the email invitation.

The survey was designed using Qualtrics^{XM} (<https://www.qualtrics.com/>) and was administered completely online. It consisted of 77 questions and used logic and skip patterns to more efficiently route respondents through the survey based on their answers. It took approximately 15 - 20 minutes to complete. Prior to the official launch, the survey was field-tested to ensure functionality and data accuracy.

Responses were analyzed using Qualtrics and WinCross software (The Analytical Group, Scottsdale, AZ), utilizing the services of a third-party vendor (Strop Insights, Dallas, TX). Data were de-identified and transferred via a secure cloud-based file sharing platform.

To address the survey's primary objective, coaches and clients considered successful weight loss maintainers were targeted. To our knowledge, no universally-accepted standard for a "successful" weight loss maintainer exists [1] [14]. Thus, "successful maintainers" to be included in the analysis were predefined as: 1) individuals who self-reported a loss of $\geq 10\%$ body weight, 2) regained $< 25\%$ of the weight lost over at least one year after stopping their weight loss plan and 3) did not start a new weight loss plan during that time.

2.2. Statistics

Means \pm SD were calculated for continuous variables and categorical variables were quantified using frequencies and percentages. Behaviors of successful maintainers were summarized by frequency and percentages.

Lifestyle behavior-related questions consisted of broad categories of behaviors ("strategies") (e.g. food/diet-related strategies). A list of 10 strategies was provided; respondents could select as many as they used (see **Figure 1**). For most strategies, if selected, more detailed information on specific behaviors within this strategy ("tactics") was asked (e.g. within the food/diet-related strategy, specific tactics might include monitoring portions, etc.). For strategies, percent usage was calculated by dividing the number of respondents who reported using the strategy by the total respondents in the relevant group (*i.e.* all successful maintainers, successful coaches, and successful clients). For tactics, percent usage was calculated by dividing the number who reported using the tactic by those in the

respective group who reported using the strategy.

It was expected coaches and clients would focus on different strategies based on their different roles; therefore, the goal was not to compare, but rather to identify the behaviors used.

2.3. Patient and Public Involvement

Participants or the public were not directly involved in the design, conduct, or reporting of this research, however, previous coach and client feedback related to the Program were used to inform the survey development.

3. Results

3.1. Sample

590 respondents (84% female, 92% white, 52.6 ± 11.9 years, 77% between 35 - 64 years) met the predetermined criteria and were included in the analysis. The sample consisted of 342 coaches and 248 clients (**Table 1**). Respondent demographics were generally reflective of the Program's typical consumer demographics at the

Table 1. Demographics.

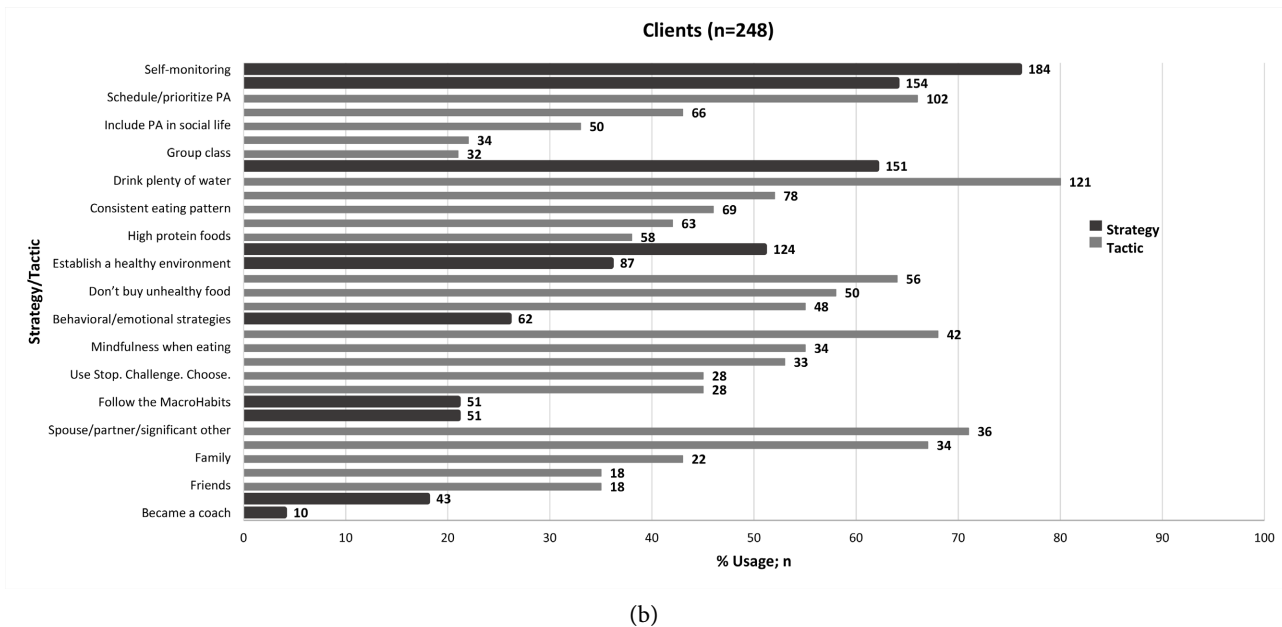
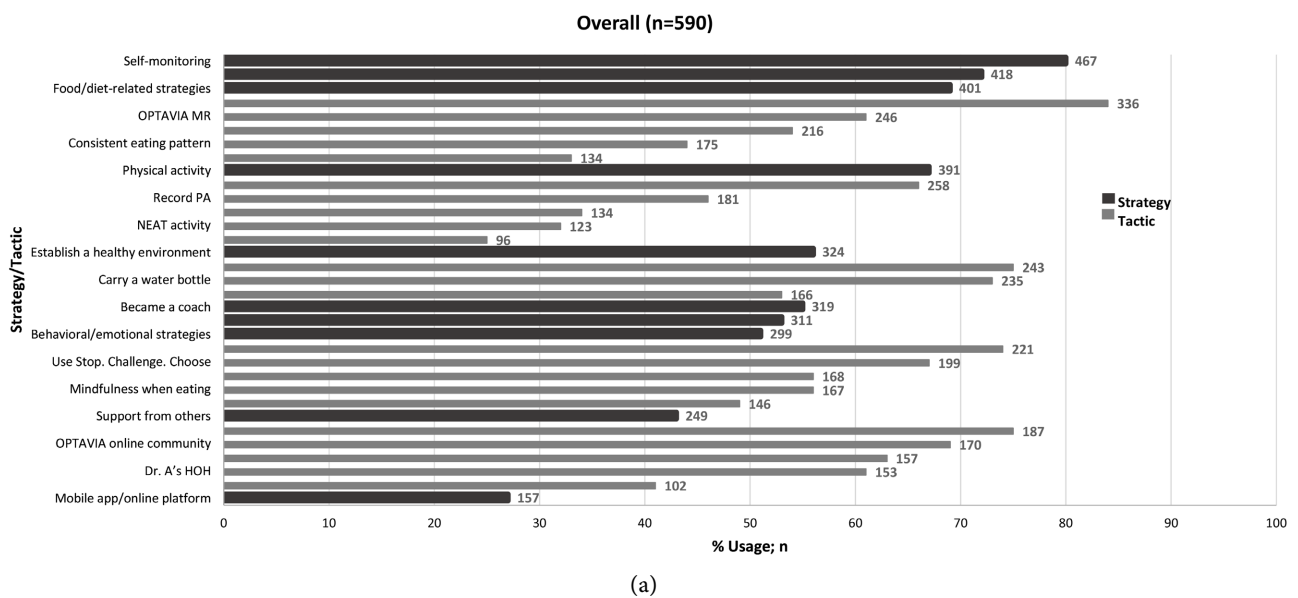
Demographics	Groups		
	Overall	Coaches	Clients
n	590	342	248
Age, years	52.6 ± 11.9	51.0 ± 11.0	54.5 ± 12.8
Female (%)	84	88	79
Ethnicity (%)			
White	92.0	92.5	91.9
Hispanic/Latino	2.4	3.0	1.6
African-American	0.5	0.3	0.8
Asian	1.0	1.2	0.8
Other (+prefer not to answer)	4.0	3.2	4.8
Starting Weight (lb)	195.4 ± 49.3	193.1 ± 50.8	196.9 ± 45.7
Starting BMI (kg/m^2)	31.7 ± 6.9	31.5 ± 7.5	31.7 ± 5.8
Time in weight loss (months)	6.2 ± 5.4	6.0 ± 5.6	6.5 ± 4.9
Weight loss (lb)	48.8 ± 32.7	52.1 ± 37.2	43.7 ± 22.6
Weight loss (%)	23.7 ± 8.6	25.2 ± 9.0	21.5 ± 7.5
Weight—after weight loss (lb)	146.5 ± 28.5	141.1 ± 22.5	153.2 ± 33.8
BMI—after weight loss (kg/m^2)	23.8 ± 3.6	23.0 ± 2.9	24.7 ± 4.1
Time in maintenance (months)	24.5 ± 15.8	26.5 ± 16.6	21.3 ± 13.9
Regain (lb)	3.8 ± 6.8	4.0 ± 6.5	3.3 ± 6.9
Regain (%)	7.5 ± 12.6	7.2 ± 10.5	7.7 ± 14.7

Data are shown as Mean \pm SD except where indicated.

time of the survey (82% female, ~90% white, 54 years).

3.2. Successful Maintainers

Percent usage of the strategies and tactics of all successful maintainers is shown in **Figure 1(a)**. On average, successful maintainers used 5.8 strategies for weight loss maintenance. Most (81%) reported taking action (use the Program 66% or general calorie-reduction strategies 57%) within 5 - 10 lb of weight regain, and 80% reported weighing themselves at least weekly. While 67% reported using physical activity (PA) as a weight loss maintenance strategy, 83% reported participating in regular PA. Aerobic exercise, reported by 58%, was the most common type of PA. Maintainers reported 5.5 ± 1.0 eating occasions and consumed 2.3 ± 1.7 MR daily.



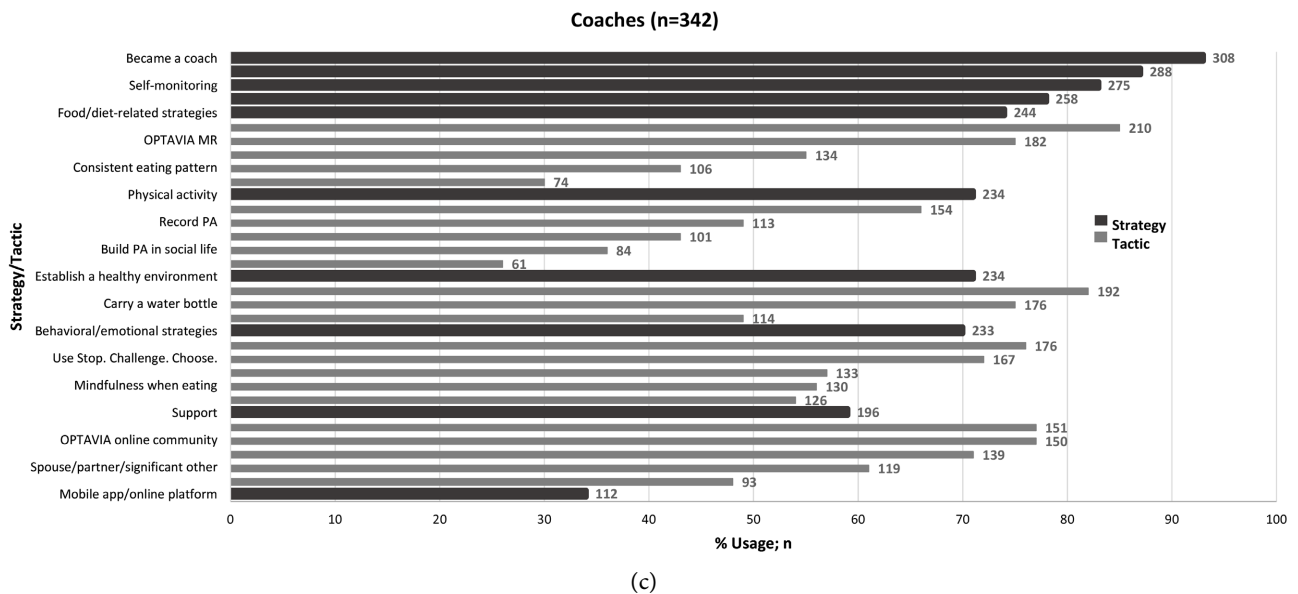


Figure 1. Percent Usage of Strategies and Tactics for Weight Loss Maintenance. (a) Overall; (b) Clients; (c) Coaches. Strategies = broad categories of behaviors and percent usage was calculated by dividing the number of respondents who reported using the strategy by the total respondents in the relevant group. Tactics = specific behaviors within a strategy and percent usage was calculated by dividing the number who reported using the tactic by those in the respective group who reported using the strategy.

3.3. Successful Clients

Percent usage of the strategies and tactics of successful clients is shown in **Figure 1(b)**. On average, successful clients used 3.9 strategies for weight loss maintenance. The majority (74%) reported taking action (general calorie reduction strategies 64% or use the Program 47%) within 5 - 10 lb of weight regain, and 79% reported weighing themselves at least weekly. While 64% reported using PA as a weight loss maintenance strategy, 83% reported participating in regular PA. Aerobic exercise, reported by 56%, was the most common type of PA. Clients reported 5.1 ± 1.2 eating occasions and consumed 1.6 ± 1.7 MR daily.

3.4. Successful Coaches

Percent usage of the strategies and tactics of successful coaches is shown in **Figure 1(c)**. On average, successful coaches reported using 7.3 strategies for weight loss maintenance. Most (85%) reported taking action (use the Program 81% or general calorie reduction strategies 51%) within 5 - 10 lb of weight regain, and 82% reported weighing themselves at least weekly. While 71% reported using PA as a weight loss maintenance strategy, 83% reported participating in regular PA. Aerobic exercise, reported by 59%, was the most common type of PA. Coaches reported 5.9 ± 0.6 eating occasions and consumed 2.8 ± 1.4 MR daily.

Almost all (93%) successful coaches reported they “became a coach” as a maintenance strategy. They also identified several factors related to being a coach they believed helped with weight loss maintenance, including creating higher accountability (85%), increasing self-awareness (75%), finding paying it forward rewarding (73%), aligning weight loss maintenance with their identity

as a coach (73%), being a role model (68%), and engagement with the Program (64%).

4. Discussion

This survey research demonstrated many of the behaviors used by successful maintainers align well with previous findings and also include novel behaviors unique to the Program.

Consistent with the literature, most successful maintainers reported using self-regulation strategies such as self-monitoring (80%) and regular ($\geq 1x/week$) weighing (80%). Also aligned with the existing evidence, successful maintainers reported engaging in PA (83%), habit automaticity (*i.e.*, 72% use habits learned in weight loss), practicing food/diet-related behaviors (69%) (e.g. using MR 61%, and monitoring portions 54%), and active relapse management (*i.e.* 81% taking action within 5 - 10 lb of regain) [7] [14] [15] [16] [17].

Successful maintenance strategies unique to the Program included following the “MacroHabits” (53%), establishing a healthy environment (56%) by keeping MR on hand (75%) and carrying a water bottle (73%), and getting support from others (43%), particularly an OPTAVIA coach (75%), the OPTAVIA Community (69%), a spouse/partner (63%), or using other key Program resources like the HOHTS (61%).

The novel insights from this research rest primarily in the finding that 93% of successful coach maintainers reported they “became a coach” as a specific maintenance strategy. Among many notable factors related to being a coach reported to help with weight loss maintenance, some of the more unique included finding paying it forward rewarding (73%) and being a role model (68%). These findings suggest that contributing to the health and well-being of others can help an individual to maintain their own weight loss.

Surveys, by their nature, come with limitations. Chief among them include the biases of self-reported data (e.g. social desirability and/or recall bias) [18]. The strengths of our survey were that respondents were real-world coaches and clients of the Program which highlights the direct applicability of the results. Additionally, as real-world successful maintainers, these respondents’ behaviors may have generalizability to weight loss maintenance outside specific users of the Program.

Overall, the findings from this survey revealed many commonalities with the existing literature along with several unique aspects of the Program that seem to contribute to successful maintenance of weight loss, including insights related to the potential benefits of becoming a coach. These findings can be applied to the Program and perhaps more broadly to provide additional strategies beneficial for successful long-term weight loss maintenance.

5. Conclusion

In conclusion, the findings from this study show successful coaches and clients

use behaviors consistent with the existing literature such as self-regulation, physical activity, and habit automaticity combined with several aspects unique to the Program such as following the “MacroHabits”, use of meal replacements, and the support of a coach and community. The novel finding from this research is that contributing to the health and well-being of others through coaching can help an individual to maintain their own weight loss.

Ethics Approval

An exemption and waiver from informed consent were obtained from the IRB (Western IRB, Protocol number: 2596724-44448069). Since this was survey research it involved minimal risk to participants and involves no procedures for which written consent is normally required outside of the research context, the research could not be practicably carried out without a waiver, the waiver would not adversely affect the rights and welfare of the participants, and any survey data will be reported only on an aggregated basis so the risk of confidentiality breach is minimal.

Funding

All aspects of this research were funded by Medifast, Inc.

Author’s Contributions

JK, CL, CC, NF, and LP contributed to the development of the survey and its content. JK and CL created the survey in Qualtrics. CL was responsible for the deployment of the survey. CC wrote the first draft of the report. All authors contributed to the writing and interpretation and approved the final version. CC is responsible for the overall content as a guarantor. The corresponding author attests that all listed authors meet authorship criteria and that no others meeting the criteria have been omitted.

Acknowledgments

The authors would like to acknowledge the contributions of Jennifer Christman, Alexandra Miller, Megan Kilmer, and John Kelly for their integral roles in the development of the research survey and Satya Jonnalagadda for her review of the manuscript.

Conflicts of Interest

All authors (JK, CL, CC, NF, and LP) were employed by and received a salary from Jason Pharmaceuticals, Inc., a wholly-owned subsidiary of Medifast, Inc. during the performance of this research and drafting of the manuscript.

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List of Abbreviations

MR	Meal Replacements
HOHTS	Habits of Health Transformational System
SD	Standard Deviation
BMI	Body Mass Index
lb	pounds
g	gram
Kg	kilogram
m ²	meters squared
PA	Physical activity