

2018

Beyond weight loss: A qualitative exploration of participant expectations and strategies for measuring progress during a weight management program

John Spencer Ingels
West Virginia University

Adam Hansell
West Virginia University

Sam Zizzi
West Virginia University, Sam.Zizzi@mail.wvu.edu

Follow this and additional works at: https://researchrepository.wvu.edu/faculty_publications



Part of the [Sports Sciences Commons](#)

Digital Commons Citation

Ingels, John Spencer; Hansell, Adam; and Zizzi, Sam, "Beyond weight loss: A qualitative exploration of participant expectations and strategies for measuring progress during a weight management program" (2018). *Faculty & Staff Scholarship*. 1258.

https://researchrepository.wvu.edu/faculty_publications/1258

This Article is brought to you for free and open access by The Research Repository @ WVU. It has been accepted for inclusion in Faculty & Staff Scholarship by an authorized administrator of The Research Repository @ WVU. For more information, please contact researchrepository@mail.wvu.edu.

Beyond weight loss: A qualitative exploration of participant expectations and strategies for measuring progress during a weight management program

SAGE Open Medicine
Volume 6: 1–10
© The Author(s) 2018
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/2050312118807618
journals.sagepub.com/home/smo



John Spencer Ingels , Adam Hansell and Sam Zizzi

Abstract

Objectives: Previous research with participants in weight management has primarily focused on participant weight-loss expectations. The purpose of this study was to explore participant expectations and strategies for measuring progress during a community-based weight management program.

Methods: Semi-structured interviews were completed with 22 participants with overweight or obesity, who were currently enrolled in a 2-year weight management program in order to understand their expectations and strategies for measuring their progress.

Results: Aside from weight loss, participants' expectations included improved health, fitness, and mood, gaining support, and developing new habits. Participants discussed measuring their success by focusing on weight loss and changes to their body, improved health, mood, and fitness, creation of new habits, and gaining additional support.

Conclusion: The results of this study suggest that participant's in a weight management program expected benefits beyond just weight loss.

Keywords

Epidemiology, public health, weight loss, expectations, qualitative

Date received: 19 June 2018; accepted: 24 September 2018

Introduction

Weight management programs (WMP) are a common method that individuals adopt to achieve their weight-loss goals.¹ Understanding what participants expect from these programs can help practitioners create programs tailored to the needs of the participants. Multiple studies have found that participants tend to have unrealistically high weight-loss expectations (>30% weight loss) prior to beginning a WMP.^{2–4} A telephone survey of 658 participants (55% female) found that participants desired weight-loss goals were over 16% of initial weight, yet they realistically expected to lose 8%.⁴ A multivariate analysis revealed that a higher body mass index (BMI) and being female were associated with higher weight-loss goals.

Multiple studies have found a link between dropout and participant expectations, as risk of dropout increased by 12% for each additional unit of expected BMI loss and for those whose primary motivation was appearance.^{2,3} Satisfaction with weight loss was positively correlated with actual weight

loss, adherence to diet, and weight maintenance, but was not associated with weight-loss expectations, suggesting that participants' satisfaction was influenced by factors besides reaching their expected weight-loss goals. Finally, a multivariate model revealed that only actual weight loss and satisfaction with weight loss predicted weight maintenance, not participant weight-loss goals.² Prior research has also found that participants reported feeling better physically and mentally despite failing to achieve their desired weight-loss goals,⁵ which suggests that some participants may experience benefits unrelated to their weight-loss goals. A better understanding of these nuances can inform how programs

College of Physical Activity and Sport Sciences, West Virginia University, Morgantown, WV, USA

Corresponding author:

John Spencer Ingels, College of Physical Activity and Sport Sciences, West Virginia University, 375 Birch Street, Office 219, Morgantown, WV 26505, USA.

Email: spencer.ingels@gmail.com



are designed and improve our understanding of how participants evaluate their own success.

Qualitative research methods have been applied in weight-loss settings to understand how an online weight-loss community supports its members,⁶ the experiences of individuals in weight-loss programs,^{7,8} and how successful and unsuccessful weight maintainers differ.^{9,10} One relevant study conducted interviews with 76 participants with obesity in Australia to explore their motivations for weight loss.¹¹ Although weight loss was the primary motivating factor, participants shared a broad range of motivations beyond weight loss, such as improving health, mobility, well-being, and appearance, as well as an improved ability to spend time with family. These qualitative findings align with findings from the large, multicenter study by Dalle Grave et al.,³ which found that improving health was the primary motivation for weight loss. Finally, a recent review of qualitative research identified multiple challenges of weight maintenance and factors connected with successful maintenance, such as developing self-regulation strategies, managing motivations, and changing perception of self.¹² The challenge of weight maintenance is not fully understood. Exploring the expectations and strategies for measuring progress of participants in long-term weight management across a variety of success in weight maintenance will benefit how WMPs are structured to optimize weight maintenance. The purpose of our study was to apply a qualitative method to understand what participants in a community-based WMP expected to achieve, how they measured their progress in the program, and how these expectations and strategies differed across different weight maintenance outcomes at 18 months.

Method

Participants

Participants were members of the community-based, state-wide WMP run by the Public Employees Insurance Agency (PEIA) in West Virginia. This program is open to any adult policy holder (or their dependent) with a BMI over 25 or with waist circumference over 35 inches for women or 40 inches for men. The PEIA WMP is a 2-year program, which provides discounted membership to a fitness facility (US\$20 per month), personal training services, an exercise physiologist, a registered dietician, and health behavior coaching. These services were provided on a standard schedule throughout the 2 years, including approximately 90 min of personal training per month in the first year, and three meetings each with the exercise physiologist and the dietician. All services were delivered individually, and in-person, with the exception of voluntary health behavior coaching which was completed on the phone. In addition, a small percentage of clients (<15%) received medical nutrition therapy via phone if their fitness facility did not have access to a local dietitian. Only certified or licensed professionals interacted with

participants, and each was allowed to work within their own scope of training to meet the schedule of services. All fitness and dietary staff were trained in best practices for evidenced-based service delivery and documentation of services prior to engaging with the program. See Zizzi et al.¹³ for further details on the PEIA WMP.

Recruitment. The PEIA research staff conducts voluntary program evaluation surveys at baseline, 6-, 12-, and 18 months post baseline. During the data collection period, the response rate to these web-based or mailed surveys was 52%. Objectively measured weight loss and anthropometric data (blood pressure, body fat percentage, and waist circumference) were entered into a secure database by staff at each of the participating fitness facilities and is accessible by members of the research team. This data collection occurs on an ongoing, monthly basis. Staff at facilities were trained to collect and enter data into the system, and to provide feedback to members in a private and confidential environment. However, due to the community-based nature of the program, facilities were not required to use a specific scale or body fat machine, thus some inconsistency in measurement exists. Members of the institutional review board at West Virginia University approved the survey design and implementation prior to data collection. All PEIA members completed informed consent upon program initiation, and voluntarily agreed to participate in the surveys and follow-up interviews.

A total of 1,170 participants completed at least the 12- or 18-month survey, of which 439 agreed to participate in a follow-up interview. This group was split into three groups based on objectively measured weight-loss success as a percentage of body weight lost at 18 months: large loss ($\geq 7\%$ loss), moderate loss (3%–6% loss), or regain (0% loss or gained weight). This split was done to ensure that relatively equal numbers of participants were contacted across different categories of weight maintenance success. Furthermore, for the moderate group, a 3% weight loss was used as this is the lowest weight change that has been found to result in health benefits,¹⁴ while 6% was used in order to capture a range of weight change that have been connected to health benefits.¹⁵ Finally, the large success group was created based on the data in order to capture participants whose weight maintenance exceeded the moderate group. A group of 77 participants who met our study's inclusion criteria and who had most recently completed their 18-month follow-up were contacted via email to request participation in an interview about their experiences in the program. Participants were not offered any incentives for completion of the interview. In total, 28 participants completed interviews, and 22 were analyzed after 6 participants were excluded for being in the program less than 18 months at the time of interview ($n=2$), not completing surveys ($n=3$), or poor audio quality ($n=1$). See Figure 1 for flow diagram of participant selection.

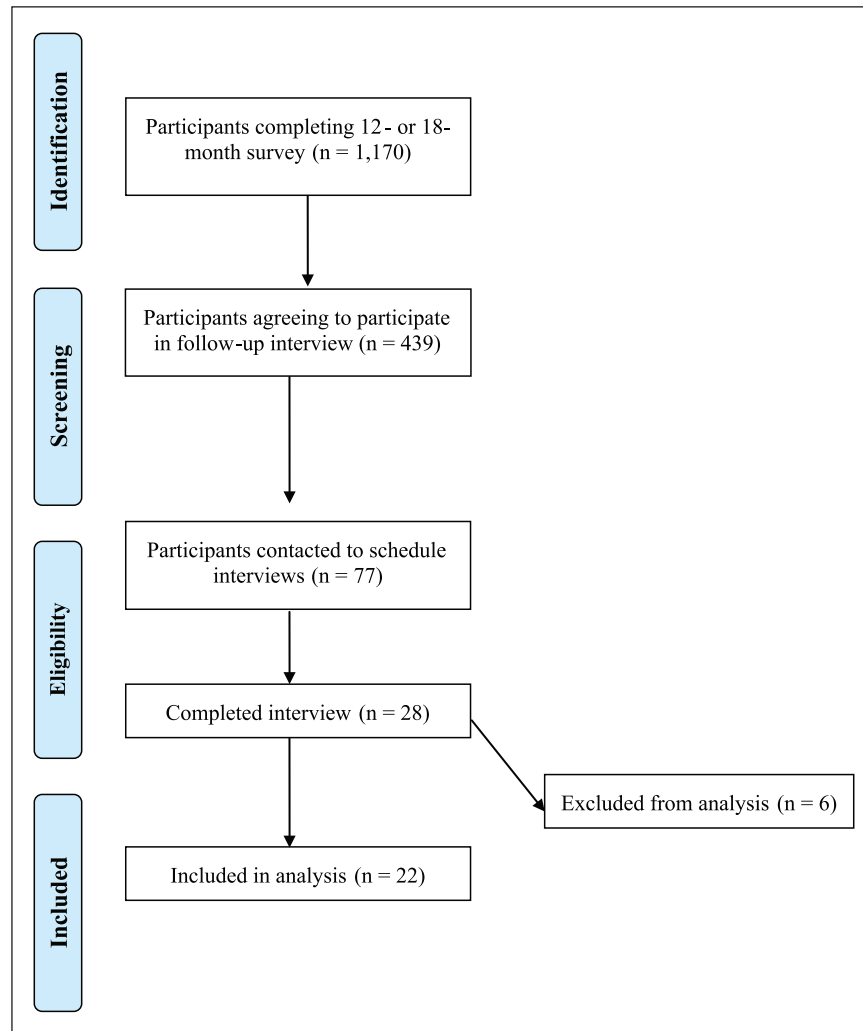


Figure 1. Flow diagram of participant selection.

Interview protocol

The interviewer (J.S.I.) was a male, in his early 30s, with training in counseling, motivational interviewing, and qualitative methods, and experience working within the weight management field. The interviews were conducted over the phone in a private office following a semi-structured format and audio recorded. Participants were contacted in advance via email in order to schedule a time when participants would be able to complete the call and encouraged to find a quiet/private place to complete the interview. All interviews were conducted without a prior relationship being formed or knowledge of each individual's weight-loss outcomes. Upon the beginning of each call, the purpose was explained and questions were answered in order to increase the comfort of participants with the interviewer. The interviews focused on multiple experiences of participants in the program, such as their experience with personal training and how participants dealt with setbacks or challenges in the program, with the data for this study coming from the first part of the interview

that focused on participant expectations. The following two questions were used to collect the data with follow-up questions used to clarify participant responses: (1) At the beginning, what did you expect to achieve through participating in the PEIA WMP and (2) What did you focus on to see if the program was meeting your expectations? In order to minimize the impact of actual experience in program on participant expectations, participants were prompted to recall what had initially prompted them to join the program. Interviews lasted 25–50 min. See Supplementary Material for full interview protocol.

Data analysis

J.S.I. (10 transcribed) and A.H. (5 transcribed) and one research assistant transcribed (7 transcribed) the de-identified interviews, with J.S.I. reviewing transcripts and audio files for accuracy. At no point during transcription or initial analysis were the transcripts organized by weight-loss

Table 1. Descriptive statistics by success group.

| | Regain (n=7) | Moderate loss (n=8) | Large loss (n=7) |
|--|---------------|---------------------|------------------|
| No. of males (%) | 0 (0) | 2 (25) | 1 (14) |
| Age (SD), years | 52.00 (12.14) | 52.25 (11.94) | 47.29 (13.45) |
| No. of dropped program (%) | 3 (43) | 1 (12) | 2 (29) |
| Mean initial BMI (SD) | 32.77 (5.67) | 33.05 (6.27) | 36.96 (6.66) |
| Mean percent weight change at time of interview (SD) | 2.03 (2.25) | -4.14 (1.31) | -12.88 (7.13) |
| No. of days to lowest weight | 257 (123) | 375 (193) | 439 (148) |
| Mean percent weight change at lowest point in program (SD) | -5.42 (3.66) | -6.66 (0.93) | -16.07 (7.78) |

SD: standard deviation; BMI: body mass index.

Large: >7% weight loss, moderate: 3%–6% weight loss, and those who regained.

success, to ensure that all coding was completed based on the content of what was said by each participant. The project was approached from a realist paradigm which posits that knowledge about true reality can be informed through individual perception of reality.^{16,17} Thus, individuals reported expectations and strategies for measuring progress are viewed as true representations of each participant's experience, filtered through their own perceptions. These experiences are used to understand the true nature of reality by improving understanding of what participants expect and how they measure their progress in a WMP. Finally, realism values providing practical data to inform future research and practice, thus frequency of themes are analyzed in order to inform practice and guide future research.

Transcripts were analyzed following six steps of thematic analysis presented as follows:¹⁸ (1) familiarizing with data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the report. J.S.I. and A.H. were familiar with the data from transcribing the interviews, thus the transcripts were split in half with each author reviewing each transcript in Microsoft Word and creating codes and comments to describe the participant data. These comments focused on capturing the meaning what each participant was saying. These initial comments, from two separate sets of transcripts, were discussed and compared to raw data in order to create an initial codebook that captured the content of what each participant said. The authors each then reviewed the other half of the transcripts plus the half they had already completed, to code based on initial codebook. J.S.I. and A.H. then met again to compare the coded themes for each participant and resolve any discrepancies by comparing to codebook, amending code definitions, and discussing with S.Z. After reviewing the data three times, once by each author separately and once together, the authors felt they had fully organized the interview data into the themes. S.Z. then reviewed the codebook with J.S.I. and A.H. to further ensure the trustworthiness of the results. After this discussion, subthemes for fitness, health, and mood improvement were consolidated into the themes presented below. Finally, themes were organized in Microsoft Excel in order to explore frequency of themes across weight-loss categories.

Results

Participants

Participants (n=22; 3 males) had an average initial BMI of 34.21 (SD=6.22) and their average age was 50.86 (SD=11.95) years. This percentage of males interviewed (~14%) roughly corresponds with the makeup of the overall program, which is predominantly female (~85%) (Table 1).

Expectations of WMP

The following themes emerged from the prompt “*When you first joined the program, can you tell me about what you expected, or hoped to achieve from the program?*” See Table 2 for frequency of themes across weight outcomes and Table 3 for full participant quotes and themes.

Weight loss. This theme captured responses indicating participants' expectation to lose weight while in the program. The following three subthemes were also established to capture subtle differences in how participants spoke about weight-loss expectations. *Primary* was coded to capture participants reported weight loss as their primary expectation for joining the program. For example, one moderate loss participant responded “*of course the number one thing was to lose weight*” (P8). *Secondary* was coded for members for whom weight loss was a secondary expectation for joining the program, as they spoke of focusing on other benefits (e.g. health and fitness) and added weight loss as a secondary expectation. For example, one participant who had regained at 18 months responded “*I think the idea was just to try and make some time for yourself ... I wanted some time for myself ... And my weight had crept up*” (P19). Finally, *absent* was coded for participants who did not mention weight loss as one of their expectations for the program.

Fitness improvement. This theme captured participants expecting to improve their fitness by improving strength, endurance, flexibility, or daily energy. For example, one moderate loss participant responded “*I was hoping that I would have an increase in flexibility and range of motion at the end of the program*” (P20).

Table 2. Frequency of themes across weight-loss outcomes.

| | | Large loss (n=7) | Moderate loss (n=8) | Regain (n=7) |
|---|-------------|------------------|---------------------|--------------|
| <i>Expectation themes for weight management program</i> | | | | |
| Weight loss | Primary | 4 | 4 | 4 |
| | Secondary | 3 | 3 | 2 |
| | Absent | 0 | 1 | 1 |
| Fitness improvement | | 5 | 6 | 1 |
| Health improvement | | 3 | 7 | 3 |
| Mood improvement | | 1 | 2 | 2 |
| Support | | 4 | 5 | 5 |
| Habit development | | 0 | 2 | 3 |
| <i>Measurement themes of progress in program</i> | | | | |
| Body measurement | Weight only | 4 | 2 | 0 |
| | Multiple | 1 | 5 | 4 |
| | None | 2 | 1 | 3 |
| Fitness improvement | | 5 | 5 | 3 |
| Health improvement | | 1 | 3 | 1 |
| Mood improvement | | 3 | 4 | 1 |
| Habit development | | 4 | 3 | 4 |
| Shift | | 3 | 3 | 1 |

Among expectation themes, weight loss was split into three subthemes: primary captured participants who reported weight loss as their primary expectation for joining program, secondary was used for participants who mentioned weight loss but had other expectations for joining, and absent indicates participant did not mention expecting weight loss. For how participants measured progress body measurement was split into three subthemes: weight only captured participants who measured progress with bodily changes only by focusing on weight, while multiple was used to capture participants who focused on multiple bodily changes, and none captured participants who did not measure progress through changes in their body.

Table 3. Participant quotes and coded themes for expectations for weight management program in response to prompt: “When you first joined the program, can you tell me about what you expected, or hoped to achieve from the program?”.

| Group | Quote | Theme |
|----------|---|---|
| Large | I was expecting support, I guess, a little help. I was hoping to achieve weight loss. (I: ok. And what kind of support were you hoping to get through the program?) P: Just advice, tips, suggestions ... The main thing is just advice. (P23) | Weight loss, secondary Support |
| Moderate | I definitely wanted to lose some weight because you know I'm overweight, I also I was sort of borderline cholesterol and borderline diabetes so I thought ... if I lost weight that would help ... maybe help me to get into the habit of working out because that seemed to be the hardest thing for me was actually making it a habit and just doing it. (P11) | Weight loss, primary Health improvement Habit development |
| Moderate | Well in the beginning I wanted to get involved in this to just help my stamina. It seemed like I couldn't do any type of exercise or walking, or any type of physical work without being short winded, tired, no motivation, I'll put it that way ... you didn't see it on paper as far as when she did my measurements and my weight loss and things like that, but it helped me tremendously. Just my physical outlook and feeling better, not just about myself, but feeling better in general. (P5) | Weight loss, secondary Fitness and mood improvement |
| Regain | Well I'd hoped to achieve weight loss and get on a regular exercise program. (P1) | Weight loss, primary Habit development |
| Regain | Well, of course I wanted to lose weight. And, I wanted to feel better and reduce some of my medicines, and learn how to exercise properly. (P3) | Weight loss, primary Health and mood improvement Support |

Health improvement. This theme captured participants expecting to improve specific health outcomes, beyond losing weight, through their participation in the program, such as improving cholesterol, reducing medications, or reducing blood sugar. For example, one moderate loss participant responded “I was sort of borderline

cholesterol and borderline diabetes so I thought that if I lose weight that would help that plus just health in general” (P11).

Mood improvement. This theme captured participant expectations to feel better mentally, emotionally, or psychologically,

Table 4. Participant quotes and coded themes for how participants measured their progress in the weight management program.

| Group | Quote | Themes |
|----------|--|---|
| Large | I hate to say I measured it in pounds but that was certainly a piece of it ... but I also measured it as far as just you know feeling better. Maybe aim to do things that I couldn't do before or struggled to do before, just to be more active. (P10) | BM, weight only Fitness and mood improvement Shift |
| Large | You have to weigh in and they (the trainers) record your weight and every so often they did fit tests to see ... what the progress was because they did baselines when I first went, and so you could see your progress ... well now I can do 12 pushups and before I only could do 2 ... when I was going through the program the very first year I saw a lot more weight drop. The second year it kinda plateaued but the body fat was changing. My body fat percent was like 58% and I think it went down to like 38% ... And I never did get under the 200 pounds over the 2 years, but the body fat kept changing to where, I guess I was just gaining muscle. (P2) | BM, multiple Fitness improvement Shift |
| Moderate | The program that I chose was with the (gym name removed) and they are very number oriented. So, mine was not how many times I went (to the gym) but how much weight I lost. And that's how I judged it. (P18) | BM, weight only |
| Moderate | Every so often as part of the program we had to do body mass index which you know is a little bit an indicator of fat ... and when I did the blood work it had helped ... I don't have any diabetes at all and the cholesterol had gone down ... part of it you just feel better you don't feel as sluggish cuz you don't, just exercising even though I didn't lose nearly as much as I'd like to ... I had more energy because I was used to working out and I was going a lot. It really was a good habit for a long time. (P11) | BM, multiple Fitness, health, and mood improvement Habit development Shift |
| Regain | We took blood pressure readings once a week ... and we were also weighed on Mondays and we were encouraged to keep a food journal and turn that in weekly, and get feedback on that ... and each gym had a little machine that measured like your body fat and stuff so you'd have that. (P1) | BM, multiple Health improvement Habit development |

BM: body measurement.

such as expecting stress relief, improved outlook toward life, or feeling better about themselves. For example, one participant who had regained at 18 months responded:

It's (life) really very stressful ... You don't have time for yourself because you're taking care of everyone else ... (Interviewer: and so prioritizing yourself sounds like one of the big goals of joining the program.) Participant: Oh, absolutely. And just some time away from the house ... either I was at home, I was at my mothers home, I was at the hospital, it was very, very stressful. Very stressful. (P19)

Support. This theme captured participant's who were expecting the program to support them by providing advice, education, social connections, or helping them stay accountable to their health and wellness goals. For example, one moderate loss participant responded "*I was hoping that I would have a ... personal trainer showing you how to use equipment, making sure you continue to use the equipment, kind of making you accountable to keep on going*" (P18).

Habit development. This theme captured participant expectations focused on developing new routines or habits, such as increasing exercise or healthy eating. For example, one moderate loss participant responded "*to help me get into the habit of working out because that seemed to be the hardest thing for me was actually making it a habit*" (P11).

Measuring progress

The following themes emerged in response to "*how did you measure whether or not the program was being successful or was being effective in helping you?*" See Table 2 for frequency of measurement themes and Table 4 for full participant quotes and themes.

Body measurement. This theme captured how participants measured changes to their body, such as weight loss or change in body shape. The following three subthemes were used to fully describe each participant's strategy for measuring body change: weight only, multiple, or none. *Weight only* was used to describe participants who only focused on changes in weight when measuring progress through changes in their body. For example, one moderate loss participant responded "*mine was not how many times I went but how much weight I lost. That's how I judged it (my progress)*" (P18). *Multiple* was used to capture participants who used multiple measures, including weight loss, but also including other measures like body fat, waist circumference, body shape, or how their clothes fit. For example, one moderate loss participant responded "*first of all was weight loss. Then it was gauging how it was that I felt ... and how do your clothes fit*" (P8). Finally, *none* was coded for participants who did not mention measuring changes in body measurements as part of what they focused on.

Fitness improvement. This theme captured participants who discussed measuring success in the program by focusing on improving their fitness level, such as having less fatigue, better endurance, improved fitness assessments, or the ability to do new exercises or more daily energy. For example, one large loss participant responded “*different machines ... I could either increase the length or ... the depth of the workout, how hard it was. So I noticed from the beginning to the end there was quite a difference*” (P26).

Health improvement. This theme captured participants who measured improvements in their health, such as reduced blood pressure, relieving stress on joints, improved blood measurements (e.g. cholesterol and blood sugar), or decreasing medication. For example, one moderate loss participant responded “*it even got to a point where I had to back off of my blood pressure medicine because my exercise was keeping my blood pressure lower*” (P5).

Mood improvement. This theme captured participants who measured progress through feeling better, having more motivation, having an improved outlook on life, or feeling less stress. For example, one large loss participant responded “*well the mental benefits ... you know if you work out you have those, you’re working out releases those feel-good serotonin or endorphins ... the feel good stuff*” (P12).

Habit development. This theme captured participants who measured progress by developing new routines, such as increasing frequency of exercise, improving their eating habits, or keeping food journals. For example, one large loss participant responded “*eating habits were more conscious ... (I was more aware of) what I ate because I wanted the program to be a success*” (P12).

Shift. This theme included participants who described shifting focus from only weight to measuring other improvements, such as fitness, health, or mood improvements. For example, one moderate loss participant responded “*I was overweight and although I only lost five pounds my overall attitude is much better. I feel better, it’s given an emphasis to exercise more and do it strategically*” (P16).

Discussion

This study identified a variety of expectations—beyond weight loss—that participants expressed regarding their participation in a community-based WMP. In line with the prior research, weight loss was a common expectation among participants.^{2,11} Our analysis identified two themes within participants who expected weight loss: those whose primary expectation was weight loss and those whose weight-loss expectations came secondary to other expectations. This finding suggests that while weight loss is a common expectation, it may not be the most important theme for all

participants who enroll in WMPs. The results identified improved fitness, health, mood, support, and developing new habits as important expectations for participants. Fitness improvement was a common theme, which may have been influenced by the fact that the program emphasized gym attendance and subsidized the cost of working with a personal trainer. Interestingly, fitness improvement was a common expectation among large and moderate loss groups, but not for those who regained. This result warrants further research to explore how weight maintenance success is aided by focusing on fitness improvement.

Another common expectation was health improvement, adding to the findings from Dalle Grave et al.³ who found that health improvement was the primary motivation for weight loss. Individuals in our study shared wanting to improve health to prevent future illness or to manage current medical conditions. Of interest was the low number of participants who mentioned measuring their success by focusing on their health improvements, despite this being a common expectation. It is possible that participants were unable to measure health improvement and missed an opportunity to appreciate progress. Programs and practitioners can help clients quantify health improvements by sharing research findings by highlighting changes in body composition (e.g. waist circumference and body fat), blood pressure, and blood work (e.g. cholesterol and HbA1c) results may help participants appreciate their progress and thus help maintain motivation.

Participants spoke of expecting to improve their mood from participating in the program by either feeling better or improving their ability to manage stress. This theme fits with prior research highlighting the benefit of exercise on mood¹⁹ and demonstrates that participants in WMPs are expecting the program to provide benefits beyond just physical changes to their body or behavior. Programs would benefit by highlighting the ability of changes to improve participant mood, as they can help participants sustain motivation through a plateau in their weight-loss progress.^{12,20} This boost in motivation may explain why measuring progress with mood improvement was more frequently mentioned with successful maintainers, as those who successfully maintained may have sustained their motivation by focusing on improvements in mood.

Similar to expectations, measurement themes revealed that participants focused on a variety of methods in measuring their progress in the program. A majority of participants mentioned focusing on weight or body changes, yet they also spoke of a measuring progress beyond just weight or body change. Participants identified focusing on fitness and health improvements, creating new behaviors in their lives (e.g. eating better and exercising more), and feeling better emotionally as other strategies for measuring progress.

Participants spoke of a shift in how they measured progress from the beginning of the program to the time of interview. This theme highlighted the dynamic nature of expectations and strategies for measuring progress. This

finding points to the important role practitioners and program processes can play in shaping participants' expectations and strategies for measuring their own success. Our findings may also help explain some of the conflicting results among weight-loss goals and outcomes, as participants may have shifted their expectations during the study, while others' expectations remained rigid. The lack of shift could help explain the results of prior research examining the connection between expectations and actual weight-loss outcomes.³⁻⁵

The results of our study have important implications for participants' feelings of self-efficacy for participating within a WMP. Social cognitive theory (SCT) states that individual's expectations are an important aspect of perceived self-efficacy,²¹ with higher self-efficacy being linked to better weight-loss outcomes.^{22,23} The multiple expectations and modes of measurement suggest that participants are focused on much more than weight when evaluating their own self-efficacy as it relates to their ability to succeed in a WMP. For example, in some cases, participants may stick with a program despite not meeting weight-loss goals due to a variety of other expectations, for instance, improving their health by lowering their cholesterol. It is also possible that participants who only focus on weight loss may experience a drop in self-efficacy if they are not meeting these goals. To enhance self-efficacy while weight-loss goals are pursued, fitness professionals can help participants focus on health or mood improvements as potentially meaningful outcomes. These changes can be quite practical in nature. For example, once a participant adjusts to regular physical activity, they may experience reduced anxiety or improved energy immediately instead of waiting months to achieve their long-term weight-loss goal.

Similar to self-efficacy, the results support tenets of self-determination theory, which has highlighted the importance of developing autonomous motives for improving their health.²⁴ The shifting of expectations from extrinsic sources to more intrinsic and diversified forms of motivation may help participants build sustained motivation, and help explain why some participants experienced substantial weight loss while others regained their initial loss. These autonomous motives and meaningful outcomes, along with fitness gains, could combine to build perceived competence and reinforce the idea that regular physical activity can build both situational-specific and global competence. Thus, the current data support the concept that physical activity may promote need fulfillment related to autonomy and competence within this theoretical perspective.

Based on the goal-setting theory proposed by Locke and Latham,²⁵ the highest level of effort occurs when goals are moderately difficult, and the lowest levels of effort occur when goals are either very easy or very hard. Previous research suggests that individuals tend to set unrealistically high weight-loss goals prior to starting a weight-loss initiative.²⁶⁻²⁸ However, there is no consensus regarding how

unrealistic weight-loss goals impact weight-loss outcomes.^{26,27,29} The results of our study suggest that participants have multiple expectations beyond weight loss and measure their success in multiple ways. The variety of participant expectations and strategies for measuring progress may impact the relationship between unrealistic weight-loss goals and actual weight-loss outcomes. In this sense, our findings support the notion that it is important to view weight management as a long-term and complex process that has numerous benefits outside of weight loss itself.³⁰ It is also possible that unrealistic goals can be both helpful and hurtful in terms of participant motivation. For example, an unrealistic goal to "lose 100 pounds" could lead to program initiation and a great intensity of effort in the early stages of a program. Sometimes these unrealistic goals may be perceived as "more motivational" than something realistic and practical such as "lose 1-2 pounds per week." However, as participants progress through the program and measure their progress against these large goals, they may lose sustained motivation and judge the goal as "too difficult." This dysfunctional pattern of goal setting has been outlined by researchers as "false home syndrome."³¹

Future research can build upon these studies by exploring how goals and expectations, beyond weight loss, impact participants' success in weight management. Future studies can utilize longitudinal interviews to understand baseline expectations and how these shift over time, and compare participant expectations with quantitative weight-loss outcomes. Understanding how this process unfolds is another important area of study. Do participants with a variety of expectations show greater resilience when it comes to self-efficacy toward weight management than those who are just focused on weight loss? In a similar vein, the results from this study support previous research investigating the impact of participants' baseline goals on future outcomes. It is possible that some of the mixed results regarding weight-loss goals and actual outcomes might be explained by adding additional variables to capture other goals at baseline, such as improving fitness or health, or feeling better emotionally. Finally, more research is needed to understand men's experience in WMPs, as they were underrepresented in this study.

This study is not without limitations. First, the interviews took place after participating in the program for at least 18 months. It is possible that the views shared by participants in the study differed from when they enrolled in the program. A second limitation is that our results come from participants who remained engaged in the program for at least 12 months and were willing to participate in interviews 18 months post enrollment. Thus, the results cannot be generalized to the expectations and strategies for measurement for individuals who dropped from the program before 12 months. However, the interviews took place across a variety of weight-loss outcomes and thus several levels of programmatic success were represented.

Conclusion

Semi-structured interviews with participants who completed at least 18 months in a WMP revealed a variety of expectations and strategies for measuring progress beyond weight loss. Weight management practitioners would benefit by understanding individuals' expectations and helping highlight participant progress in multiple areas beyond weight change to promote increases in self-efficacy and intrinsic sources of motivation.

Acknowledgements

The authors would like to thank Matt Campbell for his qualitative guidance and feedback in the development and refinement of this manuscript.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethical approval

Ethical approval for this study was obtained from the West Virginia University IRB (ID: 1606170374).

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research project was supported by funding from the West Virginia Public Employees Insurance Agency (PEIA). S.Z. salary was partially funded through PEIA grant. J.S.I. and A.H. received no funding for this research.

Informed consent

Written informed consent was obtained from all subjects before the study.

ORCID iD

John Spencer Ingels  <https://orcid.org/0000-0002-0606-0480>

References

1. Wing RR and Phelan S. Long-term weight loss maintenance. *Am J Clin Nutr* 2005; 82(Suppl. 1): 222S–225S.
2. Calugi S, Marchesini G, El Ghoch M, et al. The influence of weight-loss expectations on weight loss and of weight-loss satisfaction on weight maintenance in severe obesity. *J Acad Nutr Diet* 2017; 117(1): 32–38.
3. Dalle Grave R, Calugi S, Molinari E, et al. Weight loss expectations in obese patients and treatment attrition: an observational multicenter study. *Obes Res* 2005; 13(11): 1961–1969.
4. Fabricatore AN, Wadden TA, Rohay JM, et al. Weight loss expectations and goals in a population sample of overweight and obese US adults. *Obesity* 2008; 16(11): 2445–2450.
5. Foster GD, Wadden TA, Vogt RA, et al. What is a reasonable weight loss? Patients' expectations and evaluations of obesity treatment outcomes. *J Consult Clin Psychol* 1997; 65(1): 79–85.
6. Wang J, Shih PC and Carroll JM. Life after weight loss: design implications for community-based long-term weight management. *Comput Support Coop Work CSCW* 2015; 24(4): 353–384.
7. Abildso CG, Zizzi S, Gilleland D, et al. A mixed methods evaluation of a 12-week insurance-sponsored weight management program incorporating cognitive-behavioral counseling. *J Mix Methods Res* 2010; 4(4): 278–294.
8. Dibb-Smith AE, Brindal E, Chapman J, et al. A mixed-methods investigation of psychological factors relevant to weight maintenance. *J Health Psychol*. Epub ahead of print 1 November 2016. DOI: 10.1177/1359105316678053.
9. Byrne SM, Cooper Z and Fairburn CG. Weight maintenance and relapse in obesity: a qualitative study. *Int J Obes* 2003; 27(8): 955–962.
10. Reyes NR, Oliver TL, Klotz AA, et al. Similarities and differences between weight loss maintainers and regainers: a qualitative analysis. *J Acad Nutr Diet* 2012; 112(4): 499–505.
11. Thomas SL, Hyde J, Karunaratne A, et al. "They all work ... when you stick to them": a qualitative investigation of dieting, weight loss, and physical exercise, in obese individuals. *Nutr J* 2008; 7: 34
12. Greaves C, Poltawski L, Garside R, et al. Understanding the challenge of weight loss maintenance: a systematic review and synthesis of qualitative research on weight loss maintenance. *Health Psychol Rev* 2017; 11(2): 145–163.
13. Zizzi S, Abildso C, Henderson N, et al. The West Virginia PEIA weight management program: an innovative approach to obesity prevention and treatment in Appalachian communities. In: Brennan VM, Kumanyika SK, Zambrana RE, et al. (eds) *Obesity interventions in underserved communities: evidence and directions*. Baltimore, MD: Johns Hopkins University Press, 2014, pp. 282–289.
14. Whelton SP, Chin A, Xin X, et al. Effect of aerobic exercise on blood pressure: a meta-analysis of randomized, controlled trials. *Ann Intern Med* 2002; 136(7): 493–503.
15. Dombrowski SU, Knittle K, Avenell A, et al. Long term maintenance of weight loss with non-surgical interventions in obese adults: systematic review and meta-analyses of randomised controlled trials. *BMJ* 2014; 348: g2646.
16. Fletcher AJ. Applying critical realism in qualitative research: methodology meets method. *Int J Soc Res Methodol* 2017; 20(2): 181–194.
17. Krauss SE. Research paradigms and meaning making: a primer. *Qual Rep* 2005; 10(4): 758–770.
18. Braun V and Clarke V. Using thematic analysis in psychology. *Qual Res Psychol* 2006; 3(2): 77–101.
19. Schuch FB, Vancampfort D, Richards J, et al. Exercise as a treatment for depression: a meta-analysis adjusting for publication bias. *J Psychiatr Res* 2016; 77: 42–51.
20. Kimiecik JC. *The intrinsic exerciser: discovering the joy of exercise*. Boston, MA: Houghton Mifflin Harcourt, 2002, p. 180.
21. Bandura A. Self-efficacy: toward a unifying theory of behavioral change. *Psychol Rev* 1977; 84(2): 191–215.
22. Crane M, Ward D, Lutes L, et al. Theoretical and behavioral mediators of a weight loss intervention for men. *Ann Behav Med* 2016; 50(3): 460–470.

23. Wingo BC, Desmond RA, Brantley P, et al. Self-efficacy as a predictor of weight change and behavior change in the PREMIER trial. *J Nutr Educ Behav* 2013; 45(4): 314–321.
24. Teixeira PJ, Carraça EV, Markland D, et al. Exercise, physical activity, and self-determination theory: a systematic review. *Int J Behav Nutr Phys Act* 2012; 9(1): 78.
25. Locke EA and Latham GP. Building a practically useful theory of goal setting and task motivation: a 35-year odyssey. *Am Psychol* 2002; 57(9): 705–717.
26. Linde JA, Jeffery RW, Finch EA, et al. Are unrealistic weight loss goals associated with outcomes for overweight women? *Obes Res* 2004; 12(3): 569–576.
27. Wamsteker EW, Geenen R, Zelissen PMJ, et al. Unrealistic weight-loss goals among obese patients are associated with age and causal attributions. *J Am Diet Assoc* 2009; 109(11): 1903–1908.
28. Kaly P, Orellana S, Torrella T, et al. Unrealistic weight loss expectations in candidates for bariatric surgery. *Surg Obes Relat Dis* 2008; 4(1): 6–10.
29. Jeffrey RW, Wing RR and Mayer RR. Are smaller weight losses or more achievable weight loss goals better in the long term for obese patients? *J Consult Clin Psychol* 1998; 66(4): 641–645.
30. Elfhag K and Rössner S. Who succeeds in maintaining weight loss? A conceptual review of factors associated with weight loss maintenance and weight regain. *Obes Rev* 2005; 6(1): 67–85.
31. Polivy J and Herman CP. If at first you don't succeed: false hopes of self-change. *Am Psychol* 2002; 57(9): 677–689.