

Highly Successful Weight Control by Formerly Obese Adolescents: A Qualitative Test of the Healthy Obsession Model

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Abstract

Background: The Healthy Obsession Model (HOM) suggests that successful weight controllers must develop a preoccupation with the planning and execution of target behaviors to reach and maintain healthy weights (*e.g.*, controlled eating, consistent self-monitoring). This model further posits that committed weight controllers will feel substantial anxiety or frustration when lapses occur, which, in turn, will motivate them to reinstate target behaviors.

Methods: The present study tested the HOM by examining the perceptions and attitudes of four very successful and four relatively unsuccessful adolescent weight controllers 1 year after completing immersion treatment. We expected that successful weight controllers, more so than unsuccessful weight controllers, would report more elaborate definitions of their healthy obsessions and describe more negative reactions to potential and actual lapses. In-depth interviews were conducted using a version of the Scanlan Collaborative Interview Method.

Results and Conclusions: Reliable coding of the interviews produced results that supported the hypothesis that highly successful weight controllers seem to nurture strong healthy obsessions, including clear definitions of healthy obsessions, heightened commitment based on the emotional impact of excess weight, and negative reactions to lapses. In addition, these adolescent weight controllers seemed motivated by some of the same factors that elite athletes identified in the Sport Commitment Model (*e.g.*, Emotional and Experiential Consequences; Social Support of Parents, Friends, and Peers; Institutional Influences; and Valuable Opportunities).

Introduction

Over the past three decades, prevalence rates of obesity have doubled or tripled on all six of the world's populated continents.¹ Obese young people are at an increased risk of developing type II diabetes, cardiovascular problems, many forms of cancer, and other health conditions in later life.² Childhood obesity can also negatively and substantially affect quality of life, academic achievement, social and vocational opportunities, and emotional well-being.³

Fortunately, for those suffering from obesity, treatment can improve health, physical fitness, mood, and psychosocial functioning.⁴⁻⁶ Education, outpatient cognitive behavior therapy (CBT), bariatric surgery, and immersion are the four primary interventions currently used to treat childhood and adolescent obesity. Immersion treatment is defined as an intervention that places participants into a therapeutic and educational environment for an extended

period of time, thereby removing them from obesogenic environments.⁷ In a recent review, Kelly and Kirschenbaum concluded that educational interventions rarely produce significant improvements and that outpatient CBT produced significant but variable degrees of success; however, immersion programs that included CBT seemed to produce greater reductions in percent overweight at posttreatment and follow-up, with much less attrition, than outpatient CBT.⁷

The Healthy Obsession Model

Kirschenbaum recently proposed the Immersion-to-Lifestyle Change model to help explain the promising effects of CBT immersion treatment.⁸ As illustrated in Figure 1, the model asserts that the rapid weight loss typical of immersion treatment when combined with CBT helps participants attribute success to their own improvements in self-regulatory skills, behaviors, and knowledge. According

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to the model, this increase in self-efficacy in conjunction with a healthy obsession and social support maximizes lifestyle change following immersion treatment.

Kirschenbaum et al. defined a healthy obsession as “a sustained preoccupation with the planning and execution of target behaviors to reach a healthy goal (p.169).”¹¹ Kirschenbaum further suggested,

“a healthy obsession includes: (a) accepting the goal of eating as little fat as possible every day; (b) being unwilling or very reluctant to accept permission, even from yourself, to overindulge; (c) accepting the idea that activity every day is the way, and doing it – even when you don’t feel like it; (d) knowing that writing down all food eaten is critical; and (e) feeling anxious if elements of the weight control program are not met. A healthy obsession is not: (a) seeking moderation in all things; giving yourself permission to deviate from the program because of moods, stress, holidays, or vacations; (b) encountering high-risk situation without a plan; making poor excuses for major lapses; (c) allowing lapses to turn into relapses; or (d) feeling just fine when goals are sometimes not met (pp. 8–9).”⁹

A variety of studies have demonstrated support for various aspects of the Healthy Obsession Model (HOM). For example, the model suggests that weight controllers’ success depends on establishing and maintaining strong commitments to target behaviors, such as consistent self-monitoring and planning. Correlational and experimental evidence supports the vital role of consistent self-monitoring and planning for successful weight control. For example, two experiments found that interventions that increased self-monitoring improved weight loss among active weight controllers in CBT programs.^{10,11} A recent study of successful weight controllers showed that they exerted far more effort in

planning and focusing on their eating and activity patterns (analogous to exhibiting healthy obsessions) during the high-risk holiday season than did non-weight controllers; those masters of weight control that managed to avoid gaining weight reported self-monitoring more consistently than those that gained weight during the holidays.¹² Even a study of neural activity suggests that highly successful weight controllers differentially activate areas of the brain (*e.g.*, dorsal prefrontal cortex) following eating, suggesting higher levels of concern and planning following eating compared to non-weight controllers.¹³

In another recent study of highly successful weight controllers, masters of weight control, far more than obese individuals who were seeking treatment, maintained dietary restraint very consistently.¹⁴ In a slightly different domain, Perri et al. found, contrary to their expectations, that more demanding goals produced better outcomes for adults who wanted to improve their activity levels.¹⁵ Those assigned to an extreme goal (walk 5–7 days per week) walked more and maintained their higher activity levels over time compared to those assigned to a moderate goal (walk 3–4 days per week). That extreme goal seems much more consistent with the HOM’s tenet that favors “a consistent preoccupation with the ...execution of target behaviors.”¹¹ Finally, in a remarkable 40-year follow-up of the effects of the Big Five personality traits on health behaviors, Hampson et al.¹⁶ found that only high levels of conscientiousness predicted improved health outcomes in several areas, including smoking and weight control. Conscientiousness resembles key aspects of a healthy obsession—a dispositional tendency to make strong commitments, work hard, and stay in control.^{17,18}

Sport Commitment Model

The HOM and Sport Commitment Model (SCM) share many overlapping elements. Scanlan defined commitment as the psychological construct reflecting the resolve to persist in an endeavor over time.¹⁹ The SCM provides a theoretical framework for studying this construct. Based on the SCM, similar themes and constructs apply when predicting success at weight control over time. These include the assertions that successful weight controllers often gain valuable opportunities by staying committed to their plans, receive social support from family members and friends, and utilize the experience of small failures (lapses) to prevent major relapses. Based on the SCM and the HOM, therefore, we expect that successful weight controllers in this study will have negative emotional reactions to factors that interfere with the execution of their plans whereas unsuccessful weight controllers will not react negatively to such barriers to success.

Direct Tests of the HOM, Including the Present Study

A recent study by Byrne and Kirschenbaum²⁰ tested the HOM directly. The study included 55 adolescents who participated in a CBT immersion program. The authors

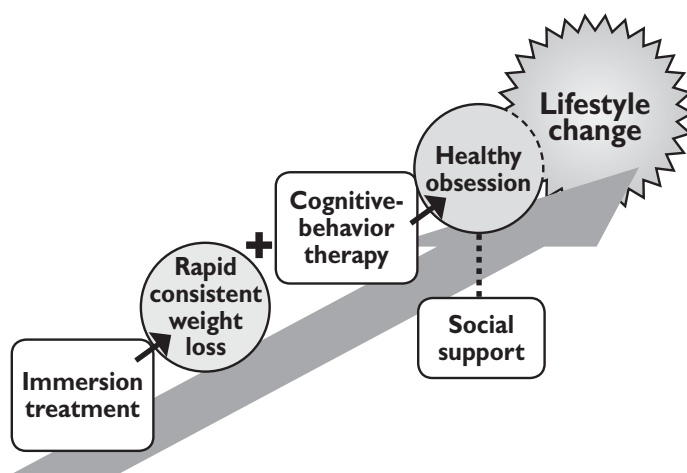


Figure 1. Immersion to Lifestyle Change Model. (Reproduced from Kirschenbaum DS. Weight-loss camps in the U.S. and the immersion-to-lifestyle change model. *Child Obes* 2010;6:318–323.

suddenly removed access to self-monitoring journals after several successful weeks at the camp. Virtually all of the campers had self-monitored very consistently during these successful weeks at the camp. The HOM would predict a negative reaction to this removal of self-monitoring. As expected, journal/monitoring removal resulted in decreased positive affect for the campers, as measured by changes in ratings by staff members. Also, as expected, campers who demonstrated heightened commitment to the program based on higher levels of activity and more journaling reacted especially negatively to the withdrawal of the opportunity to self-monitor.

No studies have yet investigated obese adolescents' purported strength of commitment as a correlate or predictor of long-term success at weight control. The present study examined a variety of factors via qualitative analysis to compare highly successful adolescent weight controllers to unsuccessful weight controllers 1 year after completion of CBT immersion treatment. On the basis of the HOM, the authors expected to find differential evidence in successful weight controllers of more fully developed healthy obsessions, including more overtly negative reactions to barriers to execution of their plans, lapses from their usual weight controlling behaviors, and concomitant weight regain. We also anticipated obtaining from all participants good definitions of their sources of commitment similar to those identified in elite athletes in Scanlan et al.'s SCM.¹⁹

Method

Participants

Participants attended an immersion CBT camp in Texas (Wellspring Texas) for at least 6 weeks in the summer of 2009. We conducted a 1-year follow-up in which parents and participants provided height and weight data. Of 104 campers, repeated e-mails, phone calls, and a \$25 incentive yielded data on 74/104 (71.15%). Table 1 shows initial precamp, postcamp, and follow-up data on this initial group of campers.

We defined maintenance of weight using % overweight as a standard measure for all campers. To do this, we began with the identified standard in the literature for "maintenance" of $\pm 3\%$ of actual weight over time.²¹ This definition of maintenance functions well for adults whose heights are stable and for whom norms provide a convenient definition of acceptable weight (e.g., BMI

≤ 25). For growing children, however, heights change over time as do ideal weights based on age and gender. So, we approximated the adult definition of maintenance by first establishing BMI cutoffs that mirrored the adult definition of $\pm 3\%$. This necessitated adding 3% of weight to the posttreatment weight and then subtracting 3% from that posttreatment weight. These values were then translated to BMIs for each camper. The higher value (+3% of posttreatment weight BMI) therefore became the upper cutoff; conversely, the lower BMI (-3% of posttreatment weight) became the lower cutoff. Campers whose follow-up BMIs fell below the lower BMI cutoffs were then classified as "Losers"; similarly, "Gainers" were campers whose BMIs at follow-up exceeded the upper BMI maintenance cutoff; "Maintainers" had BMIs at follow-up between their own upper and lower BMI cutoffs.

Figure 2 shows a flow chart that indicates the process of selecting the final 8 participants (4 Losers, 4 Gainers), who completed the detailed interview. Table 2 presents the initial, posttreatment, and follow-up data for both Loser and Gainer groups. Figure 3 shows the % overweight of both Losers and Gainers from initial assessment through follow-up.

Procedures

Wellspring Camp immersion program. The Wellspring program, based on the Healthy Obsession Model, uses a 3-1-8 model outlined in the *The Wellspring Weight Loss Plan*.²² The "3" represents three primary goals: (1) To eat zero fat grams (accepting < 20 grams per day); (2) to move at least the equivalent of 10,000 steps daily measured on a pedometer; and (3) to self-monitor 100% of food and activity. The "1" represents the overarching mission—to develop a healthy obsession. Finally, the "8" identifies 8 steps recommended to help understand the rationale for the three primary goals and to develop robust healthy obsessions, from Step 1 Make the Decision, Step 2 Know the Enemy—Your Biology, Step 3 Eat to Lose, Step 4 Find Lovable Foods that Love you Back, Step 5 Move to Lose, Step 6 Self-Monitor and Plan Consistently, Step 7 Understand and Manage Stress, and Step 8 Use Slump Busters to Overcome Slumps.

Wellspring's 10 therapeutic camps and two boarding schools provide more immersion treatment for young people than any other group in the United States,²² including, serving more than 1000 families in 2010. Participants experienced a CBT immersion approach, including: Four weekly CBT sessions (two individual, two group) con-

Table 1. Original 74 Participant Data: Initial to 1-Year Follow-Up

Participants (N = 74)	Age	BMI initial	BMI postcamp	BMI 1-year follow-up	% Overweight initial	% Overweight postcamp	% Overweight 1-year follow-up
Means (SDs)	14.23 (1.76)	34.76 (5.25)	30.89 (4.60)	29.60 (6.05)	65 (25)	46 (21)	40 (29)
Ranges	11–17.33	25.40–51.80	24.10–45.60	18.88–50.13	27–142	14–113	-12–142

SD, Standard deviation.

ducted by advanced graduated students, Master’s and Doctoral-level therapists; nutrition and culinary education; family involvement via workshops during camp; and an internet based interactive continuing care self-monitoring system for 10 months post-camp. Evaluations of Well-spring’s programs have demonstrated substantial promise, including large and sustained changes in weight status for many participants.^{4,8,23,24}

Participant recruitment and administration. One year following completion of Wellspring Texas’ 2009 camp session (*i.e.*, beginning in fall of 2010), research

assistants contacted all campers and parents via e-mail and telephone to obtain reports of follow-up height and weight. As shown in Figure 2, authors used change in percent overweight from posttreatment to follow up to identify the 15 campers who lost the most additional weight and 15 who regained most (top Losers and Gainers, respectively). Percent overweight was defined by the following formula: Percent overweight = $([BMI/50th\ percentile\ BMI] - 1) \times 100$.⁷ Normative (50th percentile) BMIs were determined using data generated by the CDC based on age, gender, and height.²⁵

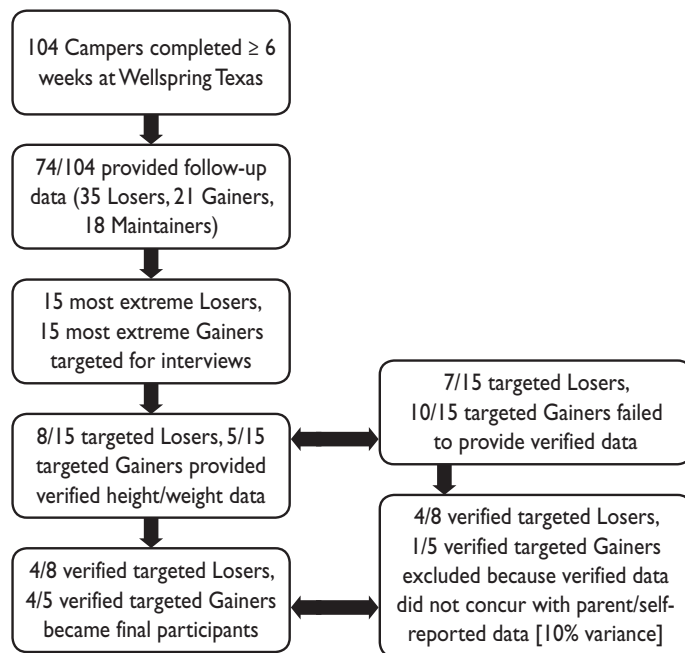


Figure 2. Participant recruitment flow chart.

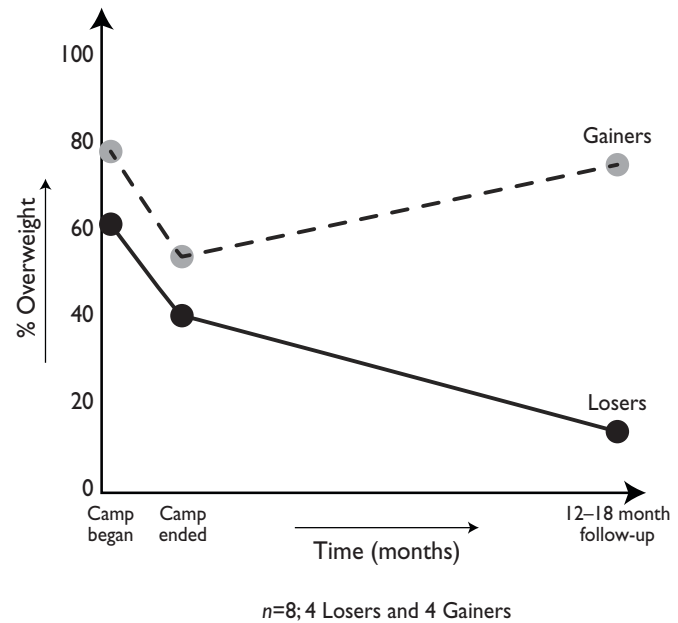


Figure 3. Initial, postcamp, and follow-up percent overweight—Losers vs. Gainers.

Camper	Gender	Age	BMI initial	BMI postcamp	BMI 1-year follow-up	% Overweight initial	% Overweight postcamp	% Overweight 1-year follow-up
Loser 1 (L1)	Female	14.83	33.06	29.46	19.48	54	38	-9
Loser 2 (L2)	Female	11.00	32.68	29.56	22.96	73	56	21
Loser 3 (L3)	Female	14.58	31.24	27.03	23.08	45	25	8
Loser 4 (L4)	Female	16.00	37.37	31.88	30.11	71	44	37
Loser Means (SDs)	—	14.10 (2.16)	33.59 (2.64)	29.48 (1.98)	23.91 (4.46)	61 (13)	41 (13)	14 (20)
Gainer 1 (G1)	Male	12.00	41.60	36.82	47.23	113	89	142
Gainer 2 (G2)	Female	13.00	37.27	30.69	33.67	72	41	55
Gainer 3 (G3)	Female	16.00	32.45	27.79	30.78	48	27	41
Gainer 4 (G4)	Female	17.00	39.53	34.46	35.66	78	57	63
Gainer Means (SDs)	—	14.50 (2.38)	37.71 (3.93)	32.44 (4.00)	36.84 (7.21)	78 (27)	54 (27)	75 (46)
All participant (n = 8) means (SDs)	—	14.30 (2.11)	35.65 (3.80)	30.96 (3.32)	30.37 (8.86)	69 (22)	47 (20)	45 (46)

L1 = % overweight decreased most from post to follow-up; L4 = % overweight decreased least to follow-up; G1 = % overweight increased the most post to follow-up; G4 = % overweight increased the least post to follow-up.
SD, Standard deviation.

Both Losers and Gainers were asked to provide verification of reported height and weight by any healthcare provider (*i.e.*, doctor, school nurse, pharmacist) and were also asked to complete a telephone interview about their weight loss experiences during the follow-up period. Participants received \$25 for providing verified height and weight and \$50 for completing the requested interviews. All parents signed consent forms that provided permission for Wellspring researchers to include their children's data at camp and at follow-up in evaluation studies. In addition, this study was approved by an institutional review board in the CRC Health Group.

Measures

Weight change. Weight change was defined as change in percent overweight, using the formula cited previously and CDC norms to determine 50th percentile BMIs.²⁵ Clinical staff obtained initial and postcamp height and weight using high-quality calibrated digital scales and standard stadiometers. Verified follow-up height and weight were provided by healthcare professionals in campers' home communities.

Transformative weight change interview. As shown in Table 3 the Wellspring Transformative Change in Long-Term Weight Control Interview (TWCI) is a 53-item mixed qualitative and quantitative structured interview based on the Scanlan Collaborative Interview Method (SCIM).^{19,26} The SCIM has been used previously in multiple studies and obtained 100% consensus validation of each of its themes and constructs.

TWCIs were analyzed using an open coding system to identify themes of commitment.^{19,26} The SCM previously identified themes of sustained sport commitment in elite athletes,¹⁹ and the present authors hypothesized that themes in this study would fall along similar lines; therefore, questions in the TWCI were structured to inquire about Emotional and Experiential Consequences, Support, and Valuable Opportunities. Authors included additional open-ended questions in the TWCI pertaining directly to the HOM, including asking participants to rate their degree of distress [Subjective Units of Distress Scale (SUDS); ranging from 0 = no impact to 100 = extreme distress] on various aspects of the HOM (*e.g.*, eating more than 20 grams of fat in a particular day). Consent, assent, and introduction forms explaining details of the study and confidentiality were e-mailed to each participant before each interview. Interviews lasted for 30–40 minutes ($M = 38.63$ minutes) and were recorded and transcribed from digital audio copies. Two psychology graduate students and one doctoral-level psychologist coded the interviews. Interviewers were blinded to weight controller status (Loser or a Gainer); only the first author was aware of interviewee status. All three raters demonstrated a high degree of convergence in their numerical ratings (Rater A v. B, $r = 0.87$, $p < 0.0001$; Rater A v. C, $r = 0.91$, $p < 0.0001$; Rater B v. C, $r = 0.97$, $p < 0.0001$) and categorical ratings (average $r = 0.64$, $p < 0.008$).

Results

In accord with hypotheses, the common themes expressed by all 8 participants mirrored to a substantial degree the sources of commitment reported by elite athletes identified in the SCM.¹⁹ More specifically, the young weight controllers in this study identified six primary sources of commitment: Social Support-Friends/Peers (SSF), Social Support-Parents (SSP), Valuable Opportunities (VO), Emotional Consequences (EmC), Experiential Consequences (ExC), and Institutional Influences (II). After defining these sources of commitment based on all 8 participants' perspectives, we will present analyses that compare Losers to Gainers regarding their sources of commitment and healthy obsessions.

Sources of Commitment

Social support. Participants described two subtypes of support, Parental and Peer/Friend Support, and viewed these sources of commitment as helping or hindering their efforts to maintain a healthy lifestyle.

For an example of a source of support that strengthened commitment:

“People from Wellspring camp... strengthened [me]...all the fun times and...they helped me to push myself more and...they taught me; I took [it] in and I embraced it and give it out at home. And just the way they supported me and still support me today.”

Another camper noted the way in which others can hinder her commitment:

“Some [friends] weaken my commitment even though I told them because they don't care and still eat it in front of me.”

Valuable opportunities. Participants mentioned that they obtained valuable opportunities because of their efforts at lifestyle change. Such opportunities included time, health, and a sense of accomplishment and self-efficacy. For example, some campers focused on the potential/opportunity to live healthier lives, such as:

“Being healthy— strengthens, well the healthier you are the longer life you can have. And you can have more fun being healthier and not have to worry about your health and stuff. When you are healthy you don't have to take as much medication and stuff. I always try to make myself better, and don't complain. Weight is part of that. I focus on my weaknesses and try to do better.”

Emotional consequences. Participants discussed the emotional consequences of losing weight as something that strengthened their commitments to healthy living and sustained weight loss. They discussed specific emotions in this context, such as avoidance of negative feelings, as well as nurturing positive feelings.

As one Loser stated,

“How I felt in the past—depressed before. I'm terrified to get back to that. This is a strength because I try hard not to [get back to that]. Now, I'm on top of the world!”

Experiential consequences. Negative attitudes toward healthy living by peers and bullying were two experiences that participants indicated as consequences they did not want to repeat and that therefore served as sources of commitment. For example, one Loser told a story in

Table 3. Wellspring Transformative Change in Long-Term Weight Control Interview (WTCL)

Background Information
1. When did you attend camp? How old were you?
2. Why did you attend Wellspring?
3. How long have you been trying to control your weight?
Healthy Obsession Basics
4. Do you believe you have a healthy obsession?
5. How do you define your healthy obsession?
6. How can you tell you're "obsessed"?
7–10. Do you self-monitor every day—and by self-monitor, I mean writing down <i>anything</i> about what you eat or your activity? a. If not every day, how often? b. How do you keep track? c. When do you monitor?
11–13. How many days in a typical week do you eat 20 grams of fat or less? a. If you did not self-monitor journal (SMJ) on a particular day, when you realized that, did you feel stress or anxiety or annoyance at yourself? b. On a SUDS (Subjective Units of Distress) scale of 0–100, how much? (100 = extremely upset 0 = perfectly calm, happy)
14–18. Do you get 10K steps or more every day? a. How are you able to get in activity? b. When are you active? c. If you did not get your steps in one day and thought about it before going to sleep, would you feel stress or anxiety? d. On a SUDS scale of 0–100, how much?
19–23. Do you weigh yourself weekly? Daily? a. When you weigh yourself and see that you have lost weight, how do you feel? b. If you have gained weight, do you feel stress or anxiety? c. On a SUDS scale of 0–100.
Further Explorations of Their Healthy Obsessions
24–26. Let's imagine that you normally get in 10,000 steps every day by walking, but today your ankle really hurts; you injured it playing soccer yesterday, and it is uncomfortable to walk. a. How does this impact your activity for the day? b. Will you still try to achieve your 10K step goal? c. Will this impact the food you eat this day?
27–33. You are on vacation/holiday with your family for 10 days. a. Do you exercise? If yes, when? b. Would you self-monitor during this vacation/holiday? c. On how many of those 10 days would you eat 20 grams of fat or less (0–10)? d. On how many of those 10 days would you self-monitor? e. On how many of those 10 days would you exercise or make sure you got 10,000 steps or the equivalent in activity (0–10)? d. Let's say you would actually eat 30 meals during those 10 holiday/vacation days. On how many of those days would you follow the Wellspring Program guidelines in selecting your choices for the meal (0–30) vs. eating the meal based on convenience or what appealed to you at the moment or some other factor?
34–36. You have three major exams coming up in school this week. You have to meet with groups, cram/study very hard, and you feel very stressed about getting everything done and doing well. a. Of the 7 days leading up to the exam, how many days would you monitor food? b. How many days would you get 10K steps? c. How many days would you eat 20 grams of fat or less?
37–40. You get into a fight with your best friend (boyfriend/girlfriend), and he/she does not speak to you for the rest of the day. a. How does this impact your activity for the day? b. Will you still achieve your 10K step goal? c. Will you still eat less than 20 grams of fat on this day? d. Will you still self-monitor today?
41–44. You are heading to your friend's house for a party. You know that the food there will primarily consist of high-fat pizza and chips. a. Do you have a plan for eating at the party? b. Will you still reach your 10K step goal today? c. Will you still eat less than 20 grams of fat this day? d. Will you still self-monitor today?
45–46. Imagine that you have a pretty bad cold, including a fair amount of sneezing and a very low-grade occasional fever? How will that affect your Wellspring Plan program (eating, activity, self-monitoring)? (Note to interviewers—we're looking for answers in the range of not at all to a lot.)
47–48. Imagine that you had a plan for getting in your steps and exercise over a 4-day Thanksgiving holiday weekend. After the holiday break, you realized that you did not reach your goals on 2 of the 4 days. How would you react to that? On a SUDS scale of 0–100, how distressed would you be? (100 = extremely upset 0 = perfectly calm, happy)
49–50. You went to that pizza party with a good plan for getting through it without eating any of the pizza. After an hour or so, you found yourself eating a slice of the pizza. How would you react to that on your way home? On a SUDS scale of 0–100, how distressed would you be? (100 = extremely upset 0 = perfectly calm, happy)
Commitment Section (Open discussion)
51. OK, so thinking about your total Wellspring experience, what are your current sources of commitment?
52a. What sources of commitment strengthen your desire to maintain a healthy weight?
53b. What sources weaken your desire and determination to maintain a healthy weight?

which she was mistreated by peers as something she was determined to avoid in her future:

“Ok, well, when I was younger, I really was bullied, very, very hard. It still hurts me to even think about it because I was so young and I just think about it and it just angers me for people to even make fun of people’s weight now because of what I have been through. I’ve had people nonstop really badger me about it since I was little and that was one of the reasons that led me down to have depression and led [me] to hate myself, because so many people would comment on it and make fun of me and made me feel inferior to everyone. I picture myself being happy, and feeling that any bad thing that came my way, I could overcome it and not dwell on it, and I would be able to forgive the people who have made fun of me in the past and I just picture myself being genuinely happy. And seeing myself as at my goal weight would make me feel confident and on top of the world. All those [negative/demeaning] comments stay in my head. It’s like [those] comments can stay in your head forever...”

Institutional influences. Participants discussed the influence of an institution and the experience of not being alone within that institution. One participant, for example, noted his frustration at the lack of healthy choices at his school, as well as the lack of flexibility in his routine.

Losers versus Gainers

As hypothesized and noted previously, Losers and Gainers showed substantial differences in their commitments to healthy living and healthy obsessions. More

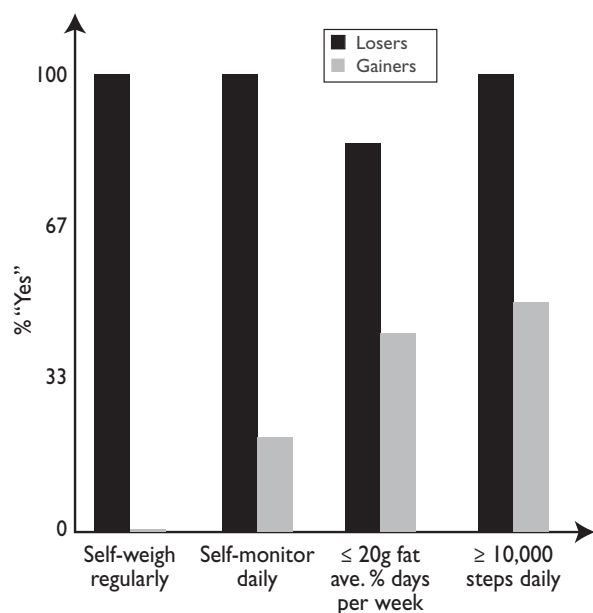


Figure 4. Weight-controlling behaviors—Losers vs. Gainers.

specifically, 100% (4/4) of Losers endorsed having a healthy obsession, but only 25% (1/4) of the Gainers reported having a functional healthy obsession. When asked to define their healthy obsessions, Losers especially had a good deal to say about it. They described the concept as a combination of consciousness about eating habits, unwillingness to deviate from their plans, high levels of physical activity, consistent monitoring, planning ahead, and lifestyle change. For example, one Loser stated:

“I define it by healthful living eating; everything I do is towards my health and now I love and think of it everyday. Instead of a diet I think of it as my lifestyle. Now I have no desire to even try the unhealthy food. I have also become obsessed with healthful stuff like exercise and running. I make sure I am really conscious about what I eat. I always lay down the law. I am involved in a lot of activities. We go out to eat constantly in the group. We will go out to a pizza place or a place where it is completely not on plan and I’ll chose not to eat or I will eat something before hand or after. I even got the calorie stuff worked out just in case I end up grabbing something like a snack at school so I am able to look it up. And I have read Dr. K’s book about 3 or 4 times now and I am working on the 5th. And I write about it a lot. It has given me a completely different outlook on life.”

In contrast, Gainers seemed to struggle with their attempts to define their healthy obsessions. In fact, all of the Gainers (100%) used the expression “I guess” when attempting to define their healthy obsessions, including many uses of that qualifier by some Gainers. In sharp contrast, none of the Losers qualified their definitions of healthy obsessions by saying “I guess.”

As shown in Figure 4 Losers and Gainers also reported substantial differences in adherence to the behavioral aspects of their weight loss programs during the follow-up period. This included differences in consistency of self-monitoring of weight, food, and activities, maintenance of a very low fat diet, and achievement of 10,000 steps per day in activities. As expected, Losers reported greater behavioral consistency with targeted behaviors, including consistency of self-monitoring of weight and eating/activities.

In addition, more of the Losers compared to Gainers reported high levels of distress in response to a hypothetical question about gaining weight. More specifically, more of the Losers responded with high SUDS ratings (0 to 100 ratings of distress) when asked how they would react if they got on a scale and saw that they had gained weight. A total of 75% of the Losers provided SUDS ratings above the mean for all participants ($M = 74$), whereas only 25% of the Gainers reported that much distress associated with weight gain.

More of the Losers compared to Gainers reported an ability to plan ahead, problem-solve, and determine healthy behaviors when asked another hypothetical situation regarding exercising while on vacation. More specifically, Losers reported that they would exercise on average 7.5/10 days compared to Gainers who reported they would exercise 4.75/10 days if on vacation. Participants also responded to another hypothetical question about their reaction to an ankle injury. Losers demonstrated alternative strategies to continue to reach their exercise goals, while Gainers did not. For example, one Loser reported,

“It [injuring my ankle] would make my activity change. I would swim and take off the weight of the injury. And I would just convert that time spent swimming to steps; that way I would still feel like I was getting in my steps, but I wouldn’t have to be injuring myself. I could also do things like the stationary bike, where it wouldn’t put so much weight on my ankles.”

Another Loser mentioned,

“I would increase the upper body work that I was doing. When this happened to me at camp, I had one of my counsellors go with me while the other girls were doing boot camp I would work on my upper body, or we would do sit ups and push ups. It would be hard some days, I would get really down on myself because I would feel like I was slacking but I had to realize that this was the position that I was in.”

In contrast, a Gainer stated,

“If it really hurts, I wouldn’t do much activity. I would go for a quick walk.”

This reaction was similar to another Gainer who stated,

“It makes it [activity] go down because you want to stay off of it because it will hurt and it makes you hardly do much.”

A similar future-oriented thinking pattern was illustrated again in the Losers when the participants were asked a hypothetical question about eating pizza at a party with friends.

For example, one Loser stated,

“Yes [has a plan for the party], bring your own, I’ve done that before (So what would you bring?) I would bring either my own peanut butter sandwich, or what I like, so I wouldn’t have any temptation for the other food.”

Another Loser mentioned,

“Especially when I am with friends, I try to bring something. I bring the Baked Lays. I always ask, ‘hey can I bring something?’ like

Baked Lays or No Pudge Brownies, something that I can resort to. And I try to eat before I go to the party.”

In contrast, one Gainer reported,

“No [does not have a plan for the party]. I think that I would eat the pizza and chips.”

Another Gainer stated,

“I probably will eat something before hand to try to fill up.”

As evidenced in the qualitative responses to this scenario, Losers used more confident language such as “always, especially, done that before,” whereas Gainers used uncertain language such as “probably, try, think I would.”

Finally, Losers and Gainers reported using different sources of motivation during the follow-up period, as illustrated in Figure 5. Most notably, only Losers cited EmC(75%, $n = 3$) and ExC(50%, $n = 2$) as sources of commitment, whereas Gainers did not report benefiting from these consequences (0%, $n = 0$). More specifically, Losers reported much greater adverse reactions to potential and actual lapses in focus and to the natural consequences of such lapses, regaining weight that was lost. Additionally, only Losers used memories of actual negative experiences to motivate themselves as well, again consistent with the tenets of the HOM.

Discussion

Participants in this study spoke about key factors in their personal journeys toward lifestyle change, illustrating what it takes to commit to living a healthier life,

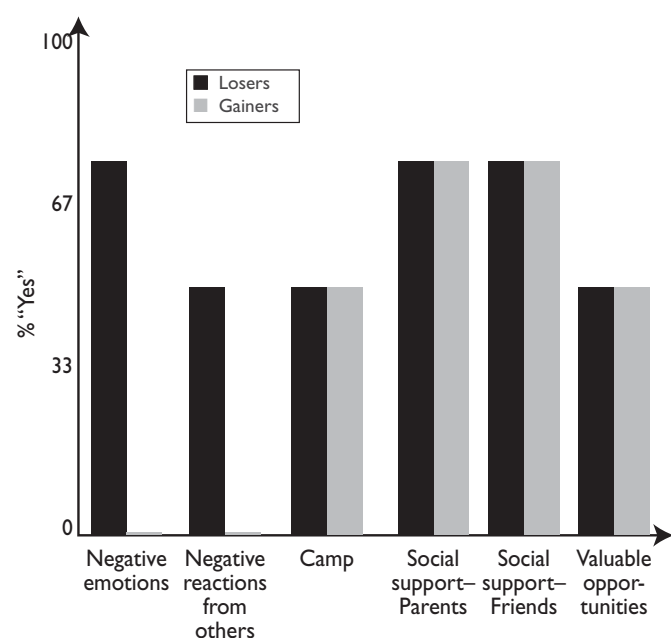


Figure 5. Sources of commitment—Losers vs. Gainers.

and maintain—or falter—in that pursuit. In accord with hypotheses, this group of adolescent weight controllers identified sources of commitment that paralleled those reported by elite athletes in the SCM.¹⁹ More specifically, the following sources of commitment seemed to affect these young weight controllers: EmC, ExC, VO, II, SSP, and SSF.

The weight controllers in this sample cited social support as the most common source of their motivation. Successful weight-controllers reported using their social resources to find motivation to continue their efforts. After all, as advised in the parent workshops conducted in Wellspring's programs, parents and other family members have the ability to operationalize their support by eliminating all fats from the home, ordering according to the program's principles at restaurants, and wearing pedometers to monitor their steps every day. Weight controllers can find other sources of social support by joining teams or gyms, or working with coaches or trainers, in addition to spending higher proportions of their time with their relatively active friends. This finding about the potential power of social sources of commitment coincides well with research on treatment for adolescent obesity that consistently finds better outcomes associated with highly supportive families.¹⁹ It also, once again, suggests that treatments, including most weight loss camps in the United States currently,⁸ that do not make parent involvement a key component probably do their clients a major disservice.

Both Losers and Gainers noted similar themes in discussing sources of commitment. However, the highly successful adolescent weight controllers in this study (*i.e.*, all of the Losers) spoke about these sources in distinct ways that may provide clues to their success. The HOM suggests that successful weight controllers should evidence a sustained preoccupation with planning and executing such target behaviors as self-monitoring food, activity, and weight, as well as relatively greater consistency in eating control and activity management. In accord with this model, Losers reported self-monitoring food, activity, and weight more consistently than Gainers. They also reportedly ate and maintained high activity levels in accord with the stringent guidelines provided in the Wellspring program.²²

The HOM also predicts relatively strong negative reactions to weight gain and to actual and potential lapses in consistency of target behaviors. Losers reported exactly such differentially strong negative reactions relative to Gainers. Losers explicitly indicated that they benefited from these negative reactions (“Emotional and Experiential Consequences”) by using them as motivators. Research on “passion” by Robert Vallerand and his colleagues²⁷ supports the surprising power that negative reinforcement seems to play in nurturing healthy obsessions for weight controllers, according to findings in this qualitative evaluation. These studies of passion tested a conceptualization of intense engagement in highly valued and

consistently pursued activities (*i.e.*, passion) that distinguishes between obsessive and harmonious types of passion. Obsessive passion, as the name implies, seems more closely aligned with negativity and attempts at controlling challenging impulses, whereas harmonious passion comes from more intrinsically and positively focused interest and affect. In a series of studies with musicians and athletes, Mageau et al.²⁷ found that both types of passion led to similarly high levels of engagement (*e.g.*, high performance and practice time by musicians). Perhaps harmonious passion can work well for weight controllers too, but the present findings suggest that highly successful weight controllers may rely more on the kind of negativity postulated by both the HOM and Vallerand's conceptualization of obsessive passion.

Immersion CBT treatments may be especially helpful in generating and nurturing healthy obsessions for people, like the Losers in this study, who seemed to have substantial support at home and a tendency toward conscientiousness.⁸ The actual experience of rapid weight loss along with CBT and extensive modeling by staff may accelerate self-reactions like favorable self-efficacy and intense commitments to the target behaviors that produced such dramatic and positive changes in weight and fitness. Coinciding with positive commitments to target behaviors, weight controllers like the present Losers may keep themselves on track by reacting very strongly to lapses and weight gains. Refusing to simply rationalize away such challenging moments and instead using negative reactions to them to reenergize more constructive behaviors, may prove vital for long-term success.^{1,9,20}

The small sample and qualitative nature of this study allowed for a thorough and rich analysis of the perceptions of these young weight controllers. However, these identical qualities, sample size, and qualitative methodology also limit the scientific merits of this approach. The participants in Wellspring's CBT immersion programs learn a particular language and conceptualization of the process of weight control. The successful participants responded in ways consistent with those messages. On the other hand, their reports of their behavioral consistencies clearly resembled the behaviors (high levels of activity, consistent self-monitoring) of most other highly successful weight controllers—and, as such, lend credence to their self-reports.^{14,22} In addition, the specificity and richness of their comments and the novelty of some of the findings (*e.g.*, the differential reports of reliance on negative emotional consequences) suggest that the Losers embraced the HOM to change their lives, not just to please the staff from Wellspring. Nonetheless, more objective and larger-scale tests of the HOM will provide more complete evaluations. For example, researchers could assess emotional reactions to perceived and actual lapses and weight gain as they occur during the follow-up period, as well as corrective behavioral responses subsequent to those ostensibly aversive experiences. Questions addressed could also include: Do those who eventually become highly successful weight

controllers actually and differentially show especially strong negative reactions to lapses followed by immediate reengagement with key target behaviors?

Further studies could also develop explicit measures of healthy obsessions (objective self-report and behavioral tests), in addition to the process measures used here (e.g., reported consistency of self-monitoring and negativity of reactions to lapses). Experiments that directly compare the impact of immersion treatment to other interventions may prove especially useful if they test for the degree to which immersion + CBT enhances healthy obsessions, as predicted by the Immersion to Lifestyle Change Model.

Conclusions

While the constructs examined here showed promise in explaining success and commitment by adolescent weight controllers, further research could extend these results by using a larger sample. Additional research that directly tests the viability and impact of the HOM seems warranted based on the results of the initial direct test of HOM¹⁹ and the present findings. If these studies prove promising, subsequent studies could compare various methods of developing and maximizing healthy obsessions, both within and beyond immersion treatment.

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