Differences in Motivations and Weight Loss Behaviors in Young Adults and Older Adults in the National Weight Control Registry

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Objective: The goal of this study was to compare young adults (YA) and older adults (OA) in the National Weight Control Registry on motivations for weight loss and weight-loss behaviors.

Design and Methods: Participants (n = 2,964, 82% female, 94% White, BMI = 24.8 ± 4.4) were divided into two age groups (18-35 vs. 36-50) and compared on motivations, strategies for weight loss, diet, physical activity (PA), and the three-factor eating questionnaire.

Results: YA were 28.6% of the sample (n = 848). YA and OA achieved similar weight losses (P = 0.38), but duration of maintenance was less in YA (43 vs. 58 months, P < 0.001). YA were more likely to cite appearance and social motivations for weight loss, were less motivated by health, and were less likely to report a medical trigger for weight loss (P's < 0.001). YA were more likely to use exercise classes and to lose weight on their own, and less likely to use a commercial program (P's < 0.001). YA reported engaging in more high-intensity PA (P = 0.001). There were no group differences in total calories consumed (P = 0.47), or percent calories from fat (P = 0.97), alcohol (P = 0.52), or sugar-sweetened beverages (P = 0.26).

Conclusions: YA successful weight losers (SWL) are motivated more by appearance and social influences than OA, and physical activity appears to play an important role in their weight-loss efforts. The differences reported by YA and OA SWL should be considered when developing weight-loss programs for YA.

Introduction

The National Weight Control Registry (NWCR) provides unique data on the motivations and behavioral strategies used by individuals who have been successful at long-term weight loss (1-4). Previous studies have demonstrated that those NWCR members whose weight loss was precipitated or “triggered” by a medical concern lost more weight upon entry into the registry and also maintained their weight losses better over time compared with those who reported other types of triggers (5). Additionally, data indicate that the successful weight losers (SWL) in the NWCR report consuming a low-calorie, low-fat diet, maintaining high levels of physical activity and self-weighing frequently (1-4). Although findings from the registry have greatly enhanced our understanding of the general characteristics and behaviors associated with successful long-term weight loss in an adult population, none of these studies have focused specifically on young adults.

According to the most recent Behavioral Risk Factor Surveillance Survey (BRFSS) data, approximately half of young adults <35 years of age are overweight or obese (6). Furthermore, this age group is at greater risk for weight gain than older adults, and overweight young adults are at the highest risk for additional weight gain (7-9). Despite the prevalence of obesity in the young adult population, this age group is less likely to enroll in standard behavioral weight-loss programs than older adults; they are also less likely to be retained over time and on average lose less weight in these programs than older adults (10). Thus, recently there has been a call to develop weight control programs specifically targeting young adults (11). A better understanding of the motivations and behaviors of young adults who are successful at long-term weight loss compared to that of older adults may help to inform the development of effective weight control approaches for this high-risk age group.

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Methods

Participants

The sample was drawn from the NWCR, a self-selected sample of SWL who are recruited through advertisements in national and local publications and through our website (www.nwcr.ws). To be eligible for the NWCR, individuals must have maintained at least a 30 lb weight loss for 1 year or longer; on average, members of the registry have lost >60 lbs prior to enrolling and have maintained the minimum 30 lb weight loss for >6 years. For the purposes of the present study, we focused on the comparison of young adult SWL (18-35) and older adult SWL (36-50) (please see statistical analysis section for rationale for these cut offs). Therefore, all participants >50 years of age were excluded, resulting in 2,964 participants who were retained for analyses.

Measures

Weight and weight history. Baseline weight (entry into NWCR), weight history, family weight history, and dieting history were all based on self-report using standard items collected as part of the NWCR. The reliability and validity of these self-reports within the NWCR has been examined, and the correlation between documented weight taken by a physician or weight-loss counselor and self-reported weight was 0.97, and the correlation for self-reported maximum weight was 0.98 (1).

Motivating factors for weight loss. Motivating factors for participants’ initial weight loss were assessed at baseline using a questionnaire developed for the NWCR. Instructions read as follows: “Listed below are nine reasons why people try to lose weight. Please rate how important each reason was to you at the start of your successful weight loss.” Participants were asked to respond on a 5-point Likert scale ranging from “not at all important” to “extremely important” for each item (e.g., health concerns, improving your appearance).

Strategies for weight control. At entry into the NWCR participants are asked about the strategies they used to lose weight initially. The specific item asked is: “In achieving this most recent weight loss, you may have used several different approaches. Please indicate which of the following strategies you used to lose weight.” Participants are then given a list of 12 strategies (e.g., commercial program, exercise classes, and medication), and instructed to check all that apply.

Physical activity. Physical activity was assessed using the Paffenbarger Physical Activity Questionnaire (16). From the PAQ, we derived estimated total energy expenditure (total kcals/week), as well as expenditure from high-intensity activity. The PAQ has satisfactory reliability and is sensitive to PA change in intervention studies (12).

Diet. Dietary intake was assessed using the Block Food-Frequency Questionnaire (13). We examined total energy intake, percentage of calories from fat, and percentage of calories from alcohol, and sugar-sweetened beverages. The Block FFQ has been used in previous studies with a six-month reporting interval and found to closely correspond with dietary records (14) and has been validated against three-day records (13).

Restrain, disinhibition, and hunger. The Eating Inventory (TFEQ) (15) is a 51-item self-report instrument with three factors, assessing dietary restraint, disinhibition, and hunger. The restraint factor (range 0-21) assesses the degree of conscious control one is exerting over eating behaviors; two subscales within the restraint factor include rigid and flexible control over eating (16). The disinhibition factor (range 0-16) measures susceptibility to loss of control over eating; three subscales within the disinhibition factor represent habitual, emotional, and situational susceptibility to disinhibition (17). Scores on the hunger factor range from 0 to 14; two subscales within the hunger subscale represent internal and external locus for hunger (17). The TFEQ has well-established psychometric properties (15-17) and has been used in a variety of weight control interventions; higher scores represent higher levels on all factors/subscales.

Procedure. Data for the current study were collected as part of the standard protocol for the NWCR. Registry participants are a self-selected group of SWL across the country, who join either by calling or visiting the website. Questionnaires are mailed to participants on an annual basis. Compensation is not provided. This study was approved by the Institutional Review Board at the Miriam Hospital in Providence, RI.

Statistical analyses. Age was treated as a categorical variable for all analyses using 18-35 years old as the criteria for young adult successful weight loser (YASWL) and 35-50 years old as the criteria for older adult successful weight loser (OSWL). We selected 35 years as our upper cut off for young adult given the considerable risk for weight gain and obesity observed prior to age 35 and to be consistent with previous studies focused on weight control among young adults (10,18-22) as well as the NIH definition of young adult for weight control studies (22-23). We selected 50 years as our upper cut off for older adult because this corresponds with the onset of menopause, which represents a distinct set of weight-related issues (24-26) and has been used as the upper cut off in previous trials targeting premenopausal women (27) and as the lower cut off in previous trials targeting postmenopausal women (28). YASWL and OSWL were compared on demographic characteristics and weight history variables using analyses of variance (ANOVA) or chi-square tests for continuous or categorical variables, respectively. Significant demographic and weight history differences were controlled for when comparing the two groups. Group comparisons were conducted using ANOVAs or binary logistic regression, depending on variable type and using a significance level of $P < 0.01$. For change variables, baseline measures were included as covariates. All analyses were conducting using SPSS, Version 14.0 (©SPSS, Inc., 2009, Chicago, IL, www.spss.com).

Results

YASWL and OSWL reported a comparable amount of weight loss at entry into the registry, with no significant differences between groups ($P = 0.38$, see Table 1). However, YASWL had maintained their weight losses for a shorter period of time ($P < 0.001$). A comparison of YASWL and OSWL on demographic and all weight history variables is presented in Table 1.

Motivating factors for weight loss

Adjusted mean ratings for each of the nine possible reasons for weight loss are displayed in Table 2. There were significant differences between age groups on six of the nine motivating factors
assessed. Compared with OSWL, YASWL rated appearance and social factors as more important in motivating their weight loss (e.g., improving your appearance, wanting to feel better about yourself), and improved social life and rated health concerns as less motivating (all \(P\)-values < 0.001). Furthermore, a majority of both YASWL and OSWL reported a specific trigger/event that precipitated their successful weight loss (61\% and 64\%, respectively); however, the type of trigger varied by age group. Specifically, young adults were less likely to report a medical trigger (14\% vs. 24\%, \(P < 0.001\)) and were more likely to report an emotional trigger (18\% vs. 10\%, \(P < 0.001\)).

### TABLE 1 Participant demographics and weight history for young adults (18-35) and older adults (36-50)

| Variable                          | Older SWL | Young adult SWL | \(P\) | Diff or Cohen’s \(d\) (%) |
|-----------------------------------|-----------|-----------------|-------|-------------------------|
| Female                            | 81%       | 87%             | <0.001| 6%                      |
| College degree or higher          | 62%       | 64%             | 0.34  | –                       |
| Married                           | 67%       | 47%             | <0.001| 20%                     |
| Non-Hispanic White                | 94%       | 93%             | 0.12  | –                       |
| > 1 Overweight parent             | 73%       | 78%             | 0.06  | –                       |
| Early onset of overweight (by elementary school) | 18% | 20% | 0.82  | –                       |
| Current BMI                       | 24.9 (4.5)| 24.4 (4.4)     | 0.009 | 0.11                    |
| Maximum BMI                       | 36.9 (8.7)| 36.2 (8.2)     | 0.03  | –                       |
| Weight loss at entry (kg)         | 35.3(17.5)| 33.6(17.6)     | 0.38  | –                       |
| Weight maintenance duration (in months) | 58 | 43 | <0.001 | 0.3 |

Note. Values displayed are adjusted means (standard error). Values have been adjusted for gender, marital status, current BMI, and duration of weight loss maintenance.

### TABLE 2 Motivating factors for weight loss

| Reason                          | Older SWL | Young adult SWL | \(P\) | Cohen’s \(d\) |
|---------------------------------|-----------|-----------------|-------|---------------|
| Health concerns                 | 4.15 (0.03)| 3.75 (0.04)    | <0.001| 0.21          |
| Improving your appearance       | 4.35 (0.02)| 4.59 (0.03)    | <0.001| 0.17          |
| Social pressure                 | 2.24 (0.03)| 2.88 (0.05)    | <0.001| 0.21          |
| Wanting to feel better about yourself | 4.39 (0.02)| 4.67 (0.03) | <0.001| 0.20          |
| Social event (e.g., wedding, reunion) | 1.43 (0.03)| 1.64 (0.04) | <0.001| 0.11          |
| Improved energy                 | 3.57 (0.03)| 3.54 (0.05)    | 0.53  | –             |
| Improved social life            | 2.43 (0.04)| 3.14 (0.06)    | <0.001| 0.3           |
| Improved work performance       | 2.11 (0.03)| 2.12 (0.05)    | 0.90  | –             |
| Feeling physically uncomfortable | 3.93 (0.03)| 3.86 (0.05)    | 0.19  | –             |

Note. Values displayed are adjusted means (standard error). Values have been adjusted for gender, marital status, current BMI, and duration of weight loss maintenance.

### TABLE 3 Percent endorsing specific strategies for weight loss

| Strategies used for initial weight loss | Older SWL (%) | Young adult SWL (%) | \(P\) | Difference (%) |
|---------------------------------------|---------------|---------------------|-------|---------------|
| Commercial program (e.g., WW)         | 40            | 35                  | 0.001 | 5             |
| Self-help group (e.g., OA, TOPS)      | 8             | 7                   | 0.21  | –             |
| Individual sessions with psychologist | 7             | 8                   | 0.44  | –             |
| Individual sessions with dietician    | 10            | 10                  | 0.75  | –             |
| Individual sessions with personal trainer | 11           | 14                  | 0.41  | –             |
| Individual contact with a physician  | 12            | 9                   | <0.05 | –             |
| Exercise classes                      | 28            | 39                  | <0.001| 11            |
| Prescription or over counter medication from a book, etc. | 7 | 8 | 0.44 | – |
| Hypnosis                              | 1             | <1                  | 0.42  | –             |
| Surgery                               | 3             | 1                   | 0.02  | –             |
| Lost weight on own without help       | 42            | 50                  | <0.001| 8             |

Note. \(P\) value reflects significance level after adjusting for covariates, including gender, marital status, current BMI, and duration of weight loss maintenance.

### Weight-loss behaviors

The specific strategies used by each of the age groups for their initial weight loss are displayed in Table 3. When asked how they lost their weight initially, YASWL were more likely than OSWL to report using exercise classes and to indicate losing weight on their own without help and were less likely to report using a commercial program (\(P\)'s < 0.001).

Both YASWL and OSWL reported very high levels of physical activity at entry into the registry (2739 vs. 2570 total kcals/week, \(P = 0.09\)), but YASWL reported significantly higher levels of high-intensity activity (1125 vs. 895 kcals/week, \(P = 0.001\)) and a slightly higher percentage of young adults indicated that they had modified their physical activity routine to achieve weight loss (93\% vs. 88\%, \(P < 0.01\)). Furthermore, YASWL were more likely to report exercising in a group (40\% vs. 30\%, \(P < 0.001\)) and nearly half of YASWL reported exercising with a friend during their weight-loss attempt (49\% vs. 43\%, \(P = 0.26\)).

Finally, after relevant demographic and weight history variables were controlled, young adults reported higher levels of situational disinhibition (2.7 vs. 2.3, \(P < 0.001\)), internal hunger (3.9 vs. 3.7, \(P < 0.01\)), and external hunger (6.7 vs. 6.4, \(P < 0.01\)). There were
no significant differences between groups on flexible control (4.8 vs. 5.0, \( P = 0.013 \)), rigid control (5.0 vs. 4.9, \( P = 0.39 \)), habitual disinhibition (9.1 vs. 9.1, \( P = 0.38 \)) or emotional disinhibition (1.4 vs. 1.3, \( P = 0.52 \)).

Discussion

These data demonstrate that young adults are able to achieve weight losses compared to those of older adults in the registry. Of note, both groups maintained their weight losses for a considerable period of time prior to entering the NWCR; however, young adults’ duration of weight-loss maintenance was significantly shorter compared with older adults. Furthermore, young adults’ motivation for weight loss and the strategies they use differ from those reported by older NWCR members. Previous studies of the NWCR have suggested the importance of health concerns as a motivator for weight loss and shown that those who report medical events as a trigger have better initial weight loss and better maintenance than those reporting other triggers (5). Health concerns do not appear to be as strong of a motivation for weight loss for young adults in the NWCR; rather, young adults’ were less likely to have a medical trigger for their weight loss, and data indicate that their motivation for weight loss may be driven more by appearance and social factors. In fact, on average, YASWL rated feeling better about themselves and improving their appearance as the most important reasons for wanting to lose weight. These findings are consistent with recent data from a survey of young adults in which appearance was rated the highest among reasons for wanting to lose weight (29).

Weight-loss behaviors also differed for young adults, compared with older SWL. YASWL reported being more likely to lose weight on their own and less likely to join a commercial program, which is consistent with previous studies demonstrating that young adults are dramatically underrepresented in standard behavioral weight-loss programs and that it is difficult to recruit this age group to formal weight-loss programs (10). Furthermore, YASWL reported using exercise to achieve their weight losses, and compared with OSWL, young adults reported significantly more high-intensity physical activity at entry into the registry. Physical activity can help to maintain energy balance and lead to effective long-term weight control (30); in addition, physical activity may lead to improvements in mood (31-32) and a sense of “feeling better,” which may be more important to this age group for whom the health consequences of obesity are more distal.

Although moderately rated, social factors were also emphasized more among young adults than older adults as a motivating factor for weight loss. Social influence may play a larger role for this population; data indicate that social influences are greater for young adults compared with older adults (33-34), and peers play a significant role in the initiation and maintenance of many health-related behaviors during these years (35-36). Furthermore, although not specific to young adults, in a recent study examining the spread of obesity within social networks, Christakis & Fowler (2007) reported that same-sex mutual friends appeared to have the strongest influence on each other’s weight gain (37). Peers can clearly serve as positive interpersonal influences as well; in fact, we recently demonstrated that among overweight/obese young adults, having more social contacts trying to lose weight was associated with greater intention to lose weight (38). Similarly, in the present study, roughly half of YASWL reported exercising with a friend as part of their weight-loss attempt. Thus, enhancing peer supports or incorporating peers in treatment may be one way to make behavioral programs more appealing to young adults and also improve weight losses in this age group.

These findings should be interpreted in light of the limitations of the present study. The NWCR is a self-selected sample and is predominantly both non-Hispanic White and female. Also, given the nature of the NWCR, weight data are self-report instead of objectively measured. However, previous studies have demonstrated high correlations between self-report weight and measured weight in the registry specifically (1). Additionally, participants were asked to recall their motivations for weight loss retrospectively. Since participants in the NWCR have maintained their weight loss for at least 1 year upon study entry, it is possible that there may be some bias in their recall of these details. Future studies should seek to replicate these findings in a sample of participants initiating weight loss and then follow them over time to gain a better understanding of the factors that prompt young adults to lose weight initially, as well as those that are central to their success over time; doing so within a more diverse sample would also allow the findings to be more readily generalized to the population. Finally, it would be of interest to compare young and older SWL in the registry over time to determine whether their differential motivations and weight-loss behaviors contribute to differential patterns of weight maintenance or weight regain.

The present study offers new insights that may serve to inform future research studies and treatment development work with this age group. The differences noted above should be carefully considered as we seek to develop effective weight-loss approaches for YA. Efforts to engage YA in weight-loss programs might be more effective if appearance and social factors were stressed. Furthermore, since these individuals appear less likely to enroll in formal treatment programs, alternatives to in-person programs, such as Internet, mobile phones, and other forms of technology should be explored. In addition, programs for this age group might be advised to have an increased emphasis on physical activity and possibly offer group-based exercise or involve peers in treatment to enhance engagement.

In conclusion, these data demonstrate that young adults are able to achieve significant weight losses compared with older adults in the NWCR. However, the motivations and strategies used by YASWL differ from those of older SWL. Specifically, young adults appear to place a greater emphasis on appearance, social factors, and physical activity and less emphasis on their health and the use of formal programs. These differences should be considered in future efforts to develop weight-loss interventions targeting this age group.

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