

Magnitude and Predictors of Weight Loss in a Free Ad Libitum Online Weight Loss Program

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ABSTRACT

Purpose: To evaluate the magnitude and predictors of weight loss among members of a free ad libitum online weight loss program. **Methods:** We retrospectively analyzed a systematic random sample of members who joined SparkPeople.com between February-April 2008, and included follow-up data until May 2010. The main outcome was net weight change, calculated from self-reported weight entries. We conducted simple linear regression for associations between weight change and demographics (age, gender, referral source, geographic location, baseline body mass index [BMI]) and between weight change and website usage metrics (number of log-ins, weight entries, SparkPoints [website usage incentives], SparkFriends [friends in the SparkPeople community], message board posts, days food tracked, days exercise tracked, exercise minutes logged). We conducted multiple linear regressions using stepwise model selection to identify independent predictors of weight change. **Results:** Of 26,234 members in our sample, the 5604 members with at least 2 weight entries were 91% female, 87% from the US, with age 35 (SD 12) and BMI 32 (SD 8). The table displays weight change.

In bivariate analysis of demographic predictors, overall weight change was related to baseline BMI (beta -0.49, $p < 0.0005$) and referral from non-specific source (beta -1.5, $p = 0.014$, compared to friend referral). Adjusted for baseline BMI and referral source, overall weight change was related to all website usage metrics: log-ins (beta = -0.02), weight entries (beta -0.28), Spark Points (beta -0.0006), Spark Friends (beta -0.05), message board posts

Months between first & last weight entry	n	Net mean (SD) weight change in pounds between first & last weight entry
< 1	1547	-2.3 (6.7)
1-2	620	-4.2 (13.7)
3-5	508	-4.3 (17.0)
6-8	381	-4.1 (24.2)
9-11	491	-4.3 (21.5)
12+	2057	-2.5 (20.0)
Overall	5604	-3.0 (16.9)

(beta -0.002), days food tracked (beta -0.04), days fitness tracked (beta -0.05), and exercise minutes logged (beta -0.0003), (all $p < 0.001$). On multivariate analysis, the most consistent independent predictors of weight change (overall and stratified by months between first and last weight entry) were baseline BMI (beta -0.58, $p < 0.001$ overall) and number of weight entries (beta -0.19, $p < 0.001$ overall). **Conclusions:** In this free ad libitum online weight loss program, members with higher baseline BMI and more frequent weight entries lost more weight.

KEY WORDS: Obesity, Weight loss, Internet, Online