

The Gap between Expectations and Reality of Exercise-Induced Weight Loss Is Associated with Discouragement

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Abstract

Background: Exercise interventions result in modest weight loss, yet exercise is frequently prescribed for weight loss. The relationship between exercise expectations and persistence is unknown.

Purpose: To determine predictors of individuals more likely to be discouraged when exercise does not cause weight loss.

Methods: Representative samples of 3,509 U.S. adults were recruited in Aug-Oct 2014 for anonymous, voluntary online surveys. Respondents were asked about beliefs regarding exercise and weight loss and their perceived weight status. An analysis of variance (ANOVA) was performed in JMP[®] Pro 11.0.0 (2013, Cary, NC) considering input variables of age, gender, income, perceived weight status (WS), belief that exercise is a very effective way to lose weight (BE), and response time. A second ANOVA tested interaction terms between WS, BE, age, and gender.

Results: BE was common (73% of respondents). The linear model adjusted R^2 was 0.06. Stronger BE ($p < 0.001$) and higher WS ($p = 0.04$) positively predicted discouragement with exercise. Longer response time to report a weight status of obesity or overweight was also a significant predictor ($p = 0.05$). Being female had borderline significance for higher discouragement ($p = 0.06$). The second model resulted in an adjusted R^2 of 0.11 and the WS-BE interaction term was a significant positive predictor of discouragement ($p = 0.01$).

Conclusions: Individuals with higher WS and BE are more likely to become discouraged when exercise does not lead to satisfactory weight loss. Prescribing exercise for weight loss might contribute to expectations associated with discouragement about exercise. Future studies should evaluate ways to set expectations that will lead to more persistent exercise.

Introduction

Exercise interventions for weight loss have been found to yield smaller changes in weight than predicted by simplistic energy balance calculations. Thomas et al¹ determined that this shortfall was mostly attributed to modest increases in exercise energy expenditure and compensatory increases in caloric intake. From

a systematic review and meta-analysis, Johns et al² recently found that physical activity contributes to better weight loss outcomes in the long term, but not in the short term, and that physical activity without dietary changes is less effective than combined programs. Women who exercise for appearance or weight-related reasons have been observed to be less persistent with exercise.³ Jones et al⁴ found that unrealistic expectations of exercise benefits may lead to disappointment and attrition.

Nonetheless, consumer health information frequently promotes exercise as an important means for weight loss. This study was designed to determine predictors of individuals more likely to be discouraged when exercise does not cause weight loss.

Methods

A total of 3,509 U.S. adult Internet users were recruited to answer anonymous, voluntary online questions through Google Surveys.⁵ Within this sample, 1,505 respondents were asked how strongly they believed that exercise is a very effective way to lose weight (BE). Another 1,503 respondents were asked whether they believed more that exercise is an effective way to lose weight or to prevent weight gain. A third group of 501 respondents who perceived themselves to have obesity or excess weight were asked:

1. How strongly do you agree or disagree? Exercise is a very effective way to lose weight
2. How strongly do you agree or disagree? Because it's hard to lose weight with exercise, sometimes I get discouraged from exercising.

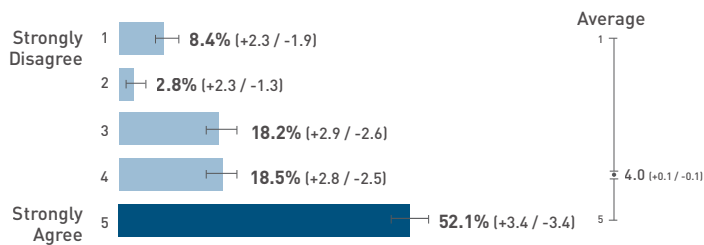
For this last group of respondents, an analysis of variance (ANOVA) was performed in JMP[®] Pro 11.0.0 (2013, Cary, NC) considering input variables of age, gender, income, perceived weight status (WS), belief that exercise is a very effective way to lose weight (BE), and response time. A second ANOVA tested interaction terms between WS, BE, age, and gender.

Results

Most respondents (71% weighted for age, gender, and region) agreed that exercise is a very effective way to lose weight (Figure 1). Younger respondents were significantly more likely ($p < 0.05$) to agree with this.

Figure 1: How strongly do you agree or disagree? Exercise is a very effective way to lose weight.

Results for respondents with demographics. Weighted by Age, Gender, Region. (941 responses)



Respondents were evenly divided between believing that exercise is more effective for losing weight or for preventing weight gain. Varying the order in which the two ideas were presented had a small effect on the results (Figures 2 and 3).

Figure 2: Which of the following statements do you believe is more true?

Results for respondents with demographics. Weighted by Age, Region. (517 responses)

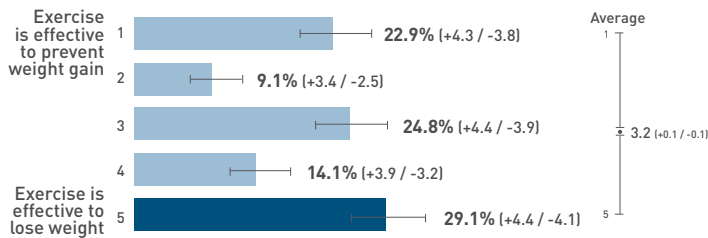
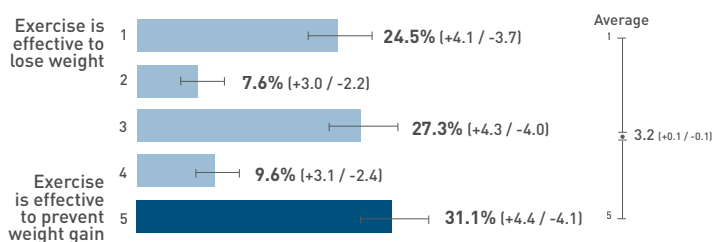


Figure 3: Which of the following statements do you believe is more true?

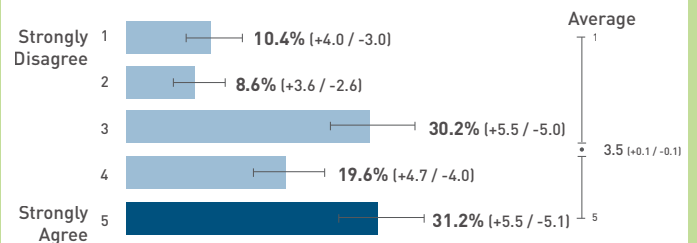
Results for respondents with demographics. Weighted by Age, Region. (503 responses).
Note reversed order of scale.



Approximately half of respondents agreed that the difficulty of losing weight with exercise sometimes discouraged them from exercising (Figure 4).

Figure 4: How strongly do you agree or disagree? Because it's hard to lose weight with exercise, sometimes I get discourage from exercising.

Results for respondents with demographics. Weighted by Age, Gender. (337 responses)



The linear model adjusted R^2 was 0.06. Stronger BE ($p < 0.001$) and higher WS ($p = 0.04$) positively predicted discouragement with exercise. Longer response time was also a significant predictor ($p = 0.05$). Being female had borderline significance for higher discouragement ($p = 0.06$). The second model resulted in an adjusted R^2 of 0.11 and the WS-BE interaction term was a significant positive predictor of discouragement ($p = 0.01$).

Discussion

These findings suggest that many people with obesity believe that exercise should be an effective way to lose weight. They further suggest that people with such beliefs are more likely to become discouraged when they discover the truth that short-term weight loss from exercise alone is modest. These findings are broadly consistent with earlier findings that linked unrealistic expectations for exercise to disappointment and attrition.⁴

The public appears to be open to the view that exercise is more useful for preventing weight gain than for causing weight loss. This insight suggests an opportunity for fostering more realistic expectations and better adherence for exercise. Future research should identify and measure the impact of the best strategies for achieving this goal.

Conclusions

- The perception that exercise is a very effective way to lose weight is common.
- Discouragement is more likely for people with higher weight status and stronger belief that exercise should be an effective way to lose weight.
- Prescribing exercise for the purpose of weight loss may be counterproductive if it leads to unrealistic expectations.
- Communicating more realistic expectation for exercise, i.e. for preventing weight gain, holds promise for promoting better adherence.

Acknowledgements and References

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