

**How Witnessing Another Person's Weight Loss Relates to Physical and Psychological  
Health**

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### **Abstract**

Messages to lose weight exist in abundance within our culture. Numerous people may feel inspired by these messages to lose weight, whereas others may not. The present study examined how a person's perceptions of someone who has lost weight relate to their own physical health intentions, psychological health, and body image. Participants were 98 undergraduate college students from Angelo State University who were asked to think of someone they know who has lost weight and answer questions about their perceptions of that person following their weight loss. Participants also completed self-report measures of their own exercise motivations and reasons for exercise, intentions to engage in healthy eating or dieting behaviors, self-esteem, perceived stress, depression severity, life satisfaction, body appreciation, and body shape concerns. Results showed that having more positive perceptions of another's weight loss is positively associated with eating intentions, dieting intentions, stress, depressive symptoms, and body shape concerns. Exercise motivation also was associated with more positive perceptions of a person who has lost weight, but only when the person who lost weight was a family member or friend, versus someone else (e.g., coworker, classmate). Together, these results suggest that witnessing another person's weight loss and viewing that weight loss positively may be linked to intentions to engage in weight loss/maintenance behaviors, but also to negative psychological outcomes and poorer body image. These findings have implications for understanding how people may be impacted, whether positively or negatively, by weight-loss messages in the form of exposure to another person's weight loss.

### **How Witnessing Another Person's Weight Loss Relates to Physical and Psychological Health**

Weight stigma is prevalent in society (e.g., Puhl et al., 2020) and is characterized as the social devaluation and denigration of a person because of their body weight (e.g., Tomiyama, 2014). Accompanying this stigma are messages encouraging people to lose weight. Many people feel inspired or compelled by these messages and are able to successfully lose weight, but little is known about how those weight loss successes affect those who witness them. Some previous findings suggest that exposure to successful weight losses can negatively impact onlookers. For example, viewing before-and-after weight loss images has been shown to increase weight stigma and promote negative weight-based stereotypes (Geier et al., 2003), which can harm individuals who are considered higher in weight and/or want to lose weight. These messages to lose weight also exist on reality TV shows such as *The Biggest Loser*, where contestants compete to lose a dramatic amount of weight in a short period of time; for example, watching this show has been shown to reinforce negative attitudes toward those higher in weight (Domoff et al., 2012).

Pressure to lose weight is communicated in myriad forms. Although many messages to lose weight are explicit, many are communicated more implicitly. The message that losing weight is good, and therefore being higher in weight is bad, is sometimes communicated rather explicitly, evidenced by extensive media coverage of celebrities who have lost weight (Miller & Felbin, 2021). However, one underexplored form of weight-loss pressure may be through people who have successfully lost weight. For example, messages promoting weight loss may sometimes be less visible, possibly existing discreetly when noticing that a family member seems to have lost some weight. To illustrate this possibility, one study examined how providing a weight-loss regimen to one spouse in a relationship affected the weight loss of the other spouse

who was not directed to practice the regimen. Results of the study suggested that the weight loss treatment administered to one spouse inspired the other spouse to also lose weight (Gorin et al., 2008). Other research suggests that people who have gained weight seem to have influenced others to also gain weight, depending on the relationship between the two persons (Christakis & Fowler, 2007).

With such consistent explicit and implicit pressures to lose weight, people may feel defeated if they are unsuccessful at or do not attempt to lose weight. Conversely, these messages may motivate people to lose weight by encouraging them to adopt healthy habits and intentions. Taken together, previous findings suggest people are in fact influenced by the weight fluctuations of others in terms of their own weight. The mere existence of people who have successfully lost weight may influence witnesses' views of their own weight, as well as potentially impact their physical and psychological health. Yet, little research exists regarding how others' weight losses impact a person's physical and psychological health beyond weight. As such, the effects of messages communicated by someone "leaving" the weight group through their weight loss require examination, focusing on how they potentially affect a person's physical and psychological health and how they may facilitate or hinder healthy behaviors and intentions.

### **The Present Study**

Considering the above-reviewed research literature, the purpose of this study was to examine how another person's weight loss relates to a person's own physical health intentions, psychological health, and body image. Specifically, I examined whether perceiving another person's weight loss as more positive relates to physical health variables (i.e., exercise motivation, healthy eating intentions, and dieting intentions), psychological health variables (i.e., self-esteem, stress, depression severity, and life satisfaction), and body image variables (i.e.,

body appreciation and body shape concerns). Additionally, because positively perceiving the weight loss of someone closer in relational proximity to oneself may more encourage a person to engage in actions necessary to lose weight, I also tested whether the proximity, or closeness, of the person who has lost weight (e.g., friend, family member, coworker, celebrity) to oneself moderated the relationships of perceptions of another person's weight loss to motivations and intentions to engage in weight loss/maintenance behaviors (i.e., exercise, healthy eating, and dieting).

## Method

### Participants

A total of  $N = 98$  undergraduate students at Angelo State University participated in this research online. The mean age of the participants was 20.07 ( $SD = 3.35$ ), with 77.6% being female. Racial composition was: 52% Latino American; 34.7% European American; 7.1% African American; 4.1% Other; and 2.1% Asian American. For their involvement in the study, participants received .5 research credits to be applied toward their requirements and/or extra credit opportunities in their courses.

### Measures

**Perceptions of Others' Weight Loss.** This 6-item scale was created for this study. The overall measure assessed participants' perceptions of a person who has lost weight. First, participants were asked to think of anyone who has lost weight (e.g., a friend, family member, celebrity); participants also reported who they thought of, as an indicator of proximity between the participant and person who lost weight. For analyses, proximity was categorized into "Family" (immediate family, specifically), "Friend," and "Other," with the other category reflecting a variety of persons (e.g., distant relatives, celebrities, school peers). Next, participants

reported their perceptions of that person after they lost weight (e.g., “The person I thought of is more attractive after losing weight.” and “The person I thought of is healthier after losing weight.”) on a scale from 1(*strongly disagree*) to 7(*strongly agree*). Higher scores reflect more positive perceptions of the target person after their weight loss;  $M = 5.43$ ,  $SD = .97$ ,  $\alpha = .84$ .

**Behavioral Regulation of Exercise Questionnaire (Markland & Tobin, 2004; Wilson Et al., 2006).** This is a 24-item scale that assessed participants’ motivations and reasons for engaging or not engaging in exercise. Participants responded to items such as “I exercise because it’s fun.” and “I get restless if I don’t exercise regularly.” using a scale from 0(*not true for me*) to 4(*very true for me*). Higher scores reflect more exercise motivation;  $M = 2.56$ ,  $SD = .68$ ,  $\alpha = .90$ .

**Healthy Eating Intentions Scale (Thomas et al., 2019).** This is a 7-item scale that assessed participants’ intentions to engage in healthy eating behaviors within the next three months. Participants responded to two items (i.e., “In the next three months, I intend to consume more healthy foods.” and “In the next three months, I intend to change my eating behaviors.”) using a scale ranging from 1(*strongly disagree*) to 7(*strongly agree*). The remaining five items used a 7-point scale reflecting different word pairings. An example item using the sliding scale was “If I change to healthier eating behaviors in the next three months, this would be . . . “ on a scale from “Unpleasant” to “Pleasant.” All items were averaged together for an overall score, with higher values indicating greater healthy eating intentions;  $M = 5.77$ ,  $SD = 1.01$ ,  $\alpha = .88$ .

**Dieting Intentions Scale (Cruwys et al., 2013).** This is a 7-item scale that assessed participants’ intentions to go on a diet or engage in diet-type behaviors. Participants responded to two items (i.e., “In the next three months, I intend to go on a diet.” and “In the next three months, I intend to reduce my caloric intake.”) using a scale ranging from 1(*strongly disagree*) to 7(*strongly agree*). The remaining five items used a 7-point scale reflecting different word

pairings (e.g., “If I change my eating behaviors by dieting in the next three months, this would be . . . “ on a scale from “Unpleasant” to “Pleasant.”). All items were averaged together for an overall score, with higher values representing greater dieting intentions;  $M = 5.11$ ,  $SD = 1.36$ ,  $\alpha = .91$ .

**Rosenberg Self-Esteem Scale (Rosenberg, 1965).** This is a 10-item scale that assessed participants’ self-esteem. Participants responded on a scale from 1(*strongly disagree*) to 4(*strongly agree*) to items such as “On the whole, I am satisfied with myself.” and “All in all, I am inclined to feel that I am a failure” (reverse-scored). The overall scale was computed such that higher scores reflect lower self-esteem;  $M = 2.19$ ,  $SD = .56$ ,  $\alpha = .90$ .

**Perceived Stress Scale (Cohen et al., 1983).** This is a 10-item scale that assessed how stressed participants perceive themselves to be. Participants responded to items such as “In general, I get upset because of something that happens unexpectedly.” and “In general, I find that I cannot cope with all the things that I have to do.” on a scale from 1(*strongly disagree*) to 7(*strongly agree*). Higher scores indicate higher perceived stress;  $M = 4.11$ ,  $SD = .94$ ,  $\alpha = .84$ .

**Patient Health Questionnaire–Depression Scale (Kroenke et al., 2009).** This is an 8-item scale that assessed depression severity, as indicated by how frequently participants have felt certain ways over the past two weeks. Participants indicated on a scale from 0(*not at all*) to 3(*nearly every day*) how often during the past two weeks they were bothered by various circumstances (e.g., “Little interest or pleasure in doing things.” and “Feeling down, depressed, or hopeless.”);  $M = 10.16$ ,  $SD = 6.24$ ,  $\alpha = .89$ .

**Satisfaction with Life Scale (Diener et al., 1985).** This is a 5-item scale that assessed how satisfied participants are with their lives. Participants responded to items such as “In most ways my life is close to my ideal.” and “So far, I have gotten the important things I want in life.”

on a scale from 1(*strongly disagree*) to 7(*strongly agree*);  $M = 4.21$ ,  $SD = 1.28$ ,  $\alpha = .87$ .

**Body Appreciation Scale (Tylka & Wood-Barcalow, 2015).** This is a 10-item scale that assessed how frequently participants appreciate or positively view their body. Participants responded to items such as “I respect my body.” and “I feel good about my body.” using a scale from 1(*never*) to 5(*always*);  $M = 33.94$ ,  $SD = 9.39$ ,  $\alpha = .95$ .

**Body Shape Questionnaire (Evans & Dolan, 1993).** This is an 8-item scale that assessed how frequently participants negatively viewed their bodies or had fears about their body (i.e., body shape concerns) during the past four weeks. Participants responded to questions such as “Have you been afraid that you might become fat (or fatter)?” and “Have you felt excessively large and rounded?” during the past four weeks using a scale ranging from 1(*never*) to 6(*always*);  $M = 27.09$ ,  $SD = 10.25$ ,  $\alpha = .92$ .

**Demographics Questionnaire.** Participants reported their sex, gender identity, age, weight, height, and race/ethnicity.

## **Procedure**

Participants completed this study online. The survey was completed through Qualtrics and took approximately 30 minutes. After consenting, participants were asked to think of someone who has lost weight and answer questions about that person and their weight loss. Participants also completed questionnaires assessing their own exercise motivations, intentions to engage in healthy eating and dieting behaviors, self-esteem, perceived stress, depression severity, life satisfaction, body appreciation, and body shape concerns. All questionnaires were presented in randomized order. Finally, participants provided standard demographic information and then were thanked and debriefed.

## **Results**



### **Positive Perceptions of Another's Weight Loss and the Outcome Variables of Interest**

To test for significant associations of positive perceptions of another person's weight loss with the outcome variables of interest, Pearson product-moment correlation coefficients were computed between positive perceptions of the other person's weight loss and the physical health (i.e., exercise motivation, healthy eating intentions, and dieting intentions), psychological health (i.e., self-esteem, stress, depression severity, and life satisfaction), and body image (i.e., body appreciation and body shape concerns) variables.

Results showed that perceiving another person's weight loss more positively was significantly, positively correlated with healthy eating intentions ( $r = .39, p < .001$ ) and dieting intentions ( $r = .42, p < .001$ ) but not significantly correlated with exercise motivation ( $r = .17, p = .094$ ). Positive perceptions of another person's weight loss also were positively associated with perceived stress ( $r = .22, p = .031$ ) and depression severity ( $r = .25, p = .013$ ) but not significantly correlated with self-esteem ( $r = .16, p = .122$ ) or life satisfaction ( $r = -.05, p = .630$ ). Finally, positive perceptions of another person's weight loss were significantly and positively associated with body shape concerns ( $r = .31, p = .002$ ) but were unrelated to body appreciation ( $r = -.13, p = .209$ ).

### **Proximity as a Moderator Predicting Physical Health Motivations and Intentions**

Simultaneous multiple regression analyses were conducted to examine whether the proximity of the person participants thought of when they were asked to think about someone who has lost weight (coded: family member vs. friend vs. other) moderated associations of positive perceptions of the other person's weight loss with the physical health outcomes of interest. Results showed that having more positive perceptions of the other person's weight loss was associated with more exercise motivation when participants thought of a family member ( $\beta$

= .27,  $p = 0.41$ ) or friend ( $\beta = .31, p = .012$ ), versus other, with this overall model accounting for 14% of the variance in exercise motivation ( $R^2 = .14, F(5, 92) = 3.13, p = .012$ ).

In the model predicting healthy eating intentions from positive perceptions of the other person's weight loss, proximity, and their interaction, the predictors accounted for 17% of the variance in healthy eating intentions ( $R^2 = .17, F(5, 92) = 3.81, p = .004$ ), with only positive perceptions of weight loss significantly and positively predicting healthy eating intentions ( $\beta = .46, p = .002$ ); no other associations in this model were significant.

The model predicting including perceptions, proximity, and their interaction also accounted for a significant amount of variance (24%) in dieting intentions ( $R^2 = .24, F(5, 92) = 5.79, p < .001$ ), with positive perceptions of the other person's weight loss being significantly and positively associated with dieting intentions ( $\beta = .31, p = .026$ ). Also in this model, thinking about a family member (vs. friend or other) who lost weight was significantly associated with decreased dieting intentions ( $\beta = -.27, p = .013$ ); no other associations in this model were significant.

### Discussion

This study examined how perceptions of another person's weight loss related to one's own physical health intentions/motivations, psychological health, and body image; additionally, relationship proximity of the person who lost weight to the witness of this weight loss was examined as a potential moderator of the associations between positive perceptions of another's weight loss and physical health motivations and intentions (i.e., exercise motivation, healthy eating intentions, and dieting intentions). Proximity was analyzed as a moderator of these associations because exercise motivation and eating/dieting intentions may be more easily and directly changed than the less malleable psychological health and body image variables studied.

Results showed that having more positive perceptions of another person's weight loss was associated with greater intentions to eat healthy and to diet but also with higher levels of stress, depressive symptoms, and body shape concerns. Relationship proximity was found to influence the association between positive perceptions of another's weight loss and exercise motivation, such that positively perceiving a family member's weight loss or a friend's weight loss (versus a distant other's weight loss) predicted greater exercise motivation. Together, results from this study suggest that perceiving another person's weight loss as more positive is related to greater motivations and intentions to engage in weight loss/maintenance behaviors surrounding food, while also being associated with more psychological distress and poorer body image.

### **Perceptions of Other's Weight Loss and Physical Health**

More positive perceptions of another's weight loss were associated with an increase in healthy eating intentions and dieting intentions. Although not much past research has investigated how the appraisal of someone else's weight loss relates to health outcomes, extant research does examine how social groups and relationships relate to a person's health behaviors and determinations of ideal weight. Among adolescent peer groups, the mean peer body mass index (BMI) is correlated with the individual adolescent's BMI (Trogdon et al., 2008), and there is some evidence that adolescent friends influence BMI and physical activity, suggesting that the correlation between peer group BMI and individual BMI is not just due to selecting peers who are similar to oneself (Simpkins et al., 2013). Moreover, children and adolescents calculate their ideal weight based on the average BMI of their peers (Hammond & Ornstein, 2014). An implication of these findings may be that a person may alter their weight-related behaviors to conform to what is perceived to be the ideal weight. In the context of the present study, a participant may feel compelled to eat healthier and diet in an attempt to be closer to this new

ideal-weight reference point perceived to have been set by the target person who has lost weight.

### **Perceptions of Other's Weight Loss and Psychological Health**

Having more positive perceptions of another person's weight loss was positively associated with stress and depression severity. A possible reason for these relationships may be that exposure to another person's weight loss may increase perceived weight stigma in those who witness it. Previous research shows that exposure to before-and-after weight loss images has been shown to promote weight stigma (Geier et al., 2003) and watching *The Biggest Loser* reinforces negative attitudes toward those higher in weight (Domoff et al., 2012). These negative and stigmatizing effects of exposure to another's weight loss may help explain why more positive perceptions of another's weight loss are associated with negative psychological health outcomes, as weight stigma has often been linked to negative psychological outcomes, such as depression (Alimoradi et al., 2020) and stress (Tomiyama, 2014). A piece that helps illuminate this phenomenon may be that people who identify themselves as "overweight" may express more intent to lose weight while being largely unsuccessful in doing so (Haynes et al., 2018). Perhaps those who are trying to lose weight express more positive perceptions of others who have successfully lost weight. However, these people also may be vulnerable to experiencing failure, which may relate to deleterious psychological outcomes, such as negative weight-related perceptions (e.g., perceived weight stigma), stress, or depression.

The present findings also indicate that having more positive perceptions of another person's weight loss is associated with having more body shape concerns. Similar to the reasoning for an increase in negative psychological effects, perhaps those who are higher in weight and want to lose weight have more positive perceptions of others who have lost weight. Those who are higher in weight also tend to have more body image concerns (Wardle et al.,

2006), which may explain the association between positive perceptions of another's weight loss and body image concerns.

### **Perceptions of Weight Loss of Close Versus Distant Others**

In terms of how proximity moderated the relationships between positive perceptions of another's weight loss and motivations and intentions to engage in weight loss/maintenance behaviors (i.e., exercise, healthy eating, and dieting), results showed that, as positive perceptions of another's weight loss increased, exercise motivation also increased for those who thought of a family member or friend who lost weight, compared to those who thought of someone else. The present study did not find an overall relationship between exercise motivation and more positive perceptions of another's weight loss, which may be because exercising to lose weight is a less common strategy than eating healthier or dieting (Serdula et al., 1999). However, for those who thought of a family member or friend, as positive perceptions increased, exercise motivation did increase. This is consistent with past research suggesting that especially close relationships are related to more pronounced healthy behaviors; for example, young adults are more likely to engage in exercise or healthy eating behaviors when they have a relationship with someone else who also does so, especially when that relationship is relatively strong (Barclay et al., 2013).

Proximity did not moderate the relationships between positive perceptions of another's weight loss and eating intentions or dieting intentions. However, in their respective models, perceiving another person's weight loss more positively did significantly predict greater healthy eating intentions and dieting intentions; the proximity of the person did not affect these associations. Also, dieting intentions were significantly lower for those who thought of a family member who lost weight, compared to those who thought of someone else (including a friend). A reason for this latter finding may be that dieting is often ineffective at maintaining weight loss

and can sometimes be tied to negative psychological outcomes (French & Jeffery, 1994). Thus, people may feel less inspired to diet if they are exposed to the negative outcomes of dieting, which is presumably more likely for participants who thought of family members as opposed to friends or others.

### **Limitations and Future Directions**

One limitation of this study is that health behaviors were not measured. Participants were asked about their health intentions, which can differ from their behaviors. Future studies should also include measures of health behaviors to determine whether intentions related to perceiving another person's weight loss as positive translate to actual behaviors. Another limitation is that proximity was measured using only three categories (i.e., family, friends, and others), with the "Other" category reflecting a variety of persons (e.g., distant relatives, celebrities, classmates). As such, future research could further investigate the nature of a person's relationship to someone who has lost weight, perhaps assessing how emotionally close the person feels to the other, how often they physically see the person, or how representative the other person is of the participant (e.g., same sex, similar age). Because responses were dependent on participants' perceptions, rather than an objective event, participants' perceptions may have changed with time; accordingly, future research could also assess how long ago the other person's weight loss occurred. Importantly, future research will need to examine factors that may relate to or cause more positive perceptions of another person's weight loss, such as the weight status of the witness or whether they themselves are trying to lose weight.

### **Implications and Conclusions**

The findings from this research aid in understanding how witnessing other people's weight losses relate to a person's own physical health intentions/motivations, psychological

health outcomes, and body image. Results suggest that more positive perceptions are related to increased intentions to engage in some health behaviors while simultaneously related to an increase in negative psychological health outcomes, such as stress and depression, and body image concerns.

In sum, it appears that a person's own weight loss may influence another person's health and health-related intentions. Accordingly, when family and friends promote healthier lifestyles or their weight loss, they may wish to consider the possible consequences for witnesses of their weight loss. Perhaps messages coming from those close to a person, such as family or friends, encouraging them to be healthier and/or lose weight should incorporate advice on how to interpret other's successes in ways that are not self-damaging. Additionally, for individuals, applauding another person's weight loss or using them as an example to be aspired to may not be a positive motivational approach in terms of psychological health or body image. Taken together, results from this study suggest important implications for how we think about other people's weight loss for motivation and how it may be useful to consider the possibility that holding positive views of weight loss may harm our psychological health.

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