Dieting in Adolescence: Relationship to Eating Disorder Symptoms

Dieting in Adolescence is Linked to Eating Disorder Symptoms

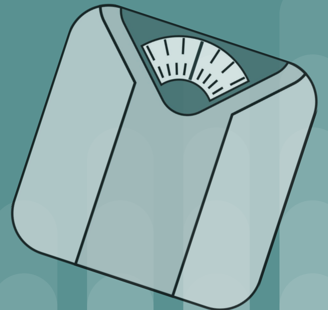
- There are well-established prospective links between dieting in adolescence and later eating disorder diagnoses (Stice et al., 2017) and symptoms (Haines et al., 2010; Neumark-Sztainer et al., 2007), including:
  - **Binge eating** (Goldschmidt et al., 2012; Liechty & Lee, 2013)
  - **Purging** (French et al., 1995; Stice et al., 1998)
  - **Unhealthy weight control behavior** (Neumark-Sztainer et al., 2007; Liechty & Lee, 2013)
  - **Unhealthy low weight** (Stice et al., 2017)
  - **Body dissatisfaction** (French et al., 1995)
- Individuals with eating disorders frequently report that dieting developed before other symptoms (Brewerton et al., 2000; Grilo & Masheb, 2000; Pederson Mussell et al., 1997)

But… What is a "Diet"?

- Self-reported dieting can include (French et al., 1995):
  - **Healthy eating practices** (e.g., increasing fruits and vegetables)
  - **Unhealthy eating practices** (e.g., fasting; vomiting; laxative use)
  - **Positive psychological approaches to dieting (e.g., flexibility, health focus)**
  - **Negative psychological approaches to dieting (e.g., rigidity, deprivation focus)**
  - **Dieting *intentions* without action**
- These aspects of dieting are usually conflated
  - e.g., Adolescents engaging in unhealthy weight control practices also engage in healthy weight control practices (Neumark-Sztainer et al., 2000; Story et al., 1998)
- Difficult to disentangle which dieting behaviors and psychological approaches contribute to eating disorder symptoms

Weight Loss Programs Can Decrease Eating Disorder Symptoms in Adolescence

- Contrary to dieting literature, many studies have found that professionally administered weight loss programs for children and adolescents lead to *improvements* in eating disorder symptoms, including decreases in:
  - **Bulimic symptoms** (Bishop-Gilyard et al., 2011; Murdoch et al., 2011)
  - **Disinhibited or loss of control eating** (Eichen et al., 2019; Bishop-Gilyard et al., 2011)
  - **Food preoccupation** and eating concerns (Eichen et al., 2019; Murdoch et al., 2011)
  - **Drive for thinness** (Braet et al., 2003)
  - **Extreme dieting behavior** (Murdoch et al., 2011)
  - **Weight and shape concerns** (Eichen et al., 2019; Balantekin et al., 2017)
  - **Body dissatisfaction** (Fennig et al., 2015; Shrewsbury et al., 2011)



Weight Loss Programs At Very Least Not Associated with Increased Eating Disorder Symptoms

- Several other studies have found *no change in eating disorder symptoms* in children and adolescents following weight loss trials (Balantekin et al., 2017; Braet et al., 2003; Edwards et al., 2006; Epstein et al., 2001; Giel et al., 2013; Levine et al., 2001)
- **Dietary restraint** is the only eating disorder symptom demonstrated to *increase* following weight loss trials (Bishop-Gilyard et al., 2011; Braet & Van Winckel, 2000)
    - Not clear whether increased restraint is disordered in this context
    - Could reflect better adherence to principles of behavioral weight loss
    - More research is needed on long-term effects of this increased restraint

Digging Deeper into the Research on Weight Loss Programs in Childhood and Adolescence

- **The existing research is diverse in terms of:**
  - Treatment format (e.g., group, individual, summer camp, inpatient)
  - Length of treatment (range: 7 weeks to 10 months; mode: 6 months)
  - Sample size (range: 15 to 241 families enrolled)
  - Sample age (range: 7 to 17 years)
  - Length of follow-up (range: none to 4.5 years)
- **However, the research is consistent in terms of key treatment components:**
  - Reduced energy diet
  - Increased physical activity and/or reduced sedentary behavior
  - Cognitive-behavioral principles (e.g., psychoeducation, self-monitoring, positive reinforcement)
  - Parent involvement in behavior change

Digging Deeper: Weight Loss Studies in Childhood

- **Two large investigations of Family-based Behavioral Treatment (FBT) for weight loss in childhood (Balantekin et al., 2017; Eichen et al., 2019)**
- **FBT involves:**
    - Dietary therapy: Promoting reduced energy diet and increase in nutritious foods
    - Physical activity: Increasing engagement in physical activity
    - Behavioral therapy: Teaching skills for parents to support their child (establishing routines, limit-setting, positive reinforcement for desired behavior)

Digging Deeper: Weight Loss Studies in Childhood

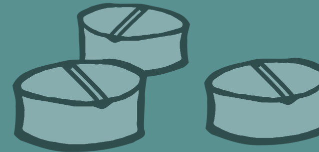
- **Balantekin et al., 2017:**
    - 241 families participating in 16 weeks of FBT
    - Children aged 7-11 years
    - BMI ≥ 85th percentile
    - Following treatment, children had reductions in weight, as well as weight concern
    - Children with high baseline eating pathology or shape and weight concerns showed greater reductions in weight and shape concerns, but experienced less weight loss following treatment
- **Eichen et al., 2019:**
    - 150 families participating in 6 months of FBT delivered to either parent and child, or just parent
    - Children aged 8-12 years
    - BMI ≥ 85th percentile
    - 18-month follow-up
    - Children had reductions in weight, loss of control eating, eating concern, and weight and shape concern and no change in dietary restraint from baseline to follow-up
    - None of the children endorsed purging behaviors at any assessment point

Digging Deeper: Weight Loss Studies in Adolescence

- **Six studies identified that investigated effects of weight loss programs in adolescence on eating disorder symptoms (Bishop-Gilyard et al., 2011; Braet et al., 2003; Braet & Van Winckel, 2000; Fennig et al., 2015; Giel et al., 2013; Shrewsbury et al., 2011)**
- Braet & Van Winckel, 2000
  - Pooled data from 136 children and adolescents aged receiving weight loss treatment
  - Participants aged 7-17 years
  - ≥ 20% overweight for age
  - Weight loss programs varied in format (e.g., group, individual, summer camp), but all were behaviorally-based and involved parents
  - Treatment delivered over 12 60-minute or 6 90-minute sessions
  - 4.5-year follow-up
  - Found a sustained reduction in weight, external eating, and emotional eating, and an increase in restraint

Digging Deeper: Weight Loss Studies in Adolescence

- **Bishop-Gilyard et al., 2011**
  - 82 adolescents aged 13-17 years
  - BMIs 32 to 44 kg/m^2
  - Treatment involved: 1) Adolescent behaviorally-based group sessions; 2) Separate parent group sessions designed to support the children
  - Weekly sessions for 16 weeks, then every other week for 8 weeks
  - Randomized to also receive sibutramine or placebo
  - 12-month follow-up
  - Across groups, found a sustained reduction in weight, binge eating, and disinhibition, and an increase in restraint

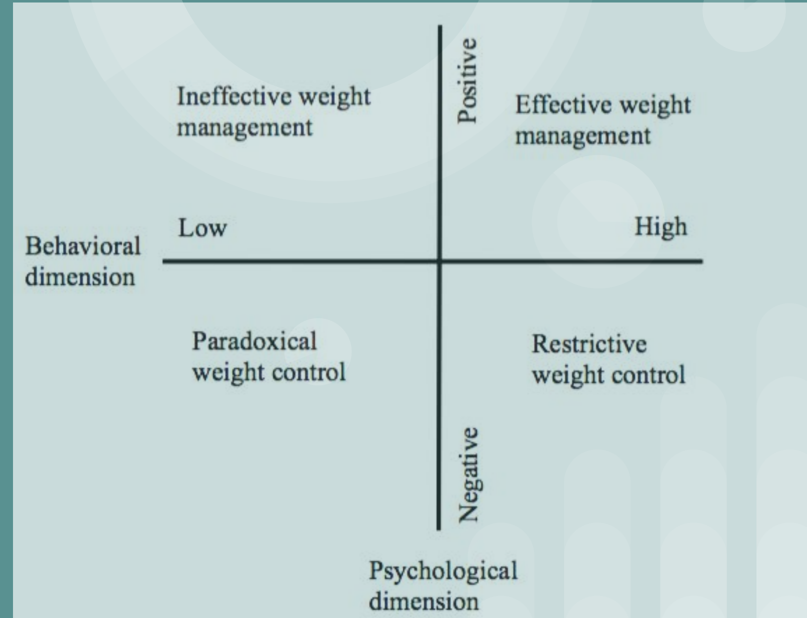


Digging Deeper: Weight Loss Studies in Adolescence

- **Giel et al., 2013**
  - 41 children adolescents aged 11-17 years
  - BMI ≥ 90th percentile
  - Behaviorally-based treatment delivered in adolescent and parent groups and targeting decreased intake, increased physical activity, decreased sedentary behavior
  - 6-month follow-up
  - Pre-treatment, 41.5% (n = 17) of participants screened positive for an eating disorder based on the SCOFF questionnaire (Morgan, Reid, & Lacey, 2000)
  - Post-treatment, 35% (n = 14) of participants screened positive for an eating disorder
  - Most of these were the same adolescents (n = 9); however 5 participants newly classified as potentially having an eating disorder
  - Overall reduction in positive eating disorder screens; however, this study suggests there may be a risk for a small portion of participants

Dieting *Behavior* Might Not Be the Problem

- It may be the psychological *approach* to dieting, rather than the dieting *behavior*, that leads to disordered eating outcomes
- Haynos et al. (2015) propose a matrix in which *low or high dieting behavior* interact with *negative or positive psychological approaches* to yield different dieting outcomes:
  - **Effective weight management** (high behavior, positive approach): healthy weight loss
  - **Ineffective weight management** (low behavior, positive approach): no weight loss or eating disorder
  - **Restrictive weight control** (high behavior, negative approach): restrictive eating disorders
  - **Paradoxical weight control** (low behavior, negative approach): restricting and binge eating



Caveats and Cautions

- Most weight loss trials have not investigated the impact on eating disorder symptoms at all
- Very few weight loss trials have examined the long-term impact on eating disorder symptoms
- Individuals with eating disorders typically have been excluded from weight loss studies
- Existing research has examined eating disorder symptoms across groups
    - May mask negative effects for especially at-risk individuals

Future Directions

- More research is needed to understand:
    - The long-term effects of weight loss programs on eating disorder symptoms
    - The specific dieting behaviors and attitudes that have negative effects on eating disorder symptoms
    - Whether *certain individuals* are at elevated risk of eating disorders following dieting
    - The effects of dieting on individuals with current or past eating disorder

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