VA WOMEN'S HEALTH RESEARCH NETWORK

Supporting Practice and Research Collaboration

Spotlight on Women's Health Cyberseminar Series

Emerging Evidence on Eating Disorders Research: A Focus on Women Veterans

Sponsored by the VA Women's Health Research Network

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Today's Speakers

Karen S. Mitchell, PhD
Clinical Research Psychologist,
NCPTSD, Boston VAHCS,
Associate Professor, Psychiatry at Boston University
Chobanian & Avedisian School of Medicine
Speaker

Robin M. Masheb, PhD
Director, Veterans Initiative for Eating and
Weight, Connecticut VAHCS
Professor of Psychiatry, Yale School of Medicine
Speaker

Today's Discussants

Joanna Dognin, PsyD
Lead Faculty, National Eating Disorders Team,
Office of Mental Health and Suicide Prevention
Discussant

Jennifer Strauss, PhD
National Lead and Women's Health Program Manager,
Office of Mental Health and Suicide Prevention, VA Central Office
Discussant

Characterizing Eating Disorders in Veterans

Karen Mitchell, PhD

Clinical Research Psychologist

National Center for PTSD, VA Boston Healthcare System

Associate Professor

Department of Psychiatry, Boston University Chobanian & Avedisian School of Medicine

Content Outline

- Eating disorders (EDs) background
- EDs in veterans
- Risk for EDs among veterans
- Comorbidity
- EDs in diverse samples
- Screening for EDs
- Discussion

Background: Eating Disorders Defined

- Anorexia nervosa (AN): extremely low weight, restricting or binge/purge subtype
- Bulimia nervosa (BN): eating binges followed by inappropriate compensatory behaviors
- Binge eating disorder (BED): eating binges not accompanied by compensatory behaviors
- Other Specified Feeding/Eating Disorder (OSFED)
  - E.g., subthreshold AN, BN, or BED; purging in the absence of bingeing

APA, 2013

Avoidant/Restrictive Food Intake Disorder (ARFID)

- Eating disturbance as manifested by persistent failure to meet appropriate nutritional/energy needs associated with ≥ 1:
  - Significant weight loss
  - Significant nutritional deficiency
  - Dependence on enteral feeding or supplements
  - Marked interference with psychosocial functioning
- Not explained by lack of available food or cultural practice
- Does not occur during AN or BN; no body image disturbance
- Not attributable to another medical or mental health condition

Prevalence

- 9% of the U.S. population (28.8 million Americans) will have an ED in their lifetimes
  - All genders, races, ages, sexual orientations
- 10,200 deaths per year result directly from EDs
  - 1 death every 52 minutes

Streatfield et al., 2021

Cost of Eating Disorders

- Yearly total economic cost: $64.7 billion
  - Productivity losses
  - Informal care
  - Efficiency losses
  - Health system
- Additional loss of well-being: $326.5 billion

Streatfield et al., 2021

Eating Disorders Historically Understudied in Veterans

- Majority male population
- Early studies in the 1990s found prevalence estimates of 0.30% and 0.02% among female and male hospitalized VA patients

Striegel-Moore et al., 1999

Growing Recognition and Possibly Increased Rates of EDs

- Defense Medical Epidemiology Database: incidence of EDs in the military increased from 1998-2006
  - Rate of ED diagnoses increased from 0.23% in 1998 to 0.41% in 2006
  - Increasing numbers of female recruits, younger generation
- Millennium Cohort Study: 3.9% of men and 5.2% of women endorsed BN, BED, or subthreshold BN or BED

Antczak & Brininger, 2008
Jacobson et al., 2009

National Sample of Veterans (*N* = 1,187)

	Total	Women	Men	White	Black	Latinx	19-29	30-39	40-49	50-59	60-69	≥ 70
Bulimia Nervosa	0.8%	2.3%	0.4%	0.9%	0.2%	0%	0.8%	1.8%	0.2%	0.9%	0.5%	0%
Binge Eating Disorder	2.8%	5.2%	2.2%	3.4%	0%	2.6%	2.7%	1.5%	6.1%	4.1%	1.1%	0.4%
Atypical Anorexia Nervosa	3.3%	6.9%	2.9%	2.2%	2.2%	12.2%	15.3%	1.1%	5.7%	4.3%	1.3%	1.4%
Subthreshold BN	0.02 %	0.2%	0	0.04%	0%	0%	0%	0.2%	0%	0%	0%	0%
Subthreshold BED	0.1%	0.9%	0	0.16%	0%	0%	0%	0.5%	0%	0.1%	0.06%	0%
Any ED	9.8%	18.3%	8.5%	8.0%	9.7%	22.5%	25.0%	9.6%	19.3%	11.9%	3.1%	2.6%

More recent prevalence estimates: Rates are possibly elevated among veterans

Mitchell et al., 2021

Why are EDs elevated among Veterans?

- Military weight requirements may lead some service men and women to engage in unhealthy weight-loss strategies
  - Failure to meet standards can result in lack of promotion, not being authorized to attend military schools, or discharge from service
- New onset EDs were associated with history of being on a diet for weight loss among male and female service members (Millennium Cohort)
- Among active duty women, participants identified Army weight and fitness requirements as contributors to their disordered eating
- Military facilitates poor eating habits: eating quickly, erratic meal schedules, unhealthy meal choices

U.S. Army 2013
Breland et al., 2017

Lauder, 1999
Jacobson et al., 2009

Weight Discrimination

Weight discrimination: mistreatment of people based on body weight

Post-9/11 Veteran sample: women were more likely to report weight discrimination and had higher levels of current weight/shape concerns and ED symptoms than men

Weight discrimination during military service and since separating from the military were associated with current weight/shape concerns and ED symptoms in both men and women

Zhao et al., 2023

Articles in the Media

- Body composition standards are harmful to women
- BMI is problematic
- Current standards were not developed for today's service members, particularly women
- Body fat percentage intended to serve as a "safety net" to account for muscularity
- Butt measurement may skew the "tape test"

The DoD's Body Composition Standards Are Harming Female Service Members | Military.com

Articles in the Media

- "We are all suffering in silence"
- Female service members engage in disordered eating to pass the tape test
- Taking drastic measures before weigh-ins is common
- "The perfect storm"
- Typical ED risk factors plus military-specific triggers (trauma, weight/fitness requirements)

Inside the US military's pervasive culture of eating disorders (taskandpurpose.com)

Why would Veterans have high rates of EDs?

- Military service members and veterans have high rates of trauma (pre-military, military, and post-military)
  - Trauma and PTSD are associated with EDs in the general population
- PTSD at baseline was associated with new onset EDs in the Millennium Cohort Study
- Military sexual trauma (MST) has been associated with EDs in male and female post-9/11 VA patients and female VA patients
- Military-related trauma associated with ED symptoms in female VA patients and a national sample of male veterans

Cuthbert et al., 2020
Mitchell et al., 2016

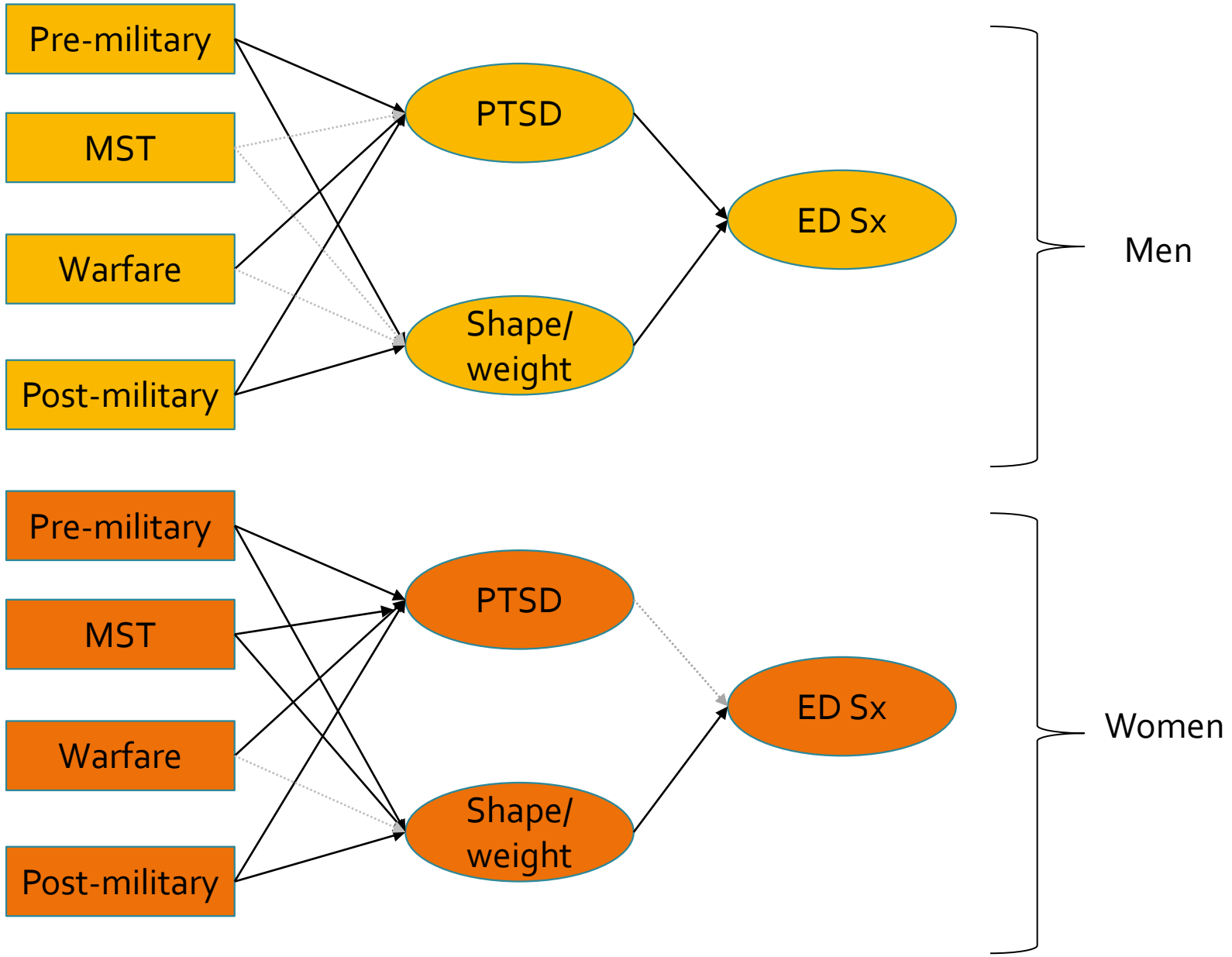
Arditte Hall et al., 2017, 2018
Breland et al., 2018

Trauma and ARFID vs. Other EDs in Post-9/11 Veterans

	ARFID only (%) n=155	ED only (%) n=282	No ED (%) n=882
Witnessed DV	32.4	32.7	20.1
Physical punishment	41.4	43.4	27.1
Child sexual abuse	18.7	16.0	9.2
Adult sexual assault	15.1	9.4	3.8
Witnessed violence	24.5	15.5	12.3
Child physical assault	17.8	19.5	9.0
Adult physical assault	19.5	22.2	11.5
Lifetime IPV	37.5	47.6	28.9
Warfare exposure	19.0	29.0	22.0
Military sexual trauma	33.0	41.1	26.9

Mitchell et al., under review

Trauma/PTSD and EDs



Zelkowitz et al., 2022

Comorbidity: Post-9/11 Veterans with EDs

	Women (%)	Men (%)	Other gender (%)	Total (%)
Major depressive episode	73.7	55.7	65.6	62.6
Panic disorder	30.4	26.8	65.6	28.9
Social anxiety	32.5	33.6	100.0	34.4
Generalized anxiety disorder	57.2	47.9	100.0	52.3
Agoraphobia	16.7	21.2	34.4	19.8
Obsessional Compulsive Disorder	17.9	22.7	0.0	20.5
PTSD	57.2	53.7	100.0	55.9
Alcohol use disorder	12.7	20.4	0.0	17.1
Substance use disorder (any)	3.6	9.0	0.0	6.8

Cooper et al., in progress

Eating Disorders in Diverse Samples

- More common among women
  - Population-based samples: ~25% of cases men
- Clinical samples: EDs thought to be more prevalent among White women
  - Nationally representative studies: few racial/ethnic differences
  - People of color less likely to seek or be referred for treatment
- EDs understudied in middle-aged populations
  - May re-emerge, persist, or develop

Hudson et al., 2007
Mitchell et al., 2012
Becker et al., 2003
Wiseman et al., 2001

EDs in diverse groups of veterans

- Rates of EDs among participants aged 19-29 and 40-49 were higher than among other groups in a national sample of veterans
- Bisexual female veterans in a national sample of post-9/11 veterans had higher rates of disordered eating and related impairment compared to heterosexual female veterans
- Rates of EDs in a national sample of male and female veterans did not differ by race (White or Black) or ethnicity

Serier et al., 2022

Mitchell et al., 2021

Eating Disorder Measures in a National Sample of Veterans

- Eating Disorder Diagnostic Scale-5
  - 18.6% of women and 8.5% of men screened positive
  - Items evaluating fasting and exercise may be problematic
- Eating Disorder Examination-Questionnaire
  - 32.0% of women and 25.2% of men screened positive
- SCOFF
  - 21.6% of women and 11.1% of men screened positive

Mitchell et al., 2021

Eating Disorder Measures in Post-9/11 Veterans

- Eating Disorder Examination-Questionnaire (7 item version)
  - Gender-specific cutoffs: 84% sensitivity and specificity
  - 31.7% of women and 23.8% of men screened positive
- SCOFF
  - 75% sensitivity, 94% specificity
  - 25.7% of women and 11.2% of men screened positive

Mitchell et al., in progress

National Sample of Post-9/11 Veterans: Diagnostic Interviews (*n* = 91)

	Survey	Interview
Anorexia Nervosa	0.02%	0.01%
Bulimia Nervosa	0.9%	0.6%
Binge Eating Disorder	2.6%	1.4%
OSFED	--	1.6%
Atypical Anorexia Nervosa	2.3%	--
Subthreshold BN	0.04%	--
Subthreshold BED	0.3%	--
UFED	--	1.6%
Any eating disorder	7.9%	5.2%

Discrepancy between survey and interview: restriction?

Mitchell et al., 2022;
Cooper et al., in progress

Veteran Screening Preferences

- Veterans were amenable to screening for EDs
- There were few gender differences in screening preferences or differences between participants with and without probable EDs
- A higher proportion of men reported that they were likely to discuss their experiences with the provider, compared to women
- To optimize the utility of ED screening, clinicians should emphasize confidentiality, be knowledgeable about treatment and referral options, and be non-judgmental

Hardin et al. 2022

Discussion

EDs are costly and deadly and impact individuals across demographic groups

EDs are associated with high levels of comorbidity and healthcare costs

EDs are significant issues for Veterans

There are treatment options available in VHA!

Many thanks!

- Karen.Mitchell5@va.gov

Weight Management Treatment and CBT for BED

Robin M. Masheb, PhD

Director, Veterans Initiative for Eating and Weight, VACHS

Professor of Psychiatry, Yale School of Medicine

February 29, 2024

Who Am I and What is the VIEW?

Veterans Initiative for Eating and Weight

THE VIEW

- *Research, Consultation & Training*
- *Dissemination & Outreach*
- *No Conflicts*

Veterans Initiative for Eating and Weight THE VIEW

My Journey and agenda for today …

Weight mgt & ED

Warren Alpert Medical
School of Brown University

Efficacy Trials

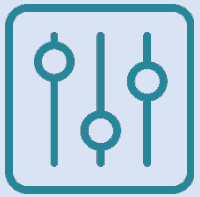
Yale School of Medicine

Effectiveness/Pragmatic Trials

VA CT Healthcare System

DSM-5 BED Evolution

Size



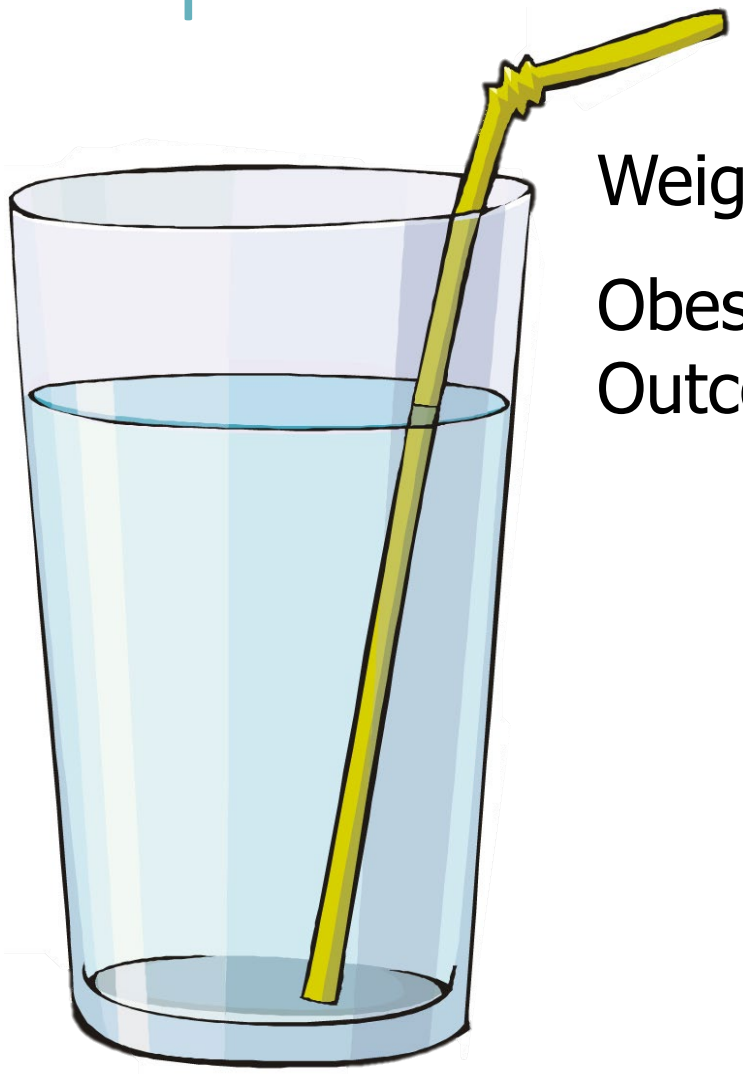
Control

Regular

Duration

Distress

The Eating Disorder/Psychiatric vs. Obesity/Public Health Perspective



Weight loss

Obesity-related Outcomes

Binge eating and ED Outcomes

Psychiatric Outcomes

The controversy and why focus on weight?

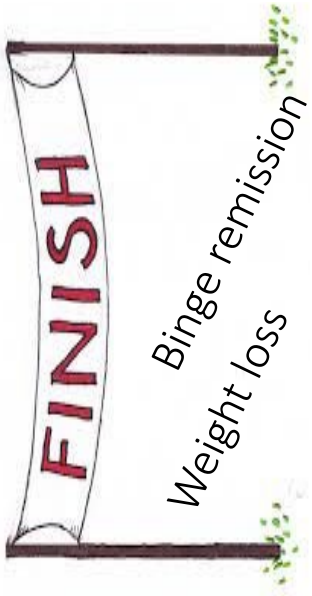
Patients want to lose weight and are motivated to initiate treatment

Trained clinicians can work with patients to focus on health, functioning and well-being while minimizing harm and stigma

Set realistic expectations for weight change and focus on benefits of small weight losses

If we don’t develop and make available evidence-based treatments, patients use dangerous behaviors in attempts to lose weight loss tactics

CBT & Behavioral Weight Loss for BED



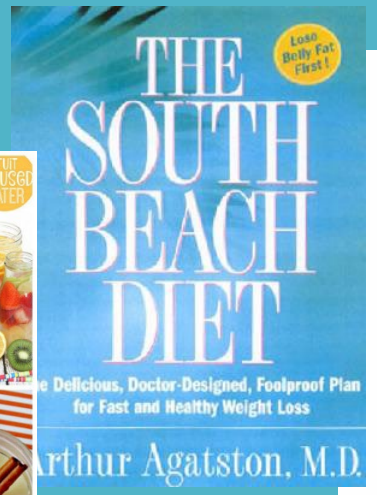
Grilo, C. M., Masheb, R. M., Wilson, G. T., Gueorguieva, R., & White, M. A. (2011). Cognitive-behavioral therapy, behavioral weight loss, and sequential treatment for obese patients with binge-eating disorder: a randomized controlled trial. *Journal of consulting and clinical psychology*, *79*(5), 675–685. https://doi.org/10.1037/a0025049

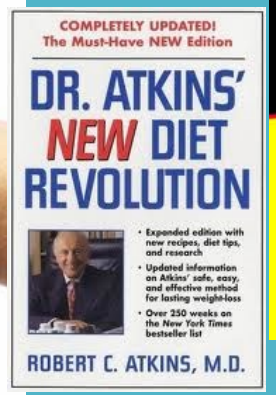
Behavioral Research for Binge Eating Disorders in a Nutshell

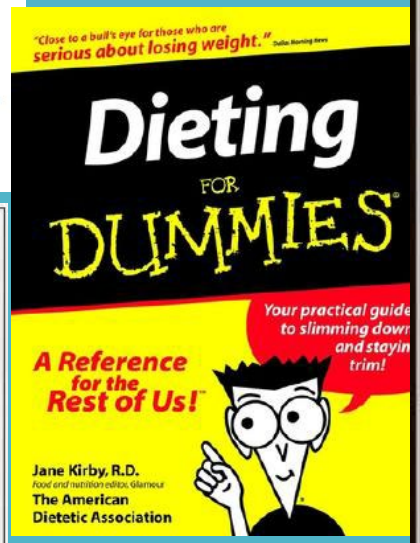
- Binge remission rates & dose response
- CBT* vs. BWL; others
- Minimal to no weight loss
- Binge remitted best weight loss outcomes
- Durability

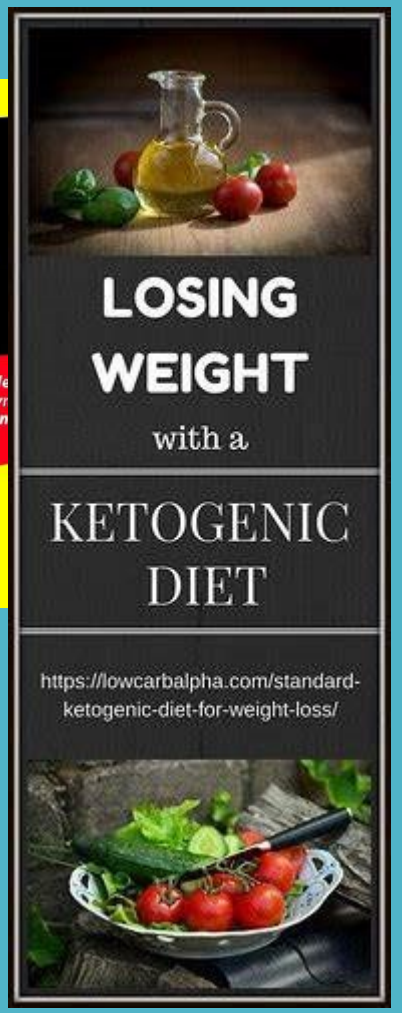
Wilson, Grilo & Vitousek (2007). Psychological treatment of eating disorders. American Psychologist, 62, 199-216.
Reas & Grilo (2008). Review and meta-analysis of pharmacotherapy for binge-eating disorder, Obesity, 16, 2024-2038.

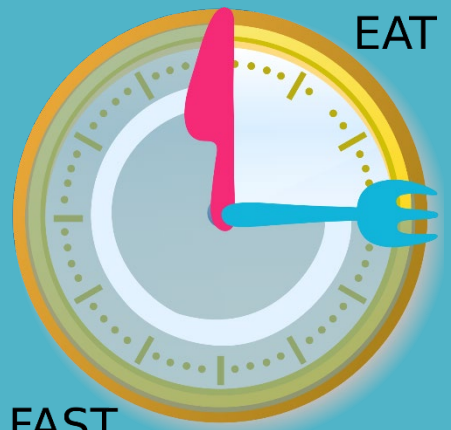
What is a diet anyway?

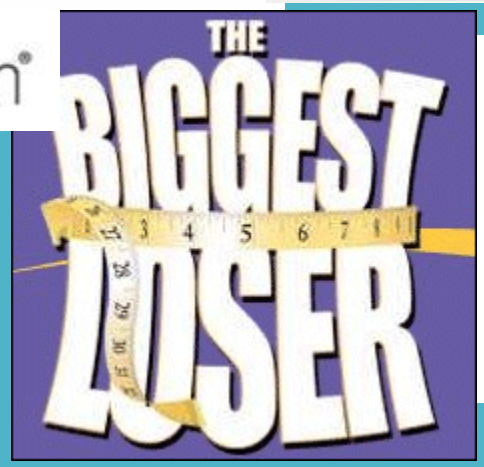


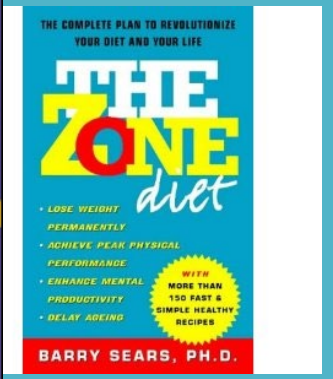




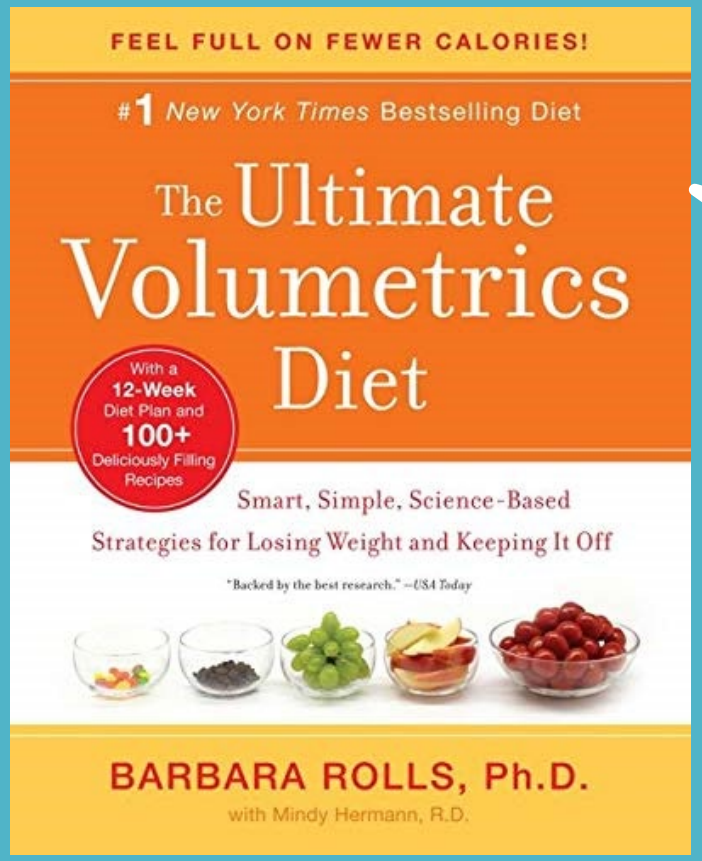








Could a low-energy dense diet that promotes food volume help BED?



¼ c raisins = 100 calories

VS.

2 c grapes = 100 calories

Rolls, Roe & Meengs (2004). Salad and satiety: Energy density and portion size of a first-course salad affect energy intake at lunch, Journal of the American Dietetic Association, 104, 1570-1576.

Rolls, Roe, Beach, & Kris-Etherton (2005). Provision of foods differing in energy density affects long-term weight loss. Obesity Research, 13, 1052-1060.

CBT and Dieting in BED

PI: Masheb

Aim: To develop a treatment that addresses both obesity and binge eating

Results

Low-energy dense diet did not interfere with outcomes	The treatments did equally well	Low-energy adherence was related to lower caloric intake

Masheb RM, Grilo CM, Rolls BJ. A randomized controlled trial for obesity and binge eating disorder: Low-energy-density dietary counseling and cognitive behavioral therapy. Behav Res Ther. 2011, 49, 821-829. PMCID: PMC3223390

Eating Disorder Misperceptions

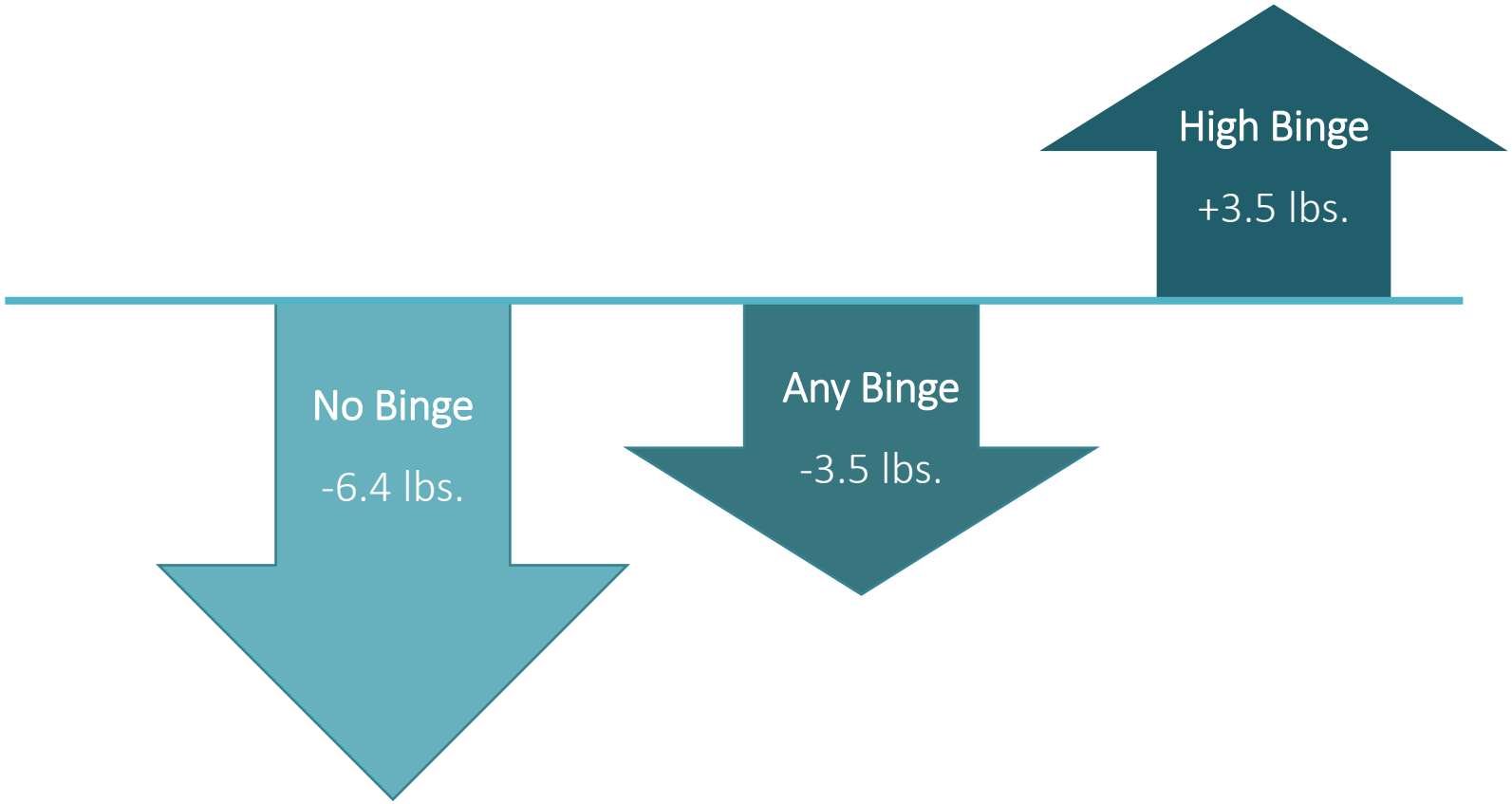
Raising Awareness

Binge Eating and BED in Veterans

- 78% of MOVE! referrals have regular binge episodes and associated comorbidities
- VHA users with BED have 73% higher healthcare costs and utilization

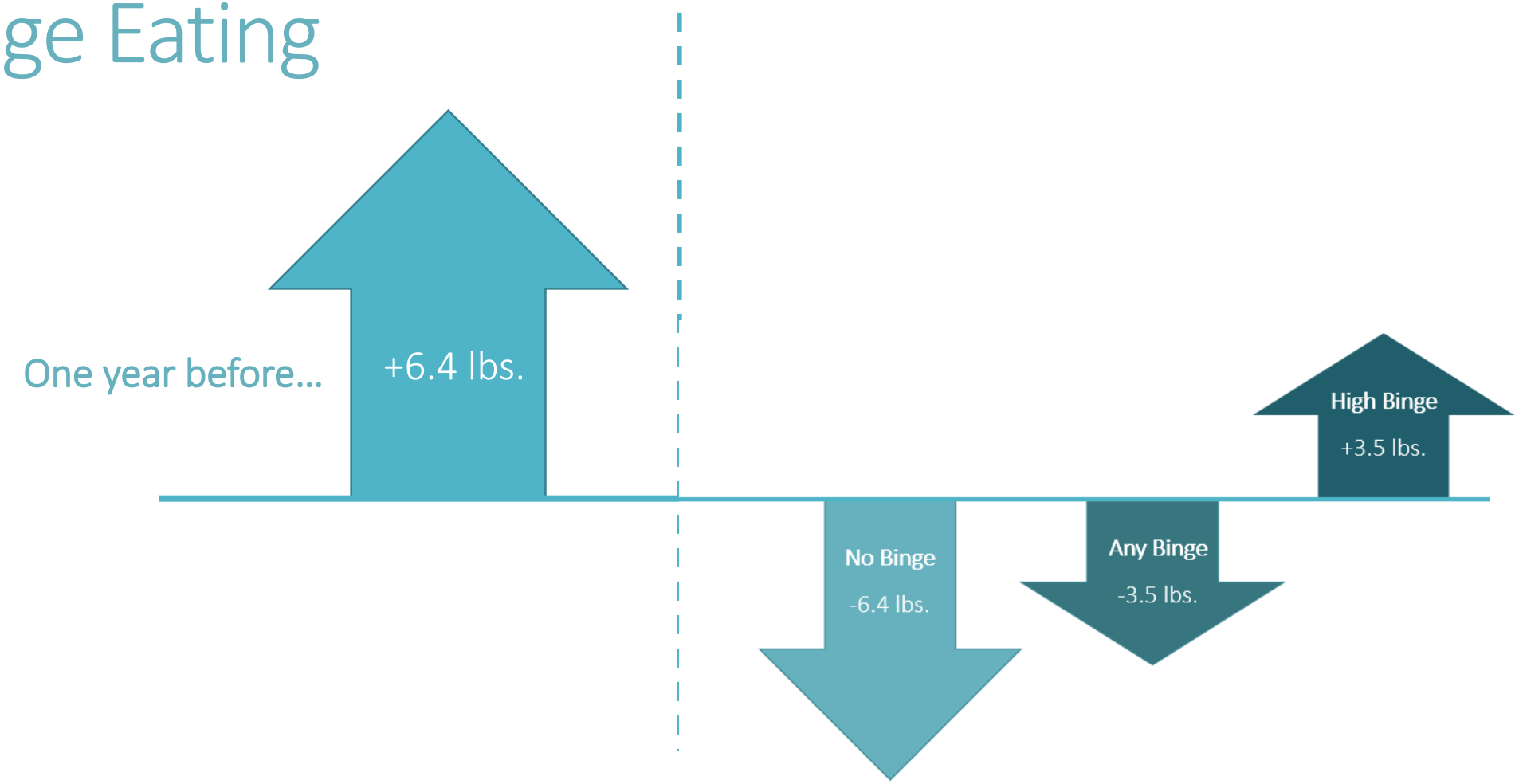
Higgins DM, Dorflinger L, MacGregor KL, Heapy AA, Goulet JL, Ruser C. Binge eating behavior among a national sample of overweight and obese veterans [published correction appears in Obesity (Silver Spring). 2014 Aug;22(8):1935-6]. *Obesity (Silver Spring)*. 2013;21(5):900-903.
Bellows, B. K., DuVall, S. L., Kamauu, A. W., Supina, D., Babcock, T., & LaFleur, J. (2015). Healthcare costs and resource utilization of patients with binge-eating disorder and eating disorder not otherwise specified in the Department of Veterans Affairs. *The*

MOVE!/Small Changes Study: Binge eating predicts weight change in Veterans



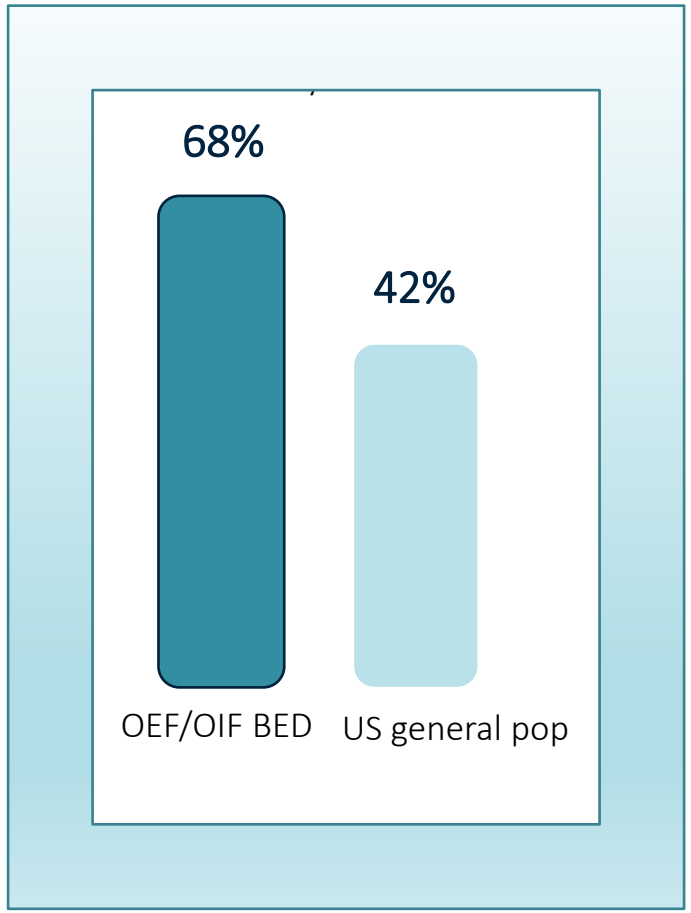
Masheb RM, Lutes LD, Kim HM, et al. High-frequency binge eating predicts weight gain among veterans receiving behavioral weight loss treatments. *Obesity (Silver Spring)*. 2015;23(1):54-61. doi:10.1002/oby.20931

Weight Change May Decelerate Weight Gain for Binge Eating



Masheb RM, Lutes LD, Kim HM, et al. High-frequency binge eating predicts weight gain among veterans receiving behavioral weight loss treatments. *Obesity (Silver Spring)*. 2015;23(1):54-61. doi:10.1002/oby.20931

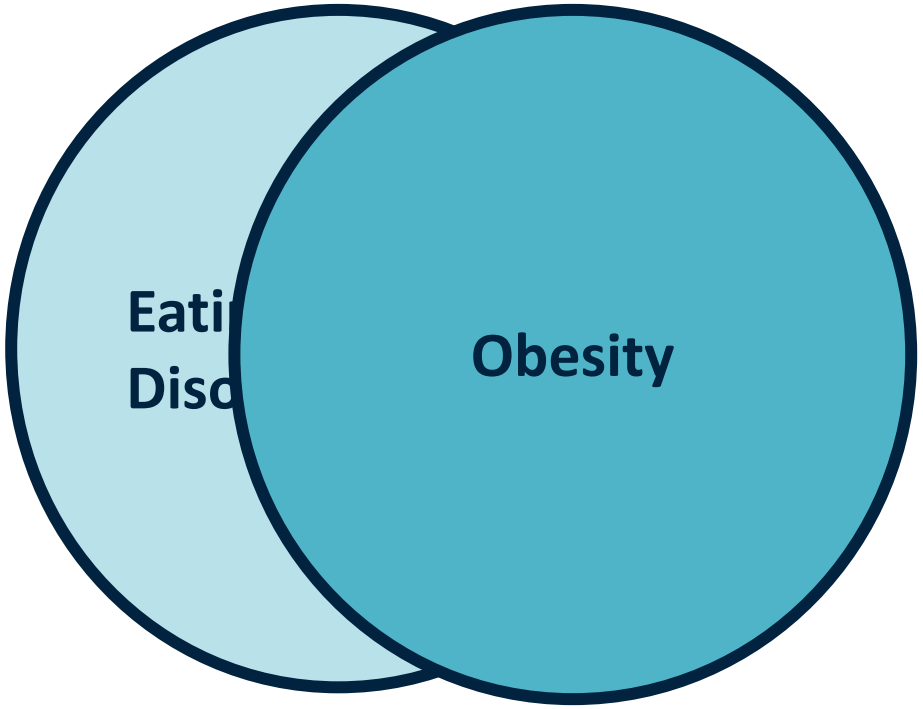
OEF/OIF Veteran BMI & Obesity



Eating Disorder	Mean BMI
Atypical Anorexia	28.8
Bulimia	31.4
Binge Eating Disorder	33.0

Robin M. Masheb, PhD, Christine Ramsey, PhD, Alison G. Marsh, BA, Suzanne E. Decker, PhD, Shira Maguen, PhD, Cynthia A. Brandt, MD, and Sally Haskell, MD· DSM-5 Eating Disorder Prevalence, Gender Differences, and Mental Health Associations in United States Military Veterans *Int'l J Eating Disorders, 2021*

Barriers & Gaps



- Limited effectiveness / pragmatic trials
- Few men in trials
- Lack of diversity
- No trials in VA / few in health systems

Palavras, M. A., Hay, P., Filho, C. A., & Claudino, A. (2017). The Efficacy of Psychological Therapies in Reducing Weight and Binge Eating in People with Bulimia Nervosa and Binge Eating Disorder Who Are Overweight or Obese-A Critical Synthesis and Meta-Analyses. *Nutrients*, *9*(3), 299. https://doi.org/10.3390/nu9030299

Developing and Testing Evidence-Based Treatment in VA

MOVE! Binge Study

Question:

- Should Veterans with **BED** go to **MOVE!**?
- Does CBT **improve ED** and **weight outcomes**?

VA Health Services Research & Development Service
HSR&D

PI: Masheb

Study Design

GROUPS: MOVE! + CBT vs. MOVE! Only

SAMPLE: 109 Veterans (oversampled women)

Pre-(n=40) vs. post-pandemic (n=69) cohorts

OVERALL DESIGN:

-Recruitment methods

-9 CBT sessions

-Assessment Points

-Training/treatment adherence

-Primary, secondary, and exploratory outcomes

Baseline Results

Sample Characteristics	N=109
Female	25.0%
White	84%
Age	55.8
Married	52.3%
BMI	37.8 (6.8 SD)
Weight	254 lbs (52.0 SD)
+ PCL Criteria-A	74.1%
+ AUDIT-C	22%
Avg. monthly binge frequency	21.5 binges
PHQ-9	8.9 (6.1 SD) (low moderate)

Early Findings

- Eating pathology improved for both groups over time
- Eating pathology improved significantly more for those who additionally got CBT
- Reductions in binge eating improved for both groups over time at about similar rates

Group	# Binges/month Baseline	# Binges/month Post-Treatment
MOVE! Only	21	<7
MOVE! + CBT	22	<5

Stay Tuned…

- We'll come back to discuss improvements in depression, PTSD, and quality of life, and changes in weight.
- And discuss ways in which the treatments had similar and differing effects in the short-term and over time.

Thank you!

The *VIEW* Team

Funders: VA HSR&D, DoD, NIH

The PRIME Center & VACT Research Office

VA Central Offices:

- NCP MOVE! Program
- Office of Mental Health & Suicide Prevention
- Office of Women's Health Services
- Office of Connected Care|TeleHealth

VA Collaborators: VA San Diego

- VA San Francisco
- VA Central Western MA
- VA Boston
- VA Ann Arbor

And of course, our Veterans!!!

Veterans Initiative for Eating and Weight — The View

If you would like to help…

Email:
Lindsay.Munro@va.gov

PI: Masheb

New virtual BED and BN Study

Questions:

Does a Veteran-adapted CBT **improve ED outcomes**?

Does virtual, **clinician-led CBT** work better than **self-help**?

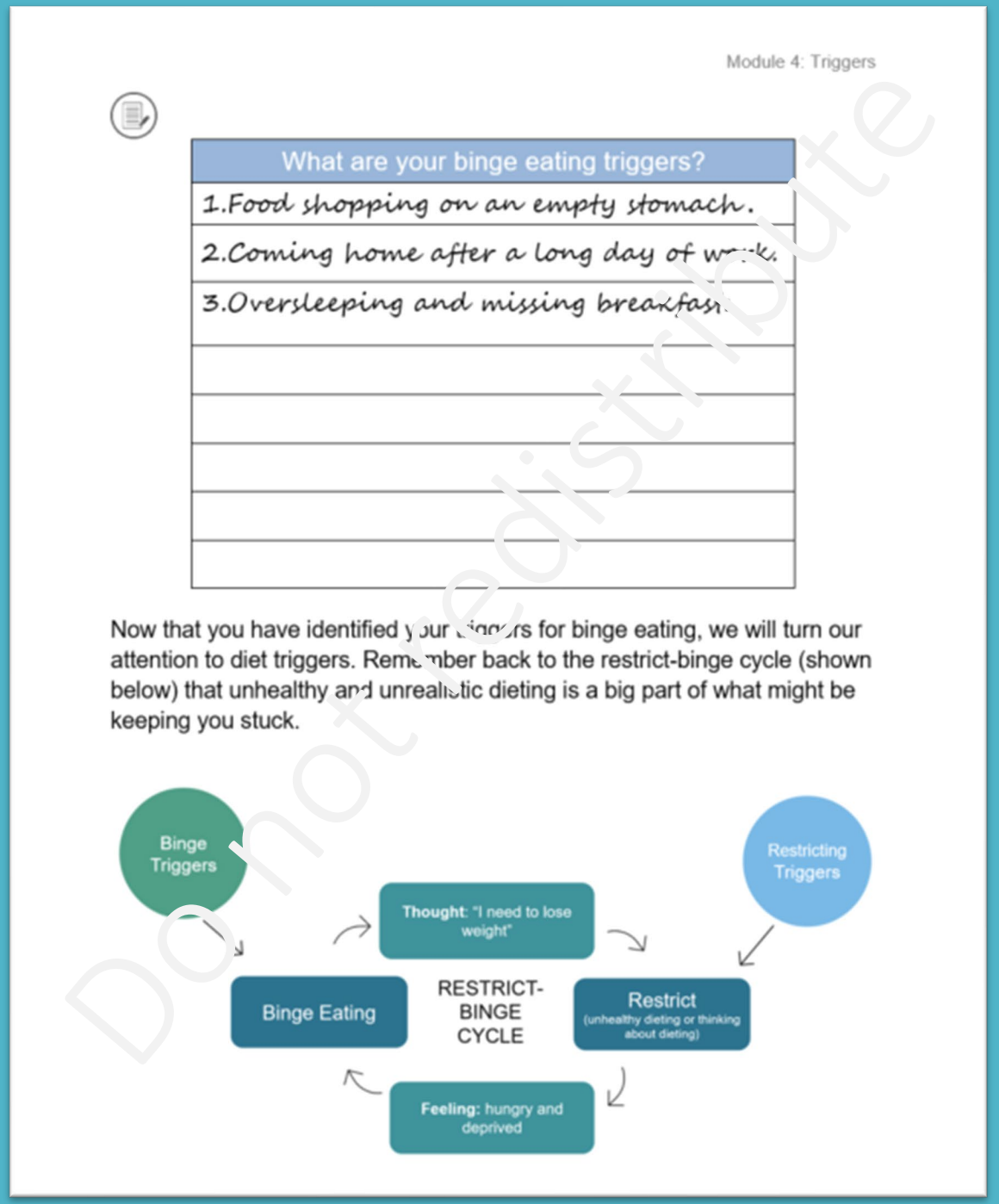
Design:

Effectiveness of **virtual CBT vs. self-help CBT**

Masheb RM, Grilo CM, Rolls BJ. A randomized controlled trial for obesity and binge eating disorder: Low-energy-density dietary counseling and cognitive behavioral therapy. Behav Res Ther. 2011, 49, 821-829. PMCID: PMC3223390

CBT Adaptations

- ✓Binge eating spectrum
- ✓Manualized
- ✓Reducing stigma
- ✓Veteran-centered
- ✓Reading level
- ✓Diverse photos
- ✓Trauma-informed
- ✓Dashboard



Module 4: Triggers

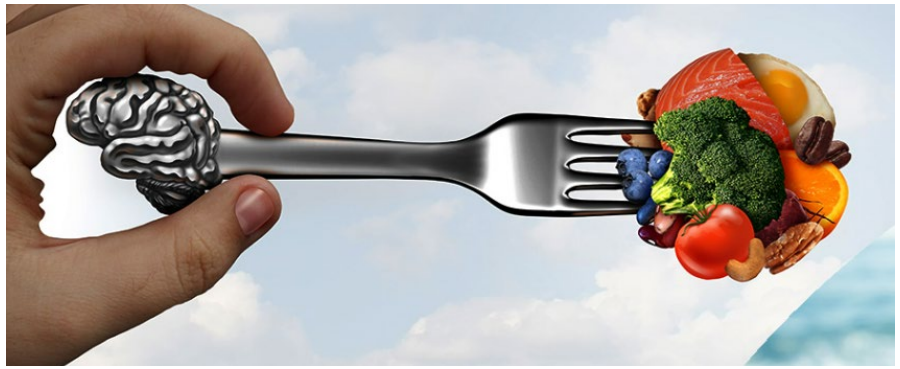
What are your binge eating triggers?
1.Food shopping on an empty stomach.
2.Coming home after a long day of work.
3.Oversleeping and missing breakfast.

Now that you have identified your triggers for binge eating, we will turn our attention to diet triggers. Remember back to the restrict-binge cycle (shown below) that unhealthy and unrealistic dieting is a big part of what might be keeping you stuck.

National Eating Disorders Team

Overview

- Eating disorders (ED) are a collection of signs and symptoms that involve maladaptive thinking and behavior related to eating and weight.
- The *National Eating Disorders Team* (housed within the *Office of Mental Health & Suicide Prevention*) provides training and ongoing consultation to develop outpatient, multidisciplinary ED teams within VHA.



National Eating Disorder Team Resources

- 88 trained, specialty ED teams that offer:
  - Evidenced based outpatient treatments for EDs
  - Care consistent with Joint Commission standards for outpatient eating disorders treatment programs (JC Standards)
  - Service delivery in a multidisciplinary team (medical, mental health & nutrition)

Links to resources

Eating Disorders SharePoint	Multidisciplinary Teams
Understanding Eating Disorders	Levels of Care Tip Sheet

Get Involved!

- ✓ **Subscribe to the VA WHRN Listserv** at https://www.research.va.gov/programs/womens_health/listserv.cfm

- ✓ **Contact** Adriana Rodriguez, PhD, WHRN Consortium Program Manager, at Adriana.Rodriguez3@va.gov or Jessica Friedman, PhD, Jessica.Friedman@va.gov with ideas for future cyberseminars focused on women's health.

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