Beyond eating and exercise: Implementing trauma informed obesity care in SBHCs

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We have no disclosures or conflicts of interest.

Objectives

1. Discuss the physiologic and epigenetic changes that result from chronic stress, and their interrelationship with weight and metabolic health or cardiovascular risk factors
2. Analyze hidden barriers to traditional obesity preventions and identify alternative approaches in working with youth affected by trauma and economic insecurity.
3. Integrate interventions about stress and social determinants of health into primary care, behavioral health and health educator approaches to wellness in SBHC

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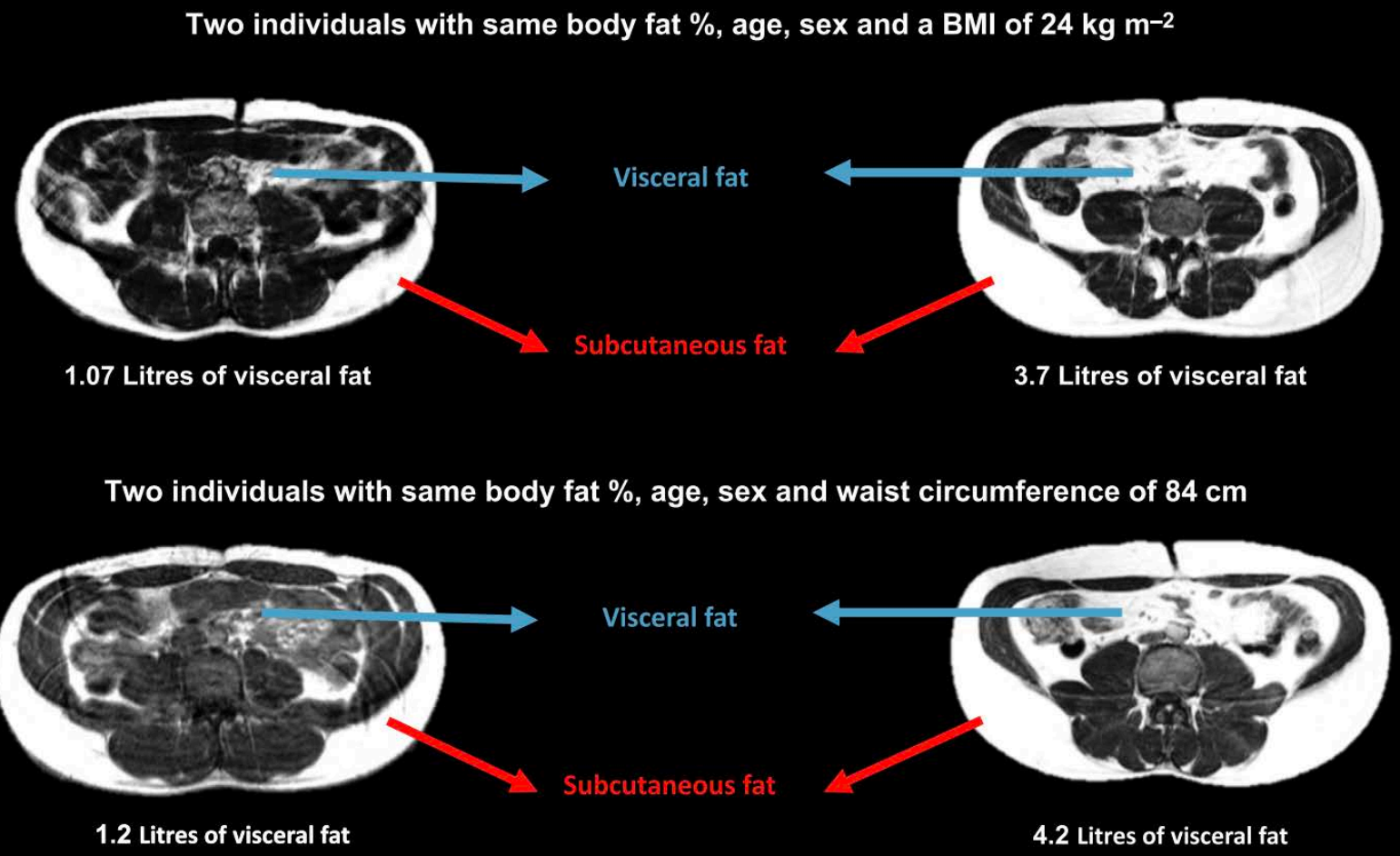
Overweight and Obesity in Youth: Rewriting the Etiology Narrative

Is Elevated BMI the Same as Obesity?

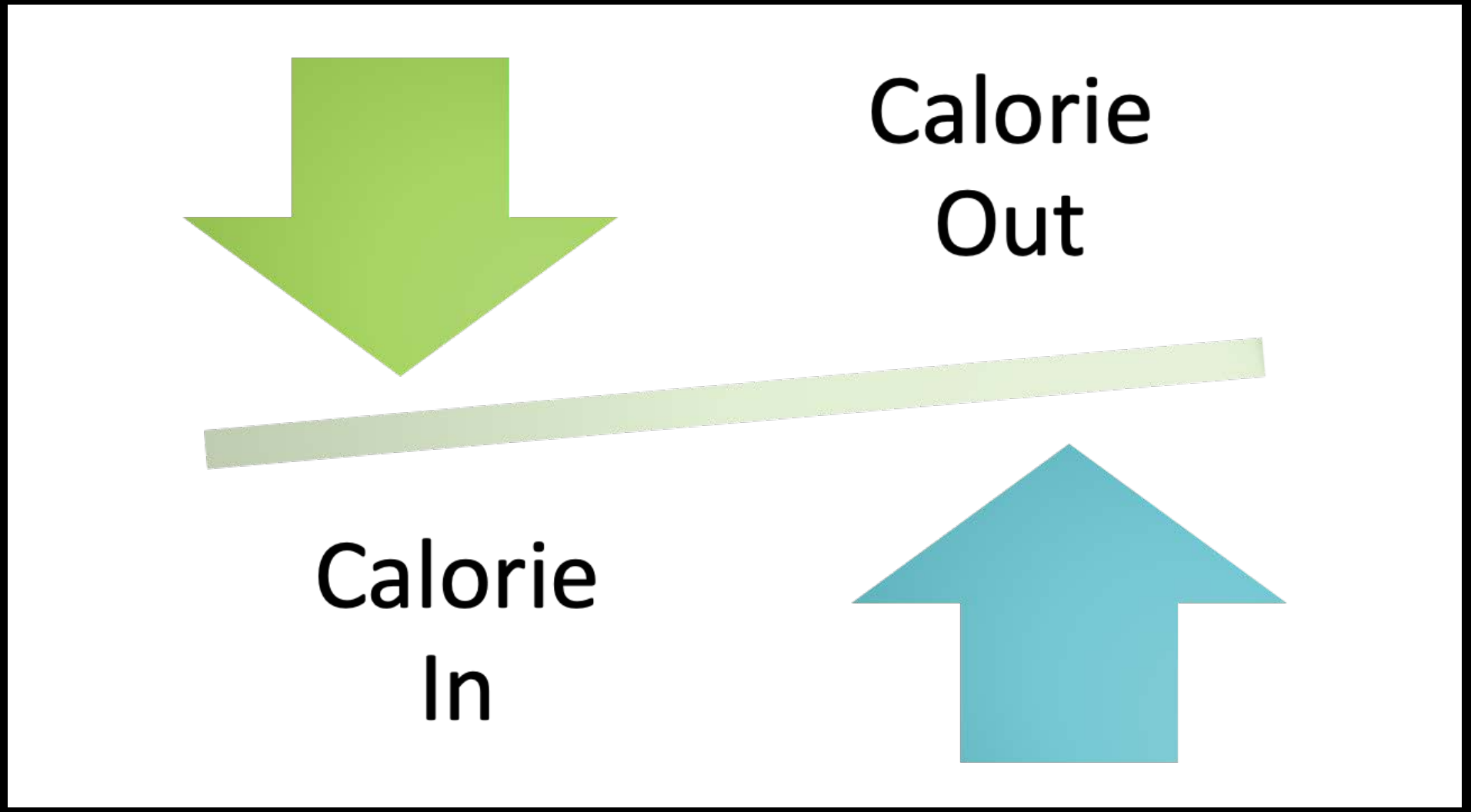
- Obesity: excess growth and expansion of adipocytes in the body
  - Two types: subcutaneous and visceral adipose tissue
- BMI reflects weight for height
  - Does not distinguish between muscle mass or subcutaneous versus visceral adiposity
  - More accurate reflection of adiposity in “obese” percentiles, than in the “overweight” percentiles in children
  - Has shown concordance with waist circumference (WC) in studies, which is thought to better capture visceral adiposity

BMI and WC as Measures of Adiposity

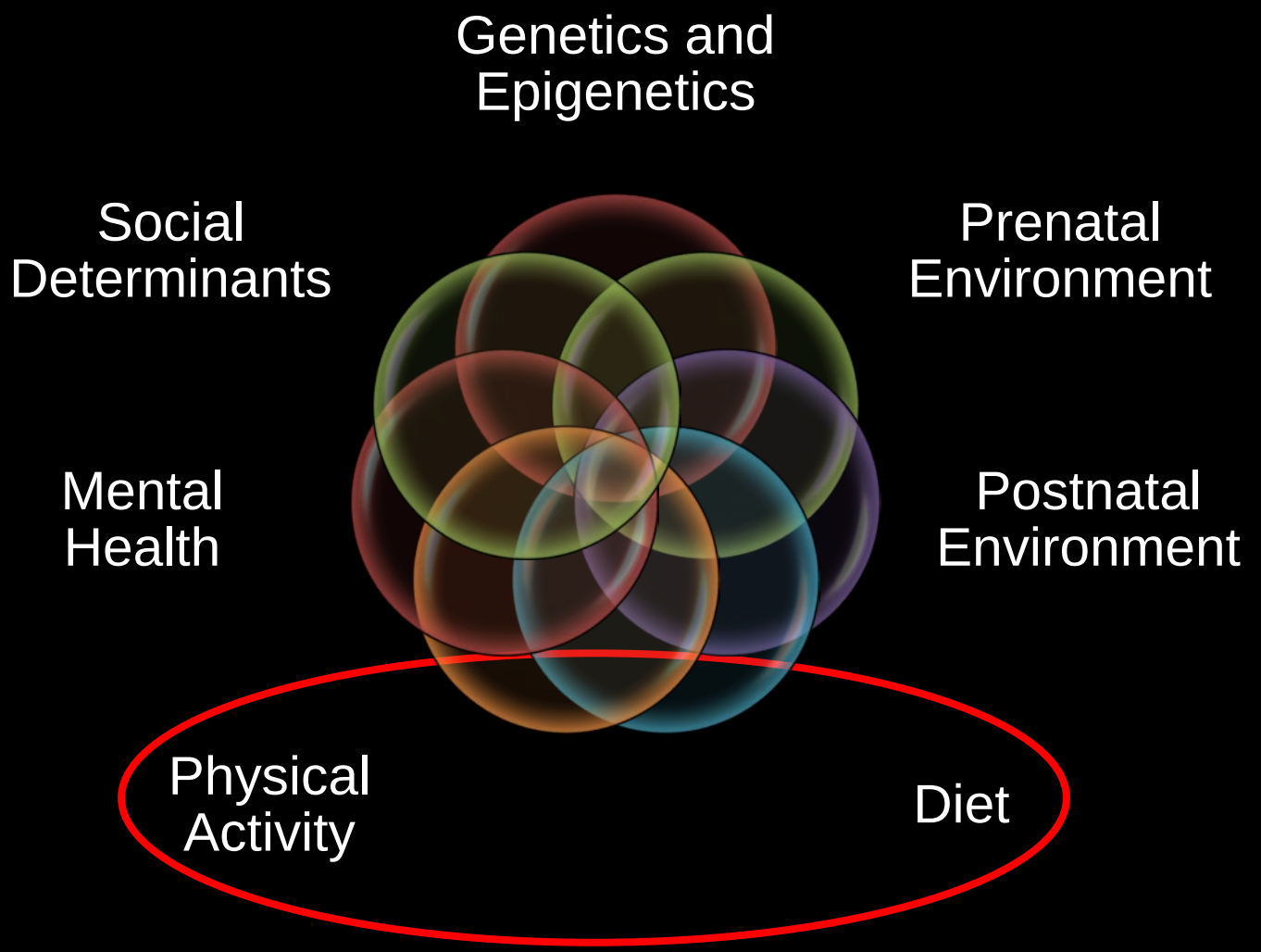


- Yaghootkar H, Whitcher B, Bell JD, Thomas EL. Ethnic differences in adiposity and diabetes risk - insights from genetic studies [published online ahead of print, 2020 May 4]. J Intern Med. 2020;10.1111/joim.13082.

Is it this simple?



Multifactorial Etiology of Weight Gain



How Effective are Diet/PA Interventions?

- Result in modest BMI decrease in children/adolescents in the short term
- Methodological rigor of most studies is weak or inconsistent and generalizability may be limited
- Most interventions require participation for at least one hour per week for at least 6 months to demonstrate BMI change; retention is a challenge
- Some studies demonstrate metabolic benefits even without BMI change
- Evidence for BMI change in socioeconomically disadvantaged children is limited
- Most agree family involvement is key component for success

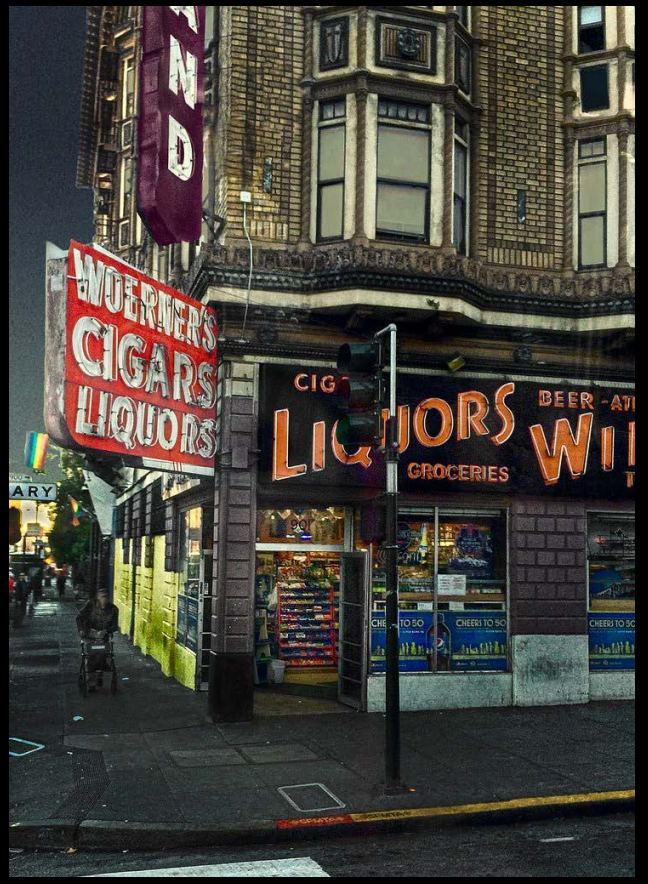
How to Address Other Contributing Factors

- Assess for and address social needs such as food and housing security
- Advocate for public policy and societal change that addresses systemic inequity and discrimination
- Integrate mental health support as a fundamental component of care

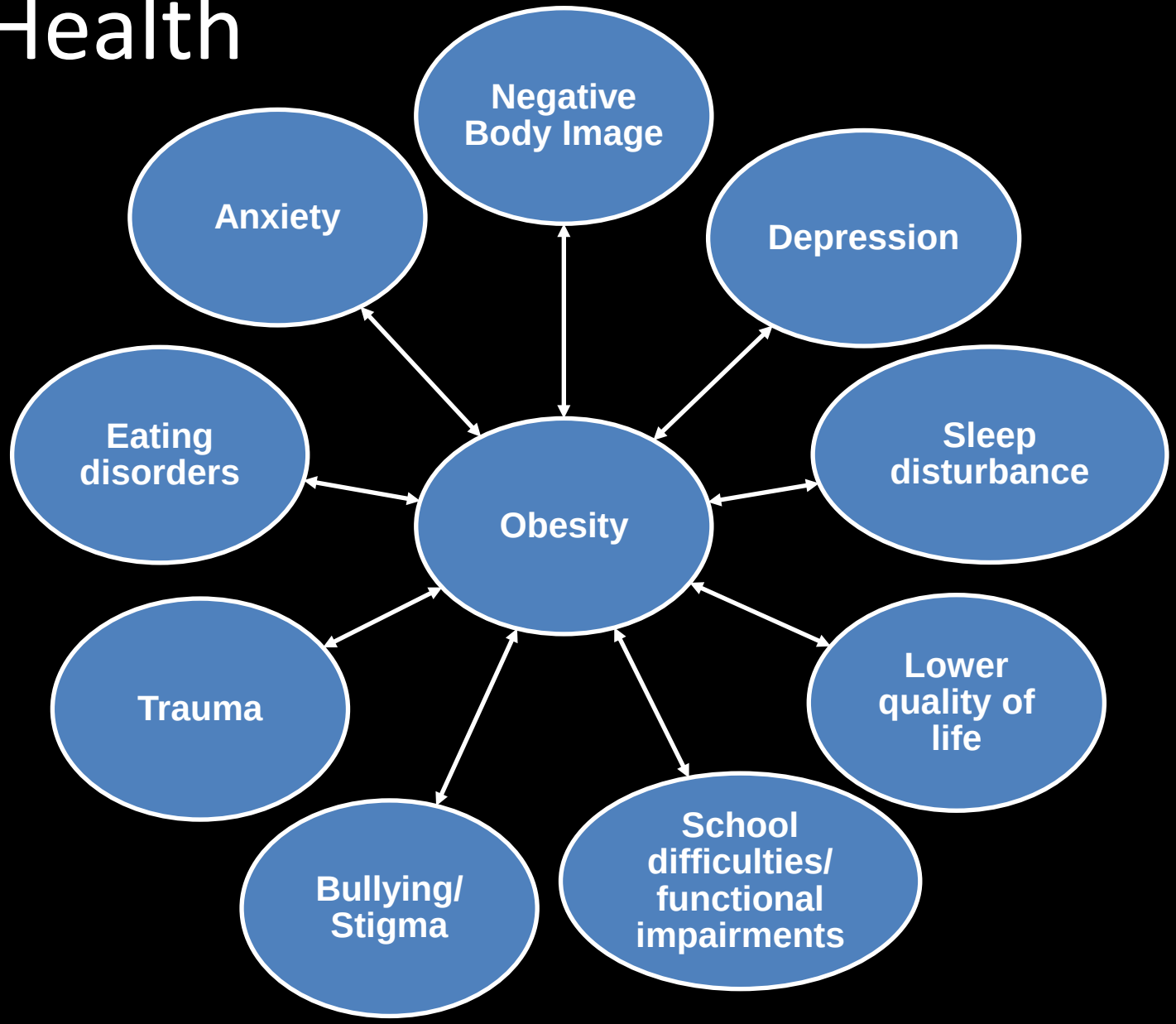
Personal photo – V. Keeton

Social Determinants

- Child's food "marketplace"
- Food deserts
- Built environment/safety
- Media
- Lobby interests
- Public Policy



Behavioral Health



Let’s Talk About Stress

Toxic Stress

- “Toxic stress can result from strong, frequent, or prolonged activation of the body’s stress response systems in the absence of the buffering protection of a supportive adult relationship.”

- Shonkoff, J. P., & Garner, A. S. (2012). The lifelong effects of early childhood adversity and toxic stress. *Pediatrics, 129*(1), e232-246. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/22201156

OR – the level/persistence/type of stress overwhelms even the most supportive parent

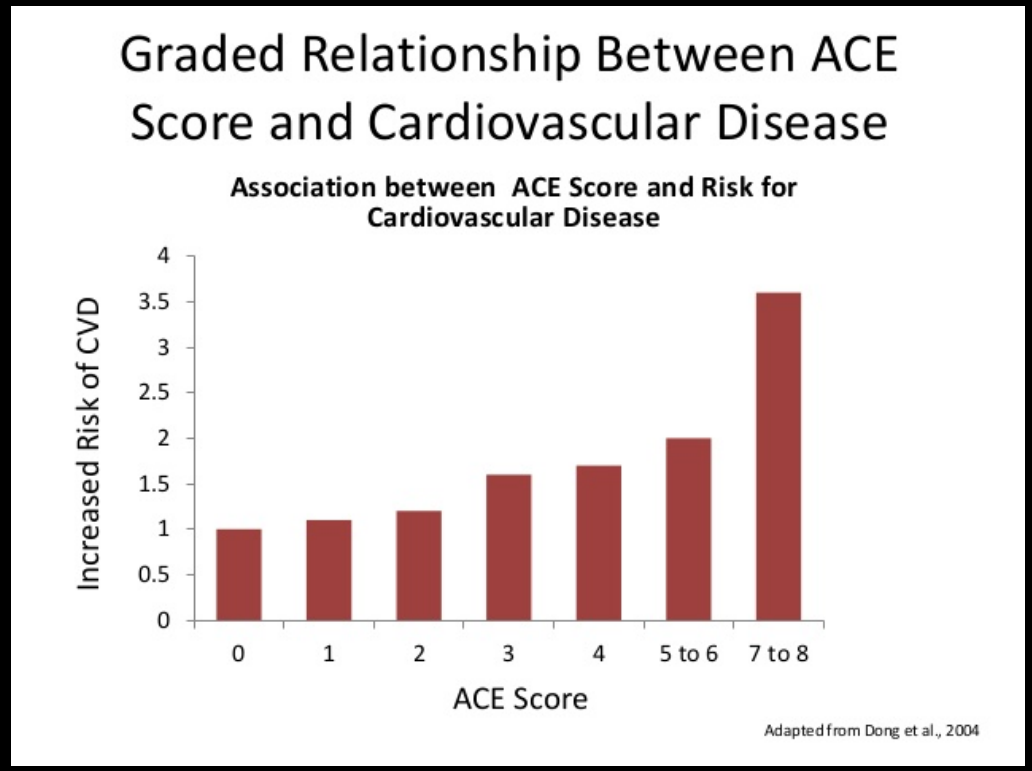
Long-term effects of toxic stress

- Impact on developing child NOT just social and behavioral but also biochemical

- Excessively high, prolonged exposures lead to:
  - Changes in the brain – e.g. altered neuroendocrine responses
  - Altered size and function of brain centers
  - Biological disruptions that increase predisposition to chronic diseases of adulthood

ACEs and Health Outcomes

- ↑ incidence of all chronic diseases
  - Emphysema
  - Type II DM
  - Cardiac disease



Adapted by R Wade from Dong, 2004

ACEs & CV Health of Children

School-based study of 6th-8th grade children, measuring BP, HR, BMI, WC, parent questionnaire re ACEs

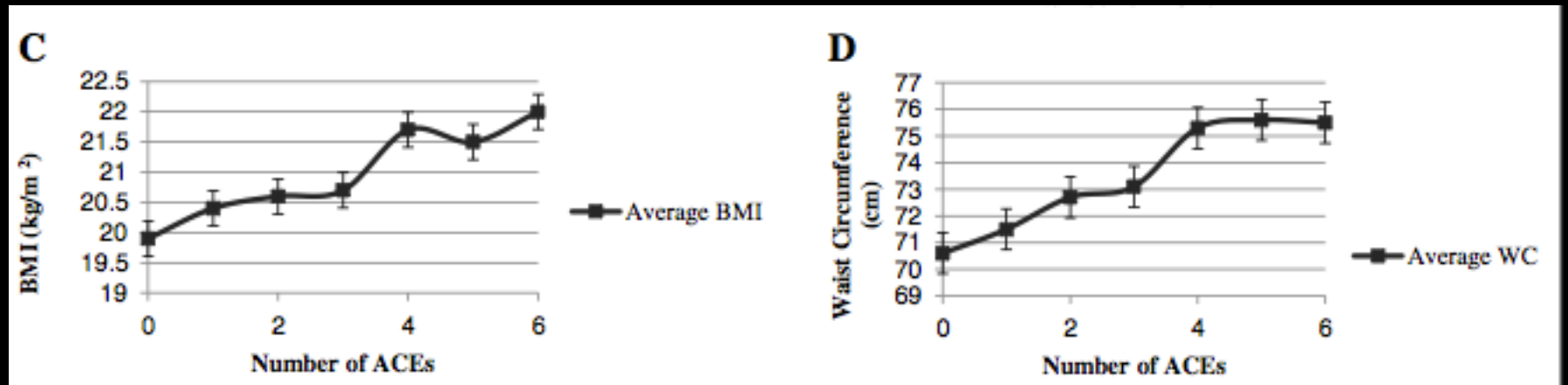


Figure 1 Average physiological measures by number of ACEs. A represents the average systolic BP for each ACEs category. **B** represents the average HR for each ACEs category. **C** represents the average BMI for each ACEs category. **D** represents the average WC for each ACEs category. Standard error bars shown. ACEs = Adverse childhood experiences; BP = blood pressure; HR = heart rate; BMI = body mass index; WC = waist circumference.

Pretty et al, 2013

Stress Physiology

- Increased cortisol
- Persistent elevation of glucose while inhibiting insulin
- Increases appetite ("comfort foods”)
- Increases visceral fat storage
- Leptin desensitization

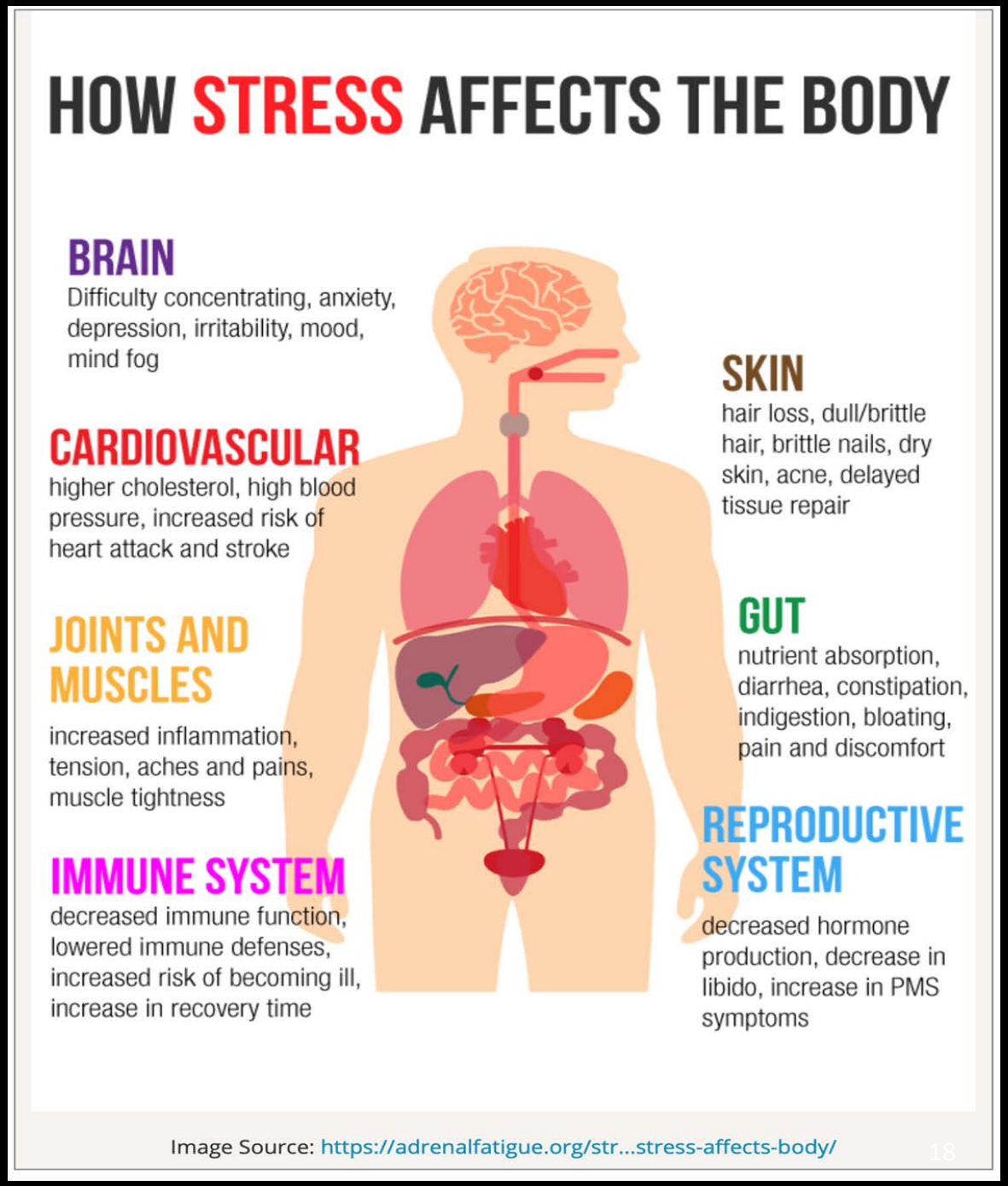
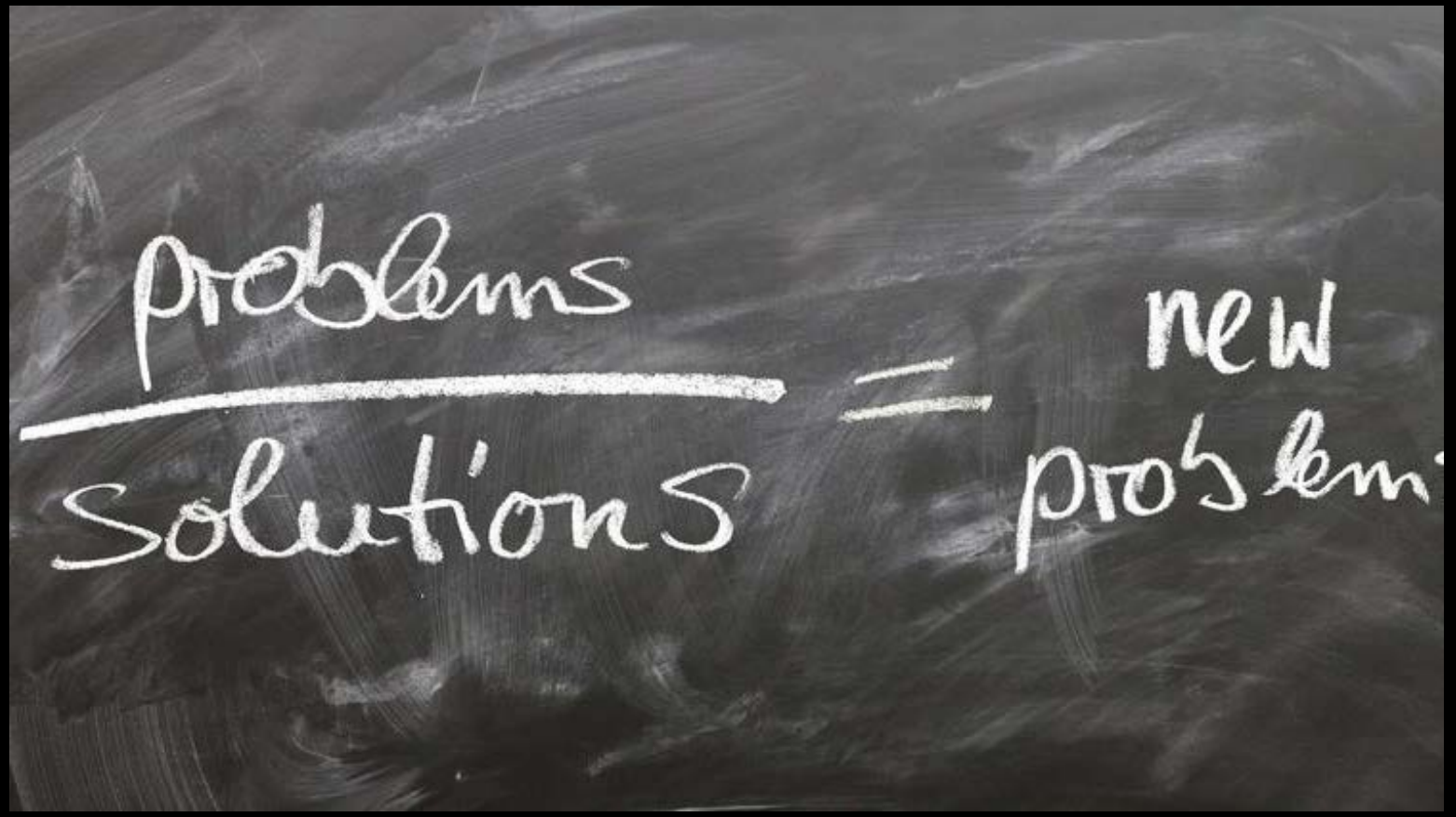


Image Source: https://adrenalfatigue.org/str...stress-affects-body/



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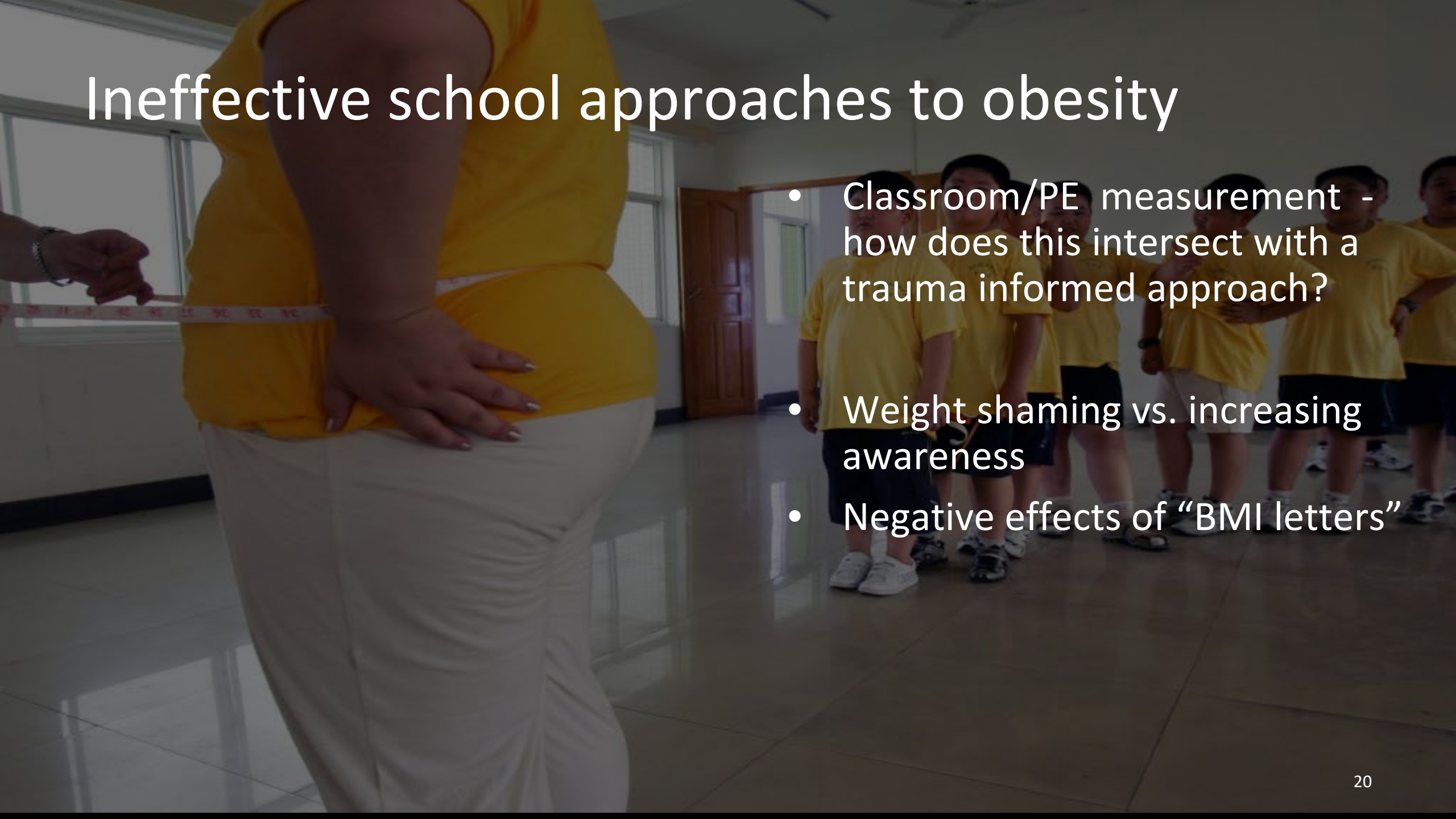
What is being done about it?

Ineffective school approaches to obesity



- Classroom/PE measurement - how does this intersect with a trauma informed approach?
- Weight shaming vs. increasing awareness
- Negative effects of “BMI letters”

Does Weighing Help?

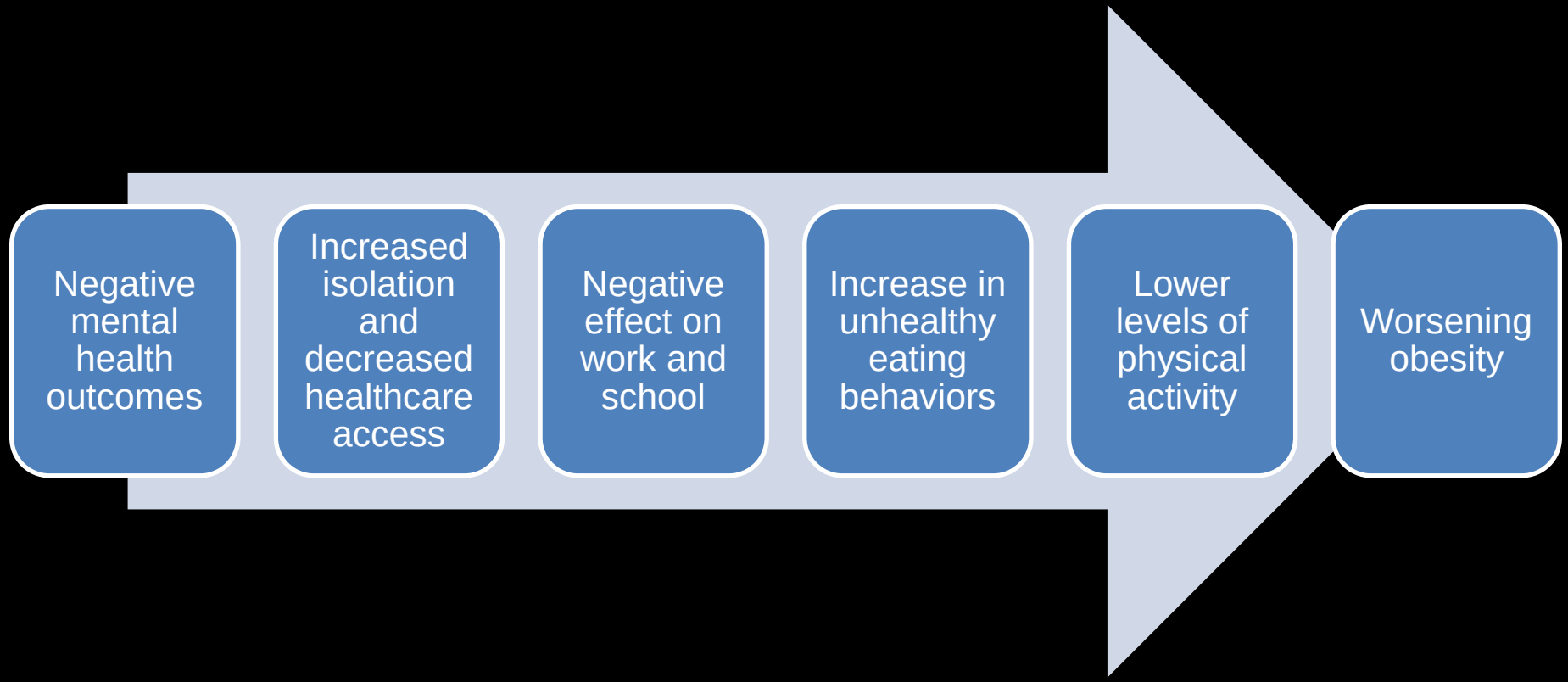
- Studies in adults show self-weighing may be associated with weight loss
- Studies in younger populations DO NOT
- May reduce self-efficacy
- May contribute to stigma or negative psychological outcomes
- More research is needed

Stigmatization of Weight

- Societal devaluation due to overweight
- Harmful stereotypes including lack of willpower or discipline
- Bullying and victimization
- Perpetuated by peers, educators, parents and healthcare professionals
- Associated with higher BMI or unhealthy lifestyle behaviors

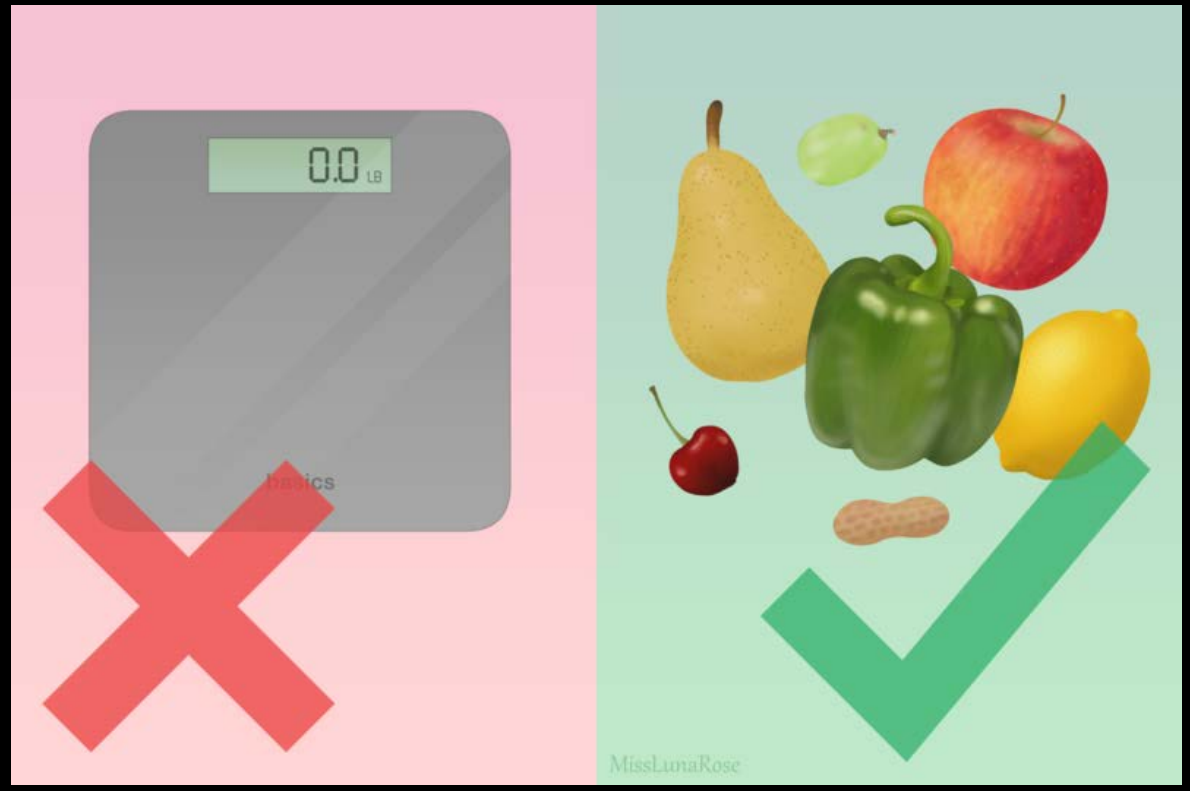
Pont, S. J., Puhl, R., Cook, S. R., & Slusser, W. (2017). Stigma Experienced by Children and Adolescents With Obesity. Pediatrics, 140(6). doi:10.1542/peds.2017-3034

Potential Health Impact of Weight Stigma



Maybe the framing of obesity is the problem

Is it possible to address healthy diet, exercise, sleep and stress reduction *without* asking our patients to lose weight?



How Doctors Can Stop Stigmatizing — And Start Helping — Kids With Obesity

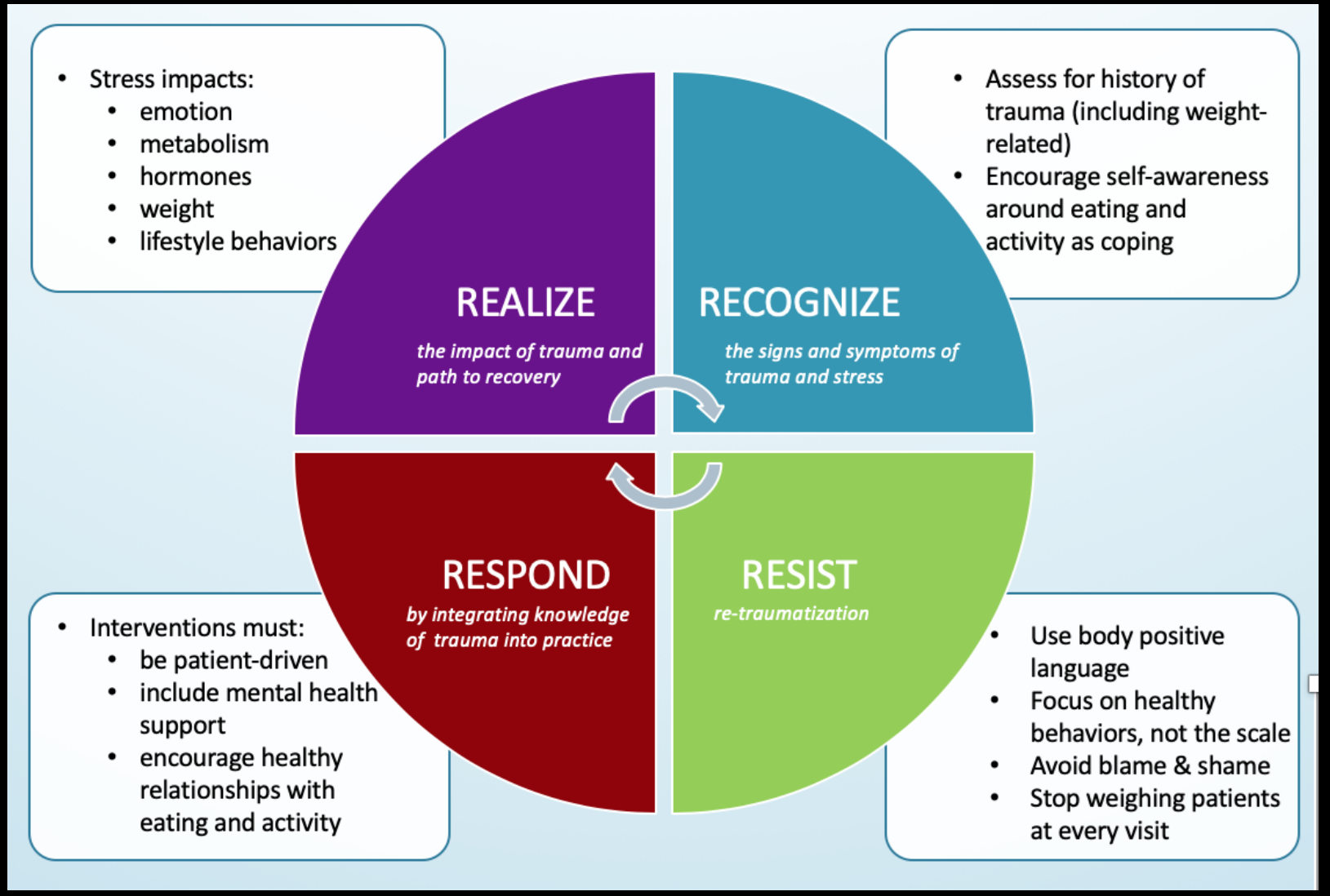
June 05, 2019 | By Mara Gordon

(Andrea D'Aquino for NPR)

What are <u>we</u> doing about it?

Trauma-Informed Care

Trauma-informed approach

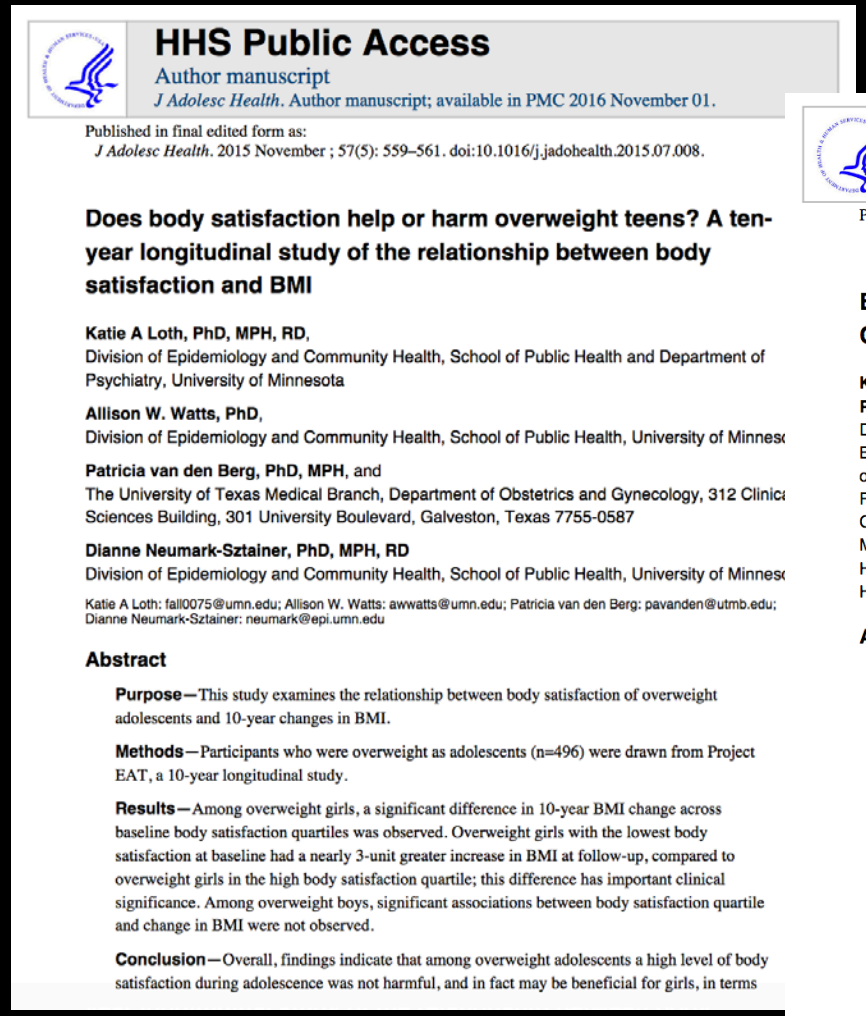


Body Positive Clinical Practice

American Academy of Pediatrics (AAP) recommendations:

- Role model supportive and nonbiased behavior
- Use appropriate, sensitive and nonstigmatizing language in person, in documentation and in the clinic environment
- Incorporate behavioral health screening into patient counseling

Support for body positivity



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J Adolesc Health. 2015 November ; 57(5): 559–561. doi:10.1016/j.jadohealth.2015.07.008.

Does body satisfaction help or harm overweight teens? A ten-year longitudinal study of the relationship between body satisfaction and BMI

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Abstract

Purpose—This study examines the relationship between body satisfaction of overweight adolescents and 10-year changes in BMI.

Methods—Participants who were overweight as adolescents (n=496) were drawn from Project EAT, a 10-year longitudinal study.

Results—Among overweight girls, a significant difference in 10-year BMI change across baseline body satisfaction quartiles was observed. Overweight girls with the lowest body satisfaction at baseline had a nearly 3-unit greater increase in BMI at follow-up, compared to overweight girls in the high body satisfaction quartile; this difference has important clinical significance. Among overweight boys, significant associations between body satisfaction quartile and change in BMI were not observed.

Conclusion—Overall, findings indicate that among overweight adolescents a high level of body satisfaction during adolescence was not harmful, and in fact may be beneficial for girls, in terms

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Body Satisfaction, Weight Gain, and Binge Eating Among Overweight Adolescent Girls

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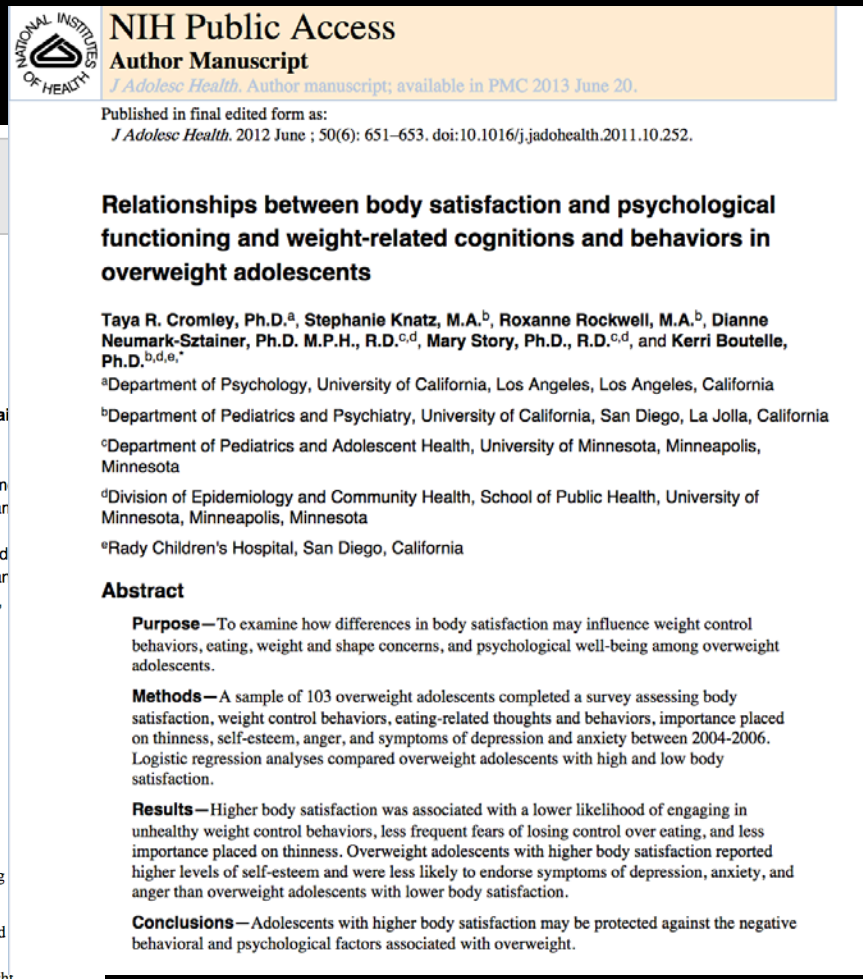
Abstract

Objective—To examine if body satisfaction is associated with body mass index (BMI) change and whether it protects against the development of frequent binge eating among overweight and obese adolescent girls.

Methods—We used prospective data from 9 waves of an ongoing cohort study of adolescents, the Growing Up Today Study. At enrollment in 1996, participants were 9 to 14 years old. Questionnaires were mailed to participants annually until 2001, then biennially through 2007. Girls who were overweight or obese in 1996 were included in the analysis (n=1 559). Our outcomes were annual change in BMI and incident frequent binge eating, defined as binge eating at least weekly and no use of compensatory behaviors.

Results—At baseline, 57.2% of the overweight and obese girls were at least somewhat satisfied with their bodies. During 11 years of follow-up, 9.5% (95% confidence interval (CI) [7.8, 10.8]) of the girls started to binge eat frequently. Controlling for BMI and other confounders, overweight and obese girls who reported being at least somewhat satisfied with their bodies made smaller BMI gains (β=–0.10 kg/m^2, 95% CI [–0.19, –0.02]) and had 61% lower odds of starting to binge eat frequently (odds ratio (OR)=0.39, 95% CI [0.24, 0.64]) than their less satisfied peers. Compared to girls who were the least satisfied with their bodies, girls who were the most satisfied had 85% lower odds of starting to binge eat frequently (OR=0.15, 95% CI [0.06, 0.37]). The association between body satisfaction and starting to binge eat frequently was stronger for younger adolescents than older adolescents.



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Relationships between body satisfaction and psychological functioning and weight-related cognitions and behaviors in overweight adolescents

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Abstract

Purpose—To examine how differences in body satisfaction may influence weight control behaviors, eating, weight and shape concerns, and psychological well-being among overweight adolescents.

Methods—A sample of 103 overweight adolescents completed a survey assessing body satisfaction, weight control behaviors, eating-related thoughts and behaviors, importance placed on thinness, self-esteem, anger, and symptoms of depression and anxiety between 2004-2006. Logistic regression analyses compared overweight adolescents with high and low body satisfaction.

Results—Higher body satisfaction was associated with a lower likelihood of engaging in unhealthy weight control behaviors, less frequent fears of losing control over eating, and less importance placed on thinness. Overweight adolescents with higher body satisfaction reported higher levels of self-esteem and were less likely to endorse symptoms of depression, anxiety, and anger than overweight adolescents with lower body satisfaction.

Conclusions—Adolescents with higher body satisfaction may be protected against the negative behavioral and psychological factors associated with overweight.

Health at Every Size™ (HAES)

Health at Every Size: The New Peace Movement

We're losing the war on obesity. Fighting fat has not made the fat go away. However, extensive "collateral damage" has resulted: Food and body preoccupation, self-hatred, eating disorders, weight cycling, weight discrimination, poor health. . . . Few of us are at peace with our bodies, whether because we're fat or because we fear becoming fat. It's time to withdraw the troops. There is a compassionate alternative to the war—Health at Every Size—which has proven to be much more successful at health improvement—and without the unwanted side effects.[1, 2] The scientific research consistently shows that common assumptions underlying the war on obesity just don't stand up to the evidence.

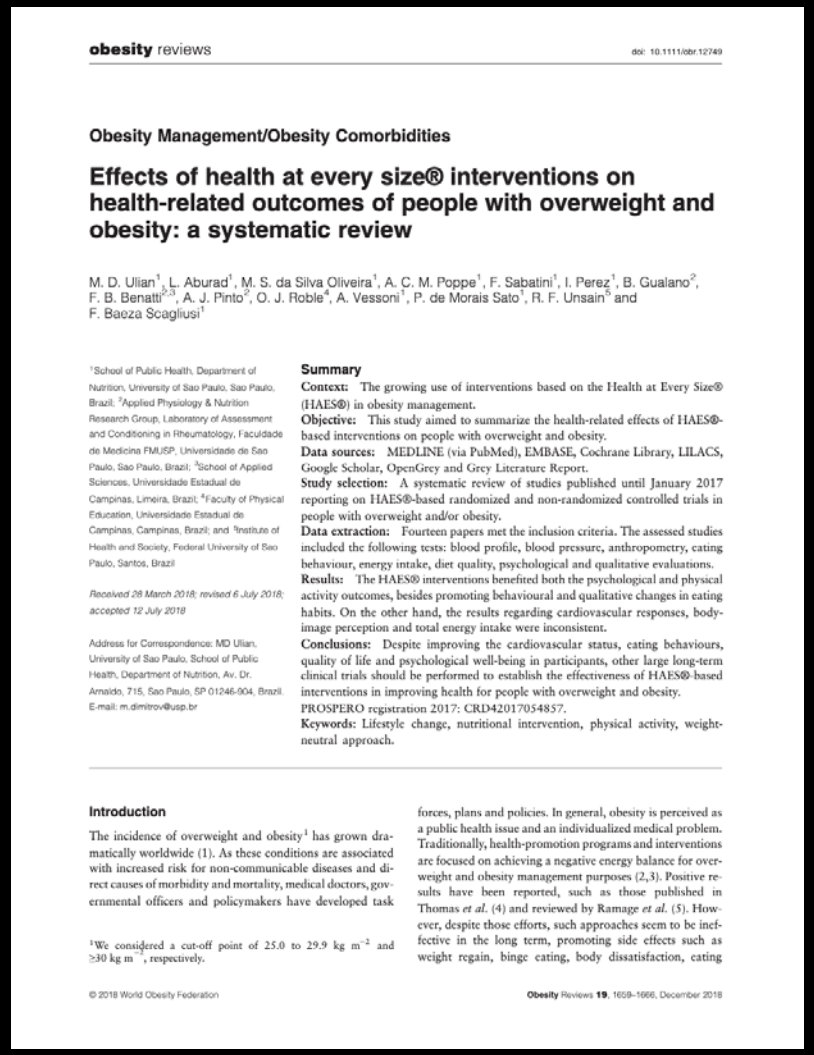
- Disputes assumptions about "normal" weight & longevity
- Asserts that SES, poor nutrition, lack of exercise, weight cycling, not obesity itself, lead to outcomes associated with obesity in literature
- Asserts that dieting is a predictor of future weight gain

Linda Bacon, 2010
https://lindabacon.org/HAESbook/pdf_files/HAES_Manifesto.pdf

Shifting the Balance

- Stop using weight/BMI as the metric for success
- Promote positive relationships with food and intuitive eating
- Respect diversity of body size and explore body satisfaction
- Focus on benefits of healthy lifestyle rather than negative outcomes
- Acknowledge social determinants and the role of stress in metabolic health

Does HAES work?



obesity reviews

doi: 10.1111/obr.12749

Obesity Management/Obesity Comorbidities

Effects of health at every size® interventions on health-related outcomes of people with overweight and obesity: a systematic review

M. D. Ulian[1], L. Aburad[1], M. S. da Silva Oliveira[1], A. C. M. Poppe[1], F. Sabatini[1], I. Perez[1], B. Gualano[2], F. B. Benatti[2,3], A. J. Pinto[2], O. J. Roble[4], A. Vessoni[1], P. de Morais Sato[1], R. F. Unsain[5] and F. Baeza Scagliusi[1]

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Received 28 March 2018; revised 6 July 2018; accepted 12 July 2018

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Summary

Context: The growing use of interventions based on the Health at Every Size® (HAES®) in obesity management.

Objective: This study aimed to summarize the health-related effects of HAES®-based interventions on people with overweight and obesity.

Data sources: MEDLINE (via PubMed), EMBASE, Cochrane Library, LILACS, Google Scholar, OpenGrey and Grey Literature Report.

Study selection: A systematic review of studies published until January 2017 reporting on HAES®-based randomized and non-randomized controlled trials in people with overweight and/or obesity.

Data extraction: Fourteen papers met the inclusion criteria. The assessed studies included the following tests: blood profile, blood pressure, anthropometry, eating behaviour, energy intake, diet quality, psychological and qualitative evaluations.

Results: The HAES® interventions benefited both the psychological and physical activity outcomes, besides promoting behavioural and qualitative changes in eating habits. On the other hand, the results regarding cardiovascular responses, body-image perception and total energy intake were inconsistent.

Conclusions: Despite improving the cardiovascular status, eating behaviours, quality of life and psychological well-being in participants, other large long-term clinical trials should be performed to establish the effectiveness of HAES®-based interventions in improving health for people with overweight and obesity.

PROSPERO registration 2017: CRD42017054857.

Keywords: Lifestyle change, nutritional intervention, physical activity, weight-neutral approach.

Introduction

The incidence of overweight and obesity[1] has grown dramatically worldwide (1). As these conditions are associated with increased risk for non-communicable diseases and direct causes of morbidity and mortality, medical doctors, governmental officers and policymakers have developed task forces, plans and policies. In general, obesity is perceived as a public health issue and an individualized medical problem. Traditionally, health-promotion programs and interventions are focused on achieving a negative energy balance for overweight and obesity management purposes (2,3). Positive results have been reported, such as those published in Thomas *et al.* (4) and reviewed by Ramage *et al.* (5). However, despite those efforts, such approaches seem to be ineffective in the long term, promoting side effects such as weight regain, binge eating, body dissatisfaction, eating

[1]We considered a cut-off point of 25.0 to 29.9 kg m^{-2} and ≥30 kg m^{-2}, respectively.

- Systematic review of 14 studies of <u>adults</u> by Ullian et al., 2018:
- Positive physical activity and psychological well-being outcomes, with positive qualitative changes in eating behaviors
- Cardiovascular responses (BP, blood panels), body image and energy intake were inconclusive
- Study authors are conducting an RCT, both arms HAES, differ in “dose” of intervention

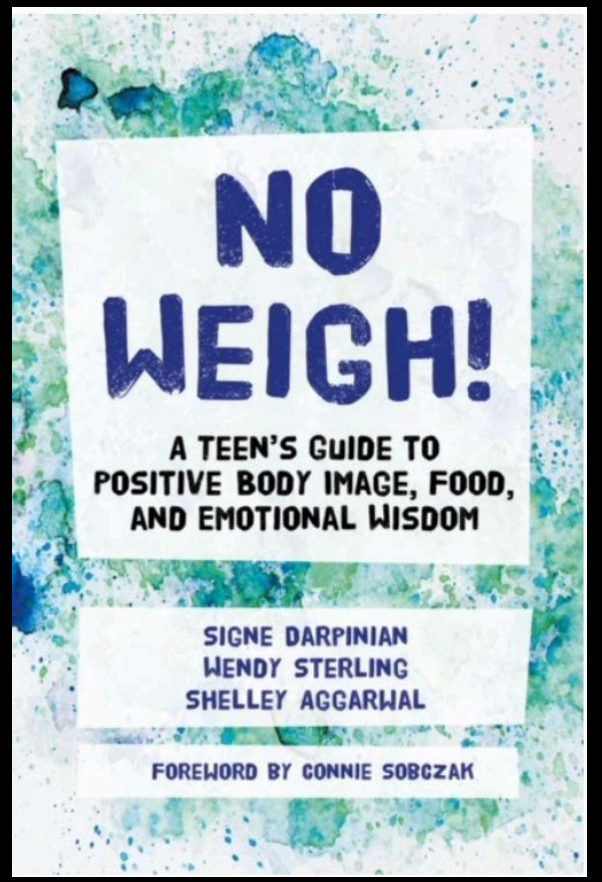
Approaches for teens

Intuitive Eating

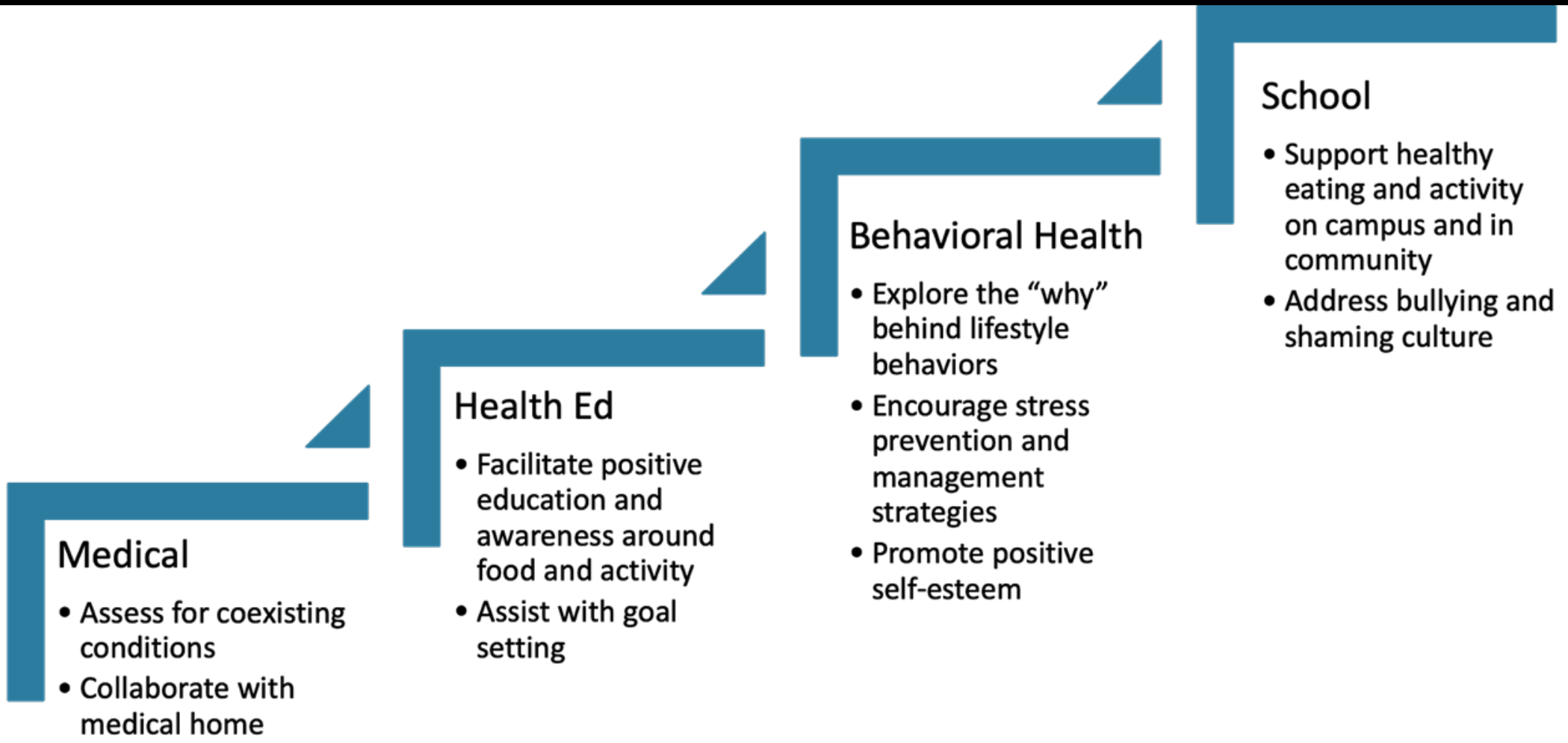
- Eating to appetite
- Eating what appeals
- Stopping at just enough

Impact of puberty on body changes

Coping with stress



SBHC Interdisciplinary Approach



SBHC Balance Wellness Program

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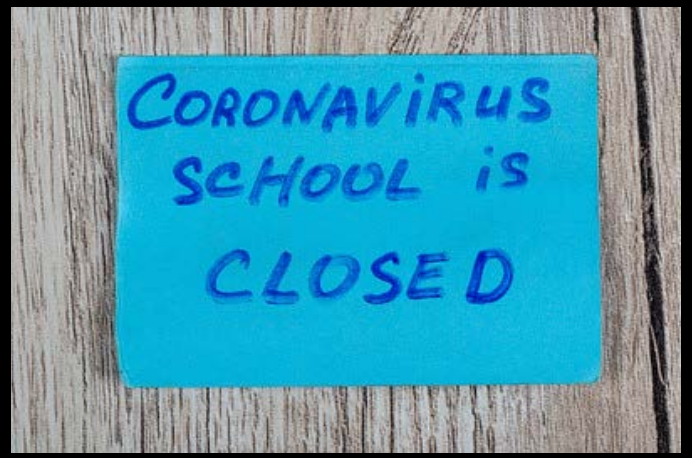
Pilot Objectives

1. Evidence-based physical and mental wellness program for youth that promotes principles of body positivity and prioritizes health rather than weight-based outcomes
2. At least 2 trainings during the 2019-20 academic year for SBHC providers and staff on program principles
3. Enroll 20-24 program participants (11-19yo) at 2 SBHCs – 1 MS, 1 HS
4. Implement program between Jan-May 2020, 8 visits per participant
5. Evaluate feasibility of program implementation and select health outcomes

Intervention

- Medical visits (2 - beginning and end)
  - Lifestyle habits/motivations questionnaire
  - Risk-based assessment – PMH, FH, ROS, Focused PE
  - Evaluation for disordered eating patterns
  - Wt/ht, labs as appropriate
- Behavioral health (1 visit)
  - MH and Trauma Screening, Body Image Questionnaire
- Health ed (5 visits)
  - Relationship with food, Mindful eating, Hunger/fullness scale, PA/Yoga, body positivity, goal setting

Results



- COVID-19!
- ~12-15 participants had been recruited and had some visits
- 0 had completed program
- Trainings provided at all staff retreat, 1 for medical and health ed providers
- Authors of No Weigh scheduled to speak at all-staff meeting (on March 19th ☹)

Balance Pilot Challenges

- Training and preparation
- Different demographic/payor mix b/w sites
- Scheduling
- Not designed with parent involvement
- Lost data due to SiP
- COVID-19!!

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Balance Pilot Successes

- Provider/staff trainings successful – great interest
- Many students interested in the program and enjoying it – no attrition during beginning
- Limited budget allowed for incentives and supplies
- Identified several youth with disordered eating and/or food insecurity

Impact of COVID-19 on Weight in Youth

- Studies have found increased severity of COVID-19 illness in obese children, possibly due to pro-inflammatory state (Zachariah, et al, 2020; Nogueira-de-Almeida, et al, 2020)
- Worsening food insecurity, poverty, housing instability
- Increased stress, lack of opportunity for physical activity and decreased quality of nutritional intake
- Lack of structure/routine, social interaction and support
- Telehealth less ideal for adolescent or weight/lifestyle visits
  - Lack of confidentiality
  - Difficulty forming relationships/connections

Take home ideas

- Many current “obesity interventions” ignore the vital role of stress and trauma in weight management and weight disparities
- Interventions should avoid perpetuating stigma and/or shaming that may exacerbate mental health consequences of overweight and cause patients to avoid the health center
- The practice of frequent weighing does not improve weight outcomes in adolescents and may impact psychosocial well-being
- More research is needed to develop and evaluate interventions that are multi-disciplinary, body and person positive, and include mental health support for adolescents
- COVID-19 has created increased challenges for lifestyle interventions

What questions do you have?

THANK YOU!

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