

Childhood Obesity and Mental HEALTH

Celeste C Corcoran, MDFAAP

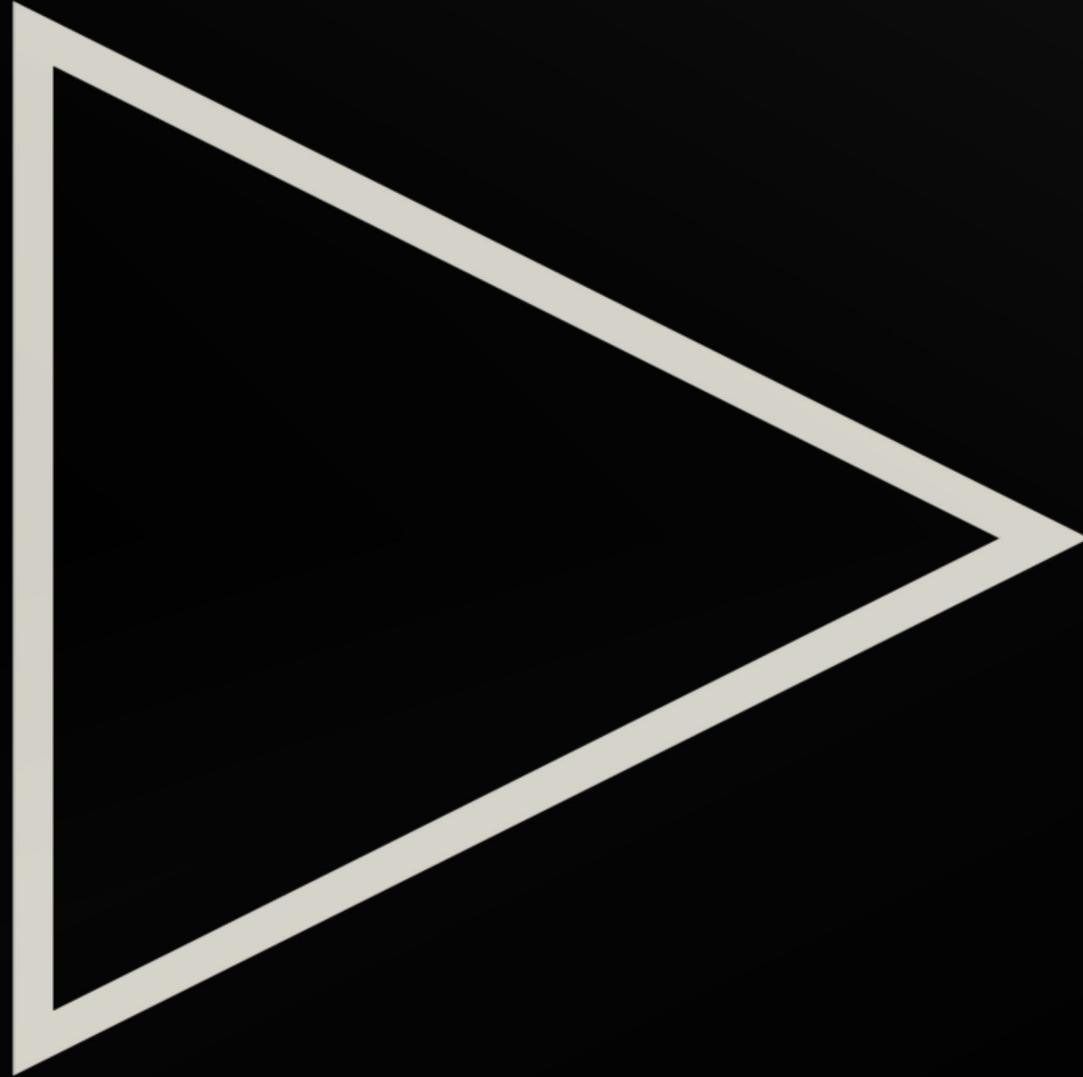
Diplomate in Obesity Medicine

Assistant Professor Warren Alpert

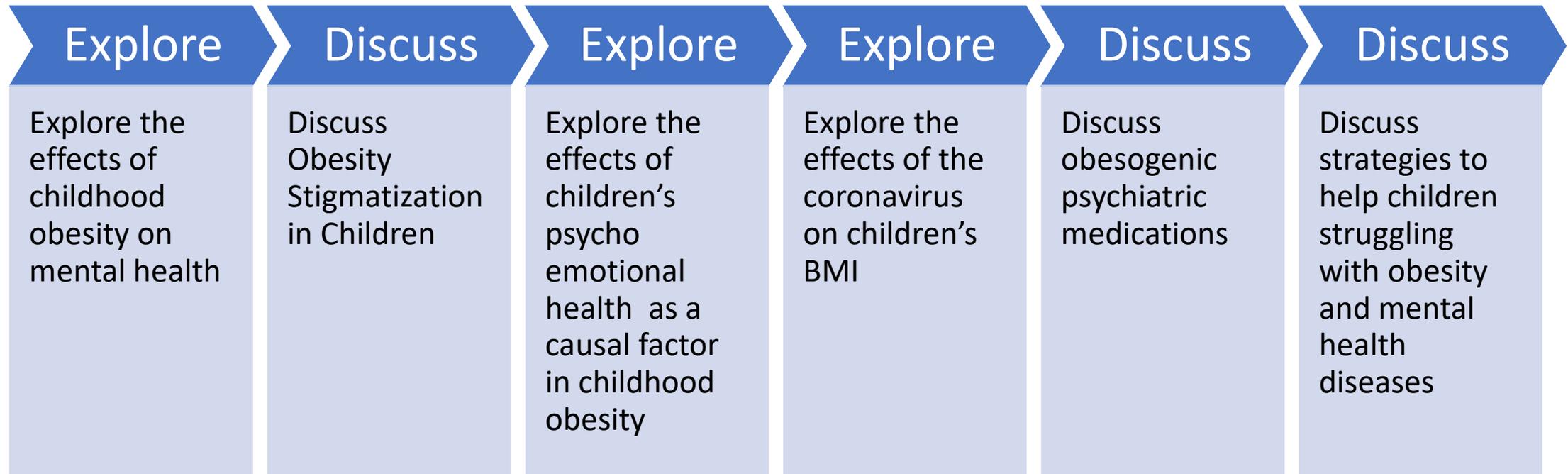
Hasbro Children's Hospital Primary Care

April 8,2021

[Weight Related Bullying: A Teenager's Real Life School Experience | Raksha Changappa Video Playlist](#)



Childhood Obesity and Mental Health Objectives:



No disclosures





- Which is it?
- Does childhood obesity cause mental health disturbance or do mental health disturbances contribute to Obesity



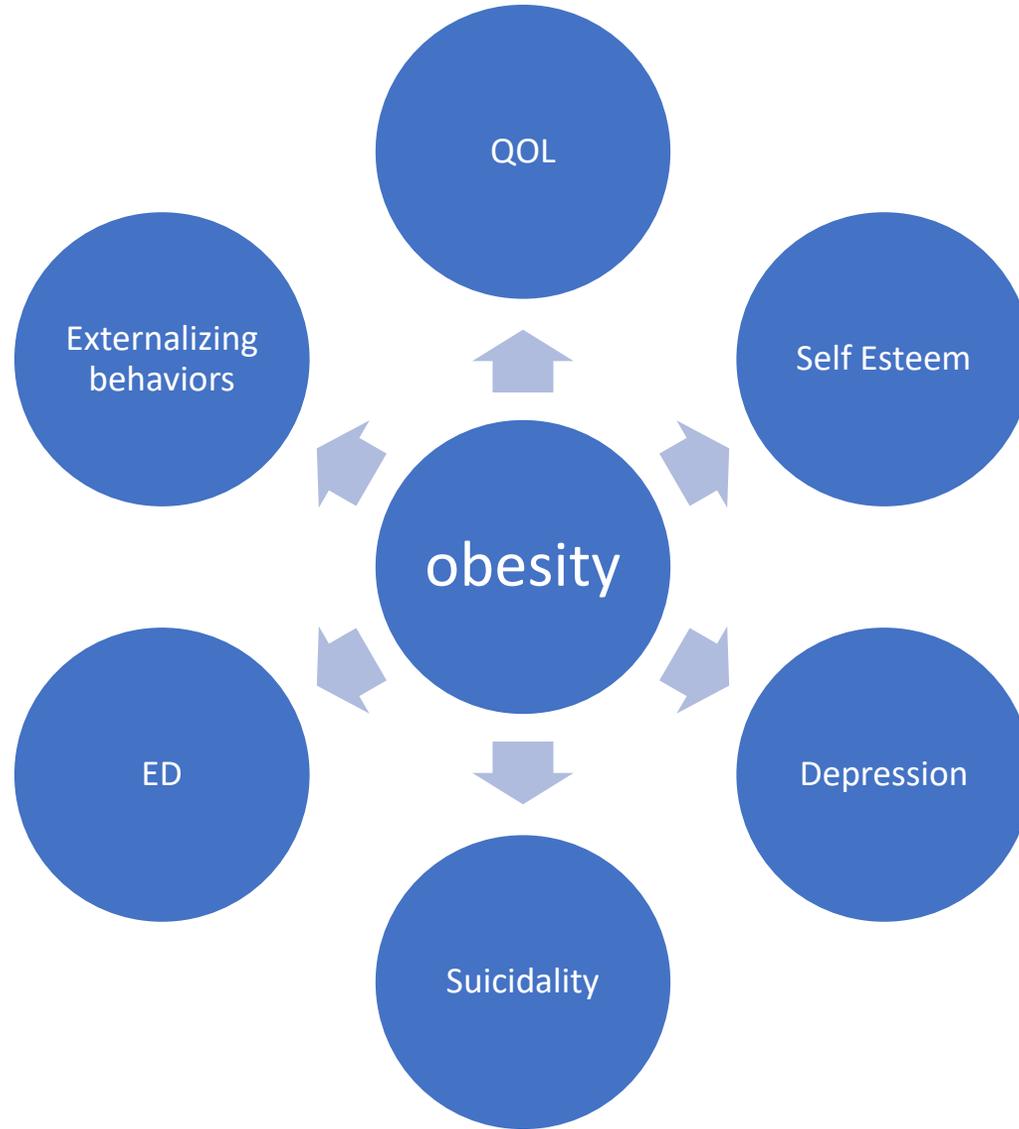
Why does this Matter

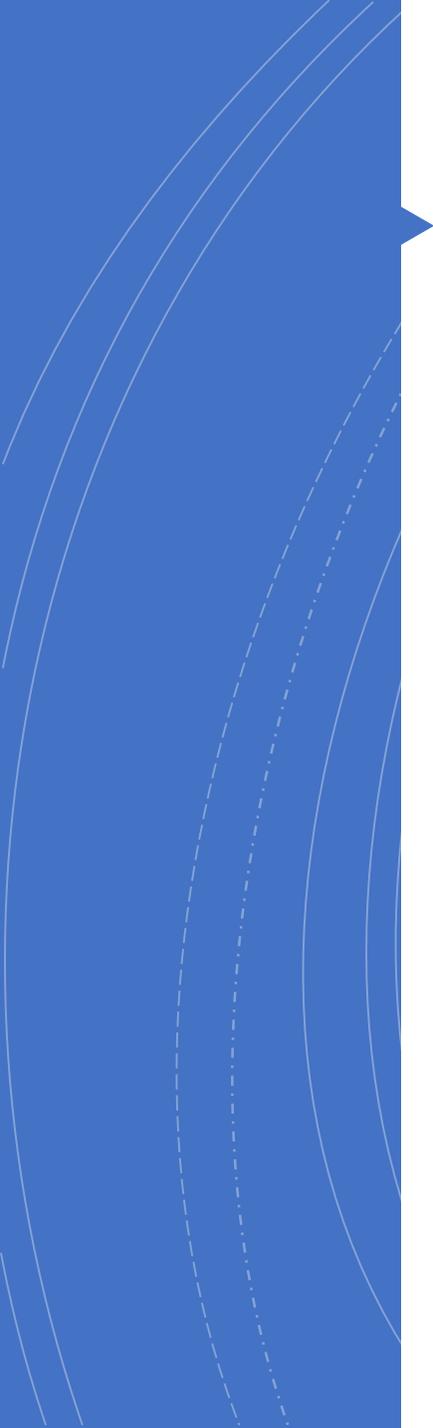
- In State Fiscal Year (SFY) 2019, 26% (31,394) of children under age 19 enrolled in Medicaid/Rite Care had a mental health diagnosis. Of those children with a mental health diagnosis, 23% were ages six and under, 38% were ages seven to 12, and 39% were ages 13 to 18. In addition, 42% were females and 58% were males
- Thirteen percent of Rhode Island children age two to 17 are overweight and 17% are obese
- *2020 Rhode Island KIDS COUNT Factbook / Health*

Why is this important to This audience

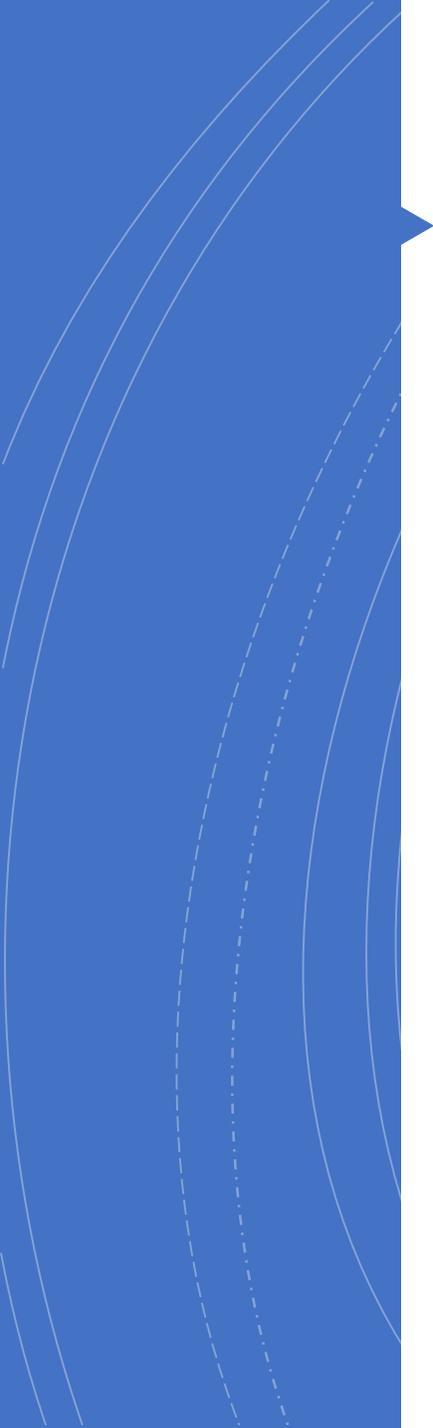
- Treatment interventions to improve child psychosocial health include a wide range of therapies, which are similar to the healthy lifestyle approach demonstrated to be effective with child obesity.
- Approaches found to have the greatest impact in child overweight and obesity treatment include individual-level interventions that are multifaceted, which include motivational interviewing, effective problem-solving, and aspects of cognitive-behavior approaches.

- Zimetkin AJ, Zoon CK, Klein HW, et al. Psychiatric aspects of child and adolescent obesity: a review of the past 10 years. *J Am Acad Child Adolesc Psychiatry* 2004;43(2):134–50.



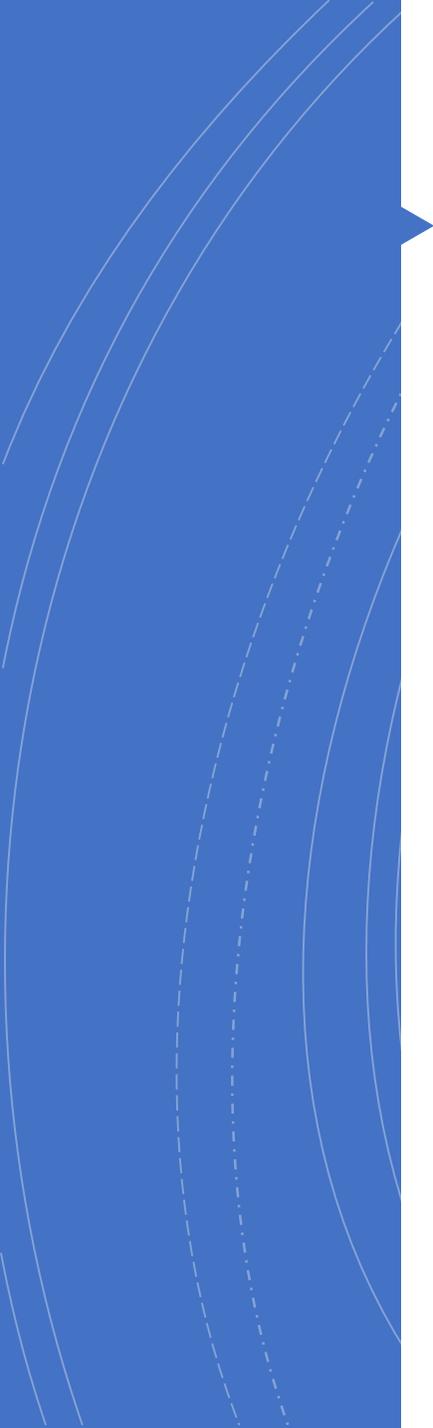
- 
- Let's take a closer look at the effects of Childhood Obesity on Emotional and Psychological Health
 - Does the research support the effects?

- Effects of Childhood Obesity on Quality of Life



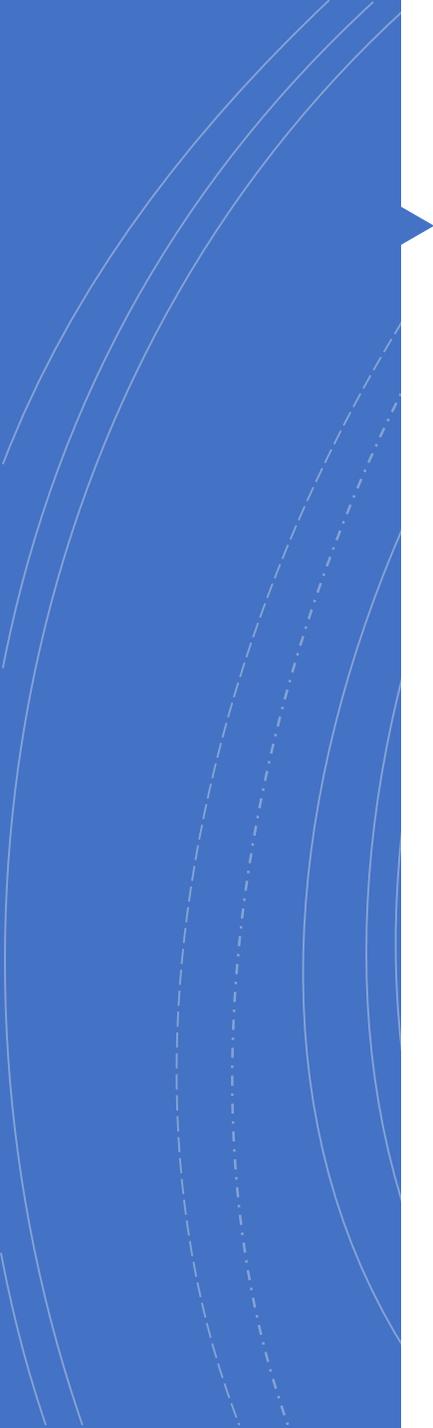
- Obese children and adolescents reported significantly lower HRQOL compared to healthy children and were similar to children diagnosed with cancer. Age, sex and SES were not correlated with QOL.

- Jeffrey B . Schwimmer et al.
Health-Related Quality of Life of Severely Obese Children and Adolescents
JAMA April 9,2003-Vol.289, No 14



- Children and adolescents with obesity demonstrated significant impairments in HRQOL compared to healthy sample. Parents reported significant more impairment. Strongest predictors of low HRQOL were depressive symptoms and perceived social support from peers.

- Meg H. Zeller et al.
Predictors of Health-Related Quality of Life in Obese Youth
Obesity Vol.14 No 1 January 2006



- HRQOL evaluated in a mixed ethnic sample obese children were significantly compromised in all HRQOL domains compared to non-obese controls. Pre-pubertal children demonstrated the lowest scores. There was no effect of gender or ethnicity.

- Afsane Riazi, Saniaa Shakoor, Isobel Dundas
Health-related quality of life in a clinical sample of obese children and adolescents

Health Quality of Life Outcomes 2010;8:134

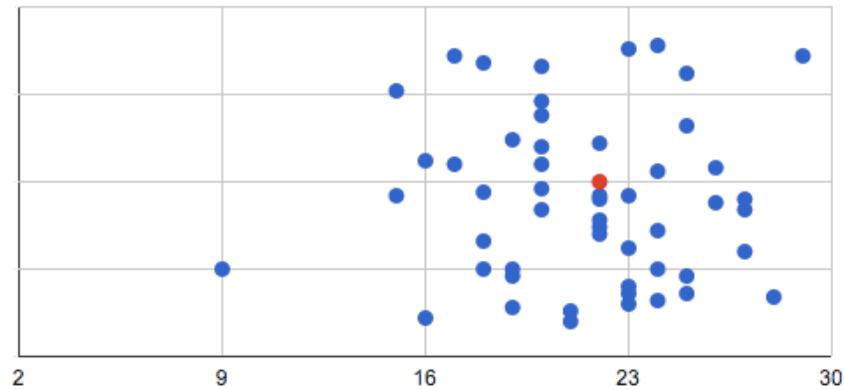
Initial Quality of Life Survey (Child)

Quality of Life Child Survey (*qol_child*) [Refresh Plot](#)

Total Count (N)	Missing*	Unique	Min	Max	Mean	StDev	Sum	Percentile						
								0.05	0.10	0.25	0.50 Median	0.75	0.90	0.95
52	19 (26.8%)	16	9.00	29.00	21.44	3.85	1,115.00	15.55	17.00	19.00	22.00	24.00	26.00	27.00

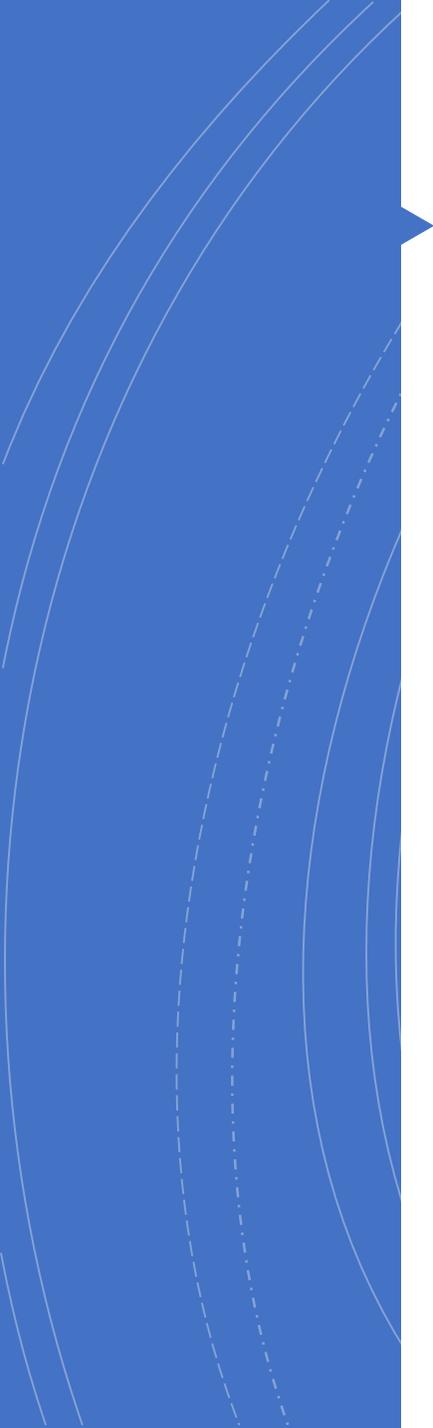
Lowest values: 9, 15, 15, 16, 16

Highest values: 27, 27, 27, 28, 29



[Download image](#)

- Effects of Childhood Obesity on Self Esteem

- 
- Excess Body weight does not predict onset of internalizing behaviors in the first 2 years of life
 - As children mature and experience peer and adult influences perception of their personal weight status and their reaction to to their weight status influence their self perception

Supported by a study performed by Wang and colleagues , which found that obesity in 10- and 11-year-old children independently predicted self-esteem 2 and 4 years later with obese children significantly more likely than normal-weight children to report low self-esteem 4 years later

[F Wang¹, T C Wild, W Kipp, S Kuhle, P J Veugeler](#)

The influence of childhood obesity on the development of self-esteem
Health Rep 2009 Jun;20(2):21-7

What is the
mechanism for
obesity causing
poor self
esteem

Weight based stigmatization defined as:

Negative weight related attitudes and beliefs that are manifested through stereotypes, bias, rejection, and prejudice towards children and adolescents because they are overweight or obese.

Weight Stigma & Victimization

Forms

- Bullying
- Teasing
- Victimization
- Relational
- Verbal Abuse
- Physical Abuse
- Cyberbullying

Prevalence
>70%

Settings

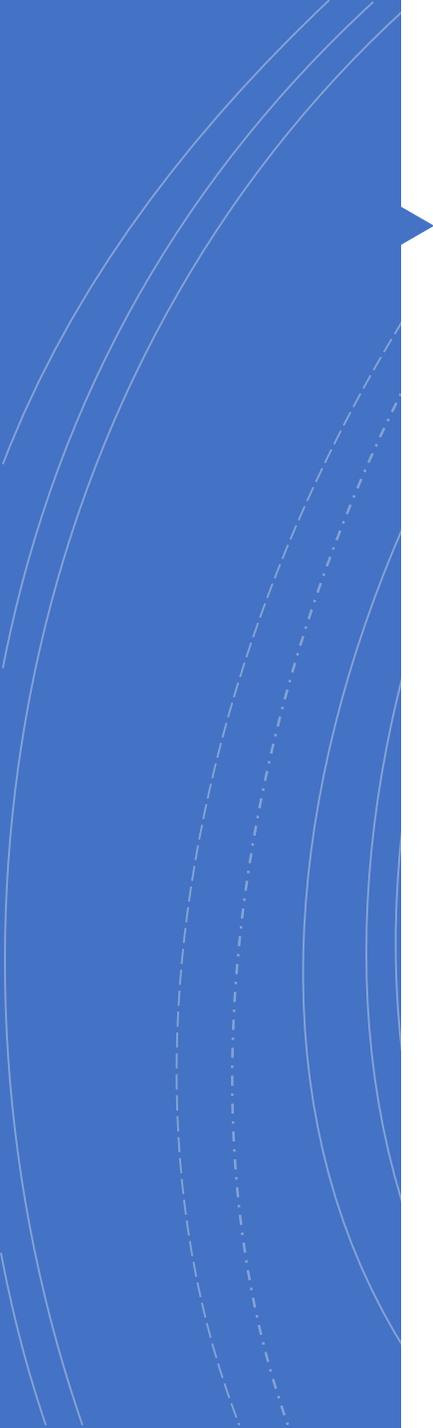
- School
 - Peers
 - Educators
- Home
 - Parents
 - Family members
- Media
- Healthcare Providers
 - All disciplines
- Work

Health Consequences

- Emotional
- Physical
- Psychological
- Social
- Academic
- Unhealthy eating behaviors
- Decreased activity
- Increased weight

Recommendations

- Positive role modeling
- Appropriate language (person first)
- Clinical management of comorbidities
- Counseling
 - Behavioral health screening
 - Coping with stigma stress
 - Healthy behaviors
- Advocacy

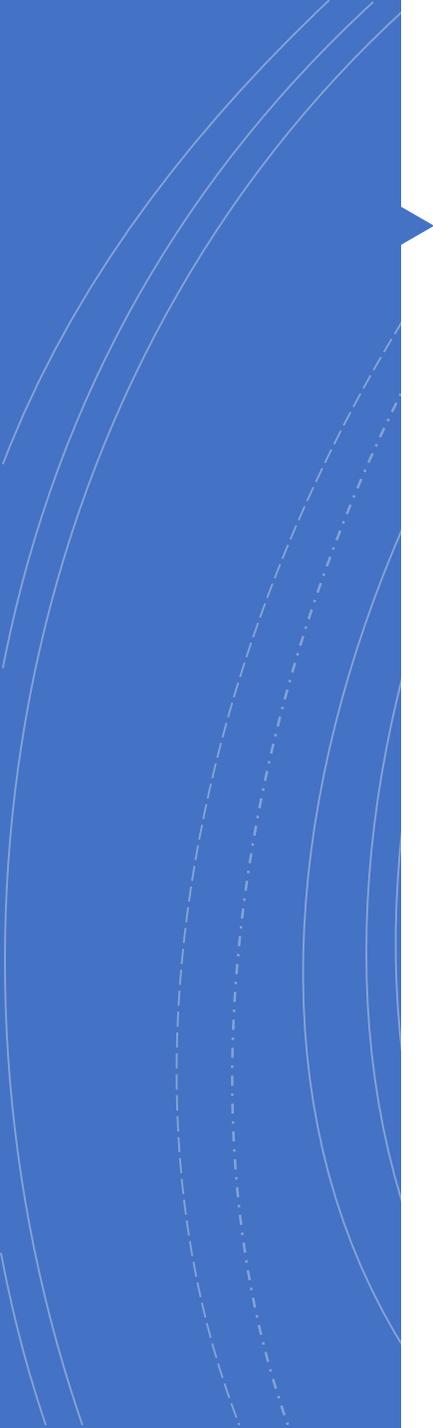


Children at young ages are susceptible to societal pressures

- Preschoolers chose a thin or average sized playmate significantly more often than they chose an overweight playmate
- Another study found that preschool-age children also displayed a preference for the thin figure compared to both the average-sized and overweight figure.

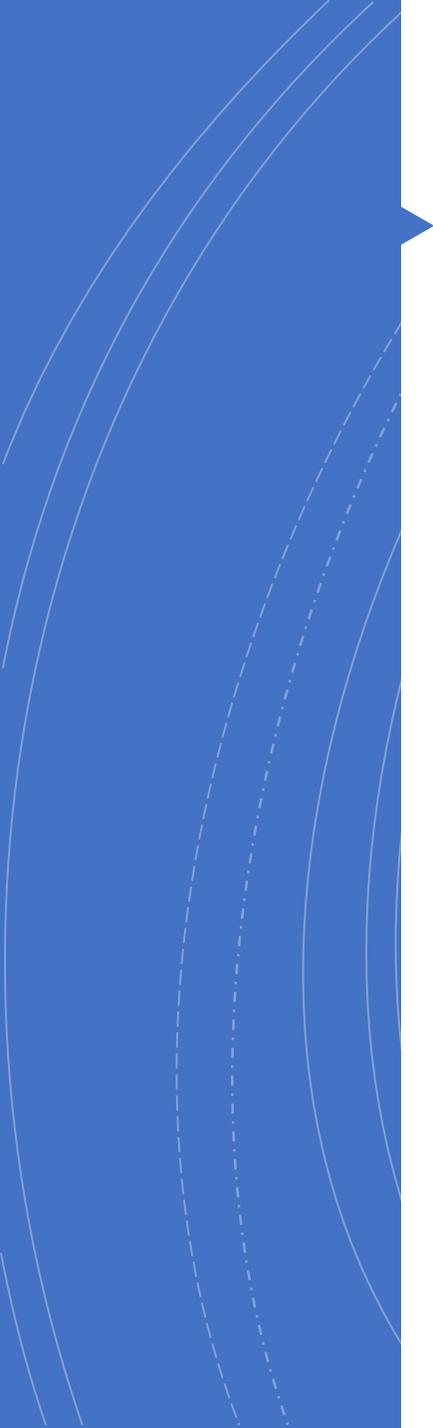
Frankova, S. (2000). Development of body image in preschool girls. *Homeostasis in Health and Disease* , 40 , 161 – 169.

Harriger, J.A., Calogero, R.M., Smith, J.E. & Witherington, D.C. (2010). Body size stereotyping and internalization of the thin ideal in preschool age girls. *Sex Roles* , 63 , 609 – 620.

- 
- Teasing regarding body weight has been linked to body image dissatisfaction, eating disordered behaviours, low self-esteem, and negative psychological consequences such as depression and suicide ideation

- Eisenberg et al., 2003; Haines et al., 2006; Menzel et al., Weight-teasing and emotional well-being in adolescents: Longitudinal findings from Project EAT. *Journal of Adolescent Health* , 38 , 675 – 683.

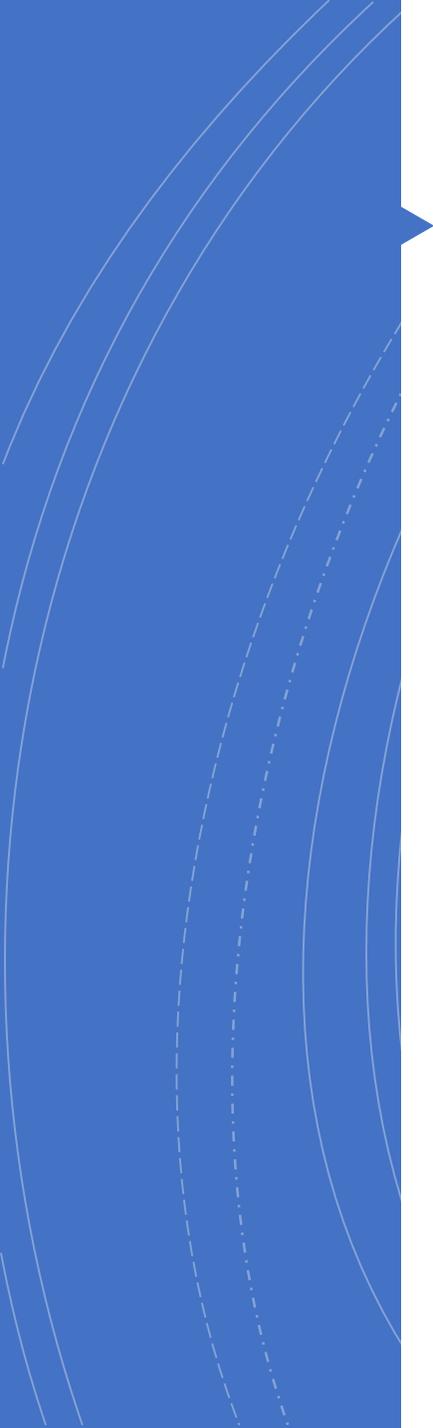
- Effects of Obesity on Body Image and disordered eating

- 
- Very often obesity precedes the disordered eating as youth may undertake unhealthy habits to lose weight such as restrictive eating
 - One study that was performed showed that 1/3 of adolescents being treated for eating disorders had been overweight or obese

[Lebow J, Sim LA, Kransdorf LN. Prevalence of a history of overweight and obesity in adolescents with restrictive eating disorders. J Adolesc Health 2015; 56:19.](#)



- Effects of obesity on depression

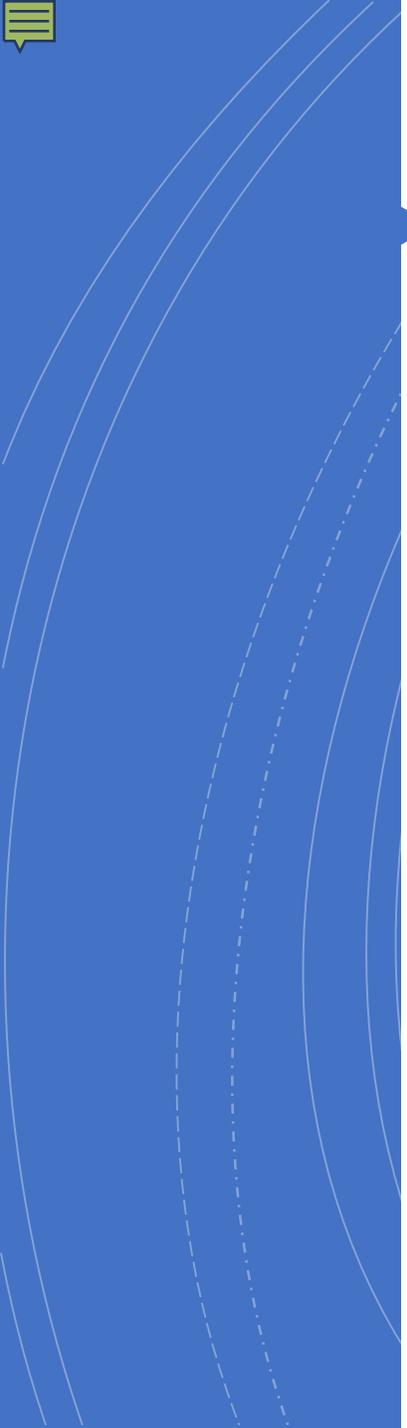
- 
- Review of several studies looking at variables associated with obesity and depression in several thousand youth and found that peer victimization and body dissatisfaction were two reliable predictors of depression.

- Deina Nemiary, Ruth Shim, Gail Mattox et al.
The relationship between obesity and depression among adolescents
Psychiatr Ann. 2012 Aug1;42(8):305-308

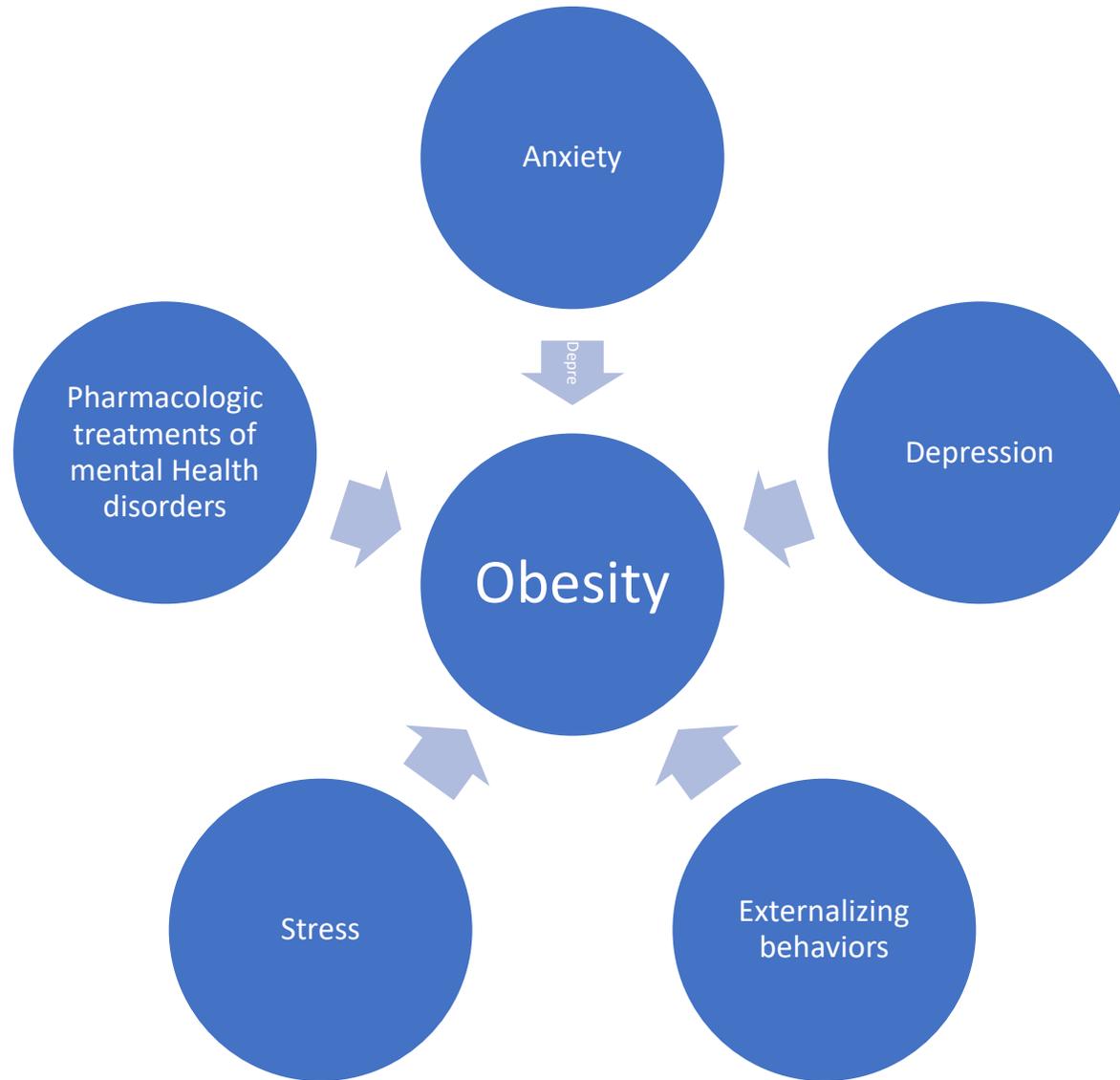


A cohort study from the Avon Longitudinal Study of Parents and Children, a prospective study including a population-representative British cohort of 14 975 individuals, was conducted using data from participants aged 1 to 24 years

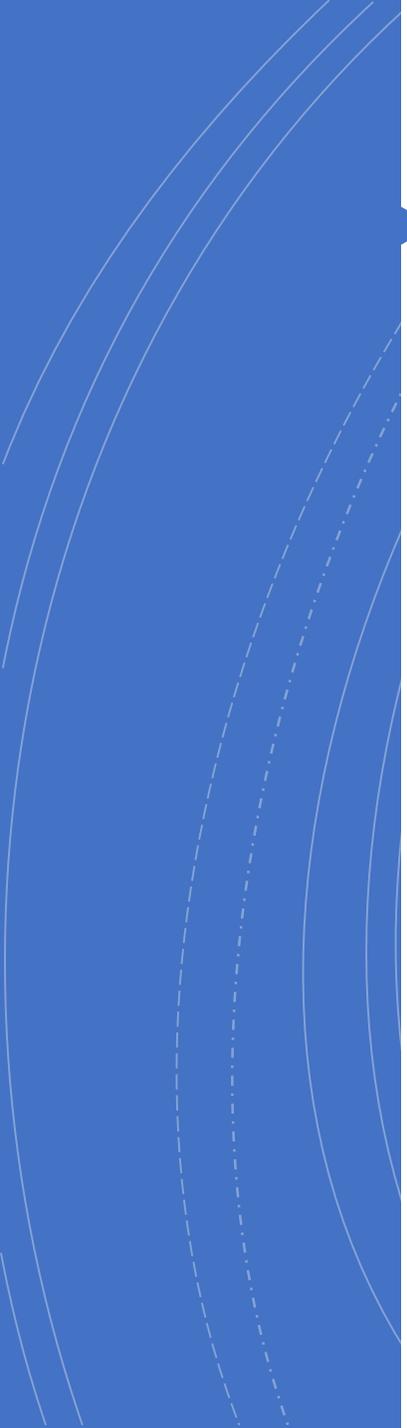
- A puberty-onset major increase in BMI could be a risk factor or risk indicator for adult depression.
- Abnormal insulin sensitivity may be a shared risk factor

- 
- Even though there has not been found to be an increase in suicide rate among obese adolescents , being obese has been shown to be associated with increase rate of suicidal ideations which we know are risk factors for completed suicide

- Zeller MH, Reiter-Purtill J, Jenkins TM, et al. Adolescent suicidal behavior across the excess weight status spectrum. *Obesity (Silver Spring)* 2013;21(5):1039–45



- Depression as a cause of obesity



Prospective studies suggest that the onset of mood disorders may precede the development of overweight or obesity, perhaps in those individuals who are genetically predisposed. It is important to note that most individuals who are obese or overweight do not have a mood disorder, but certain mood disorders, particularly atypical major depression, can be associated with weight gain and/or obesity

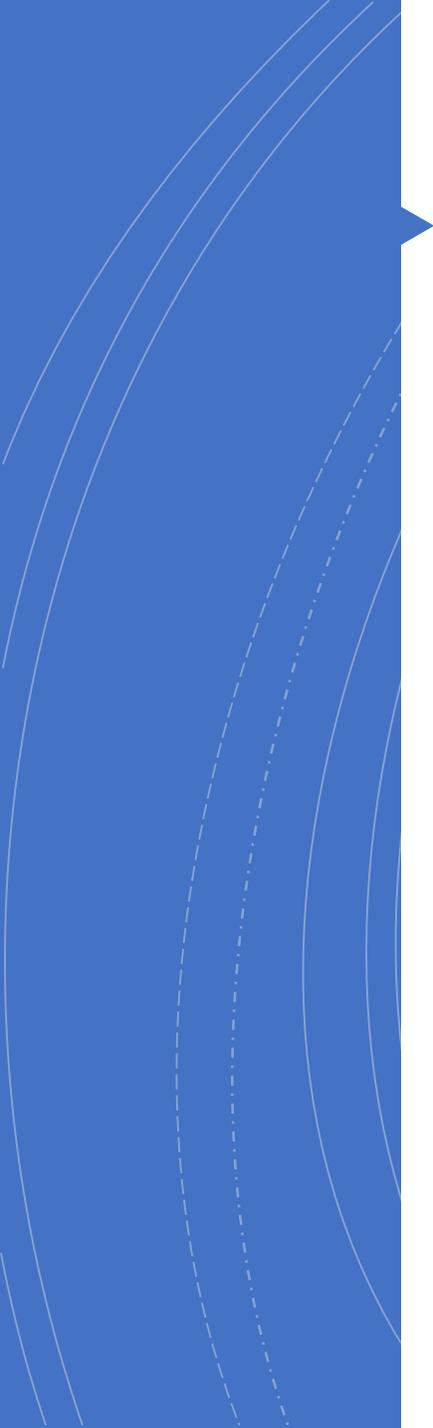
This hypothesis has been disputed in more recent studies

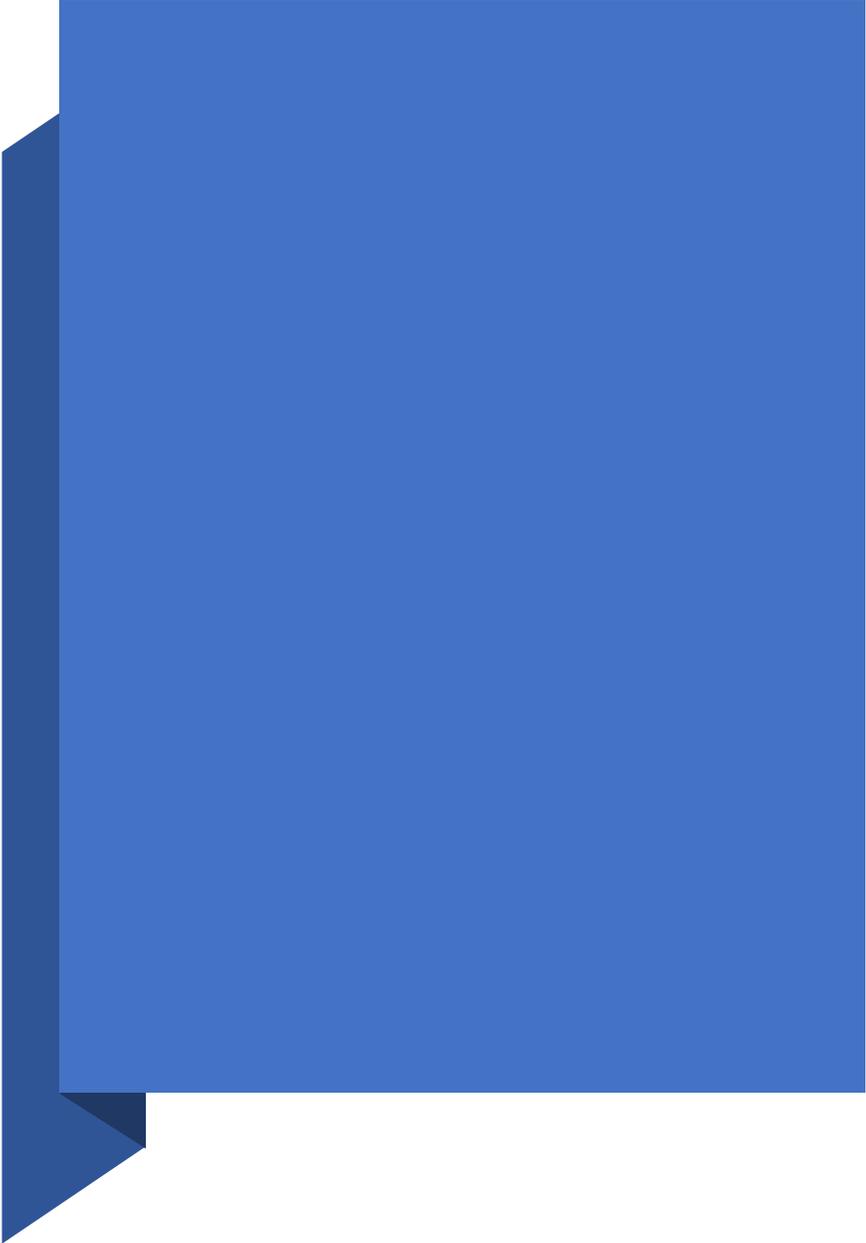
McElroy SL, Kotwal R, Malhotra S, et al. Are mood disorders and obesity related? A review for the mental health professional. *J Clin Psychiatry* 2004;65(5):634–51

Geoffroy MC, Li L, Power C. Depressive symptoms and body mass index: co-morbidity and direction of association in a British birth cohort followed over 50 years. *Psychol Med* 2014;44(12):2641–52.



- Effects of stress and more serious anxiety on obesity
- Epidemic within the Coronavirus Pandemic

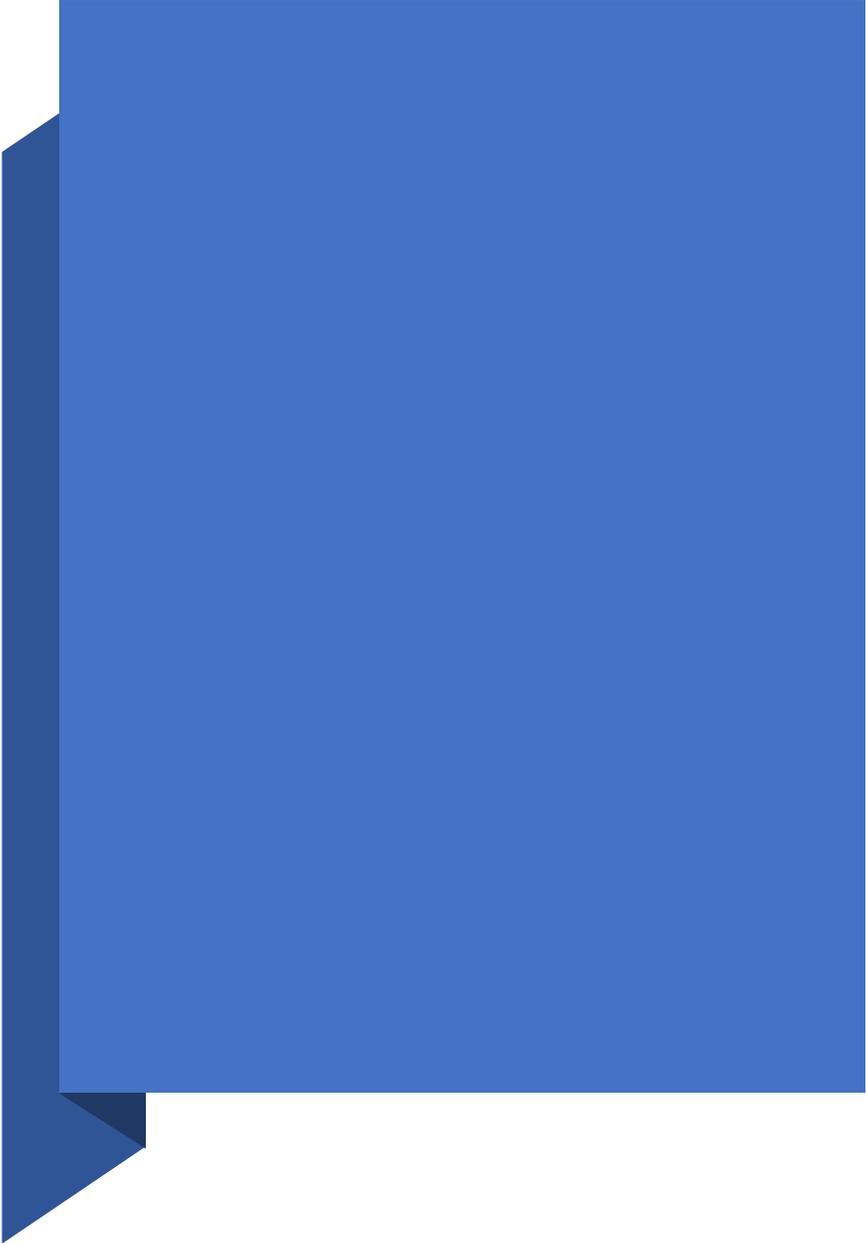
- 
- We are observing increased rates of childhood overweight and obesity
 - Currently we have no statistics to support this currently
 - Anecdotally Observation of children increasing weight 40-60 pounds
 - The causes are multifactorial but stress and anxiety playing a role



Children feel the stress of
their parents

Response to stress is
variable

In the correct setting this
will lead to clinical anxiety



Job Loss

Food Insecurity

Housing Insecurity

Intimate Partner Violence

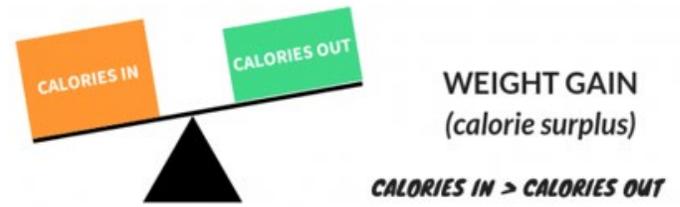
Child Abuse

Isolation from Peers

Academic Difficulties

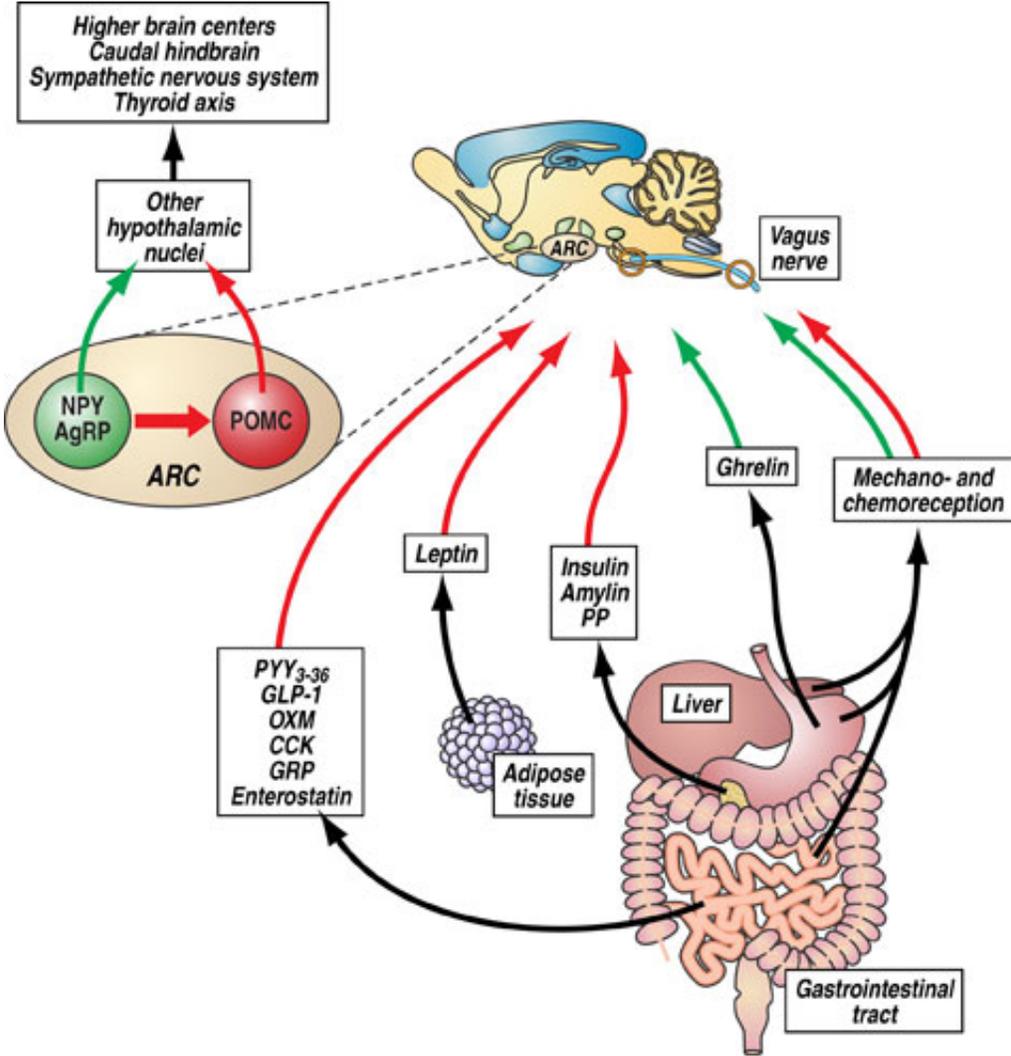
- Energy Balance???

"CALORIES IN, CALORIES OUT" **ENERGY BALANCE EQUATION**



Diet vs. disease

Neural-Hormonal Control of Energy Balance



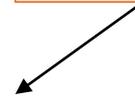
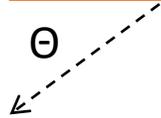
HUNGER PATHWAY = OREXIGENIC

SATIETY PATHWAY = ANOREXIGENIC

Weight loss
Fasting
Stress
Lack of sleep

Weight gain
Eating regular meals
Well rested
Leptin

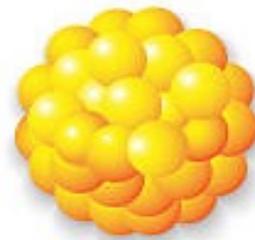
Insulin
GLP-1
CCK
PYY
Serotonin



Ghrelin



Leptin



- Mental Health Medications effect on Obesity

Review of Medications: **Psychiatric**

	Significant Weight Gain		Small to Neutral Weight Gain	Weight Loss
Antipsychotics	Clozapine Olanzapine Chlorpromazine	Quetiapine Risperidone	Aripiprazole Haloperidol Ziprasidone	
Special considerations: "Youth may be particularly sensitive to weight gain, especially with olanzapine, as well as extrapyramidal side effects and metabolic changes." Many of the medications listed here have only been well studied in adults				
Antidepressants	Paroxetine* Amitriptyline Olanzapine Citalopram Nortriptyline	Lithium Desipramine Imipramine Duloxetine Escitalopram Doxepin Mirtazapine	Venlafaxine Fluvoxamine Sertraline Trazodone Fluoxetine	Bupropion*
Mood Stabilizers	Valproate Lithium Gabapentin			Topiramate
Anxiolytics			Lorazepam Diazepam Oxazepam	



shutterstock.com · 348578852

- How Can we Help

Table 2

Parallels in the socioecological approach to prevention in childhood obesity and mental health disorders in consideration of common epigenetic influences

Socioecological Aspect	Obesity	Influences	Mental Health
Individual	<ul style="list-style-type: none"> • Encourage behavioral activation • Promote healthy lifestyle decision-making over appearance focus • Include problem-solving 	<ul style="list-style-type: none"> • Gender • Physical activity • Self-esteem • Emotional/cognitive maturity • Physical health 	<ul style="list-style-type: none"> • Promotion of resilience • Enhance individual skills • Encourage academic achievement • Assessment of genetic risk factors • Minimize/avoid substance use
Family	<ul style="list-style-type: none"> • Provide parenting coaching/education about health • Encourage health promotion/prevention for families • Encourage role modeling healthy behaviors • Establish clear boundaries regarding family eating and screen time rules 	<ul style="list-style-type: none"> • Breast-feeding • Attachment/bonding • Maternal depression • Caregiver education • Abuse/neglect • Economic security • Family physical or mental illness 	<ul style="list-style-type: none"> • Address caregiver wellness • Promote family strengths • Implement evidence-based parenting programs • Use home visiting programs to improve pregnancy outcomes and reduce abuse and neglect
Community	<ul style="list-style-type: none"> • Advocate for school nutritional and physical activity programs • Provide safe environments to promote outdoor activity • Discourage weight-based victimization and bullying 	<ul style="list-style-type: none"> • Exposure to violence • Access to health care • School environment • Public safety • Access to health-promoting activities 	<ul style="list-style-type: none"> • Provide safe environment to decrease community violence • Implement policies for school bullying/peer victimization • Increase school mental health services • Increase equitable access to health care
Societal	<ul style="list-style-type: none"> • Implement restrictions on direct marketing to children • Strengthen healthy nutrition policies • Enhance and encourage built environment initiatives • Discourage political barriers to health promoting behaviors • Strengthen health-promoting food and beverage retailing and distribution policies • Support federal programs that support healthy nutrition 	<ul style="list-style-type: none"> • Policy/legislation • Adherence to health standards • Stigma • Discrimination • Allocation of resources • Research-driven initiatives 	<ul style="list-style-type: none"> • Advocate for equal access to various levels of mental health care • Minimize societal stigma through public education • Allocate resources for childhood mental health prevention • Implement standards for mental health support for children in foster care • Establish parity between medical and mental health needs

Adapted from National Research Council (US), Institute of Medicine (US) Committee on the Prevention of Mental Disorders and Substance Abuse Among Children, Youth, and Young Adults: Research Advances and Promising Interventions, O’Connell ME, Boat T, editors. Preventing mental, emotional, and behavioral disorder

Remove Stigma Obesity as a Disease

Involve Family for Support

Enable Child to take Control

Build Resiliency

Strategies to relieve Stress

Teach Mindfulness

CBT Strategies

Incorporate Mental Health Colleagues

- HEALTH Clinic strategies

- *2020 Rhode Island KIDS COUNT Factbook / Health*
- Pediatric Obesity Algorithm 2020-2022 Ob Med.org
- Afsane Riazi, Saniaa Shakoore, Isobel Dundas
Health-related quality of life in a clinical sample of obese children and adolescents
Health Quality of Life Outcomes 2010;8:1341.
- Benjamin I. Perry, MRCPsych; JAMA Psychiatry. doi:10.1001/jamapsychiatry.2020.4180
- [E Hemmingsson - Early childhood obesity risk factors: socioeconomic adversity, family dysfunction, offspring distress, and junk food self-medication](#)
Current obesity reports, 2018 – Springer
- Eisenberg et al., 2003; Haines et al., 2006; Menzel et al., Weight-teasing and emotional well-being in adolescents: Longitudinal findings from Project EAT. Journal of Adolescent Health , 38 , 675 – 683
- Frankova, S. (2000). Development of body image in preschool girls. Homeostasis in Health and Disease , 40 , 161 – 169.
- F. Wang, T.C. Wild, W. Kipp, S. Kuhle and P.J. Veugelers The influence of childhood obesity on the development of self-esteem
Health Reports, Vol. 20, no. 2, June 2009

- Geoffroy MC, Li L, Power C. Depressive symptoms and body mass index: co-morbidity and direction of association in a British birth cohort followed over 50 years. *Psychol Med* 2014;44(12):2641–52.
- Harriger J, & J. Kevin Thompson (2012) Psychological consequences of obesity: Weight bias and body image in overweight and obese youth, *International Review of Psychiatry*, 24:3, 247-253
- Harriger, J.A., Calogero, R.M., Smith, J.E. & Witherington, D.C. (2010). Body size stereotyping and internalization of the thin ideal in preschool age girls. *Sex Roles* , 63 , 609 – 620
- [Lebow J, Sim LA, Kransdorf LN. Prevalence of a history of overweight and obesity in adolescents with restrictive eating disorders. *J Adolesc Health* 2015; 56:19](#)
- Zimetkin AJ, Zoon CK, Klein HW, et al. Psychiatric aspects of child and adolescent obesity: a review of the past 10 years. *J Am Acad Child Adolesc Psychiatry* 2004;43(2):134–50
- Zeller, M et al.
Predictors of Health-Related Quality of Life in Obese Youth
Obesity Vol.14 No 1 January2006
- Zeller MH, Reiter-Purtill J, Jenkins TM, et al. Adolescent suicidal behavior across the excess weight status spectrum. *Obesity (Silver Spring)* 2013;21(5):1039–45



**THANKS
FOR THE
TEAMWORK!**