

**11:709:481 Seminar in Nutrition**

Childhood Obesity

Fall 2022

W 4<sup>th</sup> (2:15-3:35 PM)

Davison 216A, D/C Campus

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***Course Description***

Apart from the COVID-19 pandemic, human obesity arguably remains *the* public health problem of the 21<sup>st</sup> Century. Current estimates place the number of obese individuals at over 600 million worldwide (World Health Organization, 2016). The goal of this course is to examine the multitude of factors that have led to this problem, with an emphasis on the precursors to adult obesity seen as early as infancy and childhood. As a seminar, we will depart from the traditional lecture-and-exam format, and instead endeavor to have all members of the class participate via informed discussion of the topics that have been selected for review. Regular attendance is therefore paramount, but to ensure “informed discussion,” assigned readings should be completed before class meetings, with questions prepared based on each reading to pose to the class.

***Course requirements***

1. Weekly attendance and participation: From weeks 3 through 14, each student will prepare three (3) questions for class discussion based on your assigned reading, which will be turned in after being addressed in class. Your attendance (2 points) and questions (3 points) over 12 weeks will count for 60 points.
2. Powerpoint presentation: In the latter half of the semester, each student will identify a recent empirical study of relevance to the week’s topic and prepare and deliver a 10-minute P/P presentation. The appropriateness of the article (10 points), clarity of slides (10 points), coherence of presentation (15 points), and fielding of questions (5) will count for 40 points.

***Learning Objectives***

After completing this course, students will be able to:

1. document the increase in child obesity rates over the last 50 years;
2. cite the myriad factors that have contributed to this epidemic;
3. identify ways in which risk for child obesity may be reduced;
4. argue for the importance of early intervention in preventing obesity; and not incidentally,
5. identify the strengths and weaknesses of studies on obesity.

## ***Class dates and topics***

### **Week 1**

Defining the problem/Health implications

### **Week 2**

Obesogenic environment

Kirk, S.F.L., Penney, T.L., & McHugh, T.-L.F. (2009). Characterizing the obesogenic environment: the state of the evidence with directions for future research. *Obesity Reviews*, 11, 109-117. doi:10.1111/.1467-789X.2009.00611.x

### **Week 3**

Microbiome

Indiani, C.M. dos S.P., Rizzardi, K.F., Castelo, P.M., Ferraz, L.F.C., Darrieux, M., & Parisotto, T.M. (2018). Childhood obesity and firmicutes/Bacteroidetes ratio in the gut microbiota: A systematic review. *Childhood Obesity*, 14, 501-509. doi:10.1089/chi.2018.0040

### **Week 4**

Rapid infant weight gain

Zheng, M., Lamb, K.E., Grimes, C., Laws, R., Bolton, K., Ong, K.K., & Campbell, K. 2017). Rapid weight gain during infancy and subsequent adiposity: a systematic review and meta-analysis of evidence. *Obesity Reviews*, 19, 321-332. doi:10.1111/obr.12632

### **Week 5**

Responsive feeding

DiSantis, K., Hodges, E.A., Johnson, S.L., & Fisher, J.O. (2011). The role of responsive feeding in overweight during infancy and toddlerhood: a systematic review. *International Journal of Obesity*, 35, 480-492. doi:10.1038/ijo.2011.3

### **Week 6**

Introduction of solid foods

Wang J., Wu, Y., Xiong, G., Chao, T., Jin, Q., *et al.* (2016). Introduction of complementary feeding before 4 months of age increase the risk of childhood overweight or obesity: a meta-analysis of prospective cohort studies. *Nutrition Research*, 53, 759-770. doi.org/10.1016.03.003

## **Week 7**

### Skipping breakfast

Horikawa, C., Kodama, S., Yachi, Y., Heianza, Y., Hirasawa, R., *et al.* (2011). Skipping breakfast and prevalence of overweight and obesity in Asian and Pacific regions: a meta-analysis. *Preventive Medicine*, 53, 260-267. doi:10.1016/j.ypmed.2011.08.030

## **Week 8**

### Food insecurity

Eisenmann, J.C., Gundersen, C., Lohman, B.J., Garasky, S., & Stewart, S.D. (2011). Is food insecurity related to overweight and obesity in children and adolescents? A summary of studies, 1995-2009. *Obesity Reviews*, 12, e73-e83. doi:10.1111/j.1467-789x.2010.00820.x

## **Week 9**

### Temperament

Anzman-Frasca, S., Stifter, C.A., & Birch, L.L. (2012). Temperament and childhood obesity risk: a review of the literature. *Journal of Developmental & Behavioral Pediatrics*, 3, 732-745. doi: 10.1097/DBP.0b013e31826a119f

## **Week 10**

### Sleep

Chen, X., Beydoun, M.S., & Wang, Y. (2008). Is sleep duration associated with childhood obesity? A systematic review and meta-analysis. *Obesity*, 16, 265-274. doi:10.1038/oby.2007.63

## **Week 11**

### Parenting style

Sleddens, E.F.C., Gerards, S.M.P.L., Thijs, C., De Vries, N.K., & Kremers, S.P.J. (2011). General parenting, childhood overweight and obesity-inducing behaviors: a review. *International Journal of Pediatric Obesity*, 6, e12-3e27. doi: 10.3109/17477166.2011.566339

## **Week 12**

### Fast food

Rosenheck, R. (2008). Fast food consumption and increased caloric intake: a systematic review of a trajectory towards weight gain and obesity risk. *Obesity Reviews*, 9, 535-547. doi: 10.1111/j.1467-789X.2008.00477.x

### **Week 13**

Sugar-sweetened beverages

Malik, V.S., Pan, A., Willett, W.C., & Hu, F. B. (2013) Sugar-sweetened beverages and weight gain in children and adults: a systematic review and meta-analysis. *American Journal of Clinical Nutrition*, 98, 1084-1102. doi.org/10.3945/ajcn.113.058362

### **Week 14**

Sedentary behaviors

Tremblay, M.S., LeBlanc, A.G., Kho, M., Saunders, T.J., Larouche, R., *et al.* (2011). Systematic review of sedentary behavior and health indicators in school-aged children and youth.

*International Journal of Behavioral Nutrition and Physical Activity*, 8, 98.

doi: 10.1186/1479-5868-8-98

### **DIVERSITY, EQUITY AND INCLUSION**

It is our intention that students of all backgrounds will be well served by this course. We will work to create an environment of inclusion which respects and affirms the inherent dignity, value, and uniqueness of all individuals, communities and perspectives. We are fortunate to have a diverse university. Diverse voices and life experiences enhance the learning process and welcome students to share their personal experiences. We will not tolerate disrespectful language or behavior against any individual or group. If you feel as though you have been disrespected or treated unfairly by the instructors or any other individual please let us know. You may speak with the instructor in person, over email or report anonymously via the Office of Academic Programs. In addition, you may also report bias to the Rutgers Diversity and Inclusion initiative using this link: <http://inclusion.rutgers.edu/report-bias-incident/>

### **ACADEMIC INTEGRITY POLICY**

Each student is responsible for understanding the RU Academic Integrity Policy. This policy will be strongly enforced. For all examinations and assignments, the students will be required to uphold the RU Honor Pledge, which states, "On my honor, I have neither received nor given any unauthorized assistance on this assignment". All written assignments may be screened by an automated plagiarism detection service that compares student work against a large data base of past work (including not only published work but also previous student submissions).

The RU Academic Integrity Policy and code of student conduct are available at:

<http://nbacademicintegrity.rutgers.edu/home/academic-integrity-policy/>

<https://studentconduct.rutgers.edu/processes/university-code-student-conduct>