

11:709:352:01 Nutrition and Behavior

Spring 2015

Index # 17191

Tuesday 9:15AM–12:15PM

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Office Hours: By arrangement

The relationship between nutrition and behavior is assuredly bi-directional. There is compelling evidence that nutritional status or even the intake of specific nutrients can influence behavior. Conversely, behavior can affect nutritional status through our acceptance of some foods but our rejection of others. Moreover, numerous contextual factors influence when, what, and how much we eat.

Learning objectives

The primary goal of this course is to acquaint you with the diverse literature on nutrition and behavior. Students will become familiar with:

- a. the major questions being asked today in nutrition and behavior research;
- b. areas of controversy in nutrition and behavior research;
- c. research methods in nutrition and behavior research; and
- d. relevant theories that explain nutrition and behavior relationship

A secondary aim is to have you recognize the value of multidisciplinary approaches when evaluating and designing studies that bear on current problems in human nutrition.

Your participation in this class will be expected and count toward your grade. To encourage your active engagement, there are a number of assignments that involve your thinking about the course material outside the classroom. Approximately half of each weekly meeting will consist of my lecturing on the topic of the week, although your questions and comments are certainly encouraged. Following a brief break, the second half of each class may be reserved for exercises, occasional experiments, and discussion of the class assignments. Over the last six weeks of the semester class time will be devoted to your own presentations in a “mock” debate. Your participation is therefore very critical to the success of the course, and includes your regular attendance, prompt arrival, and contribution to our weekly meetings, but especially your sharing responsibility for taking one side of the nutrition–behavior issue that will be debated during a specific week near the end of the semester.

Course requirements

1. Food and mood exercise [5%]
2. Motivations to eat exercise [5%]
3. Short paper on choice of 1 or 2 above [15%]
5. Mid-term examination [25%]
6. “Debate” assignment [20%]
7. Final examination [25%]
8. Attendance [5%]

Details regarding the preceding will be described this morning and in later classes. Class attendance and participation will be considered at semester's end for students whose performance may border on a higher grade.

Course Readings

Packet available at the Barnes and Noble Bookstore, at the intersection of College Avenue and Somerset Street in New Brunswick.

Important

It is to your advantage to attend class regularly, arrive promptly, and to take whatever notes you deem necessary. Please be forewarned that I do **not** post my *PowerPoint* slides on SAKAI. Rather, you should make a friend of a conscientious classmate (or two), so that if you miss a class you will have someone from whom you can borrow notes.

Note to Students re: Academic Integrity

Each and every year, numerous Rutgers students are suspended, expelled or receive failing grades due to violations of academic integrity. Many of the students who are caught cheating were unaware of the consequences or even unaware that their actions constituted cheating at all. For your own protection please read the university's Academic Integrity Policy. <http://academicintegrity.rutgers.edu/integrity.shtml>

| Date | Tentative Topics/Reading Assignments/Exercises |
|-------------|---|
| Jan 20 | Introduction and overview |
| Jan 27 | Models and methods in nutrition–behavior research <i>Reading:</i> Worobey, J. (2006). Concepts and models in nutrition and behavior; Research methods and analytic strategies. In J. Worobey, B.J. Tepper, & R. Kanarek. <i>Nutrition & behavior: a multidisciplinary approach</i> (pp. 5-24). Oxfordshire, UK: CABI Publishing. <i>[Exercise 1- Breakfast and mood- distributed]</i> |
| Feb 3 | Effects of nutrition on behavior, Part 1: Lipids <i>Reading:</i> Rees, A.R., Strois, S., & Wearden, A. (2014). Maternal docosahexaenoic acid intake levels during pregnancy and infant performance on a novel object search task at 22 months. <i>Child Development</i> , 85, 2131-2139.. <i>Exercise 1 due:</i> Breakfast and mood discussion |

| Date | Tentative Topics/Reading Assignments/Exercises |
|-------------|---|
| Feb 10 | <p>Effects of nutrition on behavior, Part 2: Neurotransmitters <i>Reading:</i> Hoekstra, R., Fekkes, D., Loonen, A.J.M., Pepplinkhuizen, L., Tuinier, S., & Verhoven, W.M.A. (2006). Bipolar mania and plasma amino acids: Increased levels of glycine. <i>European Neuropsychopharmacology</i>, 16, 71-77. <i>[Exercise 2- Motivations to eat- distributed]</i></p> |
| Feb 17 | <p>Biobehavioral and psychosocial influences on nutrition <i>Reading:</i> Paquet, C., Daniel, M., Knauper, B., Gauvin, L., Kestens, Y., & Dube, L. (2010). Interactive effects of reward sensitivity and residential fast-food restaurant exposure on fast-food consumption. <i>American Journal of Clinical Nutrition</i>, 91, 771-776. Exercise 2 due: Motivations to eat discussion <i>[Paper instructions distributed]</i></p> |
| Feb 24 | <p>Undernutrition and food insufficiency <i>Reading:</i> German, L., Kahana, C., Rosenfeld, V., Zabrowsky, J., Wiezer, Z. et al. (2011). Depressive symptoms are associated with food insufficiency and nutritional deficiencies in poor community-dwelling elderly people. <i>The Journal of Nutrition, Health & Aging</i>, 15, 3-8. <i>[Debate instructions and team assignments; review for exam]</i></p> |
| Mar 3 | Mid-term examination |
| Mar 10 | <p>Minerals and behavioral outcomes <i>Reading:</i> Liu, J., Hanlon, A., Ma, C., Zhao, S.R., Cao, S., & Compher, C. (2014). Low blood zinc, iron, and other sociodemographic factors associated with behavior problems in preschoolers. <i>Nutrients</i>, 6, 530-545. Papers due</p> |
| Mar 17 | <i>No class – Spring break, begorrah!</i> |
| Mar 24 | <p>Vitamins and psychological outcomes <i>Reading:</i> Buell, J.S., Scott, T.M., Dawson-Hughes, B., Dallal, G.E., Rosenberg, I.H., et al. (2009). Vitamin D is associated with cognitive function in elders receiving home health services. <i>Journal of Gerontology: Medical Sciences</i>, 64A, 888-895. Debate 1: <i>Can B12 supplements reduce cognitive deficits in the elderly?</i> Debate 2: <i>Do children's MVM supplements boost school achievement?</i></p> |

| Date | Tentative Topics/Reading Assignments/Exercises |
|-------------|--|
| Mar 31 | <p>Herbal supplements and mood</p> <p><i>Reading:</i> Kennedy, D.O., Dodd, F.L., Robertson, B.C., Okello, E.J., Reay, J.L., et al. (2011). Monoterpenoid extract of sage (<i>Salvia lavandulaefolia</i>) with cholinesterase inhibiting properties improves cognitive performance and mood in health adults. <i>Journal of Psychopharmacology</i>, 25, 1088-1100.</p> <p><i>Debate 3: Does ginkgo biloba improve memory?</i></p> <p><i>Debate 4: Is St. John's wort an effective antidepressant?</i></p> |
| Apr 7 | <p>Stimulants and depressants: Caffeine and alcohol</p> <p><i>Reading:</i> Santos, V.G.F., Santos, V.R.F., Felipe, L.J.C., Almeida Jr., J.W., Bertuzzi, R., et al. (2014). Caffeine reduces reaction times and improves performance in simulated-contest of taekwondo. <i>Nutrients</i>, 6, 637-649.</p> <p><i>Debate 5: Should energy drinks be allowed to be sold to minors?</i></p> <p><i>Debate 6: Does alcohol use promote risky sexual behavior?</i></p> |
| Apr 14 | <p>Sweeteners and food additives</p> <p><i>Reading:</i> Suglia, S.F., Solnick, S., & Hemmenway, D. D. (2013). Soft drinks consumption is associated with behavior problems in 5-year-olds. <i>The Journal of Pediatrics</i>, 163, 1323-1328.</p> <p><i>Debate 7: Do food dyes cause hyperactivity?</i></p> <p><i>Debate 8: Are artificial sweeteners effective in weight loss?</i></p> |
| Apr 21 | <p>Eating disorder syndromes: Anorexia nervosa and bulimia nervosa</p> <p><i>Reading:</i> Peterson, K.A., Paulson, S.E., & Williams, K.K. (2007). Relations of eating disorder symptomology with perceptions of pressures from mother, peers, and media in adolescent girls and boys. <i>Sex Roles</i>, 57, 629-639.</p> <p><i>Debate 9: Does paternal sexual abuse cause anorexia nervosa?</i></p> <p><i>Debate 10: Is maternal dieting a cause of eating disorders in daughters?</i></p> |
| Apr 28 | <p>Behavioral aspects of overweight and obesity</p> <p><i>Reading:</i> Boeka, A.G., & Lokken, K.L. (2008). Neuropsychological performance of a clinical sample of extremely obese individuals. <i>Archives of Clinical Neuropsychology</i>, 23, 467-474.</p> <p><i>Debate 11: Do restrictive feeding practices promote child overeating?</i></p> <p><i>Debate 12: Does food insufficiency contribute to weight gain?</i></p> |
| May 5 | <i>No class – Reading day</i> |
| May 12 | <i>Final examination (9-11 am)</i> |