

## WEIGHING THE EVIDENCE

### *One University Takes a Hard Look at Disordered Eating Among Athletes*

Case Study by Eric Weinberger for the Strategic Training Initiative  
for the Prevention of Eating Disorders  
[www.hsph.harvard.edu/stripped](http://www.hsph.harvard.edu/stripped)

#### INTERMEDIATE TEACHING NOTE by Emily Kroshus

*The primary target audience for this teaching case is undergraduate students in public health, kinesiology, physical education, athletic training, nutrition, or coaching. Coaches, athletic trainers and other professionals who work with athletes at risk of eating disorders may also find this case useful as part of continuing education activities.*

This teaching note is written to give teachers all the information and guidance you need to adopt this case in your classroom. The teaching note covers background material on the case, including synopsis, explanation of its real-world basis, teaching objectives, target audience, and a listing of case materials and required readings for learners. It also includes a detailed lesson plan for the teacher that is designed with a 1 hour and 50 minute session in mind. Of course teachers can modify the lesson plan and assigned readings to accommodate a shorter or longer class period or to spread the case out over two class periods. At the end of this teaching note are a written homework assignment and in-class assignment instructions. The written homework assignment should be distributed to students along with the required reading one week before the class session in which the case will be discussed. The in-class assignment instructions should be handed out to students at the start of the class period dedicated to discussion of this case.

Please note that eating disorders are a serious mental health issue. Some students in your class may be suffering from an eating disorder or have recovered from one. Other students may have close friends or family members who have been afflicted with an eating disorder. It is strongly recommended that you begin the class session by reminding students that because many mental health concerns are “invisible” to an outside observer it is often difficult to know when individuals are suffering, including their own classmates, friends, or family members. It can be helpful to remind students at the start of class that being respectful and constructive in how we communicate about mental health concerns is critical. If students express concerns about their own eating behaviors, it is recommended that you refer them to your school’s counseling center. A good resource for students with additional questions, or if you would like to learn more about eating disorders, is the National Eating Disorder Association: <http://www.nationaleatingdisorders.org/general-information>.

#### **A. Synopsis**

When a student-athlete falls ill with an eating disorder and needs treatment, chances are that many factors came into play. While some might see an eating disorder as arising only because of personal

factors—such as a person’s genes or her or his family, choices in diet or priorities, or because of a particular psychological make-up—the reality is that all of these individual and family concerns are very much shaped by the larger environment, from extended family to school to media and society as a whole. For college athletes, the environment on campus, on their team, and in their sport may be pivotal. For university athletic programs that wish to do better by their students, thinking about systems and the interconnection of all aspects of student life and athletic pressures for performance is paramount.

In “Weighing the Evidence: One University Takes a Hard Look at Disordered Eating Among Athletes,” the new dean of the undergraduate college at the fictitious Colburn University, Francis Reilly, has found himself needing to peel back some of the layers embedding college athletics on the issue of eating disorders among athletes, assisted by his dean of student life, Shinique Palmer, a star athlete herself during her Colburn undergraduate years in the mid-1980s. In point of view, the narrative oscillates between a perch from “on high”—that of top-level administrators like Reilly, Palmer, and athletic director Harry Ritchie—and what might be called “ground level”: the individual students, teammates, coaches, and athletic trainers dealing every day with athletes and their issues, including some cases (not always clear or diagnosed) of eating disorders. An athletic trainer for one team, Gail Mendoza, has become the default “case manager” for such athletes across all the teams; but this may not be the best structure to get help to the students who need it. A parent’s intervention into the case of her child, a freshman gymnast, points to many problems that need thinking anew if Colburn is to create a healthy environment for its student-athletes.

## **B. Real-World Basis**

Nearly 500,000 athletes participate in collegiate sports in the U.S. each year, and both male and female participants in sports where there are aesthetic (e.g., gymnastics), gravitational (e.g., distance running), or weight-class (e.g., wrestling, lightweight rowing) demands are at particularly high risk. College athletes are exposed to risk factors associated with being a college student and also those unique to their role as athletes and within their sport environment. Reasons for this elevated risk among certain sub-populations of athletes include factors that range from individual traits to interpersonal interactions to school and sport-league policies to cultural influences. At the individual level, characteristics that many people believe reflect being a disciplined athlete, such as rigid and restrictive eating and exercise behaviors, often look very similar to the characteristics of an individual at risk of an eating disorder. At the interpersonal level, verbal communication from a coach, teammate, or parent about weight and eating as it relates to sport performance can presage the development of an eating disorder. Observing teammate eating behaviors and weight can also influence eating and exercise behavior. School and league policies about the revealing nature of uniforms, whether weigh-ins are required, and the body mass index or weight above or below which athletes are ineligible for sport participation can also influence risk. School policies about coach and athlete education about eating disorders and sport nutrition and the accessibility of trained personnel (such as a dietician or a mental health professional trained in working with athletes at risk of eating disorders) can also influence risk. Finally, images in the media about the athletic ideal body or the sport ideal body—communicated through televised sporting

competitions, sports magazines or websites, or photos of athletes on social media—contribute to a culture in which sport participants may consider a specific body size most desirable.

Because risk factors for disordered eating among athletes can arise at multiple levels, determining how to reduce risk is particularly difficult and can result in tensions at these different levels. There are existing interventions that target the athletes themselves, for example trying to change athletes' attitudes about what is a healthy body and encouraging them to fuel their body to perform optimally in their sport. However, if coaches are sending a different message—for example, that you have to be “thin to win”—or if institutional policies about uniforms or weigh-ins place pressure on the athletes to look or weigh a certain way, these athlete-focused efforts might be limited in effectiveness. This teaching case weaves together realistic story elements and familiar-feeling characters to give students a sense of both the challenges and opportunities they are likely to face when addressing the problem of eating disorder risk among athletes. It provides learners an opportunity to start developing possible solutions to a critical, and unresolved, public health problem. This case is relevant to learners regardless of their interest in or experience with sports. All learners will gain instruction in public health competencies that can be applied to a range of health issues and settings.

### **C. Learning Objectives and Target Audience**

The learning objectives of this case include several that are specific to the topic of eating disorders prevention in the sport context and several others that support core competencies for public health education promulgated by the U.S. Council on Linkages Between Academic and Public Health Practice (APHP) ([http://www.phf.org/resourcestools/Pages/Core\\_Public\\_Health\\_Competencies.aspx](http://www.phf.org/resourcestools/Pages/Core_Public_Health_Competencies.aspx)).

The learning objectives specific to eating disorders prevention in the sport context are:

- 1) Describe the behaviors that characterize an athlete with an eating disorder or an athlete at risk of an eating disorder.
- 2) Identify the risk factors for disordered eating that are unique to athletes and the sport context.
- 3) Identify intervention goals and objectives and generate strategies for intervention to reduce eating disorder risk.

The learning objectives addressing Council on Linkages Between Academic and Public Health Practice competencies are:

- 1) Describes factors affecting the health of a community (Analytical/Assessment Skills 1A1);
- 2) Identifies assets and resources that can be used for improving the health of a community (APHP Analytical/Assessment Skills 1A11);
- 3) Suggests relationships that may be needed to improve health in a community (APHP Community Dimensions of Practice Skills 5A2);
- 4) Develops options for policies, programs, and services (APHP Policy Development/Program Planning Skills 2B6);

- 5) Examines the feasibility and implications of policies, programs, and services (APHP Policy Development/Program Planning Skills 2B7).

#### **D. Case Materials**

The complete case study consists of the case narrative, a teaching note, which includes a lesson plan, homework assignment, and in-class activity instructions, plus three companion technical documents that are available at no cost on the Internet.

##### Provided Teaching Case Narrative Document:

- 1) Cover page, plus table of contents, synopsis, and acknowledgments (3 pages)
- 2) Cast of characters (1 page)
- 3) Case study narrative “Weighing the Evidence: One University Takes a Hard Look at Disordered Eating Among Athletes” (11 pages)

Provided Teaching Note Document: Includes overview material, lesson plan, written homework assignment, and in-class assignment instructions. In addition to the provided materials and required readings listed below for students, teachers who are new to teaching about ecological models of health behavior may find the following resource helpful:

Sallis, J.F., Owen, N., Fisher, E.B. (2008). Ecological models of health behavior. In K. Glanz, F.M. B. K. Rimer, & K. Viswanath, (Eds.), *Health Behavior and Health Education: Theory, Research and Practice*. 4th edition, pp. 465-482. San Francisco: Jossey-Bass.

Keep in mind that teachers can modify the lesson plan and assigned readings to accommodate a shorter or longer class period or to spread the case out over two class periods to spend more time introducing key concepts about ecological models of health behavior, athletes and eating disorder risk, or other topics.

#### **E. Required Reading for Students**

- 1) Provided case study narrative document, plus the homework assignment. Teachers should distribute the readings and homework assignment to students one week before the class session in which the case will be discussed.
- 2) Companion technical document
  - Centers for Disease Control and Prevention. The social-ecological model: A framework for prevention. Website updated August 26, 2014. Available at:  
<http://www.cdc.gov/violenceprevention/overview/social-ecologicalmodel.html>
- 3) Peer-reviewed journal article:

- Thompson, R. A., & Sherman, R. (2014). Reflections on athletes and eating disorders. *Psychology of Sport and Exercise*. 15(6):729-734. Key teaching points from article:
  - Males and athletes in sports that do not have aesthetic, gravitational, or weight class demands are also at risk of disordered eating, but they are frequently left out of the conversation.
  - Eating behaviors can be “contagious” on teams, through processes including competitive thinness and social norms around weight and eating.
  - Identification of athletes engaging in disordered eating behaviors is often difficult due to stereotypes about what is an “ideal” or “acceptable” body size for a given sport and the assumption that if an athlete is performing well they must not have a problem.

#### **F. Acknowledgments and Funding**

This teaching case was written by Eric Weinberger for the Strategic Training Initiative for the Prevention of Eating Disorders (STRIPED [www.hsph.harvard.edu/striped](http://www.hsph.harvard.edu/striped)) under the direction of STRIPED director S. Bryn Austin and STRIPED scholar Emily Kroshus. We would like to thank reviewers of this case: Debra Franko, Jess Haines, Susan Madden, Susan Paxton, Ron Thompson, Roberta Trattner Sherman, Mary Wilfert, and Zali Yager. We also thank the students in the course “Sport and Exercise Psychology” at Fisher College for their participation in the pilot evaluation of this teaching case. This work was supported by the Ellen Feldberg Gordon Challenge Fund for Eating Disorders Research and grants T71-MC-00009 and T76-MC00001 from the Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Department of Health and Human Services.

## G. Lesson Plan and Discussion Guide

<b>Lesson Plan</b> (1 hour 50 minutes)
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### 1. Opening Whole Class Discussion (15 minutes)

- a) Introduction to Case and Initial Discussion: In class today, we will be focusing on our case “Weighing the Evidence: One University Takes a Hard Look at Disordered Eating Among Athletes” about fictitious Colburn University and the Dean Reilly’s awakening to the health burden of eating disorders among the institution’s student-athletes. Your homework assignment was to begin thinking about all of the things that influence the risk of eating disorders—at levels ranging from the individual to the societal. Now for our in-class activity, you and your team of colleagues from Colburn University will propose a strategy for the dean of students based on this information.
- b) **Q**: Which groups of athletes do you think are at risk for disordered eating? Do you think the Dean Reilly should target all student athletes or specific groups of student athletes? What are the benefits and drawbacks to each approach?
- c) **Q**: One of the levels in the social ecological model was RELATIONSHIPS. According to the case study, what are important RELATIONSHIPS at Colburn University that might be related to eating disorder risk or prevention? (Ideas: teammate-teammate, athlete-coach, parent-athlete, athletic trainer-coach, athletic trainer-athlete, athletic trainer-administrator, residential advisor-athlete, and potentially others).

### 2. Program Planning Team Meeting (45 minutes)

- a) Introduction to Program Planning Team Meeting (5 minutes): For your homework assignment, you generated ideas for different influences on eating disorder risk at the individual, relationship, community and societal level. Now for our in-class activity, you and your team of colleagues from Colburn University will distill the best of your collective ideas and propose an intervention plan for Dean Reilly. *[PASS OUT IN-CLASS ACTIVITY TEAM ASSIGNMENT SHEET. NOTE: This in-class activity sheet could be distributed to students the day before class to give them time to read through the instructions before arriving to class.]*
  - For the next **40 minutes**, you and your team will generate feasible strategies for Dean Reilly to implement. You must make sure that your suggested strategies address AT LEAST ONE factor at EACH of the levels of the social ecological model (individual, interpersonal, community, societal). **Be sure to choose a note taker and timekeeper** for your meeting and be prepared to report back to the class on the intervention and evaluation strategy developed by your team.

Recommended Meeting Agenda and Timeline (40 minutes):

- **For the first 10 minutes:** Have a discussion where each person summarizes for the team the ideas you came up with in the homework assignment. Identify common threads in your team members' ideas and also identify what you consider to be the most important ideas.
- **For the next 15 minutes:** Brainstorm possible areas for intervention. Activities should be reasonably based in the evidence presented in the teaching case and assigned readings, but at the same time, keep this part of the meeting open and creative so you can generate many ideas. Select the activities that you think are most impactful and feasible for Dean Reilly to implement.
- **For the next 5 minutes:** Think about possible challenges to your proposed strategy. What individuals, groups, or community or societal factors might be barriers to implementing your ideas at Colburn University?
- **For the last 10 minutes:** Finalize your proposal for Dean Reilly. Make sure that the strategy that you will be proposing addresses AT LEAST ONE factor at EACH of the levels of the social ecological model. We will want to hear from everyone on your team, so each of you should be prepared to help report back to the class on at least one aspect of your team's plan.
- At the end of the meeting, each team will be responsible for presenting your proposed plan. Each team will have **SIX** minutes to present the team's ideas to the rest of the class. Please choose one team member to be the timekeeper and another to be the note taker. Everyone will need to help with reporting back to the class.
- **NOTE:** Assuming a class size of 20 students, have students count off by five to create five teams of four students each. Team size and number of teams can be modified depending on class size.

**3. Reconvene for Class Discussion (50 minutes)**

- a) Teams Report Back (30 minutes): Each team reports back to the larger group on their proposed plans (have all team members help report back). While teams are still in small group activity, write across the top of the board the headings for the social ecological model: individual, relationship, community, and societal. Then as teams report back, write basic details of each team's proposal on the board under the corresponding headings.

**NOTE: SIX MINUTES PER TEAM ASSUMING FIVE TEAMS OF FOUR STUDENTS EACH.**

- **Q:** What *outcomes* (i.e., changes you expect to be achieved with your plan) are you expecting to see in the *short-term* (meaning, 1-3 year time frame)? How about in the *long-term* (meaning, 4-6 year time frame)?
- **Q:** What possible challenges to implementation did your team identify?

b) Free Write (10 minutes)

- Have students take out a piece of paper they can turn in at end of class, put their names on the paper, and write their response to the following question (3 minutes):

**Imagine you're working at Colburn—as a coach, an athletic trainer, a physician, a professor, an administrator, or any other position. What do you think are the most important things YOU could do to help limit the health burden of disordered eating among the school's athletes?**

- Discuss Free Write responses together (7 minutes)

c) Whole Class Discussion and Wrap-up (10 minutes)

- This assignment helped us think about factors at multiple levels—ranging from individual to societal—and how they influence eating disorder risk. Comparing what you know about eating disorders now to before you completed this assignment, which risk or protective factor for eating disorders at Colburn University did you find most surprising or least expected? At what level was this risk factor? *For a small class go around the room, or for a larger class ask for volunteers to contribute.*

**END CASE DISCUSSION**

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#### WRITTEN HOMEWORK ASSIGNMENT: Social Ecological Model Report

**Format:** Completed boxes for social ecological model. Bulleted text or prose.

#### Required reading

Companion technical documents:

- Centers for Disease Control and Prevention. The social-ecological model: A framework for prevention. Website updated August 26, 2014. Available at:  
<http://www.cdc.gov/violenceprevention/overview/social-ecologicalmodel.html>

As our case story unfolded, we saw how even though only a small number of student-athletes at Colburn University had a clinically diagnosable eating disorder, many were engaging in disordered eating behaviors that impacted their health and athletic performance. We also learned of the multiple levels of risk factors for disordered eating among Colburn student-athletes: from individual characteristics, to various relationships, to community factors, to societal factors. When our case study ended, Dean Reilly wanted to learn more about how Colburn can reduce disordered eating among student-athletes. He's has now decided to convene a task force about this topic—and you're invited to participate.

**INSTRUCTIONS FOR HOMEWORK ASSIGNMENT:** To prepare for class—and for the task force meeting—each of you must go carefully review the case study and detail the factors that influence disordered eating at Colburn University. The homework assignment is designed to help you do this in a systematic way while learning about an important public health framework for understanding and addressing health problems—the social ecological model.

As you are reading through the case study, many different factors that are related—or could be related—to disordered eating among student-athletes at Colburn University are presented. To help organize your thoughts and keep the story straight while you are reading through the case study, you may find it helpful to keep a piece of paper beside you and draw a “mind-map” or a visual depiction of these different factors that are presented and how they might be related to each other.

After you have read the case study, the required companion technical document, and the required peer-reviewed journal article, complete the chart provided on the following page. In this chart you will detail factors that influence eating disorder risk at Colburn University at the following levels: individual, relationships, community, and societal. You can write your responses in bullet-point format. **Your grade on this written homework assignment** will be based on the clarity, completeness, and organization of your responses. In class, this information will be used to help decide where Dean Reilly should intervene if he wants to effectively and efficiently reduce disordered eating among Colburn student-athletes.

Although this teaching case story is fictional, its creation was very much informed by the experiences of real communities. So with this assignment, please be encouraged to make inferences about the fictional Colburn University drawing on real-life epidemiologic and other scientific literature that you feel are most relevant.

\* \* \*

Instructions: In the chart below, list the factors that you think could be related to disordered eating among student-athletes at Colburn University.

Level of influence	Examples and notes
<p>INDIVIDUAL</p> <p>Biological and personal history influences</p>	<ul style="list-style-type: none"> <li>• <i>Personal goals related to sport performance.</i></li> </ul>
<p>INTERPERSONAL</p> <p>Influences from personal relationships and interactions</p>	<ul style="list-style-type: none"> <li>• <i>Observing and emulating teammate exercise behaviors.</i></li> </ul>
<p>COMMUNITY</p> <p>School-level influences</p>	<ul style="list-style-type: none"> <li>• <i>School-issued uniforms for competition that are very revealing.</i></li> </ul>
<p>SOCIETAL</p> <p>Broader social and cultural influences</p>	<ul style="list-style-type: none"> <li>• <i>Idealized body images for the sport promoted in the media that are very thin or have extreme muscle definition.</i></li> </ul>

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#### **IN-CLASS ACTIVITY: Using the social ecological model to identify factors that influence risk of eating disorders**

With today's teaching case, we are helping the dean of students at Colburn University come up with strategies to reduce the health burden of disordered eating among the institution's student-athletes. For your homework assignment, you did the initial work solo using the social ecological model to think about the range of factors that might influence the risk of eating disorders at Colburn University. Now for our in-class activity, you and your team of colleagues from Colburn University will work together to propose an intervention plan for Dean Reilly that addresses AT LEAST one factor from EACH of the levels of the social ecological model (individual, interpersonal, community, societal). By the end of your meeting, you and your team will report back to the class on your team's final program plan.

For the next **40 minutes**, you and your team will work together to decide which risk factors Colburn University should address and then come up with what you believe will be a feasible and impactful plan for Dean Reilly. **Be sure to choose a note taker and timekeeper** for your meeting and be prepared to report back to the class on the intervention and evaluation strategy developed by your team.

#### **4. Program Planning Team Meeting: Recommended Meeting Agenda and Timeline (40 minutes)**

- **For the first 10 minutes:** Have a discussion where each person summarizes for the team the ideas you came up with in the homework assignment. Identify common threads in your team members' ideas and also identify what you consider to be the most important ideas.
- **For the next 15 minutes:** Brainstorm possible areas for intervention. Activities should be reasonably based in the evidence presented in the teaching case and assigned readings, but at the same time, keep this part of the meeting open and creative so you can generate a lot of ideas. Select the activities that you think are most impactful and feasible for Dean Reilly to implement.
- **For the next 5 minutes:** Think about possible challenges to your proposed strategy. What individuals, groups, or community or societal factors might be barriers to implementing your ideas at Colburn University.
- **For the last 10 minutes:** Finalize your proposal for Dean Reilly. Make sure that the strategy that you will be proposing addresses AT LEAST ONE factor at EACH of the levels of the social ecological model. We will want to hear from everyone on your team, so each of you should be prepared to help report back to the class on at least one aspect of your team's plan.

- At the end of the meeting, each team will be responsible for presenting your proposed plan. Each team will have **SIX** minutes to present the team's ideas to the rest of the class. Please choose one team member to be the timekeeper and another to be the note taker. Everyone will need to help with reporting back to the class.

*Good luck and have fun!*

Please note that eating disorders are serious health issues. If you are worried about your own eating behaviors, you should speak to a clinician or counselor about your concerns. If you do not have a primary care physician with whom you are comfortable speaking, most institutions have a health or counseling center where you can find a trained professional to discuss your concerns. If you would like to learn more about eating disorders, the National Eating Disorders Association has comprehensive information including resources for care seekers and how to help friends and family members: <http://www.nationaleatingdisorders.org/general-information>.