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Educational Technique: Incorporating Social Determinants of Health Into Athletic Training Education

Rhianna Freiburger, MS, ATC*; Kelsey J. Picha, PhD, ATC†; Cailee E. Welch Bacon, PhD, ATC*†‡; Alison R. Snyder Valier, PhD, ATC, FNATA*†‡§

*Athletic Training Programs and †Department of Interdisciplinary Health Sciences, A.T. Still University, Mesa, AZ; ‡School of Osteopathic Medicine in Arizona and §Department of Research Support, A.T. Still University, Mesa, AZ

Context: Social determinants of health (SDH) are reportedly more important in determining a patient's health status than the actual health care services provided. Given their role and unique clinical practice environment, athletic trainers will encounter patients who are influenced by SDH. It is important to educate future generations of athletic trainers on the importance of SDH to promote positive patient outcomes.

Objective: To detail a strategy for implementing concepts of SDH into athletic training education programs.

Background: A purposeful educational strategy that incorporates didactic concepts and clinical practice application of SDH for athletic training students is important to produce a deeper understanding of the role these factors play in populational health.

Description: Delivery methods such as presentation modules and learning activities are presented.

Clinical Advantage(s): Integrating SDH through a tailored activity exposes students to the concepts of SDH and promotes observation and use in clinical practice. Awareness and recognition of how SDH support delivery of patient-centered care may promote patient and population health outcomes.

Conclusion(s): The inclusion of SDH into athletic training education using lecture, observational learning, and reflective techniques can expose students to SDH in clinical practice and promote whole-person health care.

Key Words: Social factors, medical education, patient-centered care, small group instruction, observational learning

Dr Snyder Valier is currently Professor in Athletic Training Programs at A.T. Still University. Address correspondence to Alison R. Snyder Valier, PhD, ATC, FNATA, Athletic Training Programs, A.T. Still University, 5850 East Still Circle, Mesa, AZ 85206. arsnyder@atsu.edu.

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KEY POINTS

- After this activity, students' perceptions of their familiarity with social determinants of health and comfort in identifying social determinants of health in clinical practice increased.
- Athletic training education can benefit from inclusion of concepts related to social determinants of health in classroom and clinical education because greater awareness of these concepts and observation in patients supports delivery of patient-centered care and informs clinical decision-making.
- Athletic training educators should consider implementing a card-study activity to foster students' observational skills at the point of care.

INTRODUCTION

The circumstances in which people live, work, and grow that shape daily living are called social determinants of health (SDH). Examples of social determinants include education, environment, neighborhoods, access to health care, and safety. The SDH are important factors in populational health because research suggests these social factors are more important than the health care patients receive in determining their overall health.²⁻⁶ Furthermore, recent updates in the athletic training curricular content standards have brought the concepts of SDH into the education of future athletic trainers (ATs); this content area had not been largely discussed in athletic health care. Within the curricular content standards of the 2020 Standards for Accreditation of Professional Athletic Training Programs, 7 Standard 57 is specifically centered around the professional program preparing graduates to be able to recognize care strategies that account for SDH. There is a strong need for ATs to begin to explore the meaning of SDH in athletic health care and the role of ATs in evaluating and potentially addressing these factors in clinical practice. Exposure to SDH in professional and postprofessional athletic training education will provide students with the knowledge and skills to identify these influential social factors and to become providers who focus on the whole person. Finding effective ways to integrate the concepts of SDH into education programs and clinical practice is important, because it is one experience to be introduced to the definition and examples of SDH and another to actually observe and identify them in patients at the point of care. Therefore, the purpose of this article is to share an educational technique for integrating SDH concepts into athletic training educational programs.

VALUE OF SOCIAL DETERMINANTS OF HEALTH IN ATHLETIC TRAINING EDUCATION

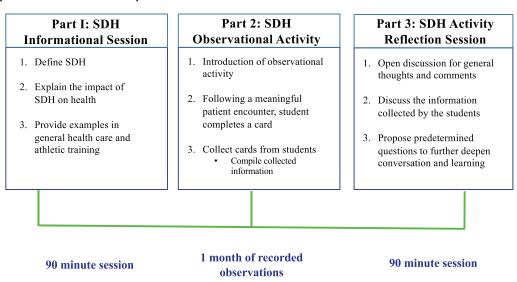
As SDH coursework is developed for athletic training education, it is important to understand the value of SDH in health care. Whereas much attention is given to health care

and the costs and services provided to patients, researchers continue to demonstrate that factors other than the actual health care received may be more influential to long-term health outcomes of people and populations. 4,8,9 The idea that social and environmental factors have the greater impact on health might be surprising to some. In fact, health status is influenced heavily by factors stemming from the patient's society and environment. Social determinants of health are thought responsible for the differences in health between and within countries, 1 making their focus in health discussions and practice essential. Neglecting to address these social factors as part of the care process results in missing one of the largest influences on a patient's health.²⁻⁵ The World Health Organization defines SDH as "the conditions in which people are born, grow, live, work, and age and the wider set of forces and systems shaping the conditions of daily life." Included are factors such as socioeconomic status, environment, food security and safety, education, employment, and homelessness. 1,10-12 Social determinants not only affect an individual's health but can also act on the population or community as a whole.

Social determinants of health can positively or negatively influence a patient's health. Negative SDH prevent development of optimal health over time and can lead to health disparities. 13 For example, type of insurance and lack of insurance dictate where individuals can receive health care services and how fast they are able to be seen by providers. Receiving care quickly is often a positive influence on health; however, delayed care due to administrative barriers, such as insurance issues, can negatively affect health. Similarly, health literacy is a large predictor of patient health status. 14-17 The ability to navigate the health care system relies on health literacy, which is an understanding of how the health care system works. Low health literacy creates obstacles during the health care experience and, more important, decreases the odds that people will access the health care system when needed. 18-20

Athletic trainers, given the diverse populations to whom they provide services and the frequency of contact with their patients, likely encounter patients who are negatively affected by SDH and have opportunities to observe these factors. For instance, an AT working in the secondary school setting may care for patients who experience food insecurity potentially increasing the patient's risk of sport-related injury due to inconsistent nutrients while simultaneously affecting the patient's stress levels. It has been shown that stress levels correlate with health. ^{5,21–23} We also see a similar support for collegiate athletes when athletic programs provide meals or snack bars for athletes. Similarly, the need for employment might also reflect the negative impact of SDH in patients' lives. For example, a young athlete whose injury affects sport participation and limits the ability to work an after-school job that helps support the family may experience a different

Figure 1. Three-part educational technique.



impact on health than an athlete who does not also have family-support responsibilities.

Another way in which the role of ATs connect with SDH is patient access to health care. Social determinants of health experienced by patients, such as economic stability and neighborhood, affect access to health care. This is particularly true for secondary school-aged athletes who may or may not live in communities that employ ATs in their schools, reducing access to health care to these youth. Neighborhoods with more resources and higher incomes may be more likely to include ATs as part of athletic health care in schools. Currently, 37% of public secondary schools have access to an AT full time for competitions and practices. Athletic trainer availability in secondary schools can reduce barriers to accessing health care because the addition of an AT may increase use of preventative and primary care services in adolescents.²⁴ This low percentage highlights the difference in access to care secondary school athletes are experiencing and the need to increase the number of ATs in secondary schools to affect overall population health.²⁵ Not having ATs in secondary schools is a missed opportunity to recognize and potentially influence access to health care, especially in lowerincome areas where access is historically limited. A recent study conducted in Wisconsin found that schools without an AT had a lower median household income and a higher percentage of students eligible for free or reduced-price lunch than those with an AT.²⁶ Likewise, children from the lowestincome and rural areas had almost 3 times higher injury rates than those of the highest-income areas.²⁷ Athletic trainers are not only needed in lower-income areas to help address health disparities, such as access to health care, but they must also be familiar with recognizing SDH as an influential factor in their patients' health. Another example of how an AT can increase access to health care, reducing a social barrier, is in the industrial setting. By having access to an AT on site, industrial workers often participate in health and wellness programs geared at injury prevention and promoting healthy behaviors. Also, if injured, industrial workers have on-site health care to help manage and treat their injuries. These opportunities reduce barriers and increase access to health care. Given ATs' unique role in health care and the impact SDH have on

patient health, it is important that SDH be included in athletic training education.

THREE-PART ACTIVITY EDUCATIONAL TECHNIQUE

When considering any educational content and how to introduce it to students, one should design the activity to meet the desired student outcomes. Social determinants of health are concepts that in some ways require a willingness to explore and observe patient vulnerabilities and factors that may be out of the clinician's control. Therefore, due to the observational nature of identifying SDH as a part of patient care, we ascertained that social learning theory was most appropriate to optimize learning outcomes. Bandura's social learning theory centers around the concept that people learn from observing behavior, attitudes, and outcomes of others' behaviors.²⁸ Because observational learning can lead to a change in an individual's behavior, we used the framework behind social learning theory as a guide to structure our learning activity. As we worked to develop the teaching strategies related to SDH, it was clear that a passive learning activity alone, such as lecture, was not enough to reach the end goal of appreciation about these important concepts and the ability to weave them into clinical practice. Our objectives for this educational technique were to (1) introduce the concept of SDH, (2) discuss and explore examples of SDH in general and athletic health care, and (3) use an educational activity designed to promote observation, consideration, and reflection of SDH in clinical practice. Therefore, structuring an activity that allowed for introduction of concepts, experiential learning, and reflection seemed appropriate to meet the intended learning outcomes while following a 3-part approach that included an informational session, observational activity, and reflection session (Figure 1). Collectively, the three parts were considered a classroom activity, including the retrospective review of extant data used for reflection, thus the experiences was deemed exempt by the local institutional review board.

Part 1: SDH Informational Session

An hour-long presentation provided students with the definition of SDH, explanation of the impact of SDH on

Figure 2. Back of the card used in the card activity.

	A	В	С
Social Factors	Observed Social Factors	Negative impact on the patient's health?	Action Taken
Access to social media/emerging technologies			
Behavioral health issues			
Cultural beliefs/values			
Educational limitations			
Family care demands			
Individual/family life circumstances			
Poor social support			
Language barrier			
Lack of health literacy			
Poverty/near poverty			
Insufficient/lack of health insurance			
Food insecurity			
Homeless/poor or unstable living conditions			
Transportation issues			
Migrant/immigration status			
Neighborhood safety			
Substance use/abuse			
Job/academic stressors			
Other:			

I did not observe any of the listed social factors

patient health, and examples of SDH that are relevant to athletic health care. The SDH presented were based on those reported in Communities in Action: Pathways to Health Equity, 29 which was the result of an extensive review of health disparities and inequalities in an effort to inform change to benefit the well-being of all communities. The objective of the preactivity presentation was to broadly introduce the concepts of SDH to students and then relate them to athletic health care to generate relevant examples. The presentation included real-world examples obtained from ATs with experience managing the care of athletes in underserved communities who have experienced the negative impact on health that SDH can produce. Sharing of real athletic training experiences with SDH illustrated to students the reality of SDH in the lives of their patients and presented examples of management strategies to overcome some of the social challenges. Students were given the opportunity to share their own experiences from clinical practice and encouraged to ask questions throughout this session. Before providing details of the observational learning activity, students paired with one another to discuss SDH globally and in relation to experiences in clinical practice.

Part 2: SDH Observational Activity

Once students had the opportunity to hear about SDH and discuss with their peers, students were introduced to an observational learning activity designed to engage students in the observation of SDH in their patients at the point of care. The framework for the learning activity was a card study, 30 and the specifics were adapted from previously conducted research by Lewis et al. 31 A card study, which is a type of observational research that allows for recording of what

occurs in real-life situations, such as in health care settings.³⁰ Card studies can be helpful, not only due to data collection at the point of care, but also because large amounts of data can be collected in a short amount of time. In the study conducted by Lewis et al,³¹ primary care providers were given a card that contained a list of social factors and the ability to record counseling intervention education, billable codes, diagnosis codes, and the effects the social factor had on the patient's health. The providers were instructed to complete a card during patient interactions. In addition, providers were able to identify whether the patient received an intervention to address the social factor(s) observed. The card study was an effective and promising technique because it created an opportunity for which students could take concepts learned in a didactic experience and apply them to the real world.

Cards for this learning activity were designed similar to the ones used by Lewis et al.31 Eighteen social factors were listed on the back of the cards (Figure 2). Social factors included those identified by the Communities in Action: Pathways to Health Equity report²⁹ and were adjusted to be relevant to athletic health care. The cards were designed with 4 columns: (1) social factor, (2) space to mark whether the social factor was observed, (3) space to note whether the social factor had a perceived negative impact on the patient's health, and (4) space to identify intervention made by the AT to address the observed SDH. Check boxes were also provided at the bottom of the card for students to check when no social factor was observed or when the AT was unsure whether a social factor was observed. Printed instructions were located on the front of the card for student reference (Figure 3), and a definitions handout (Figure 4) provided additional descriptions and

Figure 3. Front of the card used in the card activity.

Social Determinants of health

- Place an "x" on the grid for all that apply to this patient counter Columns:

A) **Observe:** Observe your patient for social factors. Check the box <u>only</u> if you observe the corresponding social factor.

If you observed a social factor, complete columns B and C for that social factor

- B) **Negative Impact:** Evaluate the impact of the social factor on the patient's health. Check the box <u>only</u> if you believe the social factor has a negative impact on the patient's health.
- C) **Action Taken:** If you took action to address the observed social factor, enter a brief statement regarding the action taken (eg, education, counseling, referral, resources).

Figure 4. Definitions of the social factors.

Social Factors	Definitions and Examples		
Access to social media/emerging technologies	Interactions with news, Instagram, Facebook, Twitter, or other technology.		
Behavioral health issues	Emotions, behaviors and/or biology relating to a person's mental well-being, their ability to function in everyday life and their concept of self (eg, anxiety, depression, attention disorders).		
Cultural beliefs/values	Attitudes, behavior, and values that characterize the functioning of a group or organization.		
Educational limitations	Access or lack of access to learning opportunities and literacy development. Can also include difficulty reading, listening, asking questions or applying information.		
Family care demands	Responsibility of supporting themselves and others financially or responsibility of caring for others such as siblings or elderly parents.		
Individual/family life circumstances	The dynamics of the family which may include parents (or the individual) being separated or divorced, blended families, illness or death.		
Poor social support	Lacks assistance from other people and lacks a supportive social network, this could be from family, friends, teammates, or coaches.		
Language barrier	Primary language not English; inability to communicate freely and openly with provider.		
Lack of health literacy	Observed difficulty processing and understanding medical information and processes. Can include difficulty reading, listening, asking questions or applying information.		
Poverty/near poverty	Income is below poverty line, not enough to meet basic needs or just enough to meet basic needs, but nothing extra.		
Insufficient/lack of health insurance	Either no health insurance or has insurance which is not sufficient to cover medical expenses or doesn't cover medications. Prohibits seeking care or follow-up.		
Food insecurity	Does not have reliable access to sufficient quality of affordable, nutritious food. Does not know where next meal is coming from. Might live in area with limited access to nutritious food.		
Homeless/poor or unstable living conditions	Does not have permanent housing, may live on the streets, in a shelter, mission, abandoned building, vehicle or any unstable non-permanent situation.		
Transportation issues	Hard to get to appointments due to lack of transportation. Does not own vehicle or family does not own vehicle, can't afford public transportation, lives far from public transportation or services are unreliable.		
Migrant/immigration status	Person is a migrant who relocates frequently due to work availability. Not born in US, now living here legally or illegally. Can have difficulty obtaining public assistance if 'illegal'. May be child with legal status whose parents do not have legal status.		
Neighborhood safety	Not feel safe going outside in neighborhood, threat of crime/violence. Under stress from environment. Children can't play outside, can't exercise, hard to get to appointments.		
Substance use/abuse	Use or excessive use of alcohol, drugs, or steroids.		
Job/academic stressors	Schedule demands, course rigors, grade or achievement concerns.		
Other:	Any other social determinant of health not listed on this card.		

Table 1. Reflection Session Guiding Discussion Questions

Guiding Discussion Questions

- 1. What are your general thoughts and feelings about the social factors you observed?
- 2. Describe your experiences (eg, successes and challenges) you had observing and identifying potential social factors.
- 3. How did you perceive a social factor was having a negative impact on a patient's health?
 - a. Was determining if a social factor had a negative impact on a patient's health difficult? Why or why not?
- 4. Did you take any action once you identified a negative social factor?
 - a. If so, what did you do? If not, why not?
- 5. What resources do you have access to in your clinical setting that could be used to reduce patient's negative social factors?
 - a. What resources can you think of that would help you improve care when you observe a patient experiencing the negative impact of a social factor?
- 6. Were there things that surprised you about your observations?
- 7. Have your perceptions about the social determinants of health changed with completion of this activity?
 - a. If so, how? If not, why not?

examples of each social factor. The cards were 8.5×5.5 in and were designed to take the students less than 30 seconds to complete. Although the design of the card, including social factors and instructions, was modeled on the cards used by Lewis et al,³¹ cards were critiqued by 2 experienced health care providers to ensure content validity.

Students were instructed to complete a card for a minimum of 5 patients with whom they had meaningful experiences each week and to do this for a total of 1 month. A meaningful experience was generally described as an interaction in which there was verbal communication between clinician and patient and/or a physical examination.³² Meaningful interactions

Table 2. Recorded Observations of Social Determinants of Health

Observed Social Factors (n)	Negative Impact on the Patient's Health? (n)
104	12
25	12
33	11
14	7
19	2
32	13
17	9
	5
	15
11	7
4.4	•
	6
6	3
4	0
-	0
	4 2
3 6	0
	3
	13
	2
401	126
	Social Factors (n) 104 25 33 14 19 32 17 13 33 11 11 6 4 33 3 6 7 30 3

could be an examination of the patient's function, evaluation of play status, or discussion of the next steps in care.³² The goal was for each student to reflect on 20 meaningful patient interactions and to report on observation of SDH. Students were instructed to not change their approach to clinical practice and to not ask patients additional questions regarding social factors if not already part of routine care. Completion of cards was done at the end of the patient interaction. Cards were collected weekly and at the end of the month-long activity.

Part 3: SDH Activity Reflection Session

After the month-long card activity, students and faculty gathered for a 90-minute reflection session where student experiences were explored and discussed. By participating in a reflective session, students continued to further integrate SDH concepts via social learning strategies. To begin, students were asked to share their general thoughts about and reactions to the activity and their findings. Throughout the remainder of the reflection session, students had the opportunity to learn from their classmates' experiences and to share their own impressions of the impact of SDH in their patient population. Questions posed to students to initiate and guide discussion are provided in Table 1.

CLINICAL ADVANTAGES

This learning activity not only introduced the concept of SDH to 22 postprofessional graduate athletic training students, but it also provided students with an observational learning opportunity at the point of care. Overall, students returned 225 cards with 401 social factors observed, indicating the ease and feasibility of this type of activity in athletic training education. Of the 401 social factors observed, 126 were perceived to have a negative impact on patient health (126/401 = 31.42%; Table 2). Thirty-one (31/225 = 13.8%) cards were returned with the "did not observe any social factors" and 27 (27/225 = 12.0%) with the "unsure if patient was affected by social factors" boxes checked. By completing the activity, students were able to recognize social factors that affected their patients' health. Our students observed the top 3 social factors with a negative impact on their patients to be lack of health literacy, life/family circumstances, and job/academic stressors. Although students were instructed to not ask further questions of their patients if they would not ask as part of their standard care, they reported having the desire to do so. The fact that students wanted to ask because they were aware that some of these factors might be affecting patient's lives is encouraging. Upon further discussion, students reported having a better understanding of their patients when considering these social factors.

To ensure we met our activity objectives, students completed a preactivity and postactivity survey that asked about their perceptions of SDH. With permission, we adapted this validated survey from Lewis et al.31 However, to ensure that the minor wording changes on the survey to reflect athletic training maintained face and content validity, our survey was reviewed by a postprofessional athletic training student to confirm clarity and comprehensibility. Questions on the survey related to their familiarity of SDH, comfort in identifying SDH, beliefs regarding the effects of SDH on health, and available resources to address SDH (see Appendix). After this activity, students' perceptions of their familiarity with SDH and comfort in identifying SDH in clinical practice improved. The majority of students agreed or strongly agreed that this activity helped them learn about SDH and helped them observe SDH as part of patient care. Additional open-ended questions on the postsurvey captured the value of this activity to student learning and implementation of content into clinical practice.

It was common for students to report on the cards and during the reflection period that they observed social factors that extended beyond athletics. For example, transportation issues, socioeconomic impact, nutrition issues, and social support issues were all observed social factors. Students also described having difficulty in deciding whether the factors witnessed had a negative impact on the patient's health and feeling uncomfortable to intervene in some instances. For example, one student described feeling uncomfortable asking a patient deeper questions about the social factors observed and related this discomfort to having little training on how to approach sensitive situations surrounding mental health. Although students expressed these difficulties, they thought the activity as a whole was helpful. The cards were then described as being able to help students visualize SDH and see larger common issues at their clinical site. Students described feeling more aware of their patients' needs, seeing patients in a different light, and adapting their practice in the future to meet the SDH needs of their patients. Asking more questions, using resources such as social workers and school counselors, and providing patient referrals were discussed by the students as ways they envision adjusting their practice after this activity. When asked about the ability of an AT to intervene with SDH, students described that they had been addressing some SDH in their practice through patient referrals before this activity but had been doing so without knowing the larger framework.

It is important to note that our initial goal was to have students reflect on 20 patient encounters. The target of 20 patients was a stretch goal for student to encourage them to complete the activity with as many patients as possible. In the end, students averaged 10 cards, instead of 20 but, according to student feedback, this still created a meaningful experience. Overall, students found the card activity to be beneficial in further integrating SDH into their education and aiding in their awareness of SDH in their patient population, which in

turn supports delivery of patient-centered care and informs clinical decision-making.

Although we found this educational technique to be effective at exposing students to concepts associated with SDH, this was a limited exposure. Historically, SDH have not been included explicitly in the education and training of ATs. This technique is one idea to help educators begin to infuse these concepts into the educational experiences of students. However, greater and more consistent exposure to these concepts is needed to create change in the culture of athletic training. In addition, purposeful efforts are needed to create a larger impact in the greater health care community in terms of reducing SDH and associated disparities, but this activity is a start.

CONCLUSIONS

Social determinants of health are factors that can affect a patient's health more than the health care services received. As a result, athletic training education programs must include SDH education to ensure that students are developing the necessary skills to consider these factors as part of clinical practice. We have presented an educational technique that uses an observational learning strategy to integrate the concepts of SDH into athletic training education. Exposure to SDH in their education will provide students with the knowledge and skills needed to identify SDH at the point of care and to enhance the care of the whole person.

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Appendix. Perceptions of Social Determinants of Health (Pre-activity)

- 1. How familiar are you with the Social Determinants of Health Concept?
 - a. Not familiar at all
 - b. Minimally familiar
 - c. Moderately familiar
 - d. Extremely familiar
- 2. How comfortable are you identifying Social Determinants of Health at the point of care?
 - a. Not comfortable at all
 - b. Minimally comfortable
 - c. Moderately comfortable
 - d. Extremely comfortable
- 3. To what extent do you feel social factors contribute to your patients' health conditions and/or injuries?
 - a. They do not contribute at all
 - b. They minimally contribute
 - c. They moderately contribute
 - d. They extremely contribute
- 4. As part of your treatment plan, how often do you refer patients to other resources to address Social Determinants of Health?
 - a. Never (0%)
 - b. Rarely (25%)
 - c. Sometimes (50%)
 - d. Often (75%)
 - e. All the time (100%)
- 5. Please rate your level of agreement with the follow statement. My setting has adequate resources available to address specific Social Determinants affecting my patients' health.
 - a. Strongly disagree
 - b. Disagree
 - c. Agree
 - d. Strongly agree

Perceptions of Social Determinants of Health (Post-activity)

- 1. How familiar are you with the Social Determinants of Health Concept?
 - a. Not familiar at all
 - b. Minimally familiar
 - c. Moderately familiar
 - d. Extremely familiar
- 2. How comfortable are you identifying Social Determinants of Health at the point of care?
 - a. Not comfortable at all
 - b. Minimally comfortable
 - c. Moderately comfortable
 - d. Extremely comfortable
- 3. To what extent do you feel social factors contribute to your patients' health conditions and/or injuries?
 - a. They do not contribute at all
 - b. They minimally contribute
 - c. They moderately contribute
 - d. They extremely contribute
- 4. As part of your treatment plan, how often do you refer patients to other resources to address Social Determinants of Health?
 - a. Never (0%)
 - b. Rarely (25%)
 - c. Sometimes (50%)
 - d. Often (75%)
 - e. All the time (100%)

Please rate your level of agreement with the follow statements.

- 5. My setting has adequate resources available to address specific Social Determinants affecting my patients' health.
 - a. Strongly disagree
 - b. Disagree
 - c. Agree
 - d. Strongly agree

Appendix. Continued

- 6. The card used in the learning activity was quick and easy to complete.
 - a. Strongly disagree
 - b. Disagree
 - c. Agree
 - d. Strongly agree
- 7. I liked the card study activity as a learning activity.
 - a. Strongly disagree
 - b. Disagree
 - c. Agree
 - d. Strongly agree
- 8. The card study activity helped me learn about the Social Determinants of Health.
 - a. Strongly disagree
 - b. Disagree
 - c. Agree
 - d. Strongly agree
- 9. The card study activity helped me observe the Social Determinants of Health in my practice.
 - a. Strongly disagree
 - b. Disagree
 - c. Agree
 - d. Strongly agree
- 10. I am more aware of the Social Determinants of Health than I was before the card study activity.
 - a. Strongly disagree
 - b. Disagree
 - c. Agree
 - d. Strongly agree
- 11. In the future, I will include observation of the Social Determinants of Health in my clinical practice.
 - a. Strongly disagree
 - b. Disagree
 - c. Agree
 - d. Strongly agree

12.	Do you feel it is important to learn about the Social Determinants of Health during your athletic training education? Please explain why or why not.
13.	If you could change one aspect of the card from the learning activity, what would it be?
14.	What did you like best about the card study activity?