THE EFFECT OF STANDARDIZED PATIENT TEACHING AND EVALUATION ENCOUNTERS ON ENTRY-LEVEL ATHLETIC TRAINING STUDENT COMFORT RELATED TO PERFORMING PSYCHOSOCIAL INTERVENTION AND REFERRAL

A RESEARCH PAPER
SUBMITTED TO THE GRADUATE SCHOOL
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
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MASTER OF ARTS
PHYSICAL EDUCATION

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CHAPTER I

INTRODUCTION

Athletic trainers are responsible for providing both psychological and physical patient care. One form of psychological care is through psychosocial intervention and referral. Psychosocial intervention is the act of assessing a patient’s mental, social, and/or emotional health, and educating him or her with means of achieving better health. An intervention may be needed when a patient exhibits signs which may indicate a compromised level of sociocultural, mental, emotional, or psychological health. The act of facilitating an appointment between the patient and mental health professionals is called psychosocial referral. Athletic trainers often refer to and work with various certified or licensed mental health professional such as a licensed psychologist, dietician, and/or psychiatrist to assist with a patient’s treatment and recovery. Athletic trainers are often the first to assist or counsel patients with psychosocial issues such as disordered eating, depression, and/or substance abuse. When patients exhibit signs of sociocultural, mental, emotional, or psychological problems, athletic trainers must be able to recognize the problem, intervene, and refer to the appropriate and qualified mental health professionals.
Currently, athletes suffer from the aforementioned psychosocial issues at a relatively high rate. The National Athletic Trainers’ Association (NATA) Position Statement on disordered eating, estimates that 62% of female athletes and 33% of male athletes of varying competitive levels suffer from disordered eating. Depression also occurs frequently in those participating in athletics. Approximately one fifth (21%) of 257 National Collegiate Athletic Association (NCAA) Division I athletes surveyed in one study reported experiencing symptoms of depression during the 2005-2006 school year. In the same study, higher anxiety levels were associated with the presence of depression symptoms. A third psychosocial issue occurring in athletics is substance abuse. Binge-drinking, for example, and its associated risky behaviors are well-known trends among college athletes. The high occurrence of alcohol use reported in college athletics programs positively correlates with depression and other underlying psychiatric issues. A 2007 study revealed 75% of 720 NCAA divisions I, II, and III athletes reported high-risk drinking behaviors such as driving or engaging in risky sexual behavior while under the influence of alcohol. Other types of substance abuse were also reported by the NCAA in 2001. Male and female Division I, II, and III athletes (n=13,914) anonymously self-reported using anabolic steroids (1.1%), cocaine/crack (1.5%), amphetamines (3.1%), ephedrine (3.5%), psychedelics (5.6%), smokeless tobacco (22.3%), marijuana (28.4%), and alcohol (80.5%). These studies make evident the need for athletic trainers to possess psychosocial intervention and referral skills in order to properly protect the health of our athletes. Specifically, athletic trainers must be
able to confidently identify the signs and symptoms associated with various psychosocial issues, (e.g., sociocultural, mental, emotional, or psychological) intervene, and apply the basic principles of counseling and conflict resolution.

A practitioner with little confidence in psychosocial intervention and referral can be a barrier to patient care. A positive relationship was found between the confidence levels of medical practitioners and patient's perceptions of medical care quality.\(^6\) The study showed that patients who perceived their practitioners displayed high levels of self-confidence provided better care than those displaying lower levels of self-confidence. Nearly 200 primary care and internal medicine clinic patients in the United States completed a 10-question survey regarding patient perception of practitioner confidence and quality of care over a period of three weeks. Practitioners whom patients perceived to be comfortable and confident in their medical skills were consistently reported by patients to provide superior medical care, compared with practitioners who appeared to be anxious or unsure of their skills.\(^6\)

Athletic trainers often are not as confident in their psychosocial intervention and referral skills.\(^7\) Although these skills have been a required component in athletic training education for years, one study showed collegiate athletic trainers lack confidence when evaluating and referring patients experiencing signs/symptoms of an eating disorder. Head athletic trainers at Division IA and IAA US colleges were surveyed regarding self-confidence and/or self-efficacy related to identification of eating disorders in female athletes.\(^7\) Only 1 in 4 (27%) participants reported feeling confident identifying eating disorders.
This is highly unfortunate because patients need their health care providers to be confident and competent, (especially in times of emotional vulnerability). We found only one article which evaluated athletic trainers confidence in their psychosocial intervention and referral skills.\(^7\) This confirms the need to investigate means of increasing athletic trainer confidence with psychosocial intervention and referral skills.

A clinician’s lack of confidence in dealing with psychosocial issues is also the most common reason for discomfort reported by entry-level athletic training students.\(^8\) A question currently challenging athletic training educators is “what is a realistic method of teaching and evaluating clinical proficiencies such as psychosocial intervention and referral skills?” Opportunities for “real-life” encounters with individuals in need of psychosocial intervention and referral for athletic training students are not always available and/or recommended. Because psychosocial intervention involves sensitive mental and emotional issues with which shame, embarrassment, and even further emotional harm could be associated, it is imperative that students be able to practice this skill in a safe and controlled yet realistic environment before working with a patient. This practice may also increase students’ comfort and confidence as they learn they are capable of correctly assessing such issues. Athletic training education program directors responded to a survey regarding methods of clinical proficiency evaluation. It was found that psychosocial intervention and referral education was one proficiency area in which athletic training students received little real-time practice or evaluation.\(^9\)
Due to this finding, it was recommended that athletic training education programs (ATEPs) utilize standardized or simulated patients to provide students with a realistic experience. A standardized patient (SP) is an individual who has been trained to consistently (in a standardized fashion) portray a particular condition, injury, or illness to multiple students.\textsuperscript{10} Over the past 30 years SPs have been utilized in medical education both for educational and evaluative purposes.\textsuperscript{11} Yet, there is no published research studying the implementation of SPs to teach and evaluate athletic training students' clinical skills.

**Statement of the Problem**

The purpose of this study is to examine the teaching effects of a SP encounter on the confidence and anxiety levels of athletic training students related to assessment and/or referral of patients with psychosocial (sociocultural, mental, emotional, or psychological) issues such as eating disorders, substance abuse, and/or depression.

**Research Hypotheses**

1. Athletic training students' confidence levels related to assessment, intervention, and referral of patients with psychosocial issues such as eating disorders, substance abuse, and/or depression will increase after SP teaching encounter.

2. Athletic training students' anxiety levels related to assessment and referral of patients with psychosocial issues such as eating disorders, substance abuse, and/or depression will decrease after SP encounter.

Independent Variables
1. SP teaching encounter

Dependant Variables

1. Responses given on the SP teaching evaluation feedback form.
2. Responses given on the SP evaluation feedback form.

Operational Definitions

**Anxiety** is a negative emotional state characterized by apprehension, fear, and uneasiness. This should not be confused with anxiety disorders.

An **athletic trainer** is a health care professional which specializes in preventing, recognizing, managing (including referral to other medical or mental health professionals) and rehabilitating injuries and illnesses (both mental and physical). Athletic trainers work under the direction of licensed physicians and in cooperation with other health care professionals, athletics administrators, coaches, and parents.\(^\text{12}\)

**The Commission on the Accreditation of Athletic Training Education (CAATE)** is the agency responsible for the accreditation of entry-level athletic training education programs.\(^\text{13}\)

**Confidence** is a general belief in one’s own capabilities.

A **clinical proficiency** is the amalgamation of decision-making and clinical skills. Signs and symptoms associated with **depression** can include deep sadness and diminished interest in all activities.\(^\text{14}\)

**Eating disorders** are characterized by severe disturbances in eating behavior.\(^\text{14}\)
A **Standardized Patient** (SP) is an individual who has been trained to portray a particular condition, injury, or illness in a standardized fashion to multiple students. Peers, volunteers, or paid actors can be utilized as SPs.\(^{10}\)

**A SP teaching encounter** is when a small group of students interact with a SP while faculty and/or clinical staff are present to intervene and provide student instruction.

**A SP evaluation encounter** is when a student interacts with a SP and then is evaluated by the SP, faculty, and/or clinical staff on their clinical skills or proficiency.

**Substance abuse** is a maladaptive pattern of psychoactive substance use which interferes with an individual’s physical and mental health, social situation, and responsibilities.\(^{14}\)

**Assumptions**

1. Participants will answer all survey questions honestly.
2. The surveys’ answer options will be sufficiently descriptive for every participant’s opinions about the study.
3. Participants in the study are emotionally equipped to handle interaction with a patient suffering from psychosocial issues such as eating disorders, substance abuse, and/or symptoms associated with a major depressive episode.

**Delimitations**

1. This study was limited to all athletic training students during the spring 2008 semester in the entry-level CAATE-accredited athletic training
education program at Ball State University specifically enrolled in PEP 497, Concepts of Athletic Training and having previously completed PEP 477, Psychology of Injury.
Limitations

1. The sample population was representative of only one class level at one mid-west university, and may not be representative of the general population.

2. Participants’ understanding or perceptions of survey questions could not be controlled.

3. Circumstantial factors occurring outside the study which affect participant overall self-confidence could not be controlled and may have influenced participants’ feelings of confidence in assessing and referring patients with eating disorders, substance abuse, and/or symptoms associated with a major depressive episode.
CHAPTER II

REVIEW OF LITERATURE

Psychosocial Issues in Athletics: Symptoms associated with a major depressive episode, substance abuse, and disordered eating

Psychosocial issues are sociocultural, mental, emotional, and/or psychological concerns stemming from and/or interfering with any person’s normal well-being. These psychosocial issues range from mild, with mild causing little mental, emotional, spiritual, or physical distress, to severe issues which threaten the life of the patient. Psychosocial issues from which athletes can suffer include symptoms associated with a major depressive episode. A major depressive episode is a mental disorder in which one may experience deep sadness and diminished interest in activities.\(^{14}\) Symptoms associated with major depressive episode which are less severe or less frequent may be caused by milder depression. Depression can be related to environmental factors such as tragedy, family or relationship dysfunction, academic pressure, athletic pressure or economic hardship. Since many of these factors can affect athletes, athletic trainers are likely to encounter patients who suffer from symptoms associated with depression. No scientific literature could be found at the time of this study reporting statistical prevalence of depression in United States (US) athletics in
the last 10 years. Depressive symptoms in the general population have risen to a point that most primary care providers in the US have experience prescribing anti-depression medication. Therefore, athletic trainers will likely encounter patients with depressive symptoms at some time in their careers.

Often, depression is accompanied by other health-threatening issues such as substance abuse. Substance abuse is a maladaptive pattern of psychoactive substance use which interferes with an individual’s physical and mental health, social situation, and responsibilities. Binge-drinking, for example, and its associated risky behaviors are well-known trends among college athletes. High occurrence of alcohol use reported in college athletics programs positively correlates with depression and other underlying psychiatric issues. A 2007 study revealed 75% of 720 National Collegiate Athletic Association (NCAA) Divisions I, II, and III athletes reported high-risk drinking behaviors such as driving or engaging in risky sexual behavior while under the influence of alcohol. Other types of substance abuse were also reported by the NCAA in 2001. Male and female Division I, II, and III athletes (n=13,914) anonymously self-reported using anabolic steroids (1.1%), cocaine/crack (1.5%), amphetamines (3.1%), ephedrine (3.5%), psychedelics (5.6%), smokeless tobacco (22.3%), marijuana (28.4%), and alcohol (80.5%).

Yet another psychosocial issue encountered in athletics which may or may not accompany depression and/or substance abuse is disordered eating. Disordered eating is an issue related to one’s emotional state which can adversely affect the patient’s physical health. Disordered eating is characterized
by any disturbances in healthy eating patterns such as inconsistent meal schedule, unbalanced nutrient choice, etc. When disordered eating patterns progress, eating disorders may develop. Eating disorders are characterized by severe disturbances in eating such as bingeing, purging, self-starving, etc. The National Athletic Trainers' Association (NATA) Position Statement on disordered eating, estimates that 62% of female athletes and 33% of male athletes of varying competitive levels suffer from disordered eating. Athletic trainers perceive disordered eating in athletics as a significant problem, and express the need for more knowledge in this area.\textsuperscript{15,16}

**Athletic Training Education: Psychosocial Intervention and Referral**

The 4\textsuperscript{th} Edition of the Athletic Training Educational Competencies contains educational competencies and proficiencies necessary for effective performance as an entry-level athletic trainer.\textsuperscript{17} Psychosocial intervention and referral is one of the twelve content areas which are to be taught. One of the psychosocial intervention and referral proficiencies requires students be able to make an effective assessment of a patient with psychosocial issues and intervene and refer when necessary.

While these skills are required of all entry-level athletic training students, athletic trainers feel uncomfortable with their own psychosocial intervention and referral skills. A majority of athletic trainers do not feel they received adequate training to assist athletes with personal issues.\textsuperscript{18} Fifty-six percent (n=482) of athletic trainers surveyed in 1996 reported taking a formal sport psychology course at some point in their education.\textsuperscript{19} However, as mentioned above, they
still do not feel confident with psychosocial interventions. In one study of 171 athletic trainers, 91% of ATs had experienced patients with signs of eating disorder, but only 27% reported feeling confident in identifying eating disorders. This signifies a need to increase the self-efficacy, or comfort and confidence of athletic trainers when counseling and treating patients with eating disorders. In other words, continuing education and entry-level athletic training education needs to implement further training in eating disorder identification, assessment, and referral. The NATA states that education of athletic trainers and others associated with athletic teams is a critical component in the successful treatment of eating disorders.

There is some questioning, however, as to the best way to prepare entry-level students to properly recognize, intervene, and refer patients with psychosocial issues. Developing verbal and non-verbal communication skills, psychosocial issue identification and intervention skills, and implementation of institutional policies are components in preparing students to treat patients effectively. Weidner et al. asserts that students must develop and learn to integrate interpersonal skills into practical application.

Decision making and skill integration should be evaluated in a manner very similar to “real life.” Opportunities for real-time training and evaluation of psychosocial intervention and referral skills may not present themselves. Currently, clinical proficiencies in athletic training are primarily evaluated via mock-patient simulations. Typically, other entry-level athletic training students and approved clinical instructors portray the patients in mock simulations. The
challenge with mock simulations is that the experience is not consistent for all students. This reveals a need to explore more realistic education and evaluation options. One such option is an experience with a standardized patient.

**The Standardized Patient**

Patient simulation has evolved over the last three decades from ‘programmed patient’ to ‘pseudo-patient’, and finally ‘standardized patient’. The standardized patient (SP) is trained to replicate specific medical illnesses and/or pathologies for educational purposes. Educators use SPs to create consistent and accurate portrayals of the particular medical situations for student learning.

The majority of the 125 medical schools in the United States use SPs for educational purposes. The popularity of the SP model in medical and health education has stimulated much research exploring the concept’s validity, effect, innovation, objectivism, and applicability. In fact, by 2003, over 800 articles regarding SP-based examinations had been published.

The general climate of the medical field today regarding SPs is one of acceptance of its value as a teaching and evaluation tool. Vu, Barrows, Marcy, Verhulst, Colliver, and Travis found that well-trained SPs can reproduce medical scenarios accurately. They also found that using different SPs for the same case did not affect the reliability of the case.

No research has been published at this time, however, testing the effectiveness of using SPs to train and evaluate entry-level AT students’ psychosocial intervention proficiency. Walker, Weidner, and Armstrong
recommend exploring the impact of SPs on students' confidence and clinical skills.²⁰
CHAPTER III

METHODS

Participants

All students in a Commission on Accreditation of Athletic Training Education (CAATE) accredited athletic training education program (ATEP), (n=13, 10 female, 3 male, mean age 21.85 years) who had completed the psychology of injury course during the Spring 2007 semester at one Midwestern institution were recruited to participate in this study. A total of 12 (92.3%) participants completed all requirements of this study.

Instrumentation

Standardized Patient Teaching and Evaluation Encounter Feedback forms

To collect demographic data (e.g., age, gender, semester) and determine the participants’ levels of comfort and anxiety following each standardized patient (SP) encounter two different instruments were developed. The SP Teaching Encounter Feedback Form consisted of ten questions regarding the experiences (e.g., realism, clarity of objectives, comfort levels, etc) of the participants. The SP Evaluation Encounter Feedback Form consisted of twelve questions regarding the experiences (e.g., realism, clarity of objectives, comfort levels) of the participants (Appendix A). Both forms used a Likert scale (1 = strongly
disagree, 5 = strongly agree or 1 = very anxious, 5 = very comfortable) to determine the participants experiences for both encounters. On both forms, participants were also asked to briefly describe the strengths and weaknesses of the encounter with the standardized patient.

**Psychosocial Intervention and Referral Checklist**

The Psychosocial Intervention and Referral Checklist (Appendix B) was developed to evaluate each participant’s performance on the one on one encounter with the SP. Participants were evaluated by the SP on their interpersonal skills (10 items) and data gathering skills (9 items). Interpersonal skills were included to evaluate the participants’ interpersonal skills such as rapport and attentiveness. Data gathering skills were included to evaluate the participants’ history taking skill levels. Each checklist item was chosen to provide researchers a clear understanding of participants’ skill level and rapport from the perspective of the patient. Checklist answers would then allow educators to address student weaknesses and call attention to strengths.

**Standardized Patients and Training**

Three freshman theatre students were recruited to serve as SPs. All SPs underwent approximately 3 hours of training. The purpose was to train the SPs to portray the cases in a consistent fashion and provide feedback to the participants on their performance. For the teaching encounter, only 1 SP was used. For the evaluation encounter 2 SPs were used. For all training, the SPs were provided with the following training materials: 1) case information (same information from above for SP case development section), 2) the student instructions, 3) the
Psychosocial Intervention and Referral Checklist, 4) SP Teaching and Evaluation
Encounter Feedback forms. All documents were reviewed and described. The
SPs were then oriented as to the sequence of events (e.g., videotaping,
participant completing documentation, feedback provided by the SP) for each
patient encounter. Following review of the case information, the SPs practiced
the encounter. The SPs were instructed to provide positive and constructive
feedback to the participants based on the items listed in the Psychosocial
Intervention and Referral Checklist.

**SP Case Development**

For the purposes of this study two SP cases were developed. The
objective of both patient encounters was to provide a patient-centered
psychosocial intervention and referral encounter. Specifically the participants
were to interact with, counsel, and provide an intervention to an individual with an
eating disorder, depression, and/or substance abuse. A template (Appendix C),
provided with permission from the University of Illinois at Chicago’s Medical
School, was used to develop both cases. The teaching encounter involved a 21
year old male complaining of runny nose and sore throat who was actually
addicted to cocaine. The evaluation encounter involved an 18 year old female
complaining of chronic muscular cramping during activity who was in need of
nutritional psychological intervention. Both cases were developed by the primary
investigator, and then evaluated by a faculty member with SP research
experience for accuracy of signs and symptoms and fidelity. In addition, both
cases were evaluated by another athletic training educator/clinician. To ensure
the students were not apprised of which condition the SPs had, the participants were only informed that they would have a patient interaction with someone in need of counseling.

Procedures

Standardized Patient Teaching Encounter

Institutional review board approval was obtained. Participants were recruited during a regularly scheduled class period by a graduate assistant. After consent forms were signed, participants were randomly selected into 4 groups of 3-4 individuals. Each group was then scheduled for a teaching encounter with an SP. Before interacting with the SP, each group was provided with a pen and clipboard containing student instructions (Appendix D) and a blank sheet of paper. The participants were then explained the group setting format, including the time in - time - out in procedure.25

The participants in their groups were to evaluate the SP with the instructor and clinician present. If the participants become overwhelmed and are not sure how to continue and/or the instructor/clinician wants to intervene, then a time out is called. During this time out, the SP goes into suspended animation and the participants, with their instructor/clinician, discuss the case, their thinking, possible next steps or any other variety of things which would not normally be discussed in front of a patient. When time in is called, the participants then continue to interact with the SP.

Once the participants read all materials and understood the procedures the encounter began. Following the teaching encounter, the encounter was
debriefed and reviewed. During the debriefing participants were given feedback on their communication skills and their psychosocial intervention and referral methods. Participants then completed the SP Encounter Feedback Form (Appendix A). All teaching encounters took place in the Athletic Training Education and Research Laboratory.

**Standardized Patient Evaluation Encounter**

Approximately four weeks following the teaching encounter, each participant was individually scheduled for a 30 minute SP encounter with an individual in need of psychosocial intervention and referral. Prior to all encounters each SP reviewed the case information to refresh his/her memory. The SPs were provided with pens and the Psychosocial Intervention and Referral Checklist (Appendix C). The checklist was hidden from participants in a drawer in the room. Before interacting with the SP, each participant was provided with a pen and clipboard containing student instructions (Appendix D), and the SP Encounter Feedback Form (Appendix A). A faculty member or a graduate assistant verbally read and explained the student instructions to each participant and answered any questions prior to each encounter. All encounters took place in the Clinical Proficiency Evaluation Room and were videotaped. Once the participant entered to interact with the SP videotaping began. For all participants except one, a faculty member watched the encounters live. Following the encounters the videotaping was discontinued and each participant immediately met with the faculty member for one-on-one feedback and debriefing similar to the debriefing in the teaching encounter. Concurrently, the SP filled out the
Psychosocial Intervention and Referral Checklist (Appendix C) and then joined the faculty member and participant to also provide feedback. The participant then met with the faculty member later in the day after their encounter had been viewed and was provided feedback from the SP. The participant then completed the SP Encounter Evaluation Feedback Form (Appendix A).

Data Collection and Analysis

Descriptive statistics were computed on all items from the SP Teaching and Evaluation Encounter Feedback forms. The alpha level was set at .05. A simple t-test was performed to analyze data collected from questions 1-8 on the pre-encounter, post-encounter, and 4-5 week follow-up questionnaires. Data were analyzed using Statistical Package for the Social Sciences (SPSS) (Version 15.0, SPSS Inc Chicago, IL).
CHAPTER IV

RESULTS

Perceptions of the Standardized Patient Teaching Encounter

Frequencies and percentages regarding the participants’ perceptions of the standardized patient (SP) teaching encounter are presented in Table 1. Participants strongly agreed or agreed (92%, n=12) the teaching encounter was realistic. Overall, participants felt they received adequate feedback on their performance from both the SP (100%, n=13) and the instructor (77%, n=10). Prior to the SP teaching encounter 10 (77%) of the participants felt very anxious or anxious about their ability to perform a psychosocial intervention and referral of a patient with depression, substance abuse, or an eating disorder. Only 3 (23%) of the participants felt anxious following the teaching encounter, while 5 (38%) reported feeling neutral and 5 reported feeling comfortable about their ability to perform a psychosocial intervention and referral of a patient with depression, substance abuse, or an eating disorder. As a result of this teaching encounter, most (62%, n=8) felt comfortable about their ability to perform a psychosocial intervention and referral of a patient with depression, substance abuse, or an eating disorder.
**Perceptions of the Standardized Patient Evaluation Encounter**

Frequencies and percentages regarding the participants’ perceptions of the SP evaluation encounter are presented in Table 2. Participants strongly agreed or agreed 100% (n=13) the objectives and expectations were clear and the encounter was realistic. All 100% (n=13) participants strongly agreed or agreed they received adequate feedback from the SP and instructor concerning their performance. After the encounter, 77% (n=10) of the participants reported feeling very comfortable or comfortable in their ability to perform a psychosocial intervention and referral of a patient with depression, substance abuse, or an eating disorder. Many, 85% (n=11) of the participants reported feeling very comfortable or comfortable about future psychosocial interventions and referrals. Table 3 presents the descriptive statistics regarding the participants’ perceptions of the teaching and evaluation encounter with the SP.

In addition, a dependent t-test revealed the participants perceptions of comfort significantly increased from the SP teaching encounter to the SP evaluation encounter with regards to clarity of expectations ($t_{12} = 3.207, P = .008$), pre-encounter ability to perform psychosocial intervention and referral ($t_{12} = 2.889, P = .014$), and post-encounter ability to perform psychosocial intervention and referral ($t_{12} = 3.825, P = .002$). Paired differences for all participants perceptions between encounters are presented in Table 4.
<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
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<td>The objectives and expectations for this encounter were clear.</td>
<td>0(0)</td>
<td>0(0)</td>
<td>1(8)</td>
<td>9(70)</td>
<td>3(23)</td>
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<tr>
<td>The standardized patient encounter was realistic.</td>
<td>0(0)</td>
<td>0(0)</td>
<td>1(8)</td>
<td>2(15)</td>
<td>10(77)</td>
</tr>
<tr>
<td>I was nervous about this encounter with a standardized patient.</td>
<td>0(0)</td>
<td>3(23)</td>
<td>4(31)</td>
<td>6(46)</td>
<td>0(0)</td>
</tr>
<tr>
<td>As a result of this encounter I feel more comfortable about future psychosocial interventions and referrals of patients with depression, substance abuse, or an eating disorder.</td>
<td>0(0)</td>
<td>1(8)</td>
<td>3(23)</td>
<td>8(62)</td>
<td>1(8)</td>
</tr>
<tr>
<td>I feel I was given adequate feedback by the standardized patient on my performance.</td>
<td>0(0)</td>
<td>0(0)</td>
<td>0(0)</td>
<td>8(62)</td>
<td>5(38)</td>
</tr>
<tr>
<td>I feel I was given adequate feedback by the instructor on my performance.</td>
<td>1(8)</td>
<td>0(0)</td>
<td>2(15)</td>
<td>3(23)</td>
<td>7(54)</td>
</tr>
<tr>
<td>Due to this encounter, I feel more confident about future psychosocial interventions and referrals.</td>
<td>1(8)</td>
<td>0(0)</td>
<td>3(23)</td>
<td>9(69)</td>
<td>0(0)</td>
</tr>
<tr>
<td>I feel this encounter has increased my ability to perform psychosocial interventions and referrals.</td>
<td>1(8)</td>
<td>0(0)</td>
<td>1(8)</td>
<td>11(85)</td>
<td>0(0)</td>
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<table>
<thead>
<tr>
<th></th>
<th>Very Anxious</th>
<th>Anxious</th>
<th>Neutral</th>
<th>Conf.</th>
<th>Very Conf.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before this encounter, I felt________ about my ability to perform a psychosocial intervention and referral of a patient with depression, substance abuse, or an eating disorder.</td>
<td>2(15)</td>
<td>8(62)</td>
<td>1(8)</td>
<td>2(15)</td>
<td>0(0)</td>
</tr>
<tr>
<td>After this encounter, I feel________ about my ability to perform a psychosocial intervention and referral of a patient with depression, substance abuse, or an eating disorder.</td>
<td>0(0)</td>
<td>3(23)</td>
<td>5(38)</td>
<td>5(38)</td>
<td>0(0)</td>
</tr>
</tbody>
</table>

*Likert scale, 1 = strongly disagree or very anxious, 5 = strongly agree or very comfortable*
Table 2. Participants’ Perceptions of SP Evaluation Encounter, n (%)

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Very Anxious</th>
<th>Anxious</th>
<th>Neutral</th>
<th>Conf.</th>
<th>Very Conf.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The objectives and expectations for this encounter were clear.</td>
<td>0(0)</td>
<td>0(0)</td>
<td>0(0)</td>
<td>5(38)</td>
<td>8(62)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>The standardized patient encounter was realistic.</td>
<td>0(0)</td>
<td>0(0)</td>
<td>0(0)</td>
<td>4(31)</td>
<td>9(69)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>I was nervous about this encounter with a standardized patient.</td>
<td>0(0)</td>
<td>2(15)</td>
<td>1(8)</td>
<td>9(62)</td>
<td>1(8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>As a result of this encounter I feel more comfortable about future psychosocial interventions and referrals of patients with depression, substance abuse, or an eating disorder.</td>
<td>0(0)</td>
<td>0(0)</td>
<td>1(8)</td>
<td>8(62)</td>
<td>4(31)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>I feel I was given adequate feedback by the standardized patient on my performance.</td>
<td>0(0)</td>
<td>0(0)</td>
<td>0(0)</td>
<td>3(23)</td>
<td>10(77)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel I was given adequate feedback by the instructor on my performance.</td>
<td>0(0)</td>
<td>0(0)</td>
<td>1(8)</td>
<td>5(38)</td>
<td>7(54)</td>
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</tr>
<tr>
<td>Due to this encounter, I feel more confident about future psychosocial interventions and referrals.</td>
<td>0(0)</td>
<td>0(0)</td>
<td>2(15)</td>
<td>8(62)</td>
<td>3(23)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel this encounter has increased my ability to perform psychosocial interventions and referrals.</td>
<td>0(0)</td>
<td>0(0)</td>
<td>1(8)</td>
<td>7(54)</td>
<td>5(38)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Likert scale, 1 = strongly disagree or very anxious, 5 = strongly agree or very comfortable*
Table 3. Participants’ Perceptions of SP Teaching and Evaluation Encounter

<table>
<thead>
<tr>
<th>Perception</th>
<th>Teaching Encounter</th>
<th>Evaluation Encounter</th>
</tr>
</thead>
<tbody>
<tr>
<td>The objectives and expectations for this encounter were clear.</td>
<td>4.15</td>
<td>.555</td>
</tr>
<tr>
<td>The standardized patient encounter was realistic.</td>
<td>4.69</td>
<td>.630</td>
</tr>
<tr>
<td>I was nervous about this encounter with a standardized patient.</td>
<td>3.23</td>
<td>.832</td>
</tr>
<tr>
<td>Before this encounter, I felt________ about my ability to perform a psychosocial intervention and referral of a patient with depression, substance abuse, or an eating disorder.</td>
<td>2.23</td>
<td>.927</td>
</tr>
<tr>
<td>After this encounter, I feel______ about my ability to perform a psychosocial intervention and referral of a patient with depression, substance abuse, or an eating disorder.</td>
<td>3.15</td>
<td>.801</td>
</tr>
<tr>
<td>As a result of this encounter I feel more comfortable about future psychosocial interventions and referrals of patients with depression, substance abuse, or an eating disorder.</td>
<td>3.69</td>
<td>.751</td>
</tr>
<tr>
<td>I feel I was given adequate feedback by the standardized patient on my performance.</td>
<td>4.38</td>
<td>.506</td>
</tr>
<tr>
<td>I feel I was given adequate feedback by the instructor on my performance.</td>
<td>4.15</td>
<td>1.214</td>
</tr>
<tr>
<td>Due to this encounter, I feel more confident about future psychosocial interventions and referrals.</td>
<td>3.54</td>
<td>.877</td>
</tr>
<tr>
<td>I feel this encounter has increased my ability to perform psychosocial interventions and referrals.</td>
<td>3.69</td>
<td>.855</td>
</tr>
</tbody>
</table>

*Likert scale, 1 = strongly disagree or very anxious, 5 = strongly agree or very comfortable*
Table 4. Paired Differences from Teaching Encounter to Evaluation Encounter

<table>
<thead>
<tr>
<th>Item</th>
<th>$\chi^*$</th>
<th>$t$</th>
<th>$P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>The objectives and expectations for this encounter were clear.</td>
<td>.462</td>
<td>3.207</td>
<td>.008</td>
</tr>
<tr>
<td>The standardized patient encounter was realistic.</td>
<td>.000</td>
<td>.000</td>
<td>1.000</td>
</tr>
<tr>
<td>I was nervous about this encounter with a standardized patient.</td>
<td>.462</td>
<td>2.144</td>
<td>.053</td>
</tr>
<tr>
<td>Before this encounter, I felt [very anxious, anxious, neutral,</td>
<td>.615</td>
<td>2.889</td>
<td>.014</td>
</tr>
<tr>
<td>comfortable, very comfortable] about my ability to perform a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>psychosocial intervention and referral of a patient with depression,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>substance abuse, or an eating disorder.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>After this encounter, I felt [very anxious, anxious, neutral,</td>
<td>.769</td>
<td>3.825</td>
<td>.002</td>
</tr>
<tr>
<td>comfortable, very comfortable] about my ability to perform a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>psychosocial intervention and referral of a patient with depression,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>substance abuse, or an eating disorder.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>As a result of this encounter I feel more comfortable about</td>
<td>.308</td>
<td>1.298</td>
<td>.219</td>
</tr>
<tr>
<td>future psychosocial interventions and referrals of patients with</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>depression, substance abuse, or an eating disorder.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel I was given adequate feedback by the standardized patient</td>
<td>.385</td>
<td>1.806</td>
<td>.096</td>
</tr>
<tr>
<td>on my performance.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel I was given adequate feedback by the instructor on my</td>
<td>.538</td>
<td>1.395</td>
<td>.188</td>
</tr>
<tr>
<td>performance.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Due to this encounter, I feel more confident about future</td>
<td>.538</td>
<td>1.620</td>
<td>.131</td>
</tr>
<tr>
<td>interventions and referrals.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel this encounter has increased my ability to perform</td>
<td>.615</td>
<td>1.860</td>
<td>.088</td>
</tr>
<tr>
<td>psychosocial interventions and referrals.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$\chi^*$ value indicates an increase in perception between the teaching encounter and the evaluation encounter.
CHAPTER V

DISCUSSION

Our results indicate athletic training students felt more comfortable regarding their ability to intervene and refer patients with psychosocial issues after the standardized patient (SP) teaching encounter. Conversely, athletic training students’ reported a decrease in their anxiety relating to intervening and referring patients with psychosocial issues following both the SP teaching and evaluation encounter. Following the teaching encounter most (77%) agreed they received adequate feedback from the SP and instructor, while all agreed after the evaluation encounter. Both the SP teaching and evaluative encounters in our study provided the students with a realistic patient-centered experience. Participants found interacting with the SPs to be a positive learning experience and reported confidence about future counseling experiences with patients.

Very little research exists in the literature which investigates the comfort and anxiety levels of individuals following SP encounters. Our findings of improved comfort and lowered anxiety are similar what little has been reported in the literature. Researchers concluded the SP encounter may be a useful tool in improving communication skills among pediatric and family practice residents treating adolescent patients suffering from psychosocial issues. In another
study, third year medical students were exposed to SPs for the purpose of teaching psychopathology, psychiatric assessment skills, and interpersonal skills. Participants (n=112) found the SP experience highly useful. They valued the opportunity to become “more comfortable” interacting with psychiatric patients and receiving instructor feedback, including reviewing video tapes of their SP encounters. Presently there is little literature which investigates the educational and psychological effects of the SP on athletic training students.

**The Standardized Patient**

The SP is trained to portray specific medical illnesses and/or pathologies for educational purposes. The majority of the 125 medical schools in the United States use SPs for educational purposes. The general climate of the medical field today regarding SPs is one of acceptance of its value as a teaching and evaluation tool. Vu et al. found that well-trained SPs can reproduce medical scenarios accurately. It was also found that using different SPs for the same case did not affect their reliability. Since Barrows introduced the patient simulation concept to the medical field decades ago, much medical education research has shown value in utilizing the fully developed standardized patient. It would be logical, then, to explore the value of SPs in athletic training education.

No research has been published at this time utilizing SPs with athletic training students. The 4th Edition of the Athletic Training Educational Competencies (ATEC) contains educational competencies and proficiencies necessary for effective performance as an entry-level athletic trainer and recommends the use simulations or SPs whenever students are unable to
perform clinical proficiencies on real live patients.\textsuperscript{17} It has been found that one of the clinical proficiencies that students often perform via simulation is psychosocial intervention and referral.\textsuperscript{20} It appears, though, that the type of simulation (role playing and peer simulation) used traditionally in athletic training education may not be adequately preparing students for real psychosocial intervention and referral.

A majority of athletic trainers do not feel they received adequate training to assist athletes with personal psychosocial issues such as depression, substance abuse, or disordered eating.\textsuperscript{18} This can result in athletic trainers feeling uncomfortable performing these skills with patients. One study surveyed athletic trainers (n=482) regarding their experience with a formal sport psychology course during their education.\textsuperscript{19} Results showed 54\% (n=261) of the participants reporting having taken such a course. Although this study found that over half of athletic trainers are receiving education regarding psychology of athletes, other researchers found a lack of confidence among athletic trainers regarding psychosocial intervention and referral. For example, another study asked professional athletic trainers to report their confidence levels regarding performing real live psychosocial interventions.\textsuperscript{7} Although some participants in the Vaughan study had taken a psychology course, they still did not feel confident with psychosocial interventions. Respondents reported 91\% (n=146) that while they had counseled patients with signs of an eating disorder, only 27\% (n=43) reported feeling confident in identifying athletes with eating disorders.\textsuperscript{7} This lack of confidence signifies a need to increase the self-efficacy, or comfort
and confidence, of athletic trainers when counseling and treating patients with eating disorders. The authors felt that continuing education and entry-level athletic training education needed to implement further training in eating disorder identification, assessment, and referral. The National Athletic Trainers’ Association (NATA) states that education of athletic trainers and others associated with athletic teams is a critical component in the successful treatment of eating disorders.

There is some questioning, however, as to the best way to prepare entry-level athletic training students to properly recognize, intervene, and refer patients with psychosocial issues. Developing verbal and non-verbal communication skills, psychosocial issue identification and intervention skills, and implementation of institutional policies are components in preparing students to treat patients effectively. It is felt that athletic training students must develop and learn to integrate interpersonal skills into practical application during their clinical education. Decision making and skill integration should be evaluated in a manner very similar to “real life”. Opportunities for real-time training and evaluation of psychosocial intervention and referral skills may not present themselves during an athletic training student’s education. Currently, clinical proficiencies in athletic training are primarily evaluated via simulations. Typically, other entry-level athletic training students and approved clinical instructors portray the patients in these simulations. The challenge with simulations is that the experience is not consistent for all students. This inconsistency reveals a need to explore more realistic and consistent education.
and evaluation options. One such option is an experience with a standardized patient.

**Implications**

This investigation revealed SP teaching and evaluation encounters can increase students’ comfort level regarding psychosocial intervention and referral. The SP encounters also reduced anxiety regarding performing future psychosocial interventions and referrals. Utilizing SPs can provide athletic training students with a positive yet challenging realistic patient centered experience. Future studies may explore the effects of SP implementation in other areas of athletic training education which present little opportunity for realistic practice such as nutritional aspects of injury and illness, pharmacology and/or general medical conditions and disabilities.\(^{20}\)

**Conclusions**

SP teaching and evaluation encounters can further supplement athletic training students’ education by preparing students with realistic encounters. These realistic experiences are needed in athletic training education, especially in the area of psychosocial intervention and referral. SPs in this study provided an effective way to prepare athletic training students realistically for the experience of psychosocial intervention and referral of patients with signs of depression, eating disorder, and/or substance abuse. Including SP encounters in psychosocial educational units may more adequately prepare students for treating real patients than current educational programs which do not use standardized patients.
Appendix A

SP Encounter Feedback Form

Please circle your level of agreement/disagreement for the following:

1. The objectives and expectations for this encounter were clear.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly Disagree

2. The standardized patient encounter was realistic.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly Disagree

3. Before this encounter, I felt ______________ about performing an assessment of a patient with an eating disorder (change depending on scenario)
   - Very comfortable
   - Comfortable
   - Neutral
   - Anxious
   - Very Anxious

4. After this encounter, I felt ______________ about performing an assessment of a patient with an eating disorder (change depending on scenario)
   - Very comfortable
   - Comfortable
   - Neutral
   - Anxious
   - Very Anxious

5. This encounter makes me feel more comfortable about future counseling experiences with patients.
   - Very comfortable
   - Comfortable
   - Neutral
   - Anxious
   - Very Anxious

7. I feel I was given adequate feedback by the SP on my performance.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly Disagree

8. I feel I was given adequate feedback by the course instructor on my performance.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly Disagree

Please write in additional comments below.

9. What were the weaknesses of this activity?

10. What were the strengths of this activity?
# Appendix B
## Psychosocial Intervention and Referral Checklist

### Evaluation of Standardized Patient Encounter

<table>
<thead>
<tr>
<th>Name of Subject</th>
<th>Date</th>
</tr>
</thead>
</table>

### History Taking Technique

<table>
<thead>
<tr>
<th>Performed = P</th>
<th>Performed Incorrectly = PI</th>
<th>Not Performed = NP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student introduced himself/herself</td>
<td>P</td>
<td>PI</td>
</tr>
<tr>
<td>Mechanism of history established</td>
<td>P</td>
<td>PI</td>
</tr>
<tr>
<td>Major signs and symptoms established</td>
<td>P</td>
<td>PI</td>
</tr>
<tr>
<td>Previous history established</td>
<td>P</td>
<td>PI</td>
</tr>
<tr>
<td>Correct pace of questions</td>
<td>P</td>
<td>PI</td>
</tr>
<tr>
<td>Correct phrasing of questions (open ended vs. close ended)</td>
<td>P</td>
<td>PI</td>
</tr>
<tr>
<td>Questions were asked in an understandable manner</td>
<td>P</td>
<td>PI</td>
</tr>
<tr>
<td>Attention paid to answers</td>
<td>P</td>
<td>PI</td>
</tr>
<tr>
<td>Answers followed up appropriately</td>
<td>P</td>
<td>PI</td>
</tr>
<tr>
<td>Attempts to establish a rapport with patient</td>
<td>P</td>
<td>PI</td>
</tr>
</tbody>
</table>

### Physical Examination

<table>
<thead>
<tr>
<th>Performed = P</th>
<th>Performed Incorrectly = PI</th>
<th>Not Performed = NP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student performed appropriate palpation</td>
<td>P</td>
<td>PI</td>
</tr>
<tr>
<td>Student performed appropriate active and passive range of motion</td>
<td>P</td>
<td>PI</td>
</tr>
<tr>
<td>Student performed appropriate special tests</td>
<td>P</td>
<td>PI</td>
</tr>
<tr>
<td>Student established patients appropriate muscular strength level</td>
<td>P</td>
<td>PI</td>
</tr>
<tr>
<td>Student performed appropriate neurological and circulatory tests</td>
<td>P</td>
<td>PI</td>
</tr>
</tbody>
</table>

### Closing Remarks

<table>
<thead>
<tr>
<th>Performed = P</th>
<th>Performed Incorrectly = PI</th>
<th>Not Performed = NP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student communicated appropriate treatment options to patient</td>
<td>P</td>
<td>PI</td>
</tr>
<tr>
<td>Student informed patient of prognosis of injury/condition</td>
<td>P</td>
<td>PI</td>
</tr>
</tbody>
</table>
Appendix C

Standardized Patient Case Development Template
adapted with permission from University of Illinois at Chicago Medical School

CASE CHIEF COMPLAINT: (do not include actual diagnosis)

CASE NAME:

CASE NUMBER: (assigned by the CPC)

PRESENTING SITUATION: (write a few sentences describing the patient’s presenting problem)

KEYWORD DESCRIPTIONS: (describe the patient’s problem, parent disciplines, focus of the case, e.g. health risk appraisal, and other key words that characterize the case and the assessment challenge)

DIFFERENTIAL DIAGNOSIS: (list competing diagnostic possibilities)

ACTUAL DIAGNOSIS:

DESIGNED FOR: (list what level of student this examination is designed for, i.e. 2nd year athletic training student; graduate student)

ACTIVITIES & TIME REQUIRED: (determine how much time is needed for each student to interview and examine the patient and how much time will be given for the post-encounter exercise. We have found that 15 minutes is enough time to capture student performance. If you have several cases in an examination, it is best to time each station the same, e.g. a 15 minute patient encounter followed by a 10 minute post-encounter exercise.)

OBJECTIVES: List objectives to be assessed or taught through use of this case:
1) Development of data base
2) Detection of findings
3) Time efficiency
4) Interview and physical examination skills

STATION REQUIREMENTS: (list what is supplies and/or equipment is needed for this station, including patient and student paperwork)
ASPECT OF PERFORMANCE TO BE ATTENDED TO & METHOD FOR OBSERVING PERFORMANCE: (attach data collection checklist, professional behavior rating scale, and the post-encounter questionnaire regarding findings, diagnostic conclusions, initial management plan, etc., to the blueprint.

FOR MORE INFORMATION ABOUT THIS CASE: (supply name, address and phone number of the physician and case developer who designed the case)

Appendix D

STUDENT INSTRUCTIONS

PATIENT:
AGE:
CHIEF COMPLAINT:
SETTING:
TIME OF DAY:

VITAL SIGNS:  Blood Pressure:
               Pulse:
               Respiration:
               Temperature:

STUDENT TASK: List the student’s task for this station. If at all possible, it is best not to have the examinee pretend to be something other than what he/she is.

Example:

You are a 2nd year athletic training student. You have 15 minutes to:
   1. Obtain an appropriate history
   2. Perform a pertinent physical examination
   3. Give your tentative diagnostic impressions to the patient:

When you have completed your interview, you will be given 10 minutes to document your findings.

PATIENT’S PAST MEDICAL HISTORY

Childhood Illnesses: (list which illnesses and at what age)
**Adult Illnesses:** (list which illnesses and at what age)

**Immunizations:** (e.g. tetanus, DPT, MMR, etc. Give dates of latest immunizations)

**Hospitalizations:**

**Surgical Procedures:**

**Injuries/Traumas:**

**Transfusions:**

**Allergies/Drug Reactions:**

**MEDICATIONS:**

Over-the-counter:

Prescription(s):

**PSYCHOSOCIAL HISTORY:**

Educational Background:

Marital Status:

If single, do you live alone?

If married, how many years?

Spouse's Name and age:

Any Children?

Names and ages of children:

Any Grandchildren?

Names and ages of grandchildren:

Where do you live?

Do you own or rent?

Occupation:

Spouse's Occupation:

Hobbies/Interests:
References


