Mental Health Referral for Student-Athletes:
Web-Based Education and Training

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Being an NCAA student-athlete can be both rewarding and challenging. Challenges include physical stress, practice and game commitments, strict schedules, and expectations of coaches, teammates, faculty, family, and friends. These pressures can affect relationships, sport performance, academics, work, and life, sometimes to deadly effect. Suicide is the third-leading cause of death for NCAA student-athletes.

When it comes to student-athlete mental health, many questions arise. What are the warning signs that mental health help is needed? What does getting help involve? How do you start a conversation about mental health?

The multimedia interactive website, SupportForSport.org is designed for student-athletes and others to gain the knowledge, confidence, courage, and skills needed to make effective mental health referrals. Student-athletes typically spend about 20 minutes on the site engaged in interactive activities and learning factual information and practical tips related to making mental health referrals. SupportForSport.org enhances the mental health of student-athletes by raising awareness and empowering student-athletes to help others and themselves.

The acronym “REFER” is used as a guide throughout SupportForSport.org to outline the mental health referral process for anxiety, depression, eating disorders, and substance abuse.

- **Recognize** - what’s going on in the situation
- **Extend** knowledge - learn more
- **Facilitate** a conversation - start talking
- **Evaluate** the experience - how did things go?
- **Revise** and revisit - continue the conversation with follow up as needed

Resources provided include didactic information, interactive opportunities, and modeling of effective mental health referrals by student-athletes. Additional mental health resources that are available on campus, in the community, and online are presented.

Materials debunking mental health myths and highlighting the fact that those who get help with mental health concerns tend to get better faster and stay better longer are incorporated throughout the website.

Evaluation of the website by NCAA college coaches, athletic directors, and counseling center staff indicates that SupportForSport.org is appropriate for use by college students. Further, the results of a controlled clinical trial indicate that viewing SupportForSport.org results in increased student-athlete knowledge and self-efficacy related to mental health referrals. The web-based format of this program has the potential to affect student-athlete well-being and mental health across NCAA divisions, geographic regions, and resource availability levels.
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Problem Statement

Physically and mentally healthy student-athletes are in a good position to thrive academically, socially, and athletically. Unfortunately, many student-athletes fail to get the mental health help they need due to lack of knowledge and/or concerns about mental health stigma. The purpose of this innovation in practice program is to educate NCAA student-athletes via a multimedia, interactive website to enable student-athletes to gain the necessary knowledge, confidence, and skills to make effective mental health referrals. Because this program is web-based, it has the potential to affect student-athlete well-being and mental health across NCAA divisions, geographic regions, and resource availability levels.

1. Literature Review

The U.S. Substance Abuse and Mental Health Services Administration reported that 45.9 million adults over the age of 18 experienced a mental illness in 2010, with 30% of those in the 18- to 25-year-old range reporting mental illness in the past year. NCAA student-athletes face stresses beyond those of their non-athlete peers, including regimented schedules, physical stress and fatigue, practice and game commitments, stereotyping by the media, faculty, and students, and the dual role of student and athlete (Brewer & Petrie, 2014; Martin & Andersen, 2014; Van Rensburg, Surujlal, & Dhurup, 2011). Sometimes, these additional pressures contribute to deadly outcomes. From 2004 to 2008, suicide was the third-leading cause of death for NCAA student-athletes (Noren, 2014). The NCAA and National Athletic Trainers Association are making efforts to address the mental health concerns of student-athletes (Neal, Diamond, Goldman, et al., 2013; Noren, 2014), but progress in this area is complicated by mental health stigma (Corrigan et al., 2008). Although research indicates that NCAA student-athletes vary in stigmatizing attitudes related to those who seek mental health help (Linder, Brewer, Van Raalte, & DeLange, 1991; Steinfeldt & Steinfeldt, 2012) and do not tend to derogate athletes who consult sport psychologists, they do hold negative attitudes toward athletes who consult psychiatrists (Van Raalte, Brewer, Brewer, & Linder, 1992).

To address the mental health needs of students, many colleges and universities have created and offer preventive psychoeducational workshops (Conley, Durlak, & Dickson, 2013). Psychoeducational programs that are interactive and include cognitive interventions to affect maladaptive attitudes and behaviors have been shown to reduce symptoms and risk factors for psychological disorders (Stice & Shaw, 2004; Stice, Shaw, & Burton, 2006). Mental health interventions that target specific psychological processes and include feedback have also been shown to be particularly effective (Donohue, Pitts, Gavrilova, Ayarza, & Cintron 2013; Scott-Sheldon, Carey, Elliott, Garey, & Carey, 2014; Walton, 2014).

Addressing the mental health needs of NCAA student-athletes via psychoeducational workshops can be difficult, however, because of scheduling
challenges and because only a limited number of student-athletes can participate in any given workshop. Further, shame and secrecy often associated with mental health concerns can serve as a barrier to attendance and treatment seeking (Garvin & Striegel-Moore, 2001).

Web-based psychoeducational interventions offer solutions to some of the limitations of face-to-face approaches to mental health education. That is, web-based programs can offer rich content, tailored to student needs, in a cost-effective, confidential, and anonymous manner (Rhodes, Fishbein, & Reis, 1997). A meta-analysis involving over 11,000 participants conducted by Wantland, Portillo, Holzemer, Slaughter, and McGhee (2004) compared the effectiveness of web-based and non-web-based interventions and found significant improvement in outcomes for individuals using web-based interventions. Lustria et al. (2013) conducted a meta-analysis of web-based interventions (over 20,000 participants) and found that those tailored for particular populations led to significantly greater improvements in health outcomes than did control conditions. The web-based intervention developed by Gulliver et al. (2012) tailored for elite athletes showed a trend indicative of increased mental health literacy and destigmatization relative to a control group. Thus, web-based, tailored programming related to referral for mental health issues may be a promising approach for NCAA student-athletes.

In summary, student-athletes have mental health issues that have led to troubling outcomes including high suicide rates. Tailored, web-based programs have been found to positively affect health outcomes (Lustria et al, 2013; Wantland et al., 2004). Therefore, web-based interventions may be an effective way to reach NCAA student-athletes with regard to mental health issues and to help them gain the necessary knowledge, confidence, and skills to make effective mental health referrals. Further, web-based programming is economical and can positively affect student-athlete mental health across NCAA divisions, geographic regions, and resource availability levels.

2. Conceptual Framework

![Conceptual Framework](image)

*Figure 1. Conceptual framework for research.*

Individuals who are knowledgeable about referrals for mental health concerns are in a better position to help others than are those without knowledge and efficacy (Neal et al., 2013). Knowledge pertaining to referral skills can be conveyed via didactic and interactive techniques (Stanton, Atherton, Toriello, & Hodgson, 2013). Athletes also learn by watching and modeling the behavior of similar others (McCullagh, Ste-Marie, &
Indeed, Bandura (1986) noted that modeling is one of the most effective means of transmitting patterns of thought and behavior. Buckley and Malouff (2005) proposed that the Social Learning Theory principles, such as vicarious reinforcement, explain the positive attitudinal changes toward mental health treatment that result from viewing tailored videos. As shown in Figure 1, a mental health website that uses didactic, interactive, and modeling approaches can build upon Social Learning Theory principles, and be used to deliver effective programming for NCAA student-athletes to facilitate mental health referrals.

3. Methodology and Data Collection

Content Development

Website content was developed by Dr. Nancy Diehl, an expert in mental health referral who has experience in multimedia development and with NCAA student-athletes and coaching. Program content includes interactive exercises, photographic images, text to complement existing materials (such as the NCAA handbook, Managing Student-Athlete Mental Health), and video clips depicting student-athletes making referrals for substance abuse, eating disorders, depression, anxiety, and other mental health issues.

The accuracy and usability of the materials were examined by a counseling center director, athletic director, coaches, and student-athletes. Information that was not deemed accurate, scientifically valid, and appropriate for the NCAA student-athletes was updated or removed. Alpha testing of the website was completed to ensure the technology worked as intended.

Study 1

The purpose of Study 1 was to conduct one-to-one testing with the website prototype. Information gleaned from Study 1 enabled the investigative team to ensure that members of the target population could use the website as intended and helped identify aspects of the prototype in need of clarification or modification.

Participants

Participants were 10 student-athletes in their first, second, third, fourth, and fifth years of study from Massachusetts, New Jersey, North Carolina, and Utah. The five male and five female student-athletes participated in basketball, cross-country, gymnastics, soccer, tennis, and track and field and were an average of 20.40 (SD = 1.17) years of age. Most were non-Hispanic (n = 8) with one person identifying as Hispanic and one person not responding to this item. The participants were primarily white (n = 8) with one person reporting their race as African-American/Black and one person reporting their race as other.

Procedure
Student-athletes attended individual sessions. After giving informed consent, they navigated through the prototype website. Consistent with one-to-one testing methodology (Dick & Carey, 1990; Gagne, Briggs, & Wager, 1992), a researcher sat behind participants and observed them to ensure that they were using the website as intended and asked questions to make sure that participants understood the website organization and material. The researcher recorded observations and probed participants for additional comments following their experience with the website.

Results

A summary of observations from the one-to-one testing sessions included the following: navigability issues such as not having a clear starting point on the “create your own adventure” segment and lack of clarity when moving between video vignettes and didactic content, labelling of athlete videos with issues of concern as well as names, minor typographical errors, and occasional inconsistent use of hyperlinks. Modifications to the website were made in accordance with the report prior to conducting Study 2.

Study 2

In Study 2, athletic directors and coaches -- those professionals most likely to facilitate use of the website by their student-athletes -- reviewed the online program and completed a written evaluation of the program’s perceived effectiveness.

Participants

Participants were athletic directors (n = 11) and coaches (n = 16) from nine states representing NCAA Division I (n = 6), Division II (n = 2), and Division III (n = 19) institutions. Sports coached were basketball, cross country, fencing, golf, lacrosse, soccer, softball, tennis, track and field, and volleyball. The mean age of the 11 male and 15 female participants (one respondent did not provide information on gender) was 45.92 (SD = 11.67). The sample was primarily non-Hispanic (n = 24) with one person reporting Hispanic and two not responding to the ethnicity item. The sample was primarily white (n = 23) with two people reporting their race as Asian and two not indicating race.

Procedure

Athletic directors and coaches completed an online informed consent document and were directed via an Internet link to the website. After reviewing the online referral program, participants completed the Treatment Acceptability Questionnaire (TAQ; Hunsley, 1992) with reference to the NCAA student-athletes they serve. Participants were also asked open- and closed-ended questions with regard to the content, ease of use, and applicability of the website for NCAA student-athletes.

Results
The six-item TAQ was used to examine the treatment acceptability of the website. The TAQ provides a total score ranging from 6 to 42, with higher scores indicating greater treatment acceptability. Internal consistency for this set of data was .85, and the mean for the TAQ for this study was 29.96 (SD = 4.21; n = 24 due to some missing data). The magnitude of these values is in agreement with values for acceptable behavioral interventions (Hunsley, 1993).

Several open-ended questions were asked to solicit feedback about the website. In response to the question “What are your overall impressions of SupportForSport.org?” most responses were positive about the content and usefulness of the website, especially the videos. These themes were best captured by one respondent who stated, “I like the videos as they are better in drawing the viewer than just reading the information. I thought that the topics were excellent.”

In answer to the question “What did you like about SupportForSport.org?” respondents highlighted the ease of navigation, the importance and seriousness of the issues presented, the role plays and videos, and the facts and figures presented. When asked “What would improve SupportForSport.com?” respondents suggested more detail is needed in some areas, particularly mental illness; providing an example of a negative response to an intervention; and more minority representation in the videos. When asked “What else would you like to know about SupportForSport.org?” participants inquired when the website would be available, if the coach would be involved in distribution of the website, and if the website was being distributed to athletic training staff.

Finally, participants were asked “How useful would web-based materials for NCAA student-athletes be on the following topics?” The topics that were most highly rated as being potentially useful for student-athletes were body image/eating disorders, leadership, concussion, substance abuse, sport performance enhancement, hazing, study skills, transitions, and injury.

Modifications to the SupportForSport.org website were made based upon the feedback from Study 2.

**Study 3**

The website was subjected to a field trial in Study 3 to gain an understanding of the extent to which the website was acceptable and effective for student-athletes in practice, specifically in enhancing their knowledge, resource/professional identification efficacy, and peer assistance/referral efficacy with regard to mental health referral.

**Participants**

Student-athletes (N = 197) responded to a request to participate in the study; 180 consented to participate, and 153 student-athletes from NCAA Divisions 1, 2, and 3 in 8 states, correctly completed the research process (103 females, 46 males, 4 people did not provide information on gender). The mean age of this group was 19.63 (SD = 1.76), they
were predominantly non-Hispanic (91%) and described themselves as being African-American/Black (8%), Asian (11%), Hawaiian or other Pacific Islander (2%), Native American (4%), White (83%), no response or other (6%). Numbers for race do not add up to the total (100%) as participants were allowed to endorse more than one option. Student-athletes reported participating in the sports of baseball, basketball, cross country, fencing, football, golf, gymnastics, lacrosse, rugby, skiing, soccer, softball, squash, swimming and diving, tennis, track and field, and volleyball.

**Procedure**

After giving informed consent, NCAA student-athletes provided demographic information (i.e., age, gender, race/ethnicity, and sport), completed questionnaires assessing their knowledge of the mental health referral process and mental health referral efficacy and were randomly assigned to the experimental (SupportForSport.org) or control (NCAA.org/student-athletes) groups. Mental health referral efficacy items included: How confident are you that you can: (a) find resources related to mental health referrals? (b) find a professional who can help with a mental health problem? (c) help a friend who has a mental health problem? and (d) refer a friend to a professional for help with mental health issues? Next, experimental group participants viewed SupportForSport.org. Control group participants viewed NCAA.org/student-athletes. Upon completion of their online sessions, participants completed mental referral knowledge, efficacy, ease of use, program content, and treatment acceptability questionnaires (Hunsley, 1992).

**Results**

**Pre-Intervention Examination of Measures**

**Mental health referral efficacy.** Eight items composed the mental health referral efficacy scale. The items were intended to capture two aspects mental health referral efficacy – resource/professional identification efficacy and peer assistance/referral efficacy. An exploratory factor analysis revealed the most parsimonious interpretation was a one factor scale, so all eight items were scored as a single scale. The eight items on the pre-intervention assessment had a coefficient alpha of .95 and an average total score of 8.23 (SD = 1.99) on a scale of 0 to 10. To determine if the experimental (SupportForSport.org) and control (NCAA.org/student-athletes) groups had similar mental health referral efficacy at baseline, a t-test was conducted. Scores for mental health referral efficacy at pre-intervention were not significantly different between the experimental (M = 8.30, SD = 1.94) and control (M = 8.15, SD = 1.99) groups, Welch t(145) = -0.57, p = .57.

**Mental health referral knowledge.** Ten true-false items composed the mental health referral knowledge scale. The mean for this sample at pre-intervention was 6.92 (SD = 1.46) questions correct out of 10. To determine if the experimental (SupportForSport.org) and control (NCAA.org/student-athletes) groups had similar mental health referral knowledge at baseline, a t-test was conducted. Scores for mental
Post-Intervention Differences in Self-Efficacy and Knowledge

MANCOVA analysis. There were 139 student-athletes with complete data on both the self-efficacy and knowledge scales. After determining the data met assumptions for multivariate analysis, a multivariate analysis of covariance (MANCOVA) was calculated to compare the experimental and control groups on their mental health referral knowledge and efficacy after viewing the online programs, using pre-intervention mental health referral knowledge and efficacy scores as covariates. Results of this analysis indicated a significant difference between the experimental (SupportForSport.org) and control (NCAA.org/student-athletes) groups post-intervention, Wilks’ $\Lambda = .70$, $F(1,135) = 9.71$, $p < .001$. Follow-up separate ANCOVAs were conducted on mental health referral knowledge and efficacy scores to further explore the differences between the groups.

Mental health referral efficacy ANCOVA. There were 146 student athletes with complete data on pre-intervention and post-intervention mental health referral efficacy measures. The mental health referral efficacy data were screened for assumptions for ANCOVA analysis (e.g., homogeneity of variance, homogeneity of regression slopes) and were deemed suitable for analysis. ANCOVA analysis comparing mental health referral efficacy scores at post-intervention between the experimental (SupportForSport.org) and control (NCAA.org/student-athletes) groups with pre-treatment levels of mental health referral efficacy as a covariate revealed a significant difference between the groups, $F(1,143) = 15.48$, $p < .001$, partial $\eta^2 = 0.1$. This indicates that viewing SupportForSport.org had a significant and medium effect (Cohen, 1988) on mental health referral efficacy compared to viewing NCAA.org/student-athletes.

Mental health referral knowledge ANCOVA. There were 144 student athletes with complete data on pre-intervention and post-intervention mental health referral knowledge measures. Knowledge data were screened for assumptions for ANCOVA analysis (e.g., homogeneity of variance, homogeneity of regression slopes) and were deemed suitable for analysis. ANCOVA analysis comparing mental health referral knowledge at post-intervention between the experimental (SupportForSport.org) and control (NCAA.org/student-athletes) groups with pre-treatment levels of mental health referral knowledge as a covariate revealed a significant difference between the groups, $F(1,141) = 6.37$, $p = .01$, partial $\eta^2 = .04$. This indicates that viewing SupportForSport.org had a significant and small effect (Cohen, 1988) on mental health referral knowledge compared to viewing NCAA.org/student-athletes.

Treatment Acceptability

The six-item TAQ was used to examine the acceptability of the SupportForSport.org and NCAA.org/student-athletes websites. The TAQ provides a total
score ranging from 6 to 42, with higher scores indicating greater treatment acceptability. Internal consistency for this set of data was .87. The mean for the TAQ for the SupportForSport.org group was 29.52 (SD = 4.47) and for the NCAA group was 29.37 (SD = 5.40). Thus, both websites were deemed to be acceptable, in agreement with treatment acceptability values for behavioral interventions (Hunsley, 1993). There was not a significant difference between the two groups in terms of treatment acceptability, Welch t(138) = -0.18, p = .85, suggesting that SupportForSport.org was perceived as being as acceptable to student-athletes as NCAA.org/student-athletes.

**Qualitative Feedback**

Several open-ended questions were asked in order to solicit feedback from the student-athletes about the website. In response to the question, “What are your overall impressions of SupportForSport.org?” the majority of the responses could be characterized by the terms “Useful and effective” – they liked the site and found the information helpful and educational. Further, they described SupportForSport.org as easy to navigate, well-organized, and well put together. A few commented that they would have liked more information and a few others noted that the website offered too much information. With regard to the video clips depicting student-athletes making referrals for substance abuse, eating disorders, depression, and anxiety, student-athletes described the videos as relevant and accurate in terms of the dilemmas portrayed. A few described the videos as “cheesy” but these comments were balanced by observations about how the videos drove key points home. Overall, the responses were positive.

In answer to the question “What did you like about SupportForSport.org?” respondents highlighted the ease of navigation, the quality of the information, and the videos. A few commented that the approach was effective, in that it was tailored to athletes and could be viewed privately.

When asked “What would improve SupportForSport.com?” many respondents indicated that nothing additional was needed. Those respondents who suggested changes tended to focus on requesting more of what was already provided. That is, more videos, more mental health problems discussed, inclusion of more serious or complex issues, and more detailed academic information. A few expressed concerns that the information and video presentations were oversimplified for such a potentially complex topic but others appreciated the concise delivery and manageable size of the site. A few offered ideas for enhanced delivery, such as a mobile option and easier navigation. When asked “What else would you like us to know about SupportForSport.org?” participants inquired when the website would be available and how it would be promoted to students and endorsed by universities, if the coach would be involved, and if it was being distributed to athletic training staff. Athletes who were current experiencing mental health concerns or those of friends had particularly favorable feedback about the website.

Finally, participants were asked “How useful would web-based materials for NCAA student-athletes be on the following topics?” The topics that were most highly rated as being potentially useful by student-athletes were injury, leadership, concussion,
transitions, sport performance enhancement, substance abuse, career issues, study skills, and media communication skills.

4. Findings
The website SupportForSport.org was subjected to one-to-one testing and evaluation by Athletic Directors and NCAA coaches during the development stage. A controlled trial was conducted evaluating the effects of viewing SupportForSport.org on mental health referral knowledge and efficacy relative to viewing NCAA.org/student-athletes. Results indicated that viewing SupportForSport.org increased mental health referral knowledge and efficacy and that student-athletes found SupportForSport.org to be acceptable on a level similar to that of NCAA.org/student-athletes. These results suggest that SupportForSport.org is a valuable resource that can be useful in educating and empowering student-athletes with regard to mental health issues.

5. Implications for Campus Level Programming
Research indicates that web-based mental health referral programming is effective. SupportForSport.org, an online program designed to increase the knowledge and self-efficacy of NCAA student-athletes with regard to mental health referral, can be incorporated into athletic department and other campus programming. Further, the dissemination of SupportForSport.org can result in high quality, effective mental health referral information being used by student-athletes at NCAA member institutions.

6. References


7. Appendix
   a. **Products (e.g. website links, pdf handouts, worksheets, etc.)**
      [www.SupportForSport.org](http://www.SupportForSport.org)

   b. **Grant Team Participation Report (see attached table)**