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Research Article

How Injuries Impact Athletes' Mental Health

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Abstract

Injuries are an inevitable part of an athlete's career. Often associated with physical and psychological consequences, studies have shown that the number of injuries among professional athletes has increased. Restoring athletes to competitive activity in the shortest possible time brings both mental and physical challenges. The purpose of this quantitative research project was to explore how injuries affect athletes' mental health, more specifically depression, among college students enrolled at a small southern university institution in the United States. Demographics included race, sex at birth, if they were high school athletes, if they are currently college athletes, their particular sport, and college classification status. Data were collected from 115 volunteer participants. Results from chi-square test of independence, independent sample t- test, and ANOVA yielded significant results. Chi-square test of independence, it emerged that of the n=88 (77 percent) of the participants who suffered an injury, (77 percent) were female, and only (26 percent) were male. Independent t-test analysis, a significant difference, p=.009 in post-injury family support, male received more support, n=27 with m=3.70, compared to female n=81 with m=3.47. A further significant difference with p=.041 emerged in those who experienced burnout after the injury, male n=26 and m=2, compared to female n=76 with m=2.49, which shows that females are more predisposed to experiencing post-injury burnout. Track and field athletes who experienced injuries reported significantly more symptoms of depression than other athletes. This research is useful by adding to the literature about athletic injuries, and specifically, who is more likely to likely to experience higher levels of depressive symptoms post-injury.

Introduction

Injuries are part of an athlete's career. Often inevitable, injuries can be associated with physical and psychological consequences. Studies have shown, that compared to the past, the number of injuries among professional athletes have increased. A significant related issue is how to allow athletes to resume competitive activity in the shortest possible time but also be in the best physical and mental condition [1]. According to Yang et al. [2], "Injury was defined as any reportable injury that requires medical attention and restricted full participation for 1 day or longer" (p. 373).

There can be many possible causes of injuries for athletes with some of the most common resulting from being overworked, happening because professional athletes are often subjected to numerous hours of training per day. This high level of training increases the probability of injury due to an accident, as well as the possibility of overload injuries, as the bodies of these athletes are pushed to the limit almost daily [1]. However, other factors can increase the chances of getting injured, such as a high level of competition anxiety, high levels of stress due both to factors inherent to sport and to factors in one's personal life, low self-esteem, depression, violence, hostility, poor social support, lifestyle changes, injury history and sports burnout [2-4]. While awareness about the various causes that can lead to an athlete's injury are important, it is also important to work proactively on these factors to prevent an injury

from happening whenever possible. Sajedi & Kirkbir [3] noted how mental stubbornness has a great impact on the prevention of injuries. In fact, athletes higher on mental stubbornness are less likely to suffer from stress, and when they find themselves in a high-level situation of stress, they can manage it, remaining lucid during the performance and thus reducing the possibility of injury.

Athletes with acute anxiety are more prone to injuries, since it can reduce balance, coordination, and focus, and in some situations result in disproportionate reactions. Furthermore, a strong correlation has been found between cognitive abilities and sports injuries. An athlete's ability to problem solves and analyze the situation is important so the most effective and least dangerous solution is chosen. Here too, we see the importance of being clear-headed and being careful during the competition [1]. It is therefore important that coaches and staff can keep an athlete's psychological factors under control, being supportive and intervening if necessary [1]. Before the injury, the athlete's first main sources of social support are family, friends, and coaches, but after the injury, athletic trainers also have an important role. It is therefore essential that these people have an understanding of the athlete's mental health to help them as soon as possible [2]. Another source of injury prevention is imagery, a mind-body approach that claims physical and psychological changes are directly proportional. Through this technique, neurophysiological functions are stimulated, as would happen in reality if that action were performed (Green, 1992). In the case of preventing an injury, it is important to identify those periods of particular stress and try these techniques to reduce this feeling of stress, promoting relaxation and providing a different perspective on the situations that are causing discomfort. Allowing the athlete to see the situation clearly and find other possible solutions to the problem [4].

Green [4] divides the phases of an injury into three parts: pre-injury, immediate post-injury attention, and injury rehabilitation. Thus far, the discussion has focused on the pre-injury phase. Now, begins the analysis of the other two phases, starting from what happens in the moments following an injury. In this phase, first aid is administered to stabilize the injured part, try to calm the athlete, and control the pain with medicines. These moments include the presence of doctors who are looking for what happened and what the steps will be to follow to begin rehabilitation. The athletic trainer and sometimes the coaches are also usually involved in this phase. It is important to give the athlete hope; to make him/her believe that even if it is long, there is a rehabilitation process that can lead to the return of competitive activity. The injury must be explained clearly and understandably, so the athlete has a real understanding of what happened. This is very important if imagery is used in the subsequent steps of rehabilitation [4]. Even in this phase, it is important to take into consideration the athlete's mental health, which may present symptoms of confusion, disbelief, and desperation. An athlete's first concerns tend to be about pain, the sport, and not being able to finish the competition or not being able to compete in subsequent competitions [5]. Research shows that many athletes, with a prevalence of males, do not show positive psychological interventions, despite their great effectiveness. But for interventions to be effective, the athlete must believe in what he/she is doing [6]. An athlete's social support is of fundamental importance for an athlete's mental health. Social support can impact whether further professional support is needed. For most athletes, the main source of support is their family, or if they cannot be present, then the friends of the athlete. This is because often after an injury athletes are having to rest, are unable to attend training sessions and team activities. The greatest need is psychological support from people close to the athlete [2].

The last phase of an injury is rehabilitation, which involves the injured athlete working with the doctor, athletic trainer, and coach. In this phase, decisions are made and a plan formulated to ensure treatments are as effective as possible, a recovery time is projected and, which parameters must be met for the athlete to resume activity, and who is in charge of approving the return to physical activity. At this stage, it is important to specify to the athlete how he/she must trust the doctors, commit to and rigorously follow the rehabilitation [4]. It is important to keep the athlete's mental health in mind, as they may develop low self-esteem, anxiety, depression, feelings of anonymity, and feelings of loneliness. Furthermore, in the phases closest to the resumption of physical activity, there may be fear of a new injury, loss of team status, pain associated with the original injury or rehabilitation, and fear of not being able to return to performance levels. Loss of previous skills are also a concern [3-5]. All these factors must be kept in mind during rehabilitation so needed intervention can occur as soon as possible, if needed. Mental stubbornness is a personality characteristic that is effective in preventing the development of mental health disorders and sports burnout. This characteristic causes the athlete to react to stressful situations by seeing them as a competition rather than a danger, making it easier to manage the situation [3]. Even at this stage, social support is of fundamental importance. Athletes particularly look for it from family (97%), friends (93%), coaches (81%), and athletic trainers (83%). The figure of preparatory athletes becomes fundamental post-injury, going from (49%) to pre-injury (83%), becoming the main reference figure in this phase. For this reason, athletic trainers must be adequately educated to identify the development of psychological problems and be able to intervene in cases where possible [2].

Research by Brewer et al. [6], demonstrated how goal setting, imagery, and counselling positively affects both physical and mental rehabilitation. Before trying these three techniques, males proved to be more reluctant than females, regarding counselling and imagery, but after trying them, many changed their minds, especially for favouring goal setting. Just like the males, the number of females who demonstrated a positive approach towards these techniques also increased after having experimented with them and they too found themselves preferring the goal settings. Goal setting is some-

thing that athletes know best as it is regularly practices throughout the season and during training sessions by setting team and personal goals. In rehabilitation, it has proven effective for maintaining a positive mindset by setting short-term goals, which boosts morale when achieved and promotes motivation. Regarding the other two techniques, image and counselling, they are seen positively, but with some resentment relating to the time commitment involved [6]. A solution proposed by Brewer et al. [6] is to integrate psychological interventions with physical rehabilitation, so as not to be seen as something additional to rehabilitation, requiring more time, but as part of rehab. It is important to control the mental aspect for the success of physical rehabilitation because it ensures that the athlete maintains a positive attitude, dedication, and commitment throughout the journey. Imaging is an important technique. If used correctly, it can speed up the rehabilitation process. The injury and the phases that follow can be compared to the phases that follow the loss of a loved one. Athletes often experience denial, anger, bargaining, depression, and acceptance. The imaging technique has the task of speeding up the transition between the different phases, realizing that he/she has entered that phase and how it negatively influences rehabilitation and mental health [4]. The purpose of the current research was to explore how injuries impact the mental health of athletes, specifically depression, among college students enrolled at a small southern university. For this study, demographics included race, sex at birth, if they were high school athletes, if they are currently college athletes, sport, and college classification.

Method

Participants

The participants in this study are all students enrolled in undergraduate programs at a small university in the southern part of the United States. The researcher had a total of (*N*=115) student participants. Analysis of the demographics of the participants showed a majority of female participants *n*=85 (73.9 percent) compared to male participants *n*=30 (26.1 percent). Analysing the race of the participants revealed a predominance of White/Caucasians *n*=77 (67.0 percent), followed by African Americans *n*=25 (21.7 percent). Other ethnicities who participated were Hispanics *n*=5 (4.3 percent), Asians *n*=3 (2.6 percent), Africans *n*=3 (2.6 percent), and Native Americans *n*=2 (1.7 percent). All 115 participants indicated their classification, which revealed that *n*=29 (25.2 percent) were freshmen, *n*=26 (22.6 percent) were sophomores, *n*=33 (28.7 percent) were juniors, and *n*=27 (23.5 percent) identified as seniors. Of the research participants, *n*=42 (36.5 percent) are not student-athletes who do not participate in any competitive level competition at the moment, but they were asked to answer the survey questions, based on injuries that may have occurred how much they participated in competitions in high school. The rest of the participants, *n*=73 (63.5 percent), were/are student-athletes. Findings indicated a majority of participants were cheerleaders, *n*=23 (20.0 percent), followed by tennis players, *n*=12 (10.4 percent), volleyball athletes, *n*=11 (9.6 percent), basketball players, *n*=10 (8.7 percent), football athletes, *n*=9 (7.8 percent), golf players, *n*=5 (4.3 percent), and track & field athletes, *n*=3 (2.6 percent). There were no research participants who were part of the baseball, cross-country, rodeo, or softball teams. Finally, the researcher wanted to know the distance from home of the students. Of the obtained sample collected, the majority of athletes were from in-state, *n*=61 (53.0 percent), followed by out of state, *n*=35 (30.8 percent), and international students were the lowest, *n*=15 (13.0 percent). Some students decided to refrain from answering this question, *n*=4 (3.5 percent).

Instrument

Data was collected through the use of a survey questionnaire, composed of 29 variables, of which six were demographics (race, sex at birth, classification, student-athlete or not, type of sport played, student status). In the survey, the operational definitions of injury, of which the first was provided by Yang et al. [2] was included as follows, "Injury was defined as any reportable injury that requires medical attention and restricted full participation for 1 day or longer" (p. 373). After the operational definition, four nominal scale *Yes (1)/No (2)* questions were provided, followed by 10 Likert-type scale questions that related to the injury and the type of support received. The answer options included the following: *Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree (1)*. The remaining nine Likert-type scale questions related to the experience of having depressive symptoms. The response possibilities for the depression questions included *Not at All (0), Not Often (1), Slight-Often (2), Often (3), and Very Often (4)*.

Procedure

Data was collected through asking student participant volunteers to complete the research survey questionnaire. Special consideration was employed to collect as many questionnaires as possible from university student athletes. Data collection resulted in 115 completed surveys (*N*=115), which were examined using SPSS data analysis. Once the data was entered into SPSS, statistical analysis, including chi-square analysis, one-way ANOVA test, independent sample t-test, and comparison of the data frequencies, was utilized.

Result

The purpose of this quantitative research project was to identify more about how injuries affect athletes' mental health. The investigation paid specific attention to depression among college students. For this study, demographics included race, sex at birth, if they were high school athletes, if they are currently college athletes, sport, and college classification. The research study included five hypotheses, which are discussed individually within the next subsections and labelled accordingly.

Hypothesis 1: There will be a significant difference between race and depression rates. Data obtained using the chi-square test

of independence in SPSS revealed that *n*=88 (77%) of participants sustained an injury with a predominance of African American (76%) followed by White/Caucasian (75%). Using an independent t-test, a significant difference emerged between those who were diagnosed with depression before the injury; White/Caucasian population *n*=68 (88.3%) gave a response whose mean *m*=1.84, compared to African Americans *n*=23 (92%) who gave a response of *m*=2. From this, it was possible to ascertain that African Americans are more likely to be diagnosed with depression. Furthermore, there was a significant difference in the difficulty of staying asleep with a value of *p*=.008, White/Caucasian *n*=70 (91%) has a mean *m*=.97, compared to the African American population *n*=23 (92%) with an m=2. Even in this case, African Americans experienced more trouble staying asleep. The last significant difference, with *p*=.001, was noted in the perception that one's mental health had a negative effect on the ability to focus on one's recovery. White/Caucasian *n*=69 (89.6%) answered *m*=.97, while African Americans *n*=23 (92%) *m*=1.61, this shows that their mental health has more effect on their ability to concentrate on Withe/Caucasian recovery.

Hypothesis 2: There will be a significant difference between sex at birth and rates of depression. From the analysis done with SPSS, in particular after calculating the chi-square test of independence, it emerged that of the *n*=88 (77%) of the participants who suffered an injury, 77 percent were female, and only 26 percent were male. However, this data may have been influenced by a greater number of females who participated in the research. After independent t-test analysis, a significant difference appeared, *p*=.009, in post-injury family support, with male *n*=27 responses, with *m*=3.70, compared to female *n*=81, whose *m*=3.47. This indicates that males reported that they received slightly more support from family. A further significant difference, *p*=.041, emerged in those who experienced burnout after the injury, male *n*=26 and *m*=2, compared to female *n*=76 with *m*=2.49, which shows that females are more predisposed to experiencing post-injury burnout. The last significant difference that emerged for this hypothesis related to having anxiety experiences before the injury, *p*=<.001, male *n*=26, *m*=2, compared to female *n*=77, *m*=2.88. Also in this case, females were more likely to have experienced anxiety before experiencing an injury.

Hypothesis 3: There will be a significant difference between university classification status and depression rates. After the SPSS data analysis and the use of chi-square tests of independence, results indicated that the number of athletes who underwent surgery increased with the increase in their university classification. In fact, (8%) of freshmen underwent a surgical intervention compared to (46%) of seniors. After a subsequent analysis using one-way ANOVA, there were no significant differences noted between university classification status and depression rates.

Hypothesis 4: There will be a significant difference between sports and depression rates. Data analysis utilizing a one-way ANOVA found a significant difference, *p*=<.001, among athletes who felt hopeless about the outcome of their recovery. In particular, a notable difference was identified between track and field athletes, with a mean of *m*=3.3, and among golfers with an *m*=0.0. This result indicates that track & field athletes are more likely to feel hopeless about the outcome of their recovery following an injury. Another significant difference identified how athletes feel hopeless and helpless regarding the outcome of their recovery *p*= <.001. To note, the sports that stood out for this significance were also track & field, *m*=3.3, and golf at *m*=0.2. Also in this case, it is noteworthy that track and field athletes experienced more hopelessness and helplessness regarding belief that things would get better. Results revealed a significant difference between the athletes who experienced loss of appetite during recovery (*p*=.027), with the track & field athletes showing *m*=2.67, and golf athletes *m*=0.4. These results indicate that athletes in track & field are more predisposed to experience loss of appetite and depressive symptoms in general, and golfers are less predisposed to experience depressive symptoms, than all of the sports analyzed in this research study. To confirm these outcomes, there were further significances identified regarding the variable of trouble staying asleep, *p*=.010. Again, the track and field athletes stood out with the highest mean, *m*=2.67, and golfers reported the lowest issues with trouble staying asleep, *m*=0.4.

Hypothesis 5: There will be a significant difference between the type of student and depression rates. Specifically, when discussing the type of student, this hypothesis is referring to the origin of the student participants, including whether the student is from in-state, out-of-state, or is an international student. SPSS analysis using one-way ANOVA identified a value of *p*=.046, indicating that international students are less likely to have an increase in appetite (*m*=.5), when compared to in-state students (*m*=1.12), and out-of-state students (*m*=1.33). A further significant difference identified, *p*=.047, was noted among those students who have experienced being able to sleep during rehabilitation. In this situation, the international student athletes stood out again with an *m*=.57, which was again lower than in-state student athletes (*m*=1.29) and out-of-state athletes (*m*= 1.48). A significant difference (*p*=.037) was found between athletes who were diagnosed with depression before their injury. International students and out-of-state students reported the same mean (*m*=1.64), compared to in-state students (*m*=2.11), who turned out to be more likely to be diagnosed with depression before their injury. Finally, the last significant difference that emerged from the study concerns the difficulty falling asleep (*p*=.010), where also in this case the international students stood out with *m*=.79, compared to the in-state students (*m*=1.56), and the out-of-state students (*m*=1.9). The research clearly indicates that international students are less likely to develop depressive symptoms after the injury, as well as having fewer symptoms of depression prior to an actual injury.

Additional findings from the frequency analysis showed that of the 115 participants, 77 percent have experienced some form of injury. From those injured, 61 percent have been injured more than

once. Only two athletes reported that they had a career-ending injury. After running a chi-square test of independence, results identified that 70 percent of student-athletes have suffered at least one injury during their career, and of them (68%) have been injured more than once time.

Discussion

The purpose of this research project was to examine how injuries impact athletes' mental health, with special interest examining the symptoms of depression. For this study, demographics were race, sex at birth, if they were high school athletes if they are currently college athletes, sport, and college classification. Results identified the number of athletes who have suffered one or more injuries during their career. In particular, the results indicated how athletic injuries can lead to the development of depressive symptoms. This research is useful to learn more about the impact of athletic injuries on the mental health of college athletes. Specifically, this research assists with understanding who is more likely to experience higher levels of depressive symptoms post-injury. This investigation revealed that many athletes have, unfortunately, experienced at least one depressive symptom during their athletic career. This study assists with community awareness of how mental health and sports are interrelated. Additionally important, this research is a good education tool for the family and support systems close to athletes. Explicitly, support networks need to be cognizant that injured athletes are more at risk for mental health issues, particularly major clinical depression. It should be recognized that athletes are subject to enormous pressures, which are often underestimated by the people surrounding them, by expecting athletes to be mentally tough all the time.

Reviewing the current research, there are things the researcher would have done differently. The first thing to change would be to reach a greater number of athletes and try to include athletes from all the sports played at the university. In this current study, there were no participants from the baseball, cross-country, rodeo, or softball teams. The second change would be to reach a greater number of male athletes, as most male athletes were in season (baseball, rodeo, cross-country) at the time of data collection and did not volunteer to participate. This factor would likely cause some of the results to vary in future research. Another limitation identified was the concern about the ethnicity of the participants. Results indicate that the university is not a very culturally differentiated school, having a majority of White/Caucasian student athletes followed by African Americans athletes, and having few other ethnically different student athletes.

Conflict of Interest

No conflict of interest.

Acknowledgement

None.

References

1. Sajedi H, Kirkbir F (2020a) The effect of competitive anxiety on the injury level of student-athletes of Karadeniz Technical University. Journal of Educational Issues, 6(2): 98.
2. Yang J, Peek-Asa C, Lowe JB, Heiden E, Foster DT (2010) Social support patterns of collegiate athletes before and after injury. Journal of Athletic Training, 45(4): 372-379.
3. Sajedi H, Kirkbir F (2020b) The relation between mental stubbornness and sports-burnout of injured athletes at Karadeniz Technical University. Journal of Educational Issues, 6(2): 87.
4. Green LB (1992) The use of imagery in the rehabilitation of injured athletes. The Sport Psychologist, 6(4): 416-428.
5. Kubala JT, Pannill HL, Fasczewski KS, Rivera LA, Bouldin ED, et al. (2023) Comparing the primary concerns of injured collegiate athletes with the content of patient-reported outcome measures. Journal of Athletic Training, 58(3): 252-260.
6. Brewer BW, Jeffers KE, Petitpas AJ, Van Raalte JL (1994) Perceptions of psychological interventions in the context of sport injury rehabilitation. The Sport Psychologist, 8(2): 176-188.

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