COVID-19 STRESS LEVELS ON RETURNING STUDENT-ATHLETES

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Abstract: The COVID-19 pandemic has affected every aspect of life globally. Collegiate athletes already have more stressors than traditional students and they are now being forced to continue their sport with uncertainty on a routine basis. The purpose of this study was to survey the anxiety levels of collegiate athletes on returning to play. 241 Division I, II, and III athletes completed the STAI. There were significant gender differences $F(1, 204) = 16.65$, $p < .001$ but no differences for school status (e.g. freshman). Division differences were found, $F(1, 204) = 5.13$, $p = .025$ with Division III scoring higher (mean = 58.92, sd = 13.19) than Division II (mean = 54.35, sd = 13.37). No other significant differences between divisions were found. Football and volleyball were the only sports where significant differences (p=.023) were found, [F(9, 172)= 3.05, p =.001, Eta-squared = .137]. The mean of the STAI for the entire sample was extremely high (mean= 58.24, sd=13.42) which might account for the lack of differences among the groups. On the other hand, it highlighted the extreme anxiety about having to perform in the middle of a pandemic. Athletes are generally considered hardier than the normal population, yet the anxiety exhibited reported was extremely high.

Keywords: Sports, STAI, Division II

1. INTRODUCTION

In the spring of 2020, the world faced a pandemic as a virus infected the global population. The name of this disease, designated by the World Health Organization, is coronavirus disease 2019, abbreviated as COVID-19. The virus is spread mainly from person to person through respiratory droplets produced when an infected person coughs or sneezes. These droplets come to rest on people who are in the nearby vicinity of the infected, including being inhaled into the lungs of the healthy.

To reduce the spread of the disease and to keep healthcare institutions from becoming overwhelmed by the number of sick, state and local governments around the United States quarantined the population. The American Psychology Association has stated that the stress of the instant quarantining increased anxiety, depression, and anger for students and families (1). However, there are special populations who tended to be overlooked as they are traditionally not viewed as at-risk. One of these is collegiate student-athletes.

Student-athletes were forced to end their competitive seasons due to the quarantine. Even more, when collegiate athletics did resume, the phased return to work and play cut many athletic seasons in half while some never resumed. These deleted or shortened seasons quickly increased the amount of anxiety in student players. Therefore, this study helps educate future generations on how pandemics can impact the mental health of engaged students who are athletically involved with their campus and who face stressors before a pandemic. The results help teach how extreme transition can affect the mental health of students across the country.

World Pandemic History

A pandemic is a disease that is evident throughout the world or in select geographic areas simultaneously. In January of 1918, the Influenza pandemic swept the globe. During this time, the influenza A virus spread to roughly 500 million people and there was little or no immunity to this new disease (2). An estimated 20 to 100 million lives were lost due to this pandemic. First reported in Spain, this pandemic became known as the Spanish Flu.

In 2009 another pandemic, the H1N1 outbreak, infected roughly 1.8 million to 5.7 million people and hospitalized 9,000-21,000 (h1n1). Four years later, the Ebola crisis emerged as a devastating virus that originated in West African communities. The solution to this deadly virus was a quarantine of all those infected, "It was thought that an established quarantine system would reduce community anxiety" (3). When quarantined patients were interviewed, 63.5% believed quarantine was understandable, 52.5% felt that it would keep the communities safe, 51.6% said that their leaders gave them specific guidance on how to improve (3). The study showed that a majority of those quarantined, depending on how the quarantine is justified and how family members respond, can get through it successfully (3).

In 2020, the world again witnessed quarantine due to the spread of COVID-19. Worldwide, students, including college athletes, were sent home and forced to study online. (4). Typically, during a normal athletic year, student-athletes have access to university resources such as the campus counseling center, sports psychologists employed by the athletics department, or a personal sports psychologist (4). Yet, in the face of studying online, these resources became unavailable or limited to the student-athlete.

Mental Health

Hussain asserts that after six months of college there were only two substantial physical ailments students reported—56% of students reported feeling fatigued and 26% reported frequent headaches. When it comes to college students' mental health, 25% reported anxiety, 19.7% reported coping difficulties, and 8% were diagnosed with depression (5). For some students, though, the stress deepens depending on performance and activity standards. According to the American Journal of Health Promotion students who met the activity standards were less likely to report poor mental health and perceived stress than students who did not meet the requirements (6). Particularly, student-athletes face a tremendous amount of stress and anxiety when it comes to balancing their athletics with their academics. Although student-athletes experience stress, universities, and colleges do not require mental health examinations as part of the yearly physical. According to Kroshus, 39% of respondents in their survey indicated that "their institution has a written plan related to identifying student-athletes with mental health concerns." Even though 44.5% of schools had screenings to show eating disorders, 32.3% of schools had screenings to show depression, and 30.7% of schools had screenings to show anxiety, student athletes' mental health, including anxiety, may not be examined by the higher education institution (7).

Researchers have used various instruments to measure anxiety among athletes, but the one that has been most used in an athletic setting is the State-Trait Anxiety Inventory (STAI) (8). The STAI is a psychological survey developed around a 4-point Likert scale and has forty self-report questions. The STAI looks at two types of anxiety – state anxiety and trait anxiety with higher scores positively correlated with anxiety. The survey has, "twenty items for assessing trait anxiety and twenty for state anxiety. State anxiety items include: "I am tense; I am worried" and "I feel calm; I feel secure." Trait anxiety items include: "I worry too much over something that really doesn't matter" and "I am content; I am a steady person." All items are rated on a 4-point scale (e.g., from "Almost Never" to "Almost Always") (9). Thus, this study seeks to utilize the STAI to look at student-athlete mental health upon returning from COVID.

2. METHODS

The State-Trait Anxiety Inventory was given to all student-athlete participants. Athletes were surveyed via email that was sent out from the athletic administrative assistant with a follow-up reminder email sent one week later. Statistical analysis was be run on the survey and was report ed. The STAI and demographics were distributed electronically via Texas A&M University- Commerce's Qualtric system to athletes at various institutions across the nation. Scoring is easily accomplished by summing scores for items. The total score ranges from 0–63. The following guidelines are recommended for the interpretation of scores: 0–9, normal or no anxiety; 10–18, mild to moderate anxiety; 19–29, moderate to severe anxiety; and 30–63, severe anxiety.

3. RESULTS

A total of 241 individuals completed the study. The average age of the respondents was 19.6 years. Table 1 lists the demographics of the participants, Table 2 lists the means and standard deviations for the scores on the State-Trait Anxiety Inventory (STAI) instrument, and Table 3 lists the means and standard deviations for the STAI by sport, 55

responses came from football, 13 came from baseball, 13 came from basketball, 9 came from bowling, 4 came from cheer, 1 came from cross country, 1 came from dance, 29 came from golf, 22 came from soccer, 34 came from softball, 12 came from track, 6 came from volleyball, and 4 came from tennis.

Table 1 Descriptive Statistics

	N	Percent
Male	**121**	**53.3**
Female	**106**	**46.7**
Freshman	**98**	**43.2**
Sophomore	**51**	**22.5**
Junior	**33**	**14.5**
Senior	**36**	**15.9**
Grad or Post Baccalaureate	**9**	**4.0**

Table 2 STAI Means and Standard Deviations for Participants

	Mean	SD
Overall	58.24	13.42
Female	61.58	11.95
Male	54.19	14.05

Table 3 STAI Means and Standard Deviations by Sports

	Mean	SD
Football	60.39	11.77
Baseball	58.92	14.54
Volleyball	41.00	14.25
Bowling	67.00	15.35
Cheer	67.00	15.34
Golf	61.36	11.30
Soccer	56.20	14.62
Softball	51.90	11.15
Track/CC	55.33	13.25

An analysis of variance (ANOVA) was calculated on genders' ratings of anxiety. The analysis was significant, $F(1, 204) = 16.65$, $p < .001$.There was no significant difference among school statuses, $p = .276$
An ANOVA was calculated among divisions on ratings of anxiety. The analysis was significant, $F(1, 204) = 5.13$, $p = .025$ with Division III scoring higher (mean = 58.92, sd = 13.19) than Division II (mean = 54.35, sd = 13.37). No other significant differences between the division were found.

To determine differences between sports on the STAI, an ANOVA was run and found to be significant, $F(9, 172) = 3.05$, $p = .001$, Eta-squared = .137. Bonferroni post hoc tests were then run to determine which sports were significantly different from each other. The analysis showed that the significant differences were between football and volleyball only ($p = .026$). No other significant differences among sports exist.

4. DISCUSSION

Based on the data that were collected, there is evidence that everyone who participated was categorized as "high anxiety". Division III student-athletes averaged 58.92 on the State-Trait Anxiety Inventory and student-athletes from Division II averaged 54.35 on the State-Trait Anxiety Inventory. The results are interpreted on a scale ranging from 20 to 80 and further broken down into "'no or low anxiety" (20-37), "moderate anxiety" (38-44), and "high anxiety" (45-80)" (10) which means that the student-athletes that were surveyed fit in the "high anxiety" category for all Divisions.

Anxiety can be present in several different forms but Student-Athletes could look a little different than others. Student-Athletes have a constant battle between school, sport, and social. During the time this survey was administered, a global pandemic was threatening Student-Athlete participation in their sport for the upcoming season. Many sports did not know if they would even be granted the opportunity to compete in their sport and many individuals did not know if they would even feel comfortable putting themselves out and around other people potentially putting themselves at risk. Several international students had to decide to come to America to play their sport with constantly increasing COVID-19 infection and death. Due to these factors, we were observing anxious Student-Athletes that also had COVID-19 anxieties on top of their normal levels.

Every sport seemed to have anxiety even higher than the next with the greatest anxiety difference coming from volleyball and football. Cheer, dance, and cross country had to be dropped from the data due to not enough information. This was a drawback since we were not able to use them in the comparison. Only slight differences could be found between male and female student-athletes as well as between the different sports themselves. The main takeaway from this study is the fact that every single sports team that was surveyed depicts that all student-athletes are extremely anxious and double the normal anxiety range (10). This is referred to as a ceiling effect since all the data found is elevated with low variability. Several factors can contribute to high anxiety levels (11, 12, 13) but of the many reasons, some could be attributed to the fact that in the few weeks leading up to the start of school, many sports teams did not know if there were going to be able to compete. The NCAA, individual conferences, and colleges and universities themselves had not yet made the decision. This was about the time the survey was sent out which makes this a particularly interesting time to be documenting real student-athlete depictions of anxiety levels (14,15, 16, 17, 18, 19, 20). Student-athletes are already challenged with balancing their course load as well as their practice schedule and other personal matter and since this is already what is running through the everyday student-athletes mind, the addition of wondering whether their sport will participate, if they can participate safely, and if they even feel comfortable coming back to campus was shown to have increased the anxiety faced by student-athletes across Division II and Division III athletes. No participation was drawn from Division I athletes which was a setback in the data collection. Division III had higher scores potentially due to these student-athletes playing their sport without the enticement of a scholarship making them play. These individuals had no real reason to play their sport other than a pure "want" to play so this decision they had to make could have increased their STAI scores.

5. CONCLUSIONS

This study was able to help better understand the research questions of "Will returning athletes have anxiety by returning to play?" And "Will there be a difference between divisions and/or school status (freshman vs senior)?" All student-athletes proved to be highly anxious across the board and almost twice as anxious as the national average. There was not much of a difference between divisions since every sports team was highly anxious. The highest difference between sports was observed between football and volleyball. Football is a high contact sport and in a global pandemic with a virus that is passed due to close contact, the football scores being higher make sense because they are a very large team on very close quarters with each other and the other team. Volleyball wears masks to compete and they are only really around their team so this could be why their scores were lower.

With COVID-19 still looming and hopefully coming to an end, we can better understand the mental health of student-athletes and take into consideration methods and measures that could be implemented to help anyone struggling in the future or if another pandemic were to occur.

References

1. American Psychological Association. (2020). he Immediate Mental Health Impacts of the COVID-19 Pandemic Among People With or Without Quarantine Managements. www.apa.org/research/COVID.
2. Reed, Carrie, et al. "Novel Framework for Assessing Epidemiologic Effects of Influenza Epi- demics and Pandemics." *Emerging Infectious Diseases*, vol. 19, no. 1, 19 Jan. 2013, pp. 85–91., doi:10.3201/eid1901.120124.
3. Adler, A.b., et al. "Quarantine and the U.S. Military Response to the Ebola Crisis: Soldier Health and Attitudes." *Public Health*, vol. 155, Feb. 2018, pp. 95–98., doi:10.1016/j.puhe.2017.11.020
4. McCarthy, C. (2019). Promote Success, Limit Liability by Addressing Studentâ€Athlete Mental Health.Â *College Athletics and the Law,*Â *16*(6), 1-5. doi:10.1002/catl.30640
5. Hussain, R., Guppy, M., Robertson, S., & Temple, E. (2013). Physical and mental health per-spectives of first year undergraduate rural university students.Â *BMC Public Health*,Â 13(1). doi:10.1186/1471-2458-13-848
6. Vankim, N. A., & Nelson, T. F. (2013). Vigorous Physical Activity, Mental Health, Perceived Stress, and Socializing among College Students.Â *American Journal of Health Promo- tion*,Â 28(1), 7-15. doi:10.4278/ajhp.111101-quan-395
7. Kroshus, E. (2016). Variability in Institutional Screening Practices Related to Collegiate Student- Athlete Mental Health.Â *Journal of Athletic Training*,Â 51(5), 389-397. doi: 10.4085/1062-6050-51.5.07
8. Weinberg RS, Gould D. *Foundations of Sport and Exercise Psychology*. Champaign (IL): Human Kinetics; 2018.
9. Spielberger, C. D. (1989). *State-Trait Anxiety Inventory*: Bibliography (2nd ed.). Palo Alto, CA: Consulting Psychologists Press.
10. Kayikcioglu, O., Bilgin, S., Seymenoglu, G., & Deveci, A. (2017). State and Trait ANXIETY scores of patients receiving Intravitreal injections.Â Biomedicine Hub,Â 2(2), 1-5. doi: 10.1159/000478993
11. Jackson, Charlotte, et al. "The Effects of School Closures on Influenza Outbreaks and Pan- demics: Systematic Review of Simulation Studies." *PLoS ONE*, vol. 9, no. 5, 15 May 2014, doi:10.1371/journal.pone.0097297.
12. Greene, J., Cohen, D., Siskowski, C., & Toyinbo, P. (2017). The relationship between family caregiving and the mental health of emerging young adult caregivers. *The Journal of Be- havioral Health Services & Research*, 44(4), 551-5663. doi: 10.1007/s11414-016-9526-7
13. Ho, Cyrus Sh, et al. "Mental Health Strategies to Combat the Psychological Impact of COVID-19 Beyond Paranoia and Panic." *Annals of the Academy of Medicine, Singapore*, U.S. National Library of Medicine, 16 Mar. 2020, www.ncbi.nlm.nih.gov/pubmed/ 32200399.
14. Mahmoud, J. S., Staten, R. â€œ, Hall, L. A., & Lennie, T. A. (2012). The Relationship among Young Adult College Studentsâ€™ Depression, Anxiety, Stress, Demographics, Life Sat- isfaction, and Coping Styles.Â *Issues in Mental Health Nursing*,33(3), 149-156. doi: 10.3109/01612840.2011.632708
15. Neria, Yuval, et al. "Mental and Physical Health Consequences of the September 11, 2001 (9/11) Attacks in Primary Care: A Longitudinal Study." *Journal of Traumatic Stress*, vol. 26, no. 1, 2013, pp. 45–55., doi:10.1002/jts.21767.
16. Ornell, Felipe, et al. "'Pandemic Fear' and COVID-19: Mental Health Burden and Strategies."*Brazilian Journal of Psychiatry*, 3 Apr. 2020, doi:10.1590/1516-4446-2020-0008.
17. Ryan, Heather, et al. "Student-Athletes and Mental Health Experiences." *New Directions for Stu- dent Services*, vol. 2018, no. 163, Nov. 2018, pp. 67–79., doi:10.1002/ss.20271.
18. Spielberger, C. D., Gorsuch, R. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). *Manual for the State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychologists Press.
19. Wolinsky, Lacob. "ValueWalk: Mental Health 101: Tips to Survive This Quarantine." *ProQuest*,3 Apr. 2020, https://search-proquest-com.proxy.tamuc.edu/docview/2385656268?pq- origsite=summon.