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Effect of COVID-19 on Student-Athlete's Mental Health

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OBJECTIVE

The purpose of this study was to investigate the effect of the COVID-19 pandemic on the mental health of college student-athletes.

DESIGN AND SETTING

This was a quantitative survey research study at one division three private liberal arts college. The independent variable in this study was college student-athletes that vary in gender, academic year in college, academic program in college, and sport in which they participate. The dependent variable in this study was the effect of the discontinuation of sports on these student-athletes' mental health. The survey was distributed using paper copies passed out by hand, and by email via SurveyMonkey.

PARTICIPANTS

A total of 241 (N=241) surveys were distributed with a response rate of 61% (n=148). 53% (n=79) of participants were male and 47% (n=69) were female, with 36% (n=53) being sophomores, 39% (n=58) juniors, 24% (n=35) seniors, and 1% (n=2) did not respond to this question. When separated by academic major, 26% (n=38) majored in business, 26% (n=39) majored in sport sciences, 9% (n=13) majored in social sciences, 11% (n=16) majored in education, 2% (n=3) majored in humanities, 5% (n=7) majored in math and natural science, 13% (n=19) majored in agriculture, 4% (n=6) majored in fine arts and communication art, and 5% (n=7) did not respond to this question. The study also separated participants by their primary sport; 16% (n=24) football, 12% (n=18) men's soccer, 14% (n=21) women's soccer, 7% (n=10) cheerleading, 1% (n=2) volleyball, 3% (n=4) cross-country, 5% (n=7) men's basketball, 7%

(n=11) women's basketball, 5% (n=8) swimming, 7% (n=10) track & field, 7% (n=11) baseball, 9% (n=13) softball, 4% (n=6) lacrosse, 1% (n=2) wrestling, 1% (n=1) did not respond to this question.

INTERVENTION

There were a total of 18 questions on the survey instrument. Question 1 and 2 of the survey covered whether the COVID-19 disruption of sports had a positive or negative effect on participants' mental well-being. Questions 3-7 covered symptoms of mental disorders in participants during the disruption of sports. Questions 8-13 covered mental disorders in participants prior to the disruption of sports. Question 14 asked participants if they use practices and weightlifting sessions to relieve stress. Questions 15-18 were used as demographic questions. Face validity of this study was determined by a panel of experts, and content validity was established through the Table of Specifications (ToS). This study was approved by the College Institutional Review Board (IRB). Quantitative descriptive statistics, including frequency counts and percentages, were calculated for every applicable item. A Chi Square Test was used to test the gender grouping variable. Kruskal Wallis Tests were used to test the grouping variables of sport participation, academic year, and academic program. The alpha level was set at $p=.05$ *a priori* and data was analyzed using Statistical Package for the Social Sciences (SPSS) version 24.0.

MAIN OUTCOMES MEASUREMENTS

The survey included a total of 18 questions. Questions 1-9 and 12-14 used a 5-point Likert Scale (Strongly Agree⁵, Agree⁴, Unsure³, Disagree², Strongly Disagree¹) to collect

ordinal data. Questions 10 and 11 used a 2-point Likert Scale (Yes², No¹) to collect nominal data. Question 15 used a 14-point Likert Scale (Football¹⁴, Men's Soccer¹³, Women's Soccer¹², Cheerleading¹¹, Volleyball¹⁰, Cross-Country⁹, Men's Basketball⁸, Women's Basketball⁷, Swimming⁶, Track & Field⁵, Baseball⁴, Softball³, Lacrosse², Wrestling¹) to collect nominal data. Question 16 used a 3-point Likert Scale (Senior³, Junior², Sophomore¹) to collect nominal data. Question 17 used a 2-point Likert Scale (Male², Female¹) to collect nominal data. Question 18 used an 8-point Likert Scale (Business⁸, Sports Sciences⁷, Social Sciences⁶, Education⁵, Humanities⁴, Math and Natural Science³, Agriculture², Fine Arts and Communication Art¹) to collect nominal data.

RESULTS

61% (n=90) of participants chose "Strongly Agree" or "Agree", and 27% (n=40) chose "Strongly Disagree" or "Disagree" in response to the statement "I believe that the disruption of sports *negatively* affected my mental well-being". 12% (n=18) of participants chose "Strongly Agree" or "Agree", and 68% (n=100) chose "Strongly Disagree" or "Disagree" in response to the statement "I believe that the disruption of sports *positively* affected my mental well-being". There was a statistically significant difference (H=10.522, df=2, p=.005) in the effect of the COVID-19 disruption of sports had on student-athletes based on academic year. When participants were asked if they believe the disruption of sports had a negative effect on their mental well-being, 43% (n=23) of sophomores chose "Strongly Agree" or "Agree", 65% (n=38) of juniors chose "Strongly Agree" or "Agree", and 77% (n=27) of seniors chose "Strongly Agree" or "Agree". 81% (n=120) of participants chose "Strongly Agree" or "Agree", and 4% (n=7) of participants chose "Strongly Disagree" or "Disagree" when asked if they believe weightlifting and conditioning sessions act as stress relievers for them. When participants

were asked if they were diagnosed with anxiety prior to the disruption of sports due to COVID-19, 23% (n=16) of females reported being diagnosed with anxiety, while only 7% (n=5) of males reported being diagnosed with anxiety. When comparing the effect of COVID-19 on student-athletes participating in different sports, a statistically significant difference (H=22.493, df=13, p=.048) was found in participants' responses when asked if they experienced symptoms of depression during the disruption of sports. 35% (n=52) reported having symptoms of depression during the COVID-19 disruption of sports and 47% (n=69) reported not having symptoms of depression during the disruption of sports. 0% (n=0) of wrestlers, 67% (n=4) of lacrosse players, 46% (n=6) of softball players, 18% (n=2) of baseball players, 40% (n=4) of track and field participants, 63% (n=5) of swimmers, 64% (n=7) of women's basketball players, 14% (n=1) of men's basketball players, 25% (n=1) of cross-country runners, 50% (n=1) of volleyball players, 0% (n=0) of cheerleaders, 33% (n=7) of women's soccer players, 17% (n=3) of men's soccer players, and 46% (n=11) of football players chose "Strongly Agree" or "Agree" when asked if they experienced symptoms of depression during the disruption of sports. A statistically significant difference (H=27.497, df=13, p=.011) was found in participants' responses when asked if they experienced symptoms of anxiety during the disruption of sports. 50% (n=74) reported having symptoms of anxiety during the COVID-19 disruption of sports and 37% (n=55) reported not having symptoms of anxiety during the disruption of sports. There was a statistically significant difference (H=31.063, df=13, p=.003) found in participants' responses when asked if they experienced feelings of loneliness during the disruption of sports. 56% (n=83) reported having feelings of loneliness during the COVID-19 disruption of sports and 34% (n=50) reported no feelings of loneliness during the disruption of sports. A statistically significant difference (H=24.899, df=13,

$p=.024$) was found in participants' responses when asked if they experienced a struggle to find motivation for daily activities during the disruption of sports. 62% ($n=91$) reported a struggle to find motivation for daily activities during the COVID-19 disruption of sports and 30% ($n=44$) reported no struggle to find motivation during the disruption of sports. Of these responses, 83% ($n=5$) of lacrosse players chose "Strongly Agree" or "Agree", 69% ($n=9$) of softball players chose "Strongly Agree" or "Agree", 64% ($n=7$) of baseball players chose "Strongly Disagree" or "Disagree", 75% ($n=6$) of swimmers chose "Strongly Agree" or "Agree", 86% ($n=6$) of men's basketball players chose "Strongly Agree" or "Agree", 100% ($n=2$) of volleyball players chose "Strongly Disagree" or "Disagree", 80% ($n=8$) of cheerleaders chose "Strongly Agree" or "Agree", and 86% ($n=18$) of women's soccer players chose "Strongly Agree" or "Agree". There was also a statistically significant difference ($H=32.300$, $df=13$, $p=.002$) in participants' responses when asked if they believe preparing for an upcoming season was pointless during the disruption of sports. 44% ($n=64$) believed that preparing for the upcoming season was pointless during the COVID-19 disruption of sports and 41% ($n=61$) believed that preparing for the upcoming season was not pointless during the disruption of sports. Of these responses, 67% ($n=4$) of lacrosse

players chose "Strongly Agree" or "Agree", 64% ($n=7$) of baseball players chose "Strongly Disagree" or "Disagree", 75% ($n=6$) of swimmers chose "Strongly Agree" or "Agree", 86% ($n=6$) of men's basketball players chose "Strongly Agree" or "Agree", 90% ($n=9$) of cheerleaders chose "Strongly Agree" or "Agree", and 67% ($n=12$) of men's soccer players chose "Strongly Disagree" or "Disagree". There were no statistically significant differences found between participants who were majoring in different academic categories that correlated directly to the effect of the COVID-19 disruption of sports.

CONCLUSION

The results of this study show that COVID-19 had several adverse effects on the mental health of the majority of participants. This leads to the conclusion that the absence of sports greatly effects how student-athletes think and feel throughout their daily lives. With the increase in symptoms of mental disorders such as depression and anxiety, it is extremely important for athletic trainers to understand the increased risk of injury in the athletic population during the time of a pandemic. Early recognition of mental disorders and stress will greatly decrease the risk of both physical and mental harm in athletes if they are forced to withhold from sports in the future.

KEY WORDS: *Athletic Training, Mental Health, Student-Athlete, COVID-19, Depression, Anxiety*