

## Academic Impact of COVID-19 in Collegiate Athletes

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Received Jan. 3, 2022; Accepted for publication Feb. 23, 2022; Published online March 15, 2022  
<https://doi.org/10.17161/kjmsv015.16327>

### ABSTRACT

**Introduction.** The COVID-19 pandemic caused a pause to nearly all sporting activities in the spring of 2020, and collegiate athletes at the National Collegiate Athletic Association (NCAA)-affiliated universities whose sporting seasons were affected by the pandemic were granted an extra year of athletic eligibility. This study was conducted to determine how collegiate athletes planned to use an additional year of eligibility granted by the NCAA.

**Methods.** The authors conducted a cross-sectional survey of 632 athletes from two universities in the Midwestern United States, between August and September 2021. The athletes completed an anonymous, nine-item survey to assess the effect of the pandemic on the athletic season, athletic eligibility, and potential change in an academic or professional career. Chi-square tests, generalized linear mixed models, and adjusted odds ratio were used for the analyses.

**Results.** The participation rate was 74.5% (471 of 632). Nearly 63% (290 of 461) of the athletes received an additional year of eligibility because of the pandemic, with 193 (66.6%) planned to use their extra year for scholastic development. Male athletes (65.3% vs. 34.7%;  $\chi^2[1, n = 290] = 11.66, p < 0.001, \Phi = 0.20$ ), Division II athletes (59.6% vs. 40.4%;  $\chi^2[1, n = 290] = 13.93, p < 0.001, \Phi = 0.22$ ), and athletes who had not previously used redshirt (73.1% vs. 26.9%;  $\chi^2[1, n = 290] = 4.79, p = 0.029, \Phi = 0.32$ ) were more likely to use their extra year of eligibility academically.

**Conclusions.** Our findings suggested that most of the athletes planned to use their extra year of eligibility to pursue further scholastic or professional development, highlighting the positive part of the COVID-19 pandemic. Future studies should investigate how these findings relate to athletes from universities in different geographical locations and intra-division schools. *Kans J Med* 2022;15:101-105

### INTRODUCTION

Since its introduction into the human population in late 2019, the novel coronavirus infectious disease (COVID-19) has caused significant international and domestic morbidity and mortality.<sup>1</sup> In 2020 especially, the COVID-19 pandemic disrupted many common rhythms of life; communities and families were distanced, professionals began working from home, and schools transitioned to virtual education.<sup>2</sup> In addition, the COVID-19 pandemic caused significant changes in the

collegiate athletic world.<sup>2,3</sup> College athletes' learning and athletic environments were disrupted dramatically.<sup>2,3</sup> Many college sports' seasons and events were delayed or canceled completely.<sup>3</sup> Prior to the COVID-19 pandemic, the National Collegiate Athletic Association (NCAA) general administrative authority of Division I, II, and III sports allowed Division I athletes five calendar years to play four seasons of competition in a given sport and Division II and III athletes 10 semesters or 15 quarters to play a given sport.<sup>4</sup> This ruling changed with the COVID-19 pandemic; current athletes during the 2020 Spring through Winter seasons were allowed an additional year of eligibility in all division classifications.<sup>5</sup> The NCAA eligibility change created unique academic and athletic opportunities for college athletes including more sports involvement and pursuit of further education. This study aimed to determine how collegiate athletes planned to use an additional year of eligibility granted by the NCAA. We hypothesized that the athletes would use their extra year of eligibility for scholastic development.

### METHODS

**Study Design and Participants.** The study was a cross-sectional survey of a convenience sample of 632 collegiate athletes from two universities in the Midwestern United States. Between August and September 2021, the athletes were asked to complete a short-written survey during required pre-participation physical evaluations at their respective institutions. The University of Kansas School of Medicine-Wichita (KUSM-W) Institutional Review Board granted exemption for the study as non-Human Subjects Research.

**Study Measure.** Survey measures (see Appendix) were developed using a multi-stage process, including an expert review, cognitive interviews, and a pretest. The measure assessed the number of athletes whose season was affected by the COVID-19 pandemic, the athletes who were granted an extra year of eligibility, how the athletes planned to use their extra year of eligibility, and how previous use of a redshirt year affected their extra year of eligibility. A redshirt year is where a player and a coach decide to "save" a year of athletic eligibility by not competing in formal events but the athlete practices with the team all year to improve. A redshirt year also can be used for a medical reason where an injured athlete receives an extra year to recover.

**Statistical Analyses.** Standard descriptive statistics were used to create a demographic profile and to describe how the athletes planned to use their extra year of eligibility academically. Chi-square tests, generalized linear mixed models, and adjusted odds ratios (aOR) were used to evaluate the data. Covariates included the athletes' biological sex at birth, academic standing, and institution (NCAA Division I or Division II). Adequate power ( $> 0.85$ ) to detect significant relations among the variables with one degree of freedom,  $p < 0.05$ , and 0.5 effect size requires a sample size of 100 participants.<sup>6,7</sup> All analyses were two-sided with alpha of 0.05. The IBM® SPSS (Statistical Package for Social Sciences; Armonk, NY), version 26, was used for these analyses.

### RESULTS

**Participants Characteristics.** Of the 632 eligible collegiate athletes, 471 agreed to participate in the study for a participation rate of 74.5%. As Table 1 shows, about 52% of the athletes were male, nearly 26% were freshmen, and over 64% attended a NCAA Division II program. Fourteen different sports were represented, with the largest

group from baseball (17.0% of 483).

**Planned to Use Extra Year of Eligibility Academically.** Table 2 represents the athletes' responses to how they planned to use their extra year of eligibility. Overall, 63.0% (290 of 461) of the athletes received an additional year of eligibility because of the COVID-19 pandemic. Ten of the athletes who completed the survey did not respond to this question, hence the use of 461 as a denominator for the preceding analysis. Of the 290 athletes who were granted an additional year of eligibility, 193 (66.6%) planned to use their extra year academically by taking additional classes and/or pursuing some type of professional development. Extra year of eligibility differed by biological sex at birth, with 65.3% (126 of 193) of male athletes versus 34.7% (67 of 193) of female athletes planned to use the extra year of eligibility academically ( $\chi^2[1, n = 290] = 11.66, p < 0.001, \Phi = 0.20$ ). Extra year of eligibility varied by academic institution as 40.4% (78 of 193) of Division I athletes compared with 59.6% (115 of 193) of Division II athletes planned to use their extra year of eligibility academically ( $\chi^2[1, n = 290] = 13.93, p < 0.001, \Phi = 0.22$ ). In addition, extra year of eligibility varied by previous use of redshirt, as 26.9% (52 of 193) of the athletes who had previously used redshirt compared with 73.1% (141 of 193) who had not previously used redshirt planned to use their extra year of eligibility academically ( $\chi^2[1, n = 290] = 4.79, p = 0.029, \Phi = 0.32$ ).

Nearly 68.7% (320 of 466) of the athletes reported that their season was affected by the COVID-19 pandemic. Findings of the mixed model analyses indicated that there was a negative association between the athletes whose season was affected by the COVID-19 pandemic and those who received additional year of eligibility (OR = 16.67; 95% confidence interval [CI]: 10.20-27.03;  $p < 0.001$ ). This association remained significant after adjusting for the covariates of the athletes' biological sex at birth, academic standing, and institution (aOR = 7.52; 95% CI: 4.13-13.70;  $p < 0.001$ ).

**Previous Use of a Redshirt Year.** Slightly more than 83.0% (388 of 466) of the athletes previously had not used a redshirt year and were more likely to use their extra year of eligibility academically (63.2% vs. 36.8%;  $\chi^2[1, n = 290] = 4.79, p = 0.029, \Phi = 0.13$ ; Table 3). Findings of the mixed model analyses indicated that there was a significant positive association between no previous use of redshirt year and provision of additional year of eligibility due to the COVID-19 pandemic (OR = 4.37; 95% CI: 2.24-8.53;  $p < 0.001$ ). This association remained significant after adjusting for the covariates (aOR = 2.50; 95% CI: 1.09-5.72;  $p = 0.03$ ).

No previous use of redshirt year positively associated with season being affected by the COVID-19 pandemic (OR = 2.14; 95% CI: 1.17-3.91;  $p = 0.013$ ) and plans to use extra year academically (OR = 2.02; 95% CI: 1.07-3.81;  $p = 0.031$ ). These associations were not significant after adjusting for the covariates.

**Table 1. Demographic characteristics of participating athletes (N = 471).**

Characteristics	No. (%)
<b>Biological sex at birth</b>	
Male	243 (51.6)
Female	224 (47.6)
Missing*	4 (0.8)
<b>Academic standing</b>	
Freshman	121 (25.7)
Sophomore	102 (21.7)
Junior	117 (24.8)
Senior	101 (21.4)
Graduate students	26 (5.5)
Missing*	4 (0.8)
<b>Institution</b>	
NCAA division I	164 (34.8)
NCAA division II	303 (64.3)
Missing*	4 (0.8)
<b>Type of sports<sup>y</sup></b>	<b>n = 483</b>
Baseball	82 (17.0)
Soccer	56 (11.6)
Track and field	55 (11.4)
Softball	46 (9.5)
Basketball	45 (9.3)
Bowling	31 (6.4)
Dance	29 (6.0)
Golf	28 (5.8)
Cross country	27 (5.6)
Cheer	26 (5.4)
Tennis	23 (4.8)
Volleyball	18 (3.7)
Wrestling	10 (2.1)
Triathlon	7 (1.4)

\*The number of participants who completed the survey but did not provide an answer to this specific question.

<sup>y</sup>Total responses; some athletes played in more than one sport at the NCAA level.

**Table 2. How the athletes planned to use their extra of eligibility academically (N = 237).**

Activities	No. (%)
Additional classes/minor degree	91 (38.4)
Graduate school	86 (36.3)
Double major	34 (14.3)
Internship or part-time work in intended career field	26 (11.0)

**Table 3. Relationship of redshirt year with the use of extra year of eligibility for academic work among the athletes.**

Measures	Use extra year academically?			$\chi^2$	p value	Phi
	Yes N (%)	No N (%)	Total			
Previous use of a redshirt year?				4.79	0.029	0.128
Yes	52 (77.6)	15 (22.4)	67			
No	141 (63.2)	82 (36.8)	223			
Total	193 (66.6)	97 (33.4)	290			

### DISCUSSION

The study demonstrated that collegiate athletes in the Midwestern United States used their additional year of eligibility granted by the NCAA to pursue a greater variety of academic interests. A significantly high proportion (67%) of the 290 athletes who received an additional year of eligibility planned to use it for scholastic development. The use of extra year of eligibility academically varied by sex with male athletes twice as more likely to use the extra year for scholastic development. This finding is inconsistent with reported results.<sup>8</sup> Compared to their female counterparts, male athletes are typically more motivated to play sports than pursue academic development because there are more opportunities available in professional sports. It has been reported that the NCAA spends more money on male athletes than female counterparts.<sup>9</sup> This financial support may incentivize the male athletes to take an extra year of eligibility for scholastic development while also playing sports. Thus, an extra year of academic eligibility theoretically may be more appealing to a male athlete playing in revenue generating sports, as this time might allow them to focus on their career path.

The data also showed that Division II athletes were more likely to use their extra year of eligibility academically. The NCAA has reported that athletes from Division I institutions are more likely to be drafted to play at a professional sport,<sup>10</sup> suggesting that athletes from the non-Division I institutions tend to concentrate more on education. Another explanation to the findings is that Division I athletes may not have been inclined to use another year of eligibility because of a lack of scholarship money. If COVID-19 affected an athlete's season and the athlete was eligible for an extra year, their scholarship would carry over to the next year. However, the university might not have the financial resources to fund the athlete's scholarship.<sup>5</sup> The NCAA allowed universities to provide more scholarships over the maximum limit per sport but did not supply any funding to the universities.<sup>5</sup> Smaller Division I universities may have struggled to fund the additional student-athletes. Therefore, athletes may want to graduate and pursue a career rather than acquiring debt to continue playing their sport.

Interestingly, the data showed that athletes whose season was affected by the COVID-19 pandemic were eight times less likely to receive an

additional year of eligibility. While the reasons for this finding are not clear, the findings may have been influenced by the intercollegiate athletic seasons and time the study was conducted. Data for the study were collected in the fall of 2021, a full year and a half following the start of the COVID-19 pandemic. The first intercollegiate athletic seasons that were affected was the spring of 2020. All spring sport athletes in NCAA Divisions I and II in the academic year 2019-2020 were eligible for an extra year.<sup>5</sup> Additionally, collegiate athletes who participated in fall or winter sports during the 2020-2021 academic year were also eligible, but athletics in the spring of 2020-2021 did not fall into the window of eligibility. This is important to address because for the academic year of 2020-2021, if the collegiate athlete was a freshman participating in a spring sport, they would not have been eligible for an extra year. Similarly, freshmen, regardless of their season of participation, in the 2021-2022 academic year were not eligible for an extension.

This eligibility information could explain the negative association because even though the COVID-19 pandemic may have affected these athletes, they were not eligible for the extra year of academic eligibility. Additionally, the athletes may have thought that their season was affected by new policy procedures, such as having to wear a mask at practice, but not to the extent that the season was so altered that the NCAA offered an extension (such as in the case of spring sports in 2021 and all sports in the 2021-2022 academic year as stated above). It is also possible that some participants may have answered that they were not offered an extra year out of misinformation, not realizing they had been offered an extra year.

Regarding previous use of a redshirt year and the possibility of an athlete receiving an extra year of eligibility, our study showed that the athletes who previously had not used a redshirt year were three times more likely to have received an additional year of eligibility, even after adjusting for the respondents' sex at birth, academic standing, and institution. These findings suggested that the athletes who previously had used a redshirt year might have achieved their goals on the field and in the classroom, and thus taking an extra year of eligibility would postpone graduation and future pursuits. Future studies could investigate if the timing of a redshirt, earlier in a collegiate career (i.e., as a freshman) or closer to graduation, would affect the athlete's desire to take the pandemic extension year, even if eligible.

**Study Limitations.** This study has several limitations. The results of this study were limited to collegiate athletes from two universities in the Midwestern United States and therefore the findings may not be generalizable to athletes in other regions of the country. Although the response rate of 74.5% is large, responses of the nonparticipant athletes could have changed the results of the study. Second, the data set was not comprehensive throughout all intercollegiate athletics as several important sports sanctioned by the NCAA, such as football, fencing, gymnastics, lacrosse, ice hockey, water polo, swimming, rifle, and soccer, were not played by the participating universities, therefore not represented in this study. This lack of representatives could affect generalizability of the study. Third, as this is a nonexperimental study, a causal relationship between extra year of eligibility and the use of the extra time academically could not be established, nor can it be known whether one preceded the other. Additional interventional research is

warranted. Finally, the survey was conducted during the athletes' pre-participation physical evaluations. It is possible that the desire or need for more attention from the trainers could have biased the responses.

## CONCLUSIONS

Overall, these data highlighted a positive effect of the COVID-19 pandemic. Nestled within all the negativity of COVID-19, having more educational opportunities was likely beneficial for many of the student athletes who took an extra year. The extra year could make collegiate athletes more competitive in the job market. More academic opportunities could also allow collegiate athletes to pursue a degree or classes that were previously unattainable due to the rigors of intercollegiate athletics. Further research is needed to determine the effects extra years of eligibility have on the career prospects of the athletes.

Future comparison studies could explore collegiate athletes that were offered an extra year and those that were not and how this affected their ability to achieve and maintain a job in their desired career field. It would also be interesting to see if collegiate athletes who took an extra year of eligibility were more competitive for job opportunities during this pandemic where jobs are limited. Studies could be conducted to explore the effects of the extra year on the performance of individual sports and their recruiting endeavors. Finally, further research should be conducted including universities in different geographical locations, more intra-division programs (Division I and Division II institutions) and inter-division universities (i.e., Division III and the National Association of Intercollegiate Athletics).

## ACKNOWLEDGEMENTS

The authors thank Cecilia Hinton, D.O., Barrett Richard, M.D., and Andrew Westbrook, D.O. for their work and support on this project.

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*Keywords:* COVID-19, academic performances, athletes, Midwestern United States

**APPENDIX**

Survey of Academic Impact of COVID-19 in Collegiate Athletes

1. What was your biological sex at birth?
  - A. Male
  - B. Female
  
2. Which school do you attend?
  - A. NCAA Division I
  - B. NCAA Division II
  
3. What is your current academic standing?
  - A. Freshman
  - B. Sophomore
  - C. Junior
  - D. Senior
  - E. Graduate student
  
4. What sport do you participate in? (Select all that apply)
  - A. Basketball
  - B. Baseball
  - C. Bowling
  - D. Cheer
  - E. Cross country
  - F. Dance
  - G. Golf
  - H. Soccer
  - I. Softball
  - J. Tennis
  - K. Track and field
  - L. Triathlon
  - M. Volleyball
  - N. Wrestling
  
5. Have you previously used a redshirt year?
  - A. Yes
  - B. No
  
6. Was your season affected by the COVID-19 pandemic?
  - A. Yes
  - B. No
  
7. Were you provided an additional year of eligibility due to the COVID-19 pandemic?
  - A. Yes
  - B. No
  
8. Do you plan to use your extra year academically?
  - A. Yes (If yes, then go to Question 9)
  - B. No
  
9. How do you plan to use your extra year of eligibility academically? (Select all that apply)
  - A. Additional classes/minor degree
  - B. Double major
  - C. Graduate school
  - D. Internship or part-time work in intended career field