

# Resilience in Collegiate Athletes: A Cross-Sectional Study

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## BACKGROUND

Resilience, the ability to recover from a difficult circumstance, is known to impact health and well-being, but it has not been previously studied in athletes. Many collegiate athletes experience a sport-related injury during their season and careers. These injuries may impact resilience in athletes but it has not been previously investigated.

## OBJECTIVES

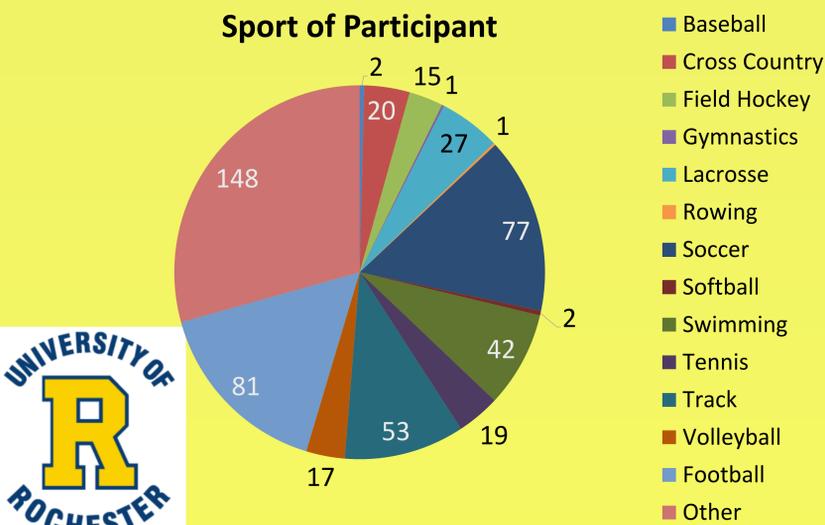
- Examine resilience levels in varsity collegiate athletes
- Investigate for a possible relationships between resilience level and previous sports-related injuries and surgeries

## METHODS

- Cross-sectional study; survey-based
- Sample: athletes from two Division III academic institutions
- 13 sports: 8 team sports; 5 individual sports
- Resilience levels measure: **Connor Davidson Resilience Scale**
- Seven additional constructs examined: anxiety, burnout, social support, faith, self-esteem, and depression.
- Chi-square and Fisher's exact used to examine differences in covariates across resilience levels

## RESULTS

- 403 athlete participants
- 81.7% white, 58.7% male, 56.2% freshman or sophomore
- 72% team sport athletes
- 56.7% attended a privately funded institution



## RESULTS (cont.)

Table 1. Demographics of Resilience

	Level of Resilience						p-value
	Low		Moderate		High		
	N	%	N	%	N	%	
<b>Gender (n=392)</b>							0.08
Female	50	30.9	82	50.6	30	18.5	
Male	55	23.9	112	48.7	63	27.4	
<b>Race (n=394)</b>							0.7
White	81	25.2	161	50.0	80	24.8	
Black	15	36.6	19	46.4	7	17.0	
Hispanic	1	10.0	6	60.0	3	30.0	
Other	8	38.1	9	42.9	4	19.0	
<b>Year in School (n=395)</b>							0.001
Freshman	46	35.4	68	52.3	16	12.3	
Sophomore	23	25.0	40	43.4	29	31.5	
Junior	18	20.7	43	49.4	26	29.9	
Senior	17	21.3	43	53.8	20	25.0	
Other	1	16.7	2	33.3	3	50.0	
<b>Type of School (n=397)</b>							0.0002
Publicly funded	37	21.5	77	44.8	58	33.7	
Privately funded	69	30.7	120	53.3	36	16.0	
<b>Type of Sport (n=403)</b>							0.002
Individual	42	37.2	55	48.7	16	14.2	
Team	66	22.8	144	49.7	80	27.6	
<b>Previous Injuries (n=391)</b>							0.5
0	24	32.9	32	43.8	17	23.3	
1-2	60	26.1	115	50.0	55	23.9	
3+	18	20.5	48	54.5	22	25.0	
<b>Surgeries (n=391)</b>							0.19
0	88	27.9	151	47.9	76	24.1	
1+	14	18.4	44	57.9	18	23.7	

Table 2. Covariates by Level of Resilience Stratified by Gender

	FEMALE ATHLETES				MALE ATHLETES			
	Resilience, N (%)			p-value	Resilience, N (%)			p-value
	Low	Moderate	High		Low	Moderate	High	
<b>Race</b>								
White	41 (28.9)	74 (52.1)	27 (19.0)	0.6	40 (22.6)	85 (48.0)	52 (29.4)	0.3
Black	3 (75.0)	1 (25.0)	0 (0.0)		11 (31.4)	17 (48.6)	7 (20.0)	
Hispanic	1 (20.0)	1 (20.0)	3 (60.0)		0	5 (100.0)	0	
Other	5 (50.0)	5 (50.0)	0		3 (30.0)	3 (30.0)	4 (40.0)	
<b>Year in School</b>								
Freshman	23 (46.9)	23 (46.9)	3 (6.1)	0.04	23 (30.3)	41 (53.9)	12 (15.8)	0.09
Sophomore	11 (27.5)	16 (40.0)	13 (32.5)		12 (23.5)	23 (45.1)	16 (31.4)	
Junior	6 (18.2)	20 (60.6)	7 (21.2)		12 (22.2)	23 (42.6)	19 (35.2)	
Senior	10 (27.8)	19 (52.8)	7 (19.4)		7 (16.3)	23 (53.5)	13 (30.2)	
Other	0	1 (100.0)	0		0	1 (25.0)	3 (75.0)	
<b>School</b>								
Publicly funded	13 (22.8)	27 (47.4)	17 (29.8)	0.02	23 (20.7)	48 (43.2)	40 (36.0)	0.02
Privately funded	37 (35.2)	55 (52.4)	13 (12.4)		32 (26.9)	64 (53.8)	23 (19.3)	
<b>Sport</b>				0.01				0.2
Individual	27 (44.3)	27 (44.3)	7 (11.5)		15 (28.9)	28 (53.8)	9 (17.3)	
Team	23 (22.8)	55 (54.4)	23 (22.8)		40 (22.5)	84 (47.2)	54 (30.3)	
<b>Previous Injuries</b>				0.4				0.7
0	12 (36.4)	15 (45.5)	6 (18.2)		11 (29.7)	16 (43.2)	10 (27.0)	
1-2	30 (32.6)	43 (46.7)	19 (20.7)		30 (21.9)	71 (51.8)	36 (26.3)	
3+	8 (21.6)	24 (64.9)	5 (13.5)		10 (20.0)	23 (46.0)	17 (34.0)	
<b>Surgeries</b>				0.3				0.7
0	44 (33.3)	63 (47.7)	25 (18.9)		43 (24.0)	86 (48.0)	50 (27.9)	
1+	6 (20.0)	19 (63.3)	5 (16.7)		8 (17.8)	24 (53.3)	13 (28.9)	

## RESULTS (cont.)

- The mean resilience score was 74.7 out of 100 possible points, with the majority of athletes falling within a 'Moderate' level of resilience
- Level of resilience significantly differed across year in school (p=0.001), type of school (public vs. private) (p<0.001), and type of sport (p=0.002)
- Compared to female athletes, male athletes reported 'High' and 'Moderate' levels of resilience more frequently
- Freshman athletes reported the highest frequency of 'Low' resilience and the lowest frequency of 'High' resilience
- Private school students reported low levels of resilience more frequently than public school students
- Team sport athletes reported high levels of resilience more frequently than individual sport athletes
- Female individual sport athletes reported 'Low' resilience more frequently and 'High' resilience less often than female team sport athletes
- Males and females at the public institution reported 'High' resilience more frequently than those at the private institution

## CONCLUSIONS

- Resilience levels in a cohort of collegiate athletes varied by type of sport, academic institution and year in school
- A majority of participants recorded a 'Moderate' level of resilience
- Resilience level did not differ by race
- Resilience level did not differ by self-reported previous history of sports-related injury or surgery

## FUTURE DIRECTIONS

- Examine resilience levels prospectively over a season while tracking injuries
- Examine resilience in a more racially diverse sample

