

Division I Athletes Support Injury Prevention Programs to Reduce Injury and Improve Player Performance: A Survey of 100 NCAA Athletes

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INTRODUCTION:

Injury prevention programs (IPPs) have shown promising results in reducing frequency of injuries while improving motor control and neuroplasticity among athletes. Despite the growing body of research on coaches' perspectives towards implementing IPPs, perceptions of collegiate athletes towards these programs remain largely unexplored. The purpose of this study is to investigate whether Division I (D-I) athletes believe they are susceptible to injury and their beliefs in the efficacy of IPPs in mitigating this risk.

METHODS: Eligible participants were recruited from a single D-I university. Participants were required to be 18 years of age or older, currently enrolled in classes, and an active member of a varsity collegiate sport team. Demographic information as well as orthopaedic injury history and participation in IPPs were collected. An adapted validated survey of athlete perception was used as well as additional questions on barriers to implementation and effectiveness of IPPs. Wilcoxon Rank-Sum tests were employed to assess applicable athlete responses.

RESULTS:

A total of 100 D-I athletes participated in the survey (61% female, 67% White; Table 1). 59% of responses were from athletes playing non-contact sports, and 38% of the participants declared that they had sustained a prior injury. 39% of athletes endorsed participating in IPPs with their teams. When asked if "Injuries are a significant problem for my sport," athletes with a history of injury were more likely to agree than those with no history of injury ($z=2.02$; $p=0.04$), and non-contact athletes were more likely to endorse this statement than contact athletes ($z=2.635$, $p=0.008$; Table 2). Interestingly, individuals involved in non-contact sports were also more likely than contact sport athletes to support the adoption/continuation of IPPs ($z=-1.990$, $p=0.047$) and to think that IPPs would directly impact their team ($z=-2.197$, $p=0.028$). Comparing males vs. females, females were more likely to support the adoption/continuation of IPPs ($z=-1.91$, $p=0.050$), believe injury prevention is a valuable investment ($z=-2.198$, $p=0.028$), and agree that IPP implementation can aid recruitment efforts ($z=-3.074$, $p=0.002$). When asked to identify the primary barriers to IPP implementation, athletes cited time (57%) and knowledge/education around these programs (29%) (Table 3). Among the 39 athletes whose teams used an IPP, 27 athletes (69%) stated that the program helped prevent injuries and 26 athletes (67%) believed these IPPs were improving player performance (Table 3).

DISCUSSION AND CONCLUSION: Athletes with a history of injury, those participating in non-contact sports, and female athletes were more likely to support injury prevention programs. Athletes believe that time and education are the primary barriers to IPP implementation, and the majority of those who participate in IPPs believe that they help prevent injuries and improve player performance. Understanding student-athletes' perceptions can lead to targeted interventions increasing IPP implementation and adherence, harnessing the power of these programs and ultimately decreasing the risk of injury.

Table 1. Demographics of survey respondents

N = 100	
Year	Varsity Sport (*contact sport)
Freshman	15
Sophomore	25
Junior	22
Senior	25
Fifth year	11
Other	2
Gender	Women's Field Hockey*
Male	39
Female	61
Non-binary	0
Prefer not to say	0
Pre-health coursework	Women's Lacrosse*
Yes	14
No	86
Race/Ethnicity	Women's Volleyball
White	67
Black or African American	6
Hispanic or Latino	5
Asian	13
Native American or Alaska Native	0
Native Hawaiian or Other Pacific Islander	0
Other	8
Prefer not to say	1
Prior injury	Weekly Exercise Level
Yes	38
No	62
I don't know	0
	0-9 hours
	1-2 hours
	3-5 hours
	6-10 hours
	More than 10 hours
	I don't exercise regularly

Table 2. Wilcoxon Rank Sum Results

Statement	All Athletes	History of Injury	No History of Injury	Non-Contact Sports	Contact Sports	Female	Male
1. Injuries are a significant problem for my sport.	4.00 (0.00)	4.00 (0.00)	3.00 (0.00)	4.00 (0.00)	3.00 (0.00)	4.00 (0.00)	3.00 (0.00)
2. I would support the adoption of (if already used, continuation of) an injury prevention program for my sport's program.	3.00 (0.00)	3.00 (0.00)	4.00 (0.00)	3.00 (0.00)	4.00 (0.00)	3.00 (0.00)	4.00 (0.00)
3. Preventing injuries is a good use of time and resources.	3.00 (0.00)	3.00 (0.00)	4.00 (0.00)	3.00 (0.00)	4.00 (0.00)	3.00 (0.00)	4.00 (0.00)
4. Using an injury prevention program will directly impact my team.	3.00 (0.00)	3.00 (0.00)	4.00 (0.00)	3.00 (0.00)	4.00 (0.00)	3.00 (0.00)	4.00 (0.00)
5. Implementation (if already used, continuation) of an injury prevention program in my sport will help recruitment efforts.	3.00 (0.00)	3.00 (0.00)	4.00 (0.00)	3.00 (0.00)	4.00 (0.00)	3.00 (0.00)	4.00 (0.00)

Likert scale: 1-5, where 1 = strongly disagree and 5 = strongly agree
 Statement 1: Injuries are a significant problem for my sport.
 Statement 2: Injuries can be prevented in athletes who participate in my sport.
 Statement 3: I would support the adoption of (if already used, continuation of) an injury prevention program for my sport's program.
 Statement 4: Preventing injuries is a good use of time and resources.
 Statement 5: Using an injury prevention program will directly impact my team.
 Statement 6: I understand the contents of an injury prevention program.
 Statement 7: Implementation (if already used, continuation) of an injury prevention program in my sport will help recruitment efforts.

Table 3. Athlete Insights and Experiences with IPPs

Question	Answer	Number of Respondents
All Athletes (n=100)		
What do you think is the biggest barrier to implementing injury prevention programs?	Time	57
	Knowledge/education about these programs	29
	Cost	7
	Effectiveness in preventing injuries	6
	Effect on player performance	1
Who do you believe should be most responsible for completion of an injury prevention program?	Players	32
	ATCs	31
	Strength and conditioning coaches	20
	Coaches	16
	Other	1
Athletes Participating in Injury Prevention Programs (n=39)		
Does your team use a named program?	FEA 11+	0
	HarmoKnee	0
	Pep	0
	Knackontroll	0
	Program devised by our coaches/trainers	35
	Other	4
How many times per week does your team perform it?	1x	7
	2-3x	23
	Every practice/game	9
Do you think using an injury prevention program has prevented injuries for your team?	Yes	27
	Maybe	10
	No	2
Do you think using an injury prevention program has improved player performance for your team?	Yes	26
	Maybe	11
	No	2