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# College Athletes and Drug Testing: Attitudes and Behaviors by Gender and Sport

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**Abstract:** We surveyed varsity athletes at a Big East university to assess attitudes toward a mandatory drug education and testing program and examined whether there were differences in drug-related attitudes and behaviors based on gender or varsity sport. We found no statistically significant differences in personal drug use behaviors based on gender or team affiliation. Attitudes about drug use and knowledge of a teammate using drugs did show significant differences based on varsity sport. Tennis players were most likely to agree that drug use by college athletes is socially acceptable. Lacrosse players were most likely to know of at least one teammate using drugs. Overall, attitudes towards the mandatory drug education and testing program were ambivalent. About half of our responding athletes believed drug testing was necessary and discouraged drug use. Only 17% believed that the program was an invasion of privacy.

In the 1980s, media accounts of drug abuse by professional, Olympic, and college players, including the drug-related deaths of several athletes, tainted the reputation of athletics.

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The National Collegiate Athletic Association (NCAA) supported several studies to determine substance use/abuse habits by college athletes.<sup>3-4,8</sup> One study of male athletes in the Big Ten conference found that 65% of upperclassmen regularly used alcohol, 22% regularly used marijuana, 7% regularly used cocaine, and 2% regularly used anabolic steroids.<sup>8</sup>

In response to these and other findings, the NCAA developed guidelines for drug education and testing programs and began random drug screening at its national championships in 1986.<sup>5,9,15</sup> Colleges and universities responded by developing their own drug education and testing programs, following NCAA guidelines.<sup>11</sup>

The mandatory nature of drug-testing programs in organized athletics, the armed forces, the workplace, and job screening prompted ethical concerns and fears of legal and social ramifications.<sup>7,10</sup> Many questioned the accuracy of drug testing. Others voiced concerns about unfair punitive actions that could result from a false positive test.

How did student-athletes react? Gaskins and deShazo<sup>6</sup> reported widespread support for drug testing of student-athletes among college nonathletes (91%), but significantly less support among athletes (46%). Abdenour et al<sup>1</sup> reported that drug testing was a deterrent to drug usage among intercollegiate football players, but that players remained concerned about testing accuracy. Athletes were less supportive

of punitive action such as suspension from the team for a positive test (49%), and more supportive of mandatory counseling for those who tested positive for drugs (73%).<sup>1</sup>

We could find no literature comparing attitudes towards drug testing among college athletes either by varsity sport or by gender. Yet, there is reason to believe that differences exist. Previous studies have documented variations in personal behaviors by both sport and gender. For example, Schneider and Greenberg<sup>12</sup> found that health risk behaviors among young adults vary, depending upon the sport. Those who chose team sports for their primary form of exercise were more likely to drink alcohol or smoke tobacco than those who chose individual sports.<sup>12</sup>

Selby et al<sup>14</sup> reported significant differences in off-season alcohol and marijuana use between male and female college athletes. Anderson et al<sup>2</sup> replicated a 1985 study of alcohol and drug use by college athletes and found decreases in the use of cocaine, marijuana, and amphetamines, but increased use of smokeless tobacco and pain medications. They reported differences in substance use for five male and five female varsity sports.<sup>2</sup>

Given that drug use behaviors differ by both sport and gender, we expected that attitudes towards a mandatory drug education and testing program would vary accordingly.

## Methods

We distributed 524 surveys to the mailboxes of varsity athletes whose names appeared on 12 varsity team rosters. The survey instrument asked age, gender, and team membership. It also contained 22 questions about personal drug use behaviors (including alcohol), knowledge about drug use among teammates, opinions about the drug education and testing program for varsity athletes, and their feelings on whether testing programs are effective or a violation of their right to privacy. All surveys were anonymous. We requested that completed surveys be returned to the student mailbox of a varsity athlete who was also a member of our research team.

Responses were entered into a database and tabulated by gender and team affiliation. Two athletes participated in more than one varsity sport. Their primary sport was used for tabulation purposes. Chi-square analyses were performed to test for differences between groups and p-values were noted. We interpreted p-values  $\leq .05$  as statistically significant.

## Results

Of the 524 surveys distributed, 197 (38%) were returned. One hundred forty-two (72%) respondents were male and 55 (28%) were female. Ages ranged from 19 to 20 years (45%) to 23 to 24 years (4%).

Male respondents represented six varsity teams—baseball, basketball, football, lacrosse, soccer, and track. Females represented another six—basketball, field hockey, soccer, softball, tennis, and track. The distribution of responses by team and gender appears in Table 1.

### Behaviors and Attitudes About Drug Use

Although 95% of the respondents were aware of the university's mandatory drug education and testing program for athletes, 24 (12%) claimed to be using banned substances (including alcohol) one or more times a month. Differences in use of banned substances based on gender or team affiliation were not statistically significant at  $p \leq .05$ .

Eighty (41%) athletes said drug use is socially acceptable in college. Only 28 (14%) said drug use by athletes should be acceptable in college. There were significant differences between responses based on team affiliation ( $p < .0005$ ), with five of six tennis players (83%) saying: "Yes, drug use by athletes should be acceptable in college," and baseball (16), field hockey (11), and softball (11) players unanimous in saying: "No, it should not be acceptable."

Athletes claiming to have experimented with illegal substances while in college numbered 112 (57%), but differences by gender and between teams were not statistically significant at  $p \leq .05$ . For those who had experimented, only 11 (10%) said they had

**Table 1.—Number of Varsity Athletes Responding by Gender and Sport.**

Sport	Responses	
	Male	Female
Baseball	16	0
Football	56	0
Lacrosse	21	0
Basketball	8	6
Soccer	16	11
Track	25	10
Field Hockey	0	11
Softball	0	11
Tennis	0	6
<b>Total</b>	<b>142</b>	<b>55</b>

experimented for purposes of performance enhancement. The remaining 101 (90%) claimed they experimented for social or peer pressure reasons. Again, there were no statistically significant differences by gender or between teams.

Eighty-five (43%) claimed to know of at least one teammate using illegal substances. Males were more likely than females to know of drug use by a teammate ( $p \leq .0001$ ). Differences among teams were also statistically significant ( $p < .0005$ ), with Lacrosse players most likely to know that a teammate was using banned substances (18 (86%)), and softball and tennis players

least likely to have such knowledge (18% and 17%, respectively) (Table 2).

### Attitudes About Drug Testing

One hundred eighty-eight (95%) of the respondents were aware of the university's mandatory drug testing program when they signed up for their varsity sport, but only 112 (57%) knew which drugs were being tested. There were statistically significant differences ( $p < .02$ ) between team players who knew which drugs they were being tested for and those who did not. For example, 10 (90%) lacrosse players knew which substances were being tested, but 8 (73%) of the field hockey

**Table 2.—Responses to "Are You Aware of Any Teammate Using Illegal Substances" by Sport.**

Sport	Yes		No	
	n	%	n	%
Baseball	5	31	11	69
Football	31	55	25	45
Lacrosse	18	86	3	14
Basketball	7	50	7	50
Soccer	8	30	19	70
Track	9	26	26	74
Field Hockey	4	36	7	64
Softball	2	18	9	82
Tennis	1	17	5	83
<b>Total</b>	<b>85</b>	<b>43</b>	<b>112</b>	<b>57</b>

$\chi^2 = 31.17, p < .0005$

players did not.

We asked if drug testing discourages drug use by athletes. The results were mixed, with 111 (56%) athletes responding "yes," and no statistically significant differences by gender or across sports.

We asked if random drug testing was necessary. Only 96 (48%) said yes. We asked if athletes should be informed of the date of their test. Only 56 (29%) said yes. Eighty-nine (45%) felt that drug testing should be done weekly, an additional 82 (42%) said monthly, and 26 (13%) said only once during the season. In response to whether drug testing is an invasion of privacy, only 31 (17%) said yes. There were no statistically significant differences in responses between teams or between males and females for any of the above questions about attitudes towards drug testing.

We asked whether the penalty for a positive drug test was severe enough. One hundred two (52%) responding athletes said yes, but there were statistically significant differences ( $p < .0005$ ) between teams (Table 3). Soccer players were most likely to disagree that penalties were severe enough (11 (41%)), whereas no basketball players disagreed.

In response to whether all sports should be tested equally, 140 (71%) athletes felt all sports should be, but there were significant differences between male and female athletes ( $p = .03$ ). Male

athletes were more likely to agree, and female athletes were more likely to disagree that there should be equality in testing.

## Discussion

We hypothesized that there would be differences in the drug use behaviors and attitudes about drug testing of varsity athletes based on gender and sport. For personal drug use behaviors, we found no statistically significant differences based on gender or team affiliation.

Overall, 24 (12%) responding athletes claimed to be using drugs (including alcohol) once a month or more. In a previous study of undergraduates at this university, we found once a month or more drug use (including alcohol) among our general student population to be 92%.<sup>13</sup> These findings are consistent with those of Anderson et al,<sup>1</sup> who showed that rates of drug use among college athletes are lower than among college students in general.

Only 9 (<5%) responding athletes claimed to have tried drugs as a performance enhancer. This finding is similar to that of Anderson et al,<sup>2</sup> who found ergogenic drug use among football players to be about 6%, but far lower than among athletes in other varsity sports (males: baseball (15%), basketball (27%), tennis (73%), track/field (15%); females: basketball (40%), softball (36%), swimming (27%), tennis

(70%), and track/field (28%)).

In summary, we found that varsity athletes had lower rates of drug use than the general college population, and that they used far fewer drugs perceived as ergogenic than might have been expected based on the results of a previous study. This finding held across sports and for both males and females.

We did find statistically significant differences in attitudes about the social acceptability of drug use among athletes ( $p < .05$ ). Twenty-eight (14%) athletes felt that drug use among athletes is socially acceptable in college, and our tennis players were the most likely to agree. This finding is in line with those of Gaskins and deShazo<sup>6</sup> that 19% of the University of Alabama athletes considered occasional use of drugs at social events acceptable.

Attitudes about the mandatory drug education and testing program were mixed, with few statistically significant differences based on gender or team affiliation. Our strongest finding was that males were for equality in testing, whereas females were not. Anecdotal information obtained from the locker room of male varsity players by the student-athlete member of our research team revealed that players knew they were playing by the drug-free rules and they just wanted to be sure everyone else was, too. In addition, players felt coaches and trainers should be tested. Strong feelings that role models should be subjected to the same rules as players were voiced.

Our general findings about attitudes towards drug testing did not mirror those of prior studies. For example, Abdenour et al<sup>1</sup> found that 264 (63%) football players in Division I felt drug testing discourages the use of drugs. Only 110 (56%) of our responding varsity athletes felt similarly ( $p = .01$ ). Anderson et al<sup>2</sup> found that 65% of college athletes at 11 institutions felt drug testing was necessary. We found that only 95 (48%) of our responding athletes believed this to be so ( $p < .0001$ ). Invasion of privacy was a concern to 72% of the athletes at the University of Alabama in 1985, a period when drug testing was just beginning at many colleges and universities across the United States.<sup>14</sup> We found only 33 (17%)

**Table 3.—Responses to "Is the Penalty for Drug Use Severe Enough?" by Sport.**

Sport	Agree		Neutral		Disagree	
	n	%	n	%	n	%
Baseball	11	69	3	19	2	13
Football	42	75	10	18	4	7
Lacrosse	13	62	7	33	1	5
Basketball	5	36	9	64	0	0
Soccer	6	22	10	37	11	41
Track	18	51	9	26	8	23
Field Hockey	3	27	5	45	3	27
Softball	2	18	5	45	4	36
Tennis	2	33	3	50	1	17
<b>Total</b>	<b>102</b>	<b>52</b>	<b>61</b>	<b>31</b>	<b>34</b>	<b>17</b>

$\chi^2 = 48.30, p < .0005$

responding athletes considered mandatory drug testing an invasion of privacy ( $p < .0001$ ).

The differences in our findings and those of prior studies might spring from several factors. There is the possibility of regional bias, in that we were surveying athletes from one Eastern university rather than from the South or a cross-regional sampling as was done for the NCAA studies.

There is also the possibility of selection bias. The athletes who responded might hold different views about drug testing than their teammates who did not respond. For example, we did not control for class status. Our head trainer notes there are vast differences in the reactions to drug testing between freshmen and returning varsity players. Returning players take drug testing in stride, whereas freshmen are nervous, often to the point of being unable to provide a specimen. He also notes that football and basketball players are tested far more frequently than players of other varsity sports. Because they are tested so frequently and because they are subjected to a more intense drug education program, they may hold different views on the drug testing program than other varsity athletes.

Finally, this study may accurately reflect the attitudes of our varsity athletes about the mandatory drug educa-

tion and testing program which has now been in place for more than half a decade. They are simply indifferent. This may be because the program has been in effect for several years and the current cohort of athletes has never known a varsity athletic program without drug education and testing. It may be due to the way the program is run, with a focus on education rather than on punitive actions, or it may be a reflection of the matter-of-fact personalities of the coaches and trainers. The reality is, however, that the program does not seem to concern or offend our varsity athletes of either gender or across sports.

To test whether these results can be generalized, a multi-institutional study comparing attitudes about drug education and testing programs and personal drug use behaviors by gender and sport should be done. In addition, it would be useful to know if the attitudes and behaviors of athletes differ not only by gender and sport, but also by level of athletic programs for different divisions, or for different geographic areas. This knowledge will allow coaches and trainers to target their drug education and testing programs for maximum effect.

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