

Comparative evaluation of college football officials' attitudes toward NCAA mouthguard regulations and player compliance

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Abstract

A 12-item questionnaire addressing attitudes of football officials toward the 1990 National Collegiate Athletic Association (NCAA) mouthguard regulation was sent to all officials in the Southeastern Conference (N = 62). The response rate was 95% (59). Twenty-seven per cent of officials reported that all players were in compliance; 74% believed the new rule to be at least somewhat beneficial in determining player compliance, and 20% reported that the rule had resulted in more frequent player use. Twenty-two per cent reported they would ignore a mouthguard violation and none had charged a time-out or called a penalty during the 1991 season. Significant differences in the responses of Big East officials surveyed in a previous study were noted by the authors, when compared to the SEC, but both groups of officials strongly supported the idea that wearing mouthguards should be the responsibility of coaches rather than officials. (Pediatr Dent 15:398-402, 1993)

Introduction

Athletic mouthguards have been effective in reducing both the frequency and severity of intraoral hard and soft-tissue traumatic injuries, neck injuries, concussions, and even death related to participation in sports.^{1,2} At the amateur athletic level, boxing, football, ice hockey, lacrosse, and women's field hockey have enacted mandatory mouthguard regulations for participants in these sports.^{1,3}

In 1962, the National Alliance Football Rules Committee (NAFRC) enacted the first mandatory mouthguard regulations for football players in high schools and junior colleges. The incidence of facial and dental injuries per 100 players declined from 2.2 to 0.3% following adoption of the 1962 face-mask and mouthguard regulations. During the 1967 football season alone, there were an estimated 25,000 to 50,000 fewer craniofacial and intraoral injuries among players who participated under these regulations. The National Collegiate Athletic Association (NCAA) enacted similar mandatory mouthguard regulations in 1973 for practice sessions and in game situations for football players in major colleges and universities.⁴⁻⁶

Several studies determined the opinions and preferences of football players regarding the use of mouthguards.⁶⁻⁹ Most players said they thought that mouthguards provided good injury protection and that coaches exerted the greatest influence on player compliance.⁹

In 1990, the NCAA adopted the additional requirement that football mouthguards be yellow or any other readily visible color. The intent was to enhance the ability of on-field officials to determine whether players actually were wearing mouthguards during competition and thereby, to improve player safety. According to NCAA rules, a team is to be charged a time-out

when a mouthguard violation is observed and assessed a five-yard penalty for a violation when the team limit for time-outs has been exhausted.¹⁰

In a previous study, the authors used a questionnaire to determine the attitudes of Big East Football Conference officials regarding current NCAA mouthguard regulations and their opinions relative to patterns of mouthguard use by collegiate football players.¹¹ A 100% response rate was achieved, which included all 50 Big East Football Conference officials surveyed. The average age of the respondents was 48.86 years and the average NCAA officiating experience was 17.04 years. Quarterbacks were identified as the least compliant (52%), and only 42% of these officials reported that all players complied. While the majority (88%) indicated that the 1990 NCAA rule had been beneficial in determining player compliance, only 52% reported that it had resulted in more frequent use by players. Nearly all officials (96%) indicated that they would issue a warning for a violation, rather than charge a time-out. Many respondents said coaches should be held more accountable for player compliance. The study recommended future similar studies in other athletic conferences to establish whether the results from the Big East represented a localized, conference-specific phenomenon or a more broad-based perspective at the national level among college football officials.¹¹

The purpose of the present study was to determine the attitudes of the Southeastern Conference (SEC) football officials regarding the current NCAA mouthguard regulations and their opinions about the patterns of mouthguard use by SEC football players. The attitudes of the SEC officials are compared to results obtained previously from the Big East.

The SEC is an NCAA Division I-A football confer-

ence representing the following universities: Alabama, Auburn, Florida, Georgia, Kentucky, Louisiana State, Mississippi, Mississippi State, Tennessee, and Vanderbilt. Data were collected prior to the addition of Arkansas and South Carolina into the SEC for the 1992 football season.

Methods and materials

The two-page questionnaire consisting of 12 questions, developed for the previous study of the Big East, was based on similar studies and issues of current relevance.^{6-9,11} The following information was elicited:

- Age of the respondent
- Years of service as an NCAA football official
- Usual officiating assignment
- Personal observations regarding mouthguard use by football players
- Personal observations regarding the least compliant players
- Whether the 1990 rule for brightly colored mouthguards has helped the official determine football player compliance
- Whether the 1990 rule for brightly colored mouthguards has resulted in more frequent use by football players
- The most likely first response of the official when a mouthguard violation was observed
- Frequency with which the official had charged a time-out or had called a penalty for mouthguard violation during the preceding season
- Possible reasons for ignoring a mouthguard violation
- Whether changes are needed in the enforcement of the mandatory mouthguard regulations in college football.

Content validity of the questionnaire was established through review by the supervisor of officials of the Big East Conference, an athletic director from a university within the same conference, and an Institutional Review Board. An educational consultant with expertise in the study of attitudes also reviewed the format of the questionnaire for clarity.

Permission was obtained from the supervisor of the SEC football officials to administer the questionnaire. The SEC provided the names and addresses of the 62 football officials.

The questionnaire, a cover letter, and a self-addressed stamped envelope were mailed to each official in April 1992. The cover letter contained a description of the study and assured individual anonymity of responses. The cover letter noted that the questionnaires had been numerically coded for follow-up purposes only. The questionnaire was identical to the one that had been used for the Big East officials. This was done to provide a comparison of the results and because there was no indication that the Big East officials had any difficulty with the questions or format.

Three weeks after the initial mailing, a follow-up letter, another copy of the questionnaire, and a self-addressed stamped envelope were sent to those officials who had not responded to the first inquiry. After an additional three weeks, another follow-up letter was mailed in an attempt to obtain 100% response.

Responses to the questionnaire were tabulated and percentages computed. The data for all respondents were pooled due to the small numbers for each position category of official. Although there might be variation in responses based on the official's position on the field, the overall response patterns were believed to be more valid. Comments recorded on the questionnaires were summarized and are reported where appropriate. Statistical analysis was used to compare the responses between the Big East and SEC officials. A comparison of the demographic variables of age and years officiating was accomplished using a *t*-test. The responses for the attitude items were compared between the two conferences using chi-square analysis. The data analyses were accomplished using programs from the Statistical Analysis System.¹²

Table 1. Demographic characteristics

<i>Age of Respondents</i>	<i>N</i>	<i>Per cent</i>
30-39	9	15%
40-49	30	51
50-59	20	34
Total	59	100%
<i>Years Officiating</i>	<i>N</i>	<i>Per cent</i>
1-9	21	36%
10-19	23	39
20-29	14	23
30+	1	2
Total	59	100%
<i>Usual Officiating Assignment</i>	<i>N</i>	<i>Per cent</i>
Umpire	8	13%
Back judge	9	15
Field judge	8	14
Head linesman	9	15
Line judge	8	14
Referee	8	14
Side judge	9	15
Total	59	100%

Results

Of the 62 questionnaires mailed to the SEC officials, 59 were returned for a response rate of 95%. All 59 of the SEC officials were males between 33 and 57 years old, with a mean age of 46.44 years. Years of service as an NCAA football official ranged from 1 to 30 years, with a mean of 13.94 years. Demographic characteristics for the SEC officials are summarized in Table 1. There was a significant difference in age ($t = 2.07$, $df = 107$, $P < 0.05$) and years of service ($t = 2.07$, $df = 107$, $P < 0.05$) between respondents for the two conferences. As a group, the SEC officials were, on average, 2.46 years younger and had 3.10 fewer years of experience officiating than Big East officials.

For the question concerning personal observations of mouthguard use by players, 27% ($N = 16$) indicated they observed "all" players in compliance, 66% ($N = 39$) indicated "most" were in compliance and 7% ($N = 4$) indicated that only "some" players were in compliance. The SEC officials reported that quarterbacks and receivers were the least compliant with the mandatory mouthguard rule. This was significantly different from the Big East officials ($\chi^2 = 18.76$, $P < 0.01$) who reported quarterbacks least compliant. The frequency of non-compliance for all players by position is reported in Table 2.

The next two items concerned the 1990 NCAA rule requiring use of brightly colored mouthguards. The majority (74%, $N = 44$) reported that the rule had been either beneficial (32%) or somewhat beneficial (42%) in determining player compliance. However, 26% ($N = 15$) indicated that the new rule had not been beneficial. The respondents were then asked whether or not the new rule resulted in changes in player compliance. Twenty per cent ($N = 12$) of the SEC officials reported that, in their opinion, the rule had resulted in more frequent use, while 78% ($N = 46$) felt that there had been no change. No one indicated that the rule had resulted in

Table 2. Player positions least compliant with mouthguard rule

Player Position	Frequency (Per cent)	
	SEC	Big East*
Quarterback	15 (25)	26 (52)
Receiver	12 (20)	1 (2)
Offensive lineman	7 (12)	4 (8)
Offensive back	4 (7)	3 (6)
Defensive back	3 (5)	3 (6)
Placekicker	2 (3)	5 (10)
Defensive lineman	2 (3)	1 (2)
Punter	1 (2)	3 (6)
Multiple responses	3 (5)	0 (0)
No response	10 (17)	4 (8)
Total	59 (100)	50 (100)

*Chi-square = 18.76, $df = 8$, $P < 0.01$.

Table 3. Reasons for ignoring mouthguard rule violation

Reason	Frequency (Per cent)	
	SEC	Big East*
Believe a penalty is inappropriate	11 (19)	9 (18)
Believe a timeout is inappropriate	8 (14)	7 (14)
Believe both timeout and penalty are inappropriate	7 (12)	0 (0)
Believe it is not worth the hassle from players and coaches	6 (10)	6 (12)
Believe that mouthguards interfere with performance	0 (0)	1 (2)
Other	27 (45)	26 (52)
No response	0 (0)	1 (2)
Total	59 (100)	50 (100)

*Not significantly different using chi-square analysis.

less compliance and one individual did not respond to the question. There was a significant difference ($\chi^2 = 11.54$, $P < 0.001$) of opinion between the SEC and Big East officials on this issue.

The next three questions concerned the reaction of the officials to observed violations. If a player were observed without a mouthguard, 76% ($N = 45$) indicated that their most likely response would be to issue a warning to the player or coach. Twenty-two per cent ($N = 13$) would ignore the violation and only one respondent indicated he would charge a time-out as prescribed by NCAA regulations. There was a significant difference ($\chi^2 = 12.77$, $P < 0.002$) between the conferences for this issue. None of the SEC officials indicated that he had charged a time-out or called a penalty for noncompliance with the rule during the 1991 football season.

The officials were asked to indicate the primary reason for ignoring a mouthguard violation. The responses to this item are reported in Table 3. Twenty-seven respondents selected the "other" category and seven officials wrote additional comments: 14 reported that they believed it should be the responsibility of the coaches and not officials; eight indicated that the players should be responsible themselves; five indicated they believed a warning was sufficient to rectify the situation; five cited issues such as critical game situations, difficulty of seeing the mouthguard, and pressures associated with officiating; one noted that non-compliance may have been inadvertent and 1 indicated that he would not ignore a mouthguard violation.

The final item concerned whether or not the NCAA should require more stringent enforcement of the mouthguard rules in the future. Forty-seven per cent ($N = 28$) reported that current enforcement is appropriate; 20% ($N = 12$) favored more strict enforcement; 27% ($N = 16$) believed less strict enforcement would be appropriate; three individuals did not respond.

Two officials provided additional comments, one stating that players should not play without a mouthguard and the other that if the player cares about his teeth he will wear the mouthguard. He noted that the officials don't have a problem getting the players to wear helmets.

Discussion

The results of any survey are limited by the nature of self-reported data. In addition, officials cannot observe all players at all times because of their different field assignments. In this study the response rate was 95% which should be representative for this sample.

This study was conducted to determine attitudes of SEC football officials and to compare them with those expressed by Big East officials. There was a significant difference in the average age and years of officiating between the respondents for the two conferences. The SEC officials, as a group, were younger and had fewer years of experience officiating than the Big East officials. However, the effect that this difference would have on the attitudes expressed cannot be assessed.

The opinion on overall player compliance was not significantly different, but the perception of which position players were least compliant did differ. The Big East officials reported quarterbacks as least compliant, which supports the results of a previous study.⁷ This finding is probably related to the reported perception by quarterbacks that mouthguards interfere with the ability to call signals. The SEC officials rated quarterbacks and receivers about equally noncompliant.

The majority of officials in both conferences said the 1990 rule requiring brightly colored mouthguards had been at least somewhat beneficial in determining player compliance. However, a significantly greater percentage of the Big East officials (52%) reported that it had resulted in more frequent player use when compared with the SEC officials (20%).

The officials' reported responses to observed violations also differed significantly between the conferences. Twenty per cent of the SEC officials indicated that they would ignore a violation, while none of the Big East officials reported that they would ignore such an infraction. The majority in both conferences indicated that they would issue a warning, whereas only one official (Big East) indicated that he had actually charged a time-out during the season for a violation of the rule. No one from either conference had called a penalty.

There were no significant differences between the two conferences in reasons reported for ignoring a mouthguard violation. The most frequently reported reason was that officials believed imposing a penalty was inappropriate. There was not a significant difference in opinion on changing the enforcement of the rule in the future, but the SEC officials were more divided in their opinions. Although there were signifi-

cant differences in the attitudes reported by the officials of the SEC and Big East to the questionnaire items, the most commonly reported opinion was that coaches, and not officials, should be held more responsible for players wearing mouthguards. Previous research⁹ indicates that coaches may, in fact, exert the greatest influence on whether football players actually wear mouthguards. Officials are not routinely present at practices where mouthguards are also required and where game behavior patterns are developed.

In addition, despite the fact that the majority of officials in both conferences indicated that not all players complied, only one official from the Big East had actually called a time-out as prescribed by the regulations. Officials from both conferences preferred to issue a warning or in some instances, to ignore the violation (SEC).

The opinions of officials in other athletic conferences may be different from those expressed in this study. However, because so many officials from the Big East and the SEC have suggested that player compliance with mouthguard regulations should fall under purview of coaches' or the players' responsibilities, it would seem reasonable to suggest that future studies be focused on the attitudes of collegiate football coaches and the players themselves.

Conclusions

A comparison of attitudes between SEC and Big East officials toward the 1990 NCAA mouthguard regulation revealed some significant differences. The differences were statistically significant in the following areas:

1. **Player position viewed as least compliant with the mouthguard rule.** The SEC officials reported both quarterbacks (25%) and receivers (20%) while the majority of Big East officials cited quarterbacks (52%) as least compliant.
2. **Changes in player mouthguard use as a result of the rule.** A significantly greater percentage of Big East officials (52%) than SEC officials (20%) reported that the rule resulted in more frequent use of mouthguards.
3. **Most likely first response of official to a rule violation.** The SEC officials were more likely to ignore a violation (22%) than the Big East officials (0%).

Despite these differences the following conclusions reflect the consensus opinion of the two groups.

1. The officials surveyed are unlikely to charge a time-out or enforce penalties for violations of the mouthguard rule even though they indicated not all players are in compliance.
2. The most commonly held opinion is that coaches, not officials, should be accountable for player compliance.

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