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Balls, Strikes, and Norms: Rule Violations and Normative Rules Among Baseball Umpires

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This study investigated the use of normative rules by baseball umpires. Normative rules are informal standards of conduct that deviate from the official rules of sport. Sixteen umpires, 25 coaches, and 27 baseball players defined the official upper and lower boundaries of the strike zone, marked these official boundaries on a Strike Zone Form, and marked where they actually call, or believe umpires call, the boundaries. Umpires were significantly more knowledgeable about rules than players were. Umpires reported setting the upper boundary of the strike zone significantly lower (an average of 2.64 inches) than the official rule specifies. Coaches and players reported that umpires lower the boundaries, but players overestimated how much umpires deviate from the rule-book boundaries. Results suggest that umpires consciously violate official rules. The ethical implications of these findings are discussed.

Silva has demonstrated that athletic performance is often governed by two conflicting sets of rules (1981). Constitutive rules are the official rules of sport that define the goal of competition, acceptable means for attaining that goal, the area of play, duration of play, appropriate equipment, and other critical issues. It is assumed that all participants agree to play by these rules. Another set of rules, called normative rules, also influences competition. These rules reflect the attitudes, preferences, and values of the participants; and many violations of constitutive rules occur because players follow normative rules. For example, fighting is proscribed by the constitutive rules of hockey, but young players quickly learn that coaches and teammates expect them to fight (Smith, 1980), and fighting has become common in hockey (Silva, 1984).

Sport psychologists have focused on normative rules among athletes, but there are also indications that sport officials use normative rules. For example, television basketball commentators occasionally point out that the referees are allowing more contact during a game than the rules allow. Also, in a prior study about officiating, baseball umpires frequently indicated that they did not follow

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rule-book specifications regarding the strike zone (Rainey, Larsen, & Williard, in press). Despite such informal observations, no research has documented the use of normative rules by officials.

The purpose of the present study was to examine the possible use of normative rules by baseball officials. It was hypothesized that (a) umpires would be more knowledgeable about rule-book definitions of the strike zone than would coaches and players, (b) umpires would report lowering the upper boundary of the strike zone, (c) coaches and players would report that umpires lower the upper boundary of the strike zone, and (d) participants' reasons for violating constitutive rules would reflect the existence of a set of normative rules for the strike zone.

Method

Subjects and Materials

Subjects were 16 high school/college-level umpires from a suburban umpiring association. In addition, 27 players from an NCAA Division III baseball team and 25 high school coaches provided responses that were compared to those of the umpires.

A Strike Zone Form depicted a 15-in. line drawing of the front view of a right-handed batter. The Form was created by projecting a 35-mm negative of a 6-ft batter onto paper and tracing the figure. The ratio between the 6-ft model and the line drawing was 4.8:1. The knees and armpits of the batter were clearly depicted.

Procedures

Twenty umpires participating in another study were given the materials and asked to return them by mail. They described in writing the rule-book definition of the top and bottom boundaries of the strike zone and drew lines across the batter's body, illustrating the two boundaries. Then they drew two more lines across the batter to show where they actually call the upper and lower limits of the strike zone. Finally, if the umpires do not follow the constitutive rules, they explained why they do not.

Members of the baseball team completed the Strike Zone Form before a team meeting. Copies of the Strike Zone Form, the instructions, a stamped return envelope, and a cover letter were mailed to 36 local high school coaches. Players and coaches responded to the materials in the same way the umpires did, except that they drew their second set of lines where they thought umpires called the boundaries and explained why they thought umpires violated the constitutive rules.

Measurement Standards

Both the National Collegiate Athletic Association (NCAA) (Thurston, 1987) and the National Federation of State High School Associations (NFSHSA) (Rumble, 1986) define the top of the strike zone at the armpits and the bottom of the strike zone at the top of the knees, in a natural batting stance. Only verbal descriptions corresponding to these definitions were considered to be correct.

Deviations from the constitutive rules were calculated by measuring the distance between the two rule-book boundaries and the lines that participants drew to represent where they called the boundaries, or said that umpires called the boundaries.

Results

Knowledge of Rules

In all, 94% of the umpires, 80% of the coaches, and 30% of the players correctly stated the official definition of the top of the strike zone. Chi-square analyses indicated no significant difference between the umpires and the coaches, but umpires and coaches were significantly more knowledgeable about this rule than players were (see Table 1).

Some 75% of the umpires, 68% of the coaches, and 15% of the players correctly stated the rule-book definition of the bottom boundary of the strike zone. Again, there was no significant difference between umpires and coaches, but both were significantly more knowledgeable about this rule than players. It is also noteworthy that 25% of the players, 53% of the coaches, and 42% of the umpires who correctly defined the bottom boundary drew it incorrectly.

Table 1

Differences In Knowledge of the Strike Zone Rules

	n	χ^2	Contingency coefficient
Top boundary			
Umpire vs. coach	41	1.48	—
Umpire vs. player	43	16.60*	.53
Coach vs. player	52	13.25*	.45
Bottom boundary			
Umpire vs. coach	41	<1	—
Umpire vs. player	43	15.58*	.52
Coach vs. player	52	15.25*	.48

*$p < .001$

Deviations From Rule-Book Boundaries

Table 2 contains descriptive statistics for deviations from the rule-book boundaries reported by the three groups. Scores are reported in inches of deviation on the Strike Zone Form and on a 6-ft batter. Data indicate that umpires do not adhere to the rules, especially for the top boundary of the strike zone, and that players and coaches believe umpires deviate more from the rules than the umpires reported.

The means of these deviations were analyzed with *t* tests. Among umpires who had defined the boundary correctly, there was a significant difference between the rule-book boundary and the boundary they reported using for the top of the strike zone, indicating that umpires tend to lower the top boundary. Coaches and players reported that umpires call both the top and bottom boundaries of the strike zone significantly lower than the rule book specifies (see Table 2).

Table 2

Means and Standard Deviations for Deviation From Rule-Book Boundaries

	Umpires[a]	Coaches	Players
Deviation–top boundary[b] on Strike Zone Form			
M	−.55**	−.68***	−1.23***
SD	.63	.78	.86
On 6-ft batter			
M	−2.64	−3.26	−5.90
SD	3.98	3.74	4.12
Deviation–bottom boundary on Strike Zone Form			
M	−.20	−.32*	−.87***
SD	.38	.77	.79
On 6-ft batter			
M	−.96	−1.54	−4.18
SD	1.82	3.70	3.79

[a]Includes only those who gave the correct verbal definition.
[b]All deviation scores are in inches.
*$p < .05$; **$p < .01$; ***$p < .001$.

A one-between/one-within (Groups × Top/Bottom Boundary) ANOVA was conducted on the measures of deviation from the rule-book boundaries. This analysis revealed significant main effects for groups, $F(2, 65) = 8.99$, $p < .001$, ($\omega^2 = .12$), and for top/bottom boundary, $F(1, 65) = 8.74$, $p < .01$ ($\omega^2 = .04$), but no significant interaction. Follow-up with Tukey's procedure (HSD = .61) revealed that coaches' perceptions of how much umpires deviate from the rules were consistent with the umpires' reports. However, players believed that umpires deviate more from the rules than the umpires themselves reported. All groups agreed that the top boundary is lowered more than the bottom boundary.

Reasons for Normative Rules

The reasons umpires gave for not following the constitutive rules, and the explanations players and coaches offered for umpires' rule violations, were analyzed for content. Their comments fell into five general categories: (a) positioning problems ("They set up low, so they have problems with the high pitch"), (b) the expectations of others ("High school players and coaches expect a lower zone"), (c) the influence of major league umpires ("Majors don't call the high strike"), (d) convenience ("The letters are easier to call"), and (e) discretion ("To give the batters a better chance to hit"). The distribution of these categories was not consistent across the three groups (see Table 3).

Only coaches mentioned the influence of major league umpires, and umpires were the only participants to cite convenience. Further, although few umpires reported that positioning problems cause deviations from the rules, both players

Table 3

Explanations for Deviation From Rule-Book Boundary

Explanation	Umpires *n*	Coaches *n*	Players *n*
Positioning	2 (15%)	10 (43%)	7 (41%)
Expectations	5 (38%)	4 (17%)	8 (47%)
Major leagues	—	8 (35%)	—
Convenience	3 (23%)	—	—
Discretion	3 (23%)	1 (4%)	2 (12%)

and coaches used this explanation frequently. Finally, the most common explanation offered by all groups was that umpires are affected by others' expectations (when the influence of major league umpires is interpreted in this way).

Discussion

The first hypothesis, that umpires would know more about the rules of the strike zone than coaches and players, was partially supported by this study. Significantly more umpires than players correctly defined the top and bottom boundaries of the strike zone, but there were no significant differences between umpires and coaches. The overall performance of the players on these questions was surprisingly poor, which suggests that even college players may need to review the rules.

All groups were worse at defining the bottom boundary than the top boundary of the strike zone. Most of the errors occurred because participants defined the bottom boundary as "the knees," rather than "top of the knees" (Rumble, 1986, p. 20, rule 2-17). Such responses may only represent imprecise language. If the response "knees" is accepted, all participants correctly defined the bottom boundary. However, other data indicate there is genuine confusion about the bottom boundary. Although 53% of the coaches and 42% of the umpires correctly defined the boundary, they drew it at a different location on the Strike Zone Form figure than the location designated by the investigators. It probably would be difficult to locate the top of the knees on a real batter. Considerable confusion may occur because of the difficulty identifying the exact parameters of this boundary.

Umpires reported lowering the top boundary 2.6 inches. This supports the second hypothesis and documents a phenomenon that baseball observers have speculated about for years. Coaches and players also reported that umpires lower the top boundary, supporting the third hypothesis, but players reported a deviation of nearly 6 inches. This deviation is not as great as it appears, however, since most players defined the boundary much lower than the rule book does (for example, at "the letters"). Players and coaches also believe that umpires lower the bottom boundary, although umpires do not report lowering that boundary significantly. More objective measures are needed to determine whose perception is correct.

Participants' explanations for umpires' violations of the strike zone rules reflect the existence of normative rules, supporting the fourth hypothesis. The most common explanation was that the strike zone boundaries are altered because someone else expects them to be altered (e.g., "high school coaches and players expect a lower zone"). The umpires, players, and coaches would not be expected to provide identical explanations, but there was substantial overlap. All three groups implied that there are good reasons for violating the rules. Even participants who stated that normative rules exist as a response to positioning problems seemed to imply that these rule alterations are natural and unavoidable.

This study raises some practical and moral issues. Ironically, normative rules appear to contribute to conflict in sport even though rules exist to direct play and minimize such conflict. If most participants use a normative rule to define the strike zone, it may be preferable to clearly redefine the constitutive rule to reflect the norm. This would provide more consistency in expectations and may reduce conflict.

It also seems likely that young baseball players who realize that umpires do not follow the rules may conclude that rule breaking is acceptable. This is the opposite of what children should learn from sport, and the benefits of altering the rules to avoid this moral dilemma would outweigh any procedural difficulties or threats to tradition.

Although this study supports the hypothesis that baseball umpires use normative rules, all of the data come from self-reports. It is possible to determine objectively where umpires change their calls from "ball" to "strike" by having them call videotaped pitches that are continuously distributed about the boundaries of the strike zone.

Though this study documents one set of normative rules for the strike zone, different norms may exist in other geographical areas or at different levels of competition. Officials may have normative rules that govern other aspects of baseball, and there may be normative rules among officials in other sports. Further research is needed to determine how normative rules develop and are transmitted among officials, and to investigate what impact those rules have on competition and on the social and moral development of young athletes.

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