

# **Distributive Justice in Intercollegiate Athletics: An Examination of Equality, Revenue Production, and Need**

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Research has indicated that need-based distributions are often perceived to be the fairest method for distributing resources in intercollegiate athletics. Mahony, Hums, and Riemer (2005) examined definitions of need and identified 3 subprinciples: need because of lack of resources, need because of high operating expenses, and need to be competitively successful. The current study examined the perceived fairness of distributions based on these subprinciples of need, equality of treatment, and revenue production, as well as the differences in perceptions based on gender, NCAA division, and scenario. Although need because of lack of resources was consistently rated as fairer than most or all of the other distribution methods, perceptions of the other methods varied based on the scenario. Further analysis indicated that men were more likely to perceive revenue production as fair, whereas women preferred equality. In addition, Division I administrators were more likely to rate need to be competitively successful and revenue production as fair.

A recurring theme in intercollegiate athletics is the tension between universities focusing on sports that can make the most money and universities claiming the main goal is to provide a positive experience for all athletes (e.g., Hart-Nibbrig & Cottingham, 1986; Schneider, 2000). This conflict plays out in disagreements over the proper distribution of resources, and one stream of literature has begun to examine the impact of divergent goals on resource distribution in intercollegiate athletics. The research examining distributive justice in intercollegiate athletics has examined the fairness perceptions of both employees and students (Hums & Chelladurai, 1994b; Mahony, Hums, & Riemer, 2002; Mahony, Hums, & Riemer 2005; Mahony, Riemer, Breeding, & Hums, 2006) and actual financial distributions in intercollegiate athletics (Mahony & Pastore, 1998). Researchers have struggled

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to understand why participants tend to rate equality and need as more fair (Hums & Chelladurai, 1994b; Mahony et al., 2002, 2006) and have indicated they make distributions based on these principles (Mahony et al., 2002), although the actual distributions appear to be more based on revenue production (Mahony & Pastore). Whereas the contradiction between actual distributions and the distribution methods rated as fairest appears clear, the reason for this apparent contradiction has been less clear.

## Distributive Justice

Researchers in distributive justice have identified three main distribution principles (Greenberg, 1990; Hums & Chelladurai, 1994a, 1994b). Although Adams (1963, 1965) provided grounding for the equity (contribution) principle, Deutsch (1975) developed the principles of equality and need. Based on the work of these researchers, studies in intercollegiate athletics (Hums & Chelladurai, 1994a, 1994b; Mahony et al., 2002, 2006) have examined the fairness of the following principles: equity (the groups or individuals that make the greatest contributions to the organization receive the largest distributions or smallest reductions), equality (all groups or individuals are treated equally when making allocation or reduction decisions), and need (the groups or individuals that need the resources the most receive the largest distributions or smallest reductions).

In addition, researchers have examined subprinciples under both equity and equality. Under equity, they examined whether participants believed distributions were fair when they were based on ability, effort, productivity (i.e., producing wins), spectator appeal, and revenue production (e.g., Mahony et al., 2002). Under equality, they examined the fairness of distributions based on equality of treatment (all receive the same resource allocations or reductions), equality of results (although differences will exist relative to the current allocation or reduction, over time all receive the same resources), and equality of opportunity (each has the same chance to be given the resources, e.g., Mahony et al., 2002).

Hums and Chelladurai (1994b) found that coaches and administrators selected equality of treatment and need as the fairest choices among distributive principles. Although this was consistent across divisions and gender, they did find a greater preference for equity by males and equality by females. Mahony et al. (2006) found similar results among college athletes and other college students. In Mahony et al. (2002), need was rated higher than other principles by both Division I and Division III athletic directors and athletic board chairs. In addition, these administrators indicated that need was also the principle most likely to be used at their universities when making actual distributions. Mahony et al. (2002) found differences based on division membership, with Division I participants being more likely to rate equity or contribution based principles as fair and Division III participants evaluating equality as being fairer. Although these studies found equality of treatment and need to be the most preferred principles, and need was the principle that administrators believed would be used in each scenario, actual examination of resource distribution in intercollegiate athletics appeared to indicate that resources were allocated based on revenue production and spectator appeal (Mahony & Pastore, 1998).

Because need was often preferred in prior studies, Mahony et al. (2005) believed that the apparent inconsistency might be related to differences in defining need. Perhaps those making distribution decisions did not use the traditional definition of need (i.e., those with less need more) and were using different means for determining need. Using qualitative research methods, they identified three reasons cited for need: lack of resources for the sport team, high costs of the sport team, and level of resources needed by the sport team to be competitive.

## **Purpose**

The purpose of the current study is to examine preference for distributions based on three subprinciples of need, the most preferred equality based subprinciple (i.e., equality of treatment), and the most preferred equity based subprinciple (i.e., revenue production). Whereas Mahony et al. (2005) suggested that the inconsistency between perceptions of fairness and actual distributions might be related to definitions of need, further research was needed to examine the perceived fairness of various distribution principles to determine if this were true. Moreover, Mahony et al. (2002) suggested that the descriptions of the situation in the scenario might have impacted the results in prior studies. Traditionally, the source of the resources and the reasons for the budget reductions were not related to the activities of any of the teams. It is possible that such scenarios lead participants to prefer need and equality distributions, whereas scenarios in which the reasons for the distributions or reductions are related to the activities of a specific team might lead to different perceptions of fairness. Finally, prior research has suggested that there might be some differences based on gender or division (Hums & Chelladurai, 1994b; Mahony et al., 2002, 2006). Therefore, the current study examined group differences to determine if they exist for the new distribution principles and the new scenarios in the current study. Overall, there were four research questions:

1. Do the participants indicate significant differences in their perception of the fairness of the five distribution principles?
2. Do these perceptions of fairness vary based on the scenario?
3. Are there differences based on gender in perceptions of fairness across the scenarios?
4. Are there differences based on NCAA division in perceptions of fairness across the scenarios?

## **Method**

### **Participants**

The participants were athletic directors and senior women's administrators at NCAA institutions. Based on information provided by the National Association of Collegiate Director of Athletics (NACDA) directory, 322 senior women's administrators and 1,060 athletic directors were identified. All senior women's administrators were surveyed, and 378 athletic directors were randomly selected (i.e., every third individual on the list). In all, 700 surveys were mailed to athletic

directors and senior women's administrators. The lists were obtained in zip-code order to ensure a national sample, thus avoiding any regional biases. One mailing was conducted to obtain the sample.

The response rate for the study was 32.29% because 226 surveys were returned. The group being surveyed has traditionally responded at lower response rates, and this return rate is not inconsistent with typical response rates (Mahony et al., 2002, 2005). The final sample used for analysis consisted of 208 responses, and 18 surveys were discarded as unusable. Cell sizes were as follows: Division I males,  $n = 38$ ; Division II males,  $n = 32$ ; Division III males,  $n = 26$ ; Division I females,  $n = 31$ ; Division II females,  $n = 40$ ; Division III females,  $n = 41$ . The cell sizes proved to be adequate to perform ANOVAs with the following conditions: (a) three levels of the independent variable, (b) level of statistical significance = .05, (c) level of power = .70, and (d) moderate effect size.

## Field Test

We conducted a field test to establish content validity. Before we sent the survey to participants, 20 administrators and coaches at an NCAA Division II institution examined the instrument to establish whether the scale was readable and understandable. Participants indicated that the instrument was readable and understandable and appeared to measure what it purported to measure.

## Procedures

Participants received mailed surveys consisting of a cover letter, a section gathering gender and division information, and four scenarios. After reading each scenario, each participant rated the perceived fairness of five distribution principles (equality of treatment, contribution based on revenue production, need based on competitive success, need based on high cost, and need based on lack of funding) on a 7-point Likert-type scale.

## Instrumentation

**Operationalization of the Independent Variables.** In the first analysis, scenario and distribution principle were the independent variables. Two scenarios in the current study were developed based on scenarios used in prior research (Hums & Chelladurai, 1994a, 1994b; Mahony et al., 2002, 2006). The first scenario depicted an athletic department receiving money because of a private donation to the school. The second scenario depicted an athletic budget being cut because of schoolwide budget cuts. In addition, two scenarios were developed based on the suggestion by Mahony et al. (2002). The third scenario depicted an athletic department receiving budget increases because of successful and profitable seasons by revenue-producing sports. The fourth scenario depicted an athletic department budget being cut because of poor seasons by revenue-producing sports. All scenarios are presented in Appendix A.

Five distribution principles were examined in the current study. First, based on the three reasons cited for team needs in the qualitative study conducted by Mahony et al. (2005), the current study developed items for need because of lack

of resources, need because of high operating costs, and need to be competitively successful. Second, equality of treatment was the only equality-based subprinciple included in the current study because it was the only one of these principles that participants in earlier studies consistently rated as a fair basis for distributions. Third, although none of the equity (contribution) principles received strong support in earlier research, revenue production was rated highest and seemed to be used most often (Mahony et al., 2002, 2006; Mahony & Pastore, 1998), so the current study included this distribution principle, as well. All items are included in the Appendix. To increase internal validity and avoid patterned responses, the order of the scenarios and the order of the distribution methods were altered in the form of four separate mailings.

In addition to the distribution principle, the second set of analyses examined two additional independent variables: gender and NCAA division level (Division I, II, or III). Both variables produced statistically significant results in previous studies addressing athletics and organizational justice as noted in the review of literature (e.g., Hums & Chelladurai, 1994b; Mahony et al. 2002).

**Operationalization of Dependent Variables.** The dependent variable in each of the analyses was the fairness ratings of the distribution principles. Measurement procedures for the dependent variables were based on earlier studies (e.g., Hums & Chelladurai, 1994a; Mahony et al., 2002). Participants read a scenario and then rated the fairness of five distribution principles on a 7-point Likert-type scale ranging from 1 (*very unfair*) to 7 (*very fair*). The scale included a middle point of 4 (*neither fair nor unfair*) that represented a neutral option.

## Data Analysis

To test the overall effects of distribution principles and the scenario on fairness ratings, we performed an analysis of variance totally within repeated measures. In this analysis, distribution principles were nested within scenarios; that is, ratings of the fairness of five distribution principles were analyzed for each of four scenarios, resulting in 20 measurements per subject. This design produced three effects: a main effect of scenario, a main effect of distribution principle, and an interaction effect. As a follow-up to any interactions, Bonferroni-corrected *t*-test comparisons were made among the five distribution-principle fairness ratings in each scenario. A criterion of  $p = .005$  was used for each test, ensuring an overall alpha level of .05 for the 10 comparisons made in each scenario.

Because different wording was used in each scenario, a separate repeated-measures ANOVA was conducted for each scenario to examine the impact of gender (two levels) and division (three levels). The dependent variable was fairness rating of the distribution principles. The procedure used tested main effects of the distribution principles, Gender  $\times$  Distribution Principle interaction effects, Division  $\times$  Distribution Principle interaction effects, Gender  $\times$  Division interaction effects, and Gender  $\times$  Division  $\times$  Distribution Principle interaction effects. Because the ANOVAs produced statistically significant results, simple effects analyses and pairwise comparisons were carried out as follow-up tests.

For all four scenarios, the same follow-up procedures were used to examine the interaction effects. When the distribution principle by sex interaction was

significant, simple effects analyses were performed to test differences between the sexes in each distribution principle. When the distribution principle by division interaction was significant, a two-step process was used to analyze the distribution principle by division interaction. First, simple effects were computed for differences among divisions for each distribution principle. Second, if statistical significance occurred for any simple effect, pairwise comparisons were calculated to determine differences among the means of Divisions I, II, and III. In performing pairwise comparisons, a Bonferroni adjustment was used to reduce inflation of Type I error. As a consequence, the significance level for each test was  $.05/3 = .017$ .

## Results

Table 1 summarizes the means for each distribution principle and each group examined in the current study. We first performed a totally within repeated-measures ANOVA, which produced three effects: a main effect of scenario, a main effect of distribution principle, and an interaction effect. All three were statistically significant at  $p < .001$ . Only the interaction effect will be interpreted because the main effects are qualified by the combined effect of the two independent variables on the dependent variables.

### Effects of Scenario and Distribution Principle on Fairness Ratings

The significant scenario-by-distribution principle effect,  $F(9, 1784) = 22.29, p < .001$ , means that average fairness ratings of distribution principles differed from one scenario to another. Figure 1 shows the interaction diagram. The five distribution principles shown in the diagram are 1 = equality, 2 = revenue production, 3 = need because of lack of resources, 4 = need because of high operating expenses, and 5 = need to be competitively successful. Statistically significant mean differences were as follows.

Scenario 1 described an athletic department receiving a large private donation and seeking to fairly distribute funds. With this scenario, the means for equality and need because of lack of resources were not different from one another, but both exceeded the means for need because of high operating expenses, need to be competitively successful, and revenue production. The means for need because of high operating expenses and need to be competitively successful were not different from one another, but both exceeded the mean for revenue production.

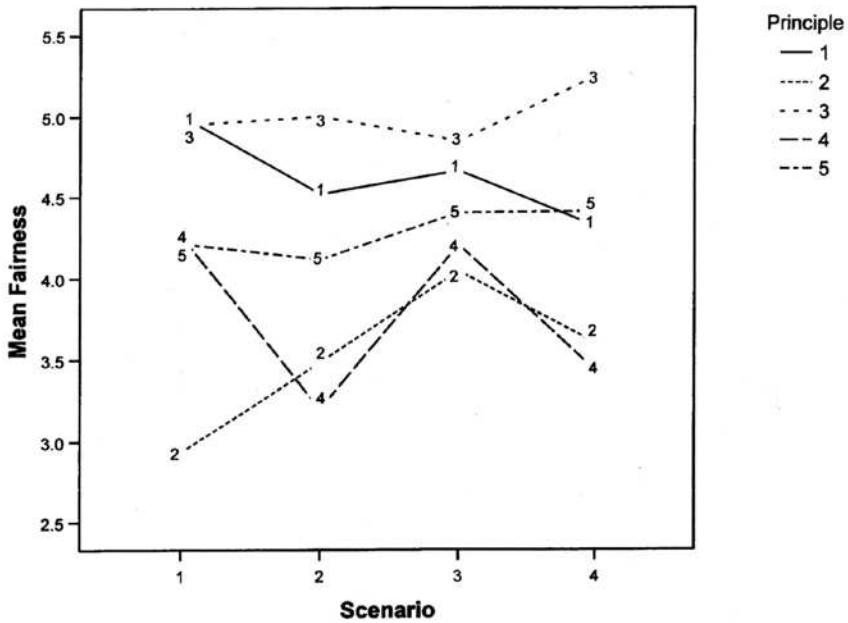
Scenario 2 described an athletic department facing cuts because of a poor economy. For this scenario, the mean for need because of lack of resources exceeded the means for need to be competitively successful, revenue production, and the need because of high operating expenses. The means for equality and need to be competitively successful were not different from one another, but both exceeded the means for revenue production and need because of high operating expenses.

Scenario 3 described an athletic department seeking to fairly distribute funds after an exceptionally successful season. With this scenario, the mean for need because of lack of resources exceeded the means for need to be competitively successful, need because of high operating expenses, and revenue production. The mean for equality exceeded the means for need because of high operating expenses and revenue production.

**Table 1 Summary of Means by Scenario, Distribution Principle, Gender, and Division**

Scenario			
1—Private donation	2—Economy cuts	3—Good season	4—Bad season cuts
<b>Equality</b>			
Distribution principle	Distribution principle	Distribution principle	Distribution principle
Overall mean: 4.98	Overall mean: 4.50	Overall mean: 4.61	Overall mean: 4.30
Men: 4.53	Men: 4.19	Men: 4.33	Men: 4.03
Women: 5.44	Women: 4.82	Women: 4.90	Women: 4.57
D-I: 4.56	D-I: 4.25	D-I: 4.16	D-I: 4.23
D-II: 5.21	D-II: 4.66	D-II: 4.97	D-II: 4.46
D-III: 5.17	D-III: 4.60	D-III: 4.71	D-III: 4.20
<b>Revenue Production</b>			
Distribution principle	Distribution principle	Distribution principle	Distribution principle
Overall mean: 2.94	Overall mean: 3.50	Overall mean: 4.03	Overall mean: 3.62
Men: 3.22	Men: 3.77	Men: 4.19	Men: 3.88
Women: 2.66	Women: 3.20	Women: 3.88	Women: 3.37
D-I: 3.31	D-I: 3.88	D-I: 4.23	D-I: 3.94
D-II: 3.20	D-II: 3.60	D-II: 4.25	D-II: 3.77
D-III: 2.31	D-III: 3.01	D-III: 3.62	D-III: 3.16
<b>Need Because of Lack of Resources</b>			
Distribution principle	Distribution principle	Distribution principle	Distribution principle
Overall mean: 4.97	Overall mean: 4.98	Overall mean: 4.83	Overall mean: 5.27
Men: 4.93	Men: 4.99	Men: 4.83	Men: 5.33
Women: 5.01	Women: 4.99	Women: 4.84	Women: 5.23
D-I: 5.25	D-I: 5.26	D-I: 4.95	D-I: 5.32
D-II: 4.93	D-II: 4.78	D-II: 4.52	D-II: 5.38
D-III: 4.73	D-III: 4.89	D-III: 5.03	D-III: 5.14
<b>Need Because of High Operating Expenses</b>			
Distribution principle	Distribution principle	Distribution principle	Distribution principle
Overall mean: 4.28	Overall mean: 3.18	Overall mean: 4.22	Overall mean: 3.44
Men: 4.48	Men: 3.31	Men: 4.43	Men: 3.42
Women: 4.09	Women: 3.06	Women: 4.01	Women: 3.47
D-I: 4.56	D-I: 3.19	D-I: 4.22	D-I: 3.31
D-II: 4.35	D-II: 3.19	D-II: 4.13	D-II: 3.50
D-III: 3.94	D-III: 3.17	D-III: 4.31	D-III: 3.51
<b>Need to Be Competitively Successful</b>			
Distribution principle	Distribution principle	Distribution principle	Distribution principle
Overall mean: 4.20	Overall mean: 4.08	Overall mean: 4.37	Overall mean: 4.41
Men: 4.29	Men: 4.33	Men: 4.45	Men: 4.54
Women: 4.11	Women: 3.81	Women: 4.29	Women: 4.29
D-I: 4.92	D-I: 4.75	D-I: 4.79	D-I: 4.90
D-II: 4.23	D-II: 4.00	D-II: 4.31	D-II: 4.49
D-III: 3.47	D-III: 3.47	D-III: 4.02	D-III: 3.85

*Note.* To account for unequal cell sizes, estimated marginal means were used.



**Figure 1** — Fairness ratings of five distribution principles for four scenarios, with distribution principles 1 = equality, 2 = revenue production, 3 = need because of lack of resources, 4 = need because of high operating expenses, and 5 = need to be competitively successful.

Scenario 4 described an athletic department facing cuts because of a poor athletic season. For this scenario, the mean for need because of lack of resources exceeded the means for need to be competitively successful, equality, revenue production, and the need because of high operating expenses. The means for need to be competitively successful and equality were not different from one another, but both exceeded the means for revenue production and need because of high operating expenses.

### Differences in Ratings by Group

Overall, the repeated-measures ANOVAs showed that four sources of variance were statistically significant for most, if not all, of the scenarios. These were the main effect of distribution principle, the distribution-principle-by-sex interaction effect, the distribution-principle-by-division interaction effect, and the main effect of division.

Participants in the study rated four scenarios on five distribution principles, thus yielding 20 ratings. For each rating, measures of central tendency, variability, and skewness were calculated, and histograms were plotted showing the frequency distributions on the seven rating categories. Because the ratings were done on a



7-point scale, the middle rating position was 4.00. The average item mean was 4.23, and the average median was 4.20. Of the 20 items, 13 had a modal value that was 4, 5, or 6. In terms of variability, standard deviations of the 20 items ranged from 1.31 to 2.14 with an average of 1.62. Inspection of the histograms revealed that distributions were generally unimodal. All seven response options were used for every item (i.e., no item was so skewed that subjects used just a few response options). Most of the items (15 of 20) had a negative skewness index, indicating the item had more responses toward the high end of the response range than the low end. This is consistent with the mean, median, and mode being above the midpoint of 4 for most items.

## Scenario 1

The within-subject effects for Scenario 1 revealed that there was a significant main effect of distribution principle and significant interaction effects for distribution principle by gender and distribution principle by division (see Table 2). Analysis of between-subjects effects revealed that there was a significant main effect of division.

**Distribution-Principle-by-Sex Interaction.** For equality, the mean fairness rating of females significantly exceeded the mean of males,  $F(1, 205) = 13.60, p < .01$ . For revenue production, the mean fairness rating of males significantly exceeded the mean of females,  $F(1, 205) = 9.68, p < .01$ . For need because of high operating expenses, the mean fairness rating of males significantly exceeded the mean of females,  $F(1, 205) = 5.08, p < .03$ .

**Table 2a Scenario 1: “The athletic department has received a large donation from a private source.”**

Source of variance	<i>df</i>	<i>F</i>
<b>Between subjects</b>		
Sex (S)	1	0.06
Division (D)	2	8.34**
S × D	2	0.28
Error	201	
<b>Within subjects</b>		
Distribution principle (DP)	2.85	69.91**
DP × S	2.85	8.33**
DP × D	5.69	5.31**
DP × S × D	-5.69	0.88
Error	571.82	

*Note.* Degrees of freedom for within-subjects effects were adjusted using Greenhouse and Geisser.

\* $p < .05$ . \*\* $p < .01$ .

**Table 2b Scenario 2: “Due to a bad economy nationally, budgets cuts will take place.”**

Source of variance	<i>df</i>	<i>F</i>
<b>Between subjects</b>		
Sex (S)	1	1.40
Division (D)	2	3.90*
S × D	2	0.22
Error	202	
<b>Within subjects</b>		
Distribution principle (DP)	2.95	39.39**
DP × S	2.95	4.50*
DP × D	5.89	2.95**
DP × S × D	5.89	0.80
Error	594.92	

*Note.* Degrees of freedom for within-subjects effects were adjusted using Greenhouse and Geisser.

\* $p < .05$ . \*\* $p < .01$ .

**Table 2c Scenario 3: “The teams that produce revenue each had tremendously successful seasons.”**

Source of variance	<i>df</i>	<i>F</i>
<b>Between subjects</b>		
Sex (S)	1	0.31
Division (D)	2	0.54
S × D	2	0.65
Error	201	
<b>Within subjects</b>		
Distribution principle (DP)	3.24	9.31**
DP × S	3.24	3.49*
DP × D	6.47	3.99**
DP × S × D	6.47	2.02
Error	650.2	

*Note.* Degrees of freedom for within-subjects effects were adjusted using Greenhouse and Geisser.

\* $p < .05$ . \*\* $p < .01$ .

**Distribution-Principle-by-Division Interaction.** For equality, simple effects analysis revealed significant differences among the three divisions,  $F(2, 204) = 3.84, p < .03$ . The mean fairness rating of Division III significantly exceeded the mean of Division I,  $F(1, 204) = 6.32, p < .013$ . For revenue production, simple effects analysis revealed significant differences among the three divisions,  $F(2, 204) = 10.59, p < .01$ . The mean fairness rating of Division I significantly exceeded the

**Table 2d Scenario 4: “The teams expected to generate revenue with postseason appearances all failed to do so.”**

Source of variance	<i>df</i>	<i>F</i>
<b>Between subjects</b>		
Sex (S)	1	0.19
Division (D)	2	3.97*
S × D	2	1.11
Error	200	
<b>Within subjects</b>		
Distribution principle (DP)	2.91	43.89**
DP × S	2.91	3.14*
DP × D	5.82	1.91
DP × S × D	5.82	0.89
Error	582.07	

*Note.* Degrees of freedom for within-subjects effects were adjusted using Greenhouse and Geisser.

\* $p < .05$ . \*\* $p < .01$ .

mean of Division III,  $F(1, 204) = 18.26, p < .001$ . In addition, the mean fairness rating of Division II significantly exceeded the mean of Division III,  $F(1, 204) = 13.45, p < .001$ . For need because of high operating expenses, simple effects analysis revealed significant differences among the three divisions,  $F(2, 204) = 4.64, p < .02$ . One pairwise comparison was statistically significant. The mean fairness rating of Division I significantly exceeded the mean of Division III,  $F(1, 204) = 8.94, p < .003$ . For need to be competitively successful, simple effects analysis revealed significant differences among the three divisions,  $F(2, 204) = 16.90, p < .01$ . Three pairwise comparisons were statistically significant. The mean fairness rating of Division I significantly exceeded the mean of Division II,  $F(1, 204) = 7.91, p < .005$ , and the mean of Division III,  $F(1, 204) = 33.79, p < .001$ . Finally, the mean fairness rating of Division II significantly exceeded the mean of Division III,  $F(1, 204) = 9.57, p < .002$ .

## Scenario 2

The within-subject effects for Scenario 2 revealed that there was a significant main effect of distribution principle and significant interaction effects for distribution principle by sex and distribution principle by division (see Table 2). Analysis of between-subjects effects revealed that there was a significant main effect of division.

**Distribution Principle by Sex Interaction.** For equality, the mean fairness rating of females significantly exceeded the mean of males,  $F(1, 206) = 5.00, p < .03$ . For revenue production, the mean fairness rating of males significantly exceeded the mean of females,  $F(1, 206) = 6.82, p < .02$ . For need to be competitively successful,

the mean fairness rating of males significantly exceeded the mean of females,  $F(1, 206) = 8.84, p < .01$ .

**Distribution Principle by Division Interaction.** For revenue production, simple effects analysis revealed significant differences among the three divisions,  $F(2, 205) = 5.23, p < .01$ . The mean fairness rating of Division I significantly exceeded the mean of Division III,  $F(1, 205) = 10.10, p < .002$ . For need to be competitively successful, simple effects analysis revealed significant differences among the three divisions,  $F(2, 205) = 12.95, p < .01$ . The mean fairness rating of Division I significantly exceeded the means of Division II,  $F(1, 205) = 9.52, p < .002$ , and Division III,  $F(1, 205) = 25.49, p < .001$ .

### Scenario 3

The within-subject effects revealed that there was a significant main effect of distribution principle and significant interaction effects for distribution principle by sex and distribution principle by division (see Table 2).

**Distribution Principle by Sex Interaction.** For equality, the mean fairness rating of females significantly exceeded the mean of males,  $F(1, 205) = 5.38, p < .03$ . For need because of high operating expenses, the mean fairness rating of males significantly exceeded the mean of females,  $F(1, 205) = 4.76, p < .04$ .

**Distribution Principle by Division Interaction.** For equality, simple effects analysis revealed significant differences among the three divisions,  $F(2, 204) = 3.78, p < .03$ . No pairwise comparisons yielded statistically significant results, however. For revenue production, simple effects analysis revealed significant differences among the three divisions,  $F(2, 204) = 5.21, p < .01$ . The mean fairness rating of Division I significantly exceeded the mean of Division III,  $F(1, 204) = 7.58, p < .006$ . In addition, the mean fairness rating of Division II significantly exceeded the mean of Division III,  $F(1, 204) = 8.15, p < .005$ . For need because of lack of resources, simple effects analysis revealed significant differences among the three divisions,  $F(2, 204) = 3.17, p < .05$ . No pairwise comparisons yielded statistically significant results, however. For need to be competitively successful, simple effects analysis revealed significant differences among the three divisions,  $F(2, 204) = 5.37, p < .01$ . The mean fairness rating of Division I significantly exceeded the mean of Division III,  $F(1, 204) = 10.43, p < .001$ .

### Scenario 4

The within-subject effects revealed that there was a significant main effect of distribution principle and a significant interaction effect for distribution principle by sex (see Table 2). Analysis of between-subjects effects revealed there was a significant main effect for division.

For revenue production using the distribution-principle-by-sex interaction, the mean fairness rating of males significantly exceeded the mean of females,  $F(1, 204) = 6.85, p < .011$ .

## Discussion

The purpose of the study was to examine preference for distribution principles and the effect of scenario, gender, and NCAA division on fairness perceptions of equality of treatment, contribution based on revenue production, need because of high cost, need because of competitive success, and need because of lack of resources. Results indicated that perceived fairness differed across the scenarios, and there were differences based on gender and division.

### Differences Based on Scenario

There were some consistencies and some differences in the fairness ratings of the five distribution principles across the four scenarios. Regardless of the source of the resources or whether money was being distributed or reduced, the perceived fairness of distributions based on need because of lack of resources was high. The mean ratings exceeded all of the other distribution principles when money was reduced because of a poor athletic season and were greater than all but equality in the other three scenarios. This finding suggests that, in contrast to the prediction of Mahony et al. (2002, 2005), many in intercollegiate athletics are using the more traditional definition of need in which those with fewer resources need more (Deutsch, 1975).

There were, however, differences across the scenarios in the relative ratings of the other principles, which supports the prediction by Mahony et al. (2002) that the scenario might have an impact on fairness perceptions. For example, the only case in which the perceived fairness of equality exceeded need to be competitively successful was when there was a distribution because of a large private donation. In other words, when the budgets were being reduced or the additional revenue came from success by the revenue-producing teams, administrators were just as likely to perceive distributions based on a need for competitive success to be fair as equal distributions or reductions. Moreover, need to be competitively successful was perceived to be significantly more fair than need because of high operating costs and revenue production in both of the budget-reduction scenarios, further suggesting there might be support for protecting the needs for competitive success in difficult budget times.

A quick review of Figure 1 would suggest the scenarios had the largest impact on the fairness ratings of need because of high operating costs and revenue production. Need because of high operating costs was more likely to be perceived as fair than the other principles when money was being distributed but was rated in the bottom grouping when the budgets were being reduced. This could suggest that administrators are likely to look closely at the high-budget sports when looking for places to cut but will support them more when the budget is increased. Similar to earlier research, revenue production was less likely than the other principles to be rated fair and was lower than all other principles when resources increased because of a private donation. When budgets were being increased because more revenue was produced by the sport teams, however, revenue production was rated just above

the midpoint on the scale and was not significantly different than need because of high operating costs and need to be competitively successful. In fact, there was less variability in the ratings of the five principles in this scenario. Administrators were more likely to perceive small differences in the relative fairness of the principles when additional revenue was produced because of team performance. This is an important finding because much of the revenue generated in college athletics is impacted by team performance (Fulks, 2002).

Together, these findings are important for understanding resource distributions in intercollegiate athletics and support some of the suggestions made by Mahony et al. (2005). They suggested that administrators might be reluctant to admit revenue production is used as a basis for their distributions because it is not socially acceptable, with the possible exception of cases in which the additional resources are a direct result of increased revenue production by the sport teams receiving the resources. They could, however, distribute resources in the same pattern if they say they are basing their distributions on the more socially acceptable concept of need. They could give more money to football because it has needs relative to higher costs or more likely to football and men's basketball because they need more to be competitively successful (i.e., our competitors spend a lot on these sports, so we must also remain competitive). Moreover, equality was only higher than need to be competitively successful when the money distributed came from a generic source. This source of income is likely the least common of the posed scenarios because private donations are often earmarked for a specific purpose or are an expected source of revenue in the budget, so "extra" undesignated money from donations is not as common.

## Gender Differences

The current article also examined differences based on gender and NCAA division in each scenario. Results indicated significant differences between males and females in their fairness ratings in each scenario for at least one of the distribution principles. The most common differences were that females perceived equality as more fair than males, and males perceived revenue production as fairer than females. This is consistent with earlier research in intercollegiate athletics (Hums & Chelladurai, 1994b; Mahony et al., 2002, 2006), as well as research outside of sport (e.g., Callahan-Levy & Messe, 1979). Although some might suggest this result is related to a difference in the socialization of males and females (Boldizar, Perry, & Perry, 1988), it is also likely that there is self-interest affecting this result. Because male sports are more likely to be revenue generators (Mahony & Pastore, 1998), males are more likely to benefit from distributions based on revenue production, whereas females are more likely to believe they would benefit from equal distributions.

Males also perceived need because of high operating costs as more fair in two of the scenarios. Again, there might be some self-interest in these ratings. Football would appear to be the sport with greatest need relative to high operating costs (Mahony et al., 2005), so using this distribution method would help football and hurt most female sports. Finally, males preferred need to be competitively successful in one scenario. Although this does not have a clear benefit for males, it might if being competitively successful in some of the male sports (e.g., football, basketball) is seen as more important and is, because all of the competitors are spending large

amounts, more costly to achieve (Mahony et al., 2005). This could be examined more thoroughly in future research. It is important to note, however, that across the scenarios the perceptions of males and females were similar more often than they were different. For example, there were no differences on ratings of need because of lack of resources in any of the scenarios. In addition, there was only one difference in perceptions when cuts were being made owing to a bad season. In general, male and female administrators tend to agree on what is fair, and it would be a mistake to predict differences in decision making based on gender.

## Division Differences

In most scenarios, administrators from different NCAA divisions differed on their fairness ratings for at least one of the distribution principles. The only scenario in which there were no differences was when there was a cut because the revenue-producing teams failed to produce enough revenue. In the first three scenarios, administrators in Division I perceived revenue production and need to be competitively successful as more fair than did those in Division III. The finding relative to revenue production is consistent with the results of prior studies (e.g., Mahony et al., 2001, 2002) and is consistent with the notion that Division I college sports are more likely to follow a corporate model (e.g., Hart-Nibbrig & Cottingham, 1986; Schneider, 2000). The finding relative to need to be competitively successful further supports the notion that Division I follows a corporate model (i.e., funding is often based on keeping up with competitors).

Although it would also appear logical that Division III administrators would perceive equality as more fair than Division I administrators, this occurred only in Scenario 1. It appears Division I administrators were less likely to openly reject equality, whereas Division III administrators had less trouble rejecting revenue production and need to be competitively successful. This might be because equality is a socially acceptable response even for Division I administrators (Mahony et al., 2002), and the other two principles would likely not be acceptable responses at the Division III level. In fact, it is important to note that across the scenarios there were more similarities than differences in perceptions based on division affiliation. There were no differences on ratings of need because of lack of resources in any of the scenarios, and there were differences in perceptions when cuts were being made because of a bad season. In general, administrators from different divisions only tended to differ on revenue production and need to be competitively successful.

## Implications

The current study has both practical and research implications. First, to fully influence and predict distribution of resources in college athletics, it is necessary to understand the thought process of athletic administrators making allocation decisions. Although actual distribution decisions might not be based on fairness, it is likely that administrators seek to justify distributions both to themselves and to others, and understanding how they justify their decisions as fair is important. To change the current distribution methods, one must first understand the basis for making distributions so they can be challenged. For example, administrators might be basing distribution decisions on the need to be competitively successful and will

give more money to some teams to increase their chances for success and additional revenue. Litan, Orszag, and Orszag (2003), however, found that increased spending on football and men's basketball was not associated with increases in winning or increases in revenue production. With this information, one could better argue in favor of other distribution methods.

Second, the study expands existing research by following up a qualitative analysis (Mahony et al., 2005) with a quantitative approach. By doing so, the study contributes to the existing line of studies addressing allocation methods in intercollegiate athletics, as well as providing a model that could be used in other settings. Although the participants in the current study did tend to perceive distributions based on the traditional definition of need (i.e., need because of lack of resources) as fair, the other two subprinciples of need were not consistently rejected and in most scenarios were not significantly different from equality, which generally has received considerable support in the literature (e.g., Hums & Chelladurai, 1994b; Mahony et al., 2002, 2006). This suggests that further research examining these subprinciples in a variety of settings (e.g., corporations, higher education, and other nonprofit organizations) could be valuable and could help shed light on distribution patterns in these settings.

Third, results from this study can be used to add to the findings from Mahony et al. (2002, 2005) that there are differences in philosophical approaches between the different levels of the NCAA. This study's quantitative approach directly tests some of the qualitative findings established by Mahony et al. (2005) and further support differences between the divisions found in Mahony et al. (2002). In general, administrators at upper divisions rated revenue production and need to be competitively successful as fair, whereas those at the lower divisions did not favor those methods of distribution. Again, this result is useful in attempting to both influence and predict distribution decisions in intercollegiate athletics.

Finally, the results of the study further support the existence of differences between males and females in perceptions of fairness. Although the exploitation–accommodation theory (Boldizar, Perry, & Perry, 1988) would suggest that these results occurred because females tend toward nurturing behaviors more than males, and therefore perceive equal treatment as fair, this could also be because female administrators are aware that men's basketball and football produce more revenue than most women's sports (Mahony & Pastore, 1998). It is quite possible the same females surveyed in the current study might perceive equity-based distributions such as those based on revenue production as fair if the setting were different.

It is possible that more female athletic directors and senior women's administrators truly adhere to the notion that college athletes are students and that college sports is an integral part of the educational process. In this sense, equal distribution would be no different than, for example, equal access to the library. Denying equal educational opportunities to both men and women would not be possible to justify. As a result, the mean scores for females would not be higher than males because of a nurturing tendency but because of a belief in the importance of educational access. This could be examined in future research. Finally, it is important to note that both males and females were very supportive of need because of lack of resources. This would appear inconsistent with the "exploitation" tendencies of males suggested by Boldizar, Perry, and Perry (1988).



## Limitations

As with any closed-ended forced-response questionnaire, there are certain limitations with its generalizability. First, allocation decisions can be very specific on a case-by-case basis and depend on a variety of factors that can never be captured in a few scenarios (e.g., the role of the administrator in distribution decisions, the size and source of the resources or reductions, recent increases or decreases in the budget before the scenario). Second, the survey did not capture potential differences between Division I participants. For example, there might be a distinction in fairness ratings between administrators at Bowl Championship I-A conferences versus I-AAA schools, which do not field scholarship football programs. The mailed survey did not collect information to distinguish between I-A, I-AA, or I-AAA, and even if it did, the number of responses in each cell might not have been enough to do any meaningful analysis.

Third, it is possible that certain principles that administrators believe are fair were not included in the survey. For example, increasing or decreasing budgets by “equal percentages” (all teams’ budgets increase or decrease by the same percentage) was not included in the scenarios. A few participants in the current study handwrote notes stating that equal percentages was the manner in which they defined equality and what they believed was fair, however. The use of this principle would have a definite impact on resource distributions in college athletics. The use of equal percentages (i.e., incremental budgeting) tends to perpetuate differences in the budget, so the rich get richer and the poor stay poor. This principle should be examined in future research.

Finally, as noted in Mahony et al. (2002), there is always a concern that participants answered in a socially acceptable manner and did not indicate on the survey what they truly feel. Because they were not actually making distributions and were only asked to rate what they believed was fair, they could have answered in a manner that is inconsistent with their real feelings or the distributions they would actually make. The consistently strong support for *need because of lack of resources* would suggest that athletic departments have traditionally put new resources into sports with smaller budgets and have protected them during budget cuts, which does not appear to be the case (Mahony & Pastore, 1998). Whereas future research in this area is still needed to better understand the decision-making process for those who make allocation decisions, the current study has expanded on the work of earlier researchers and has moved this line of research forward.

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## Appendix

### Scenarios and Distribution Methods

**Scenario 1.** The athletic department has received a large donation from a private source. Please rate the fairness of the following distribution methods.

**Scenario 2.** Due to a bad economy nationally, budgets cuts will take place in every department on campus, including athletics. Please rate the fairness of the following methods for cutting budgets.

**Scenario 3.** The teams in your athletic department that produce revenue each had tremendously successful seasons that helped generate additional revenue. Please rate the fairness of the following methods for distributing the additional revenue.

**Scenario 4.** The teams within the athletic department that were expected to generate revenue with postseason appearances all failed to do so. As a result, budget cuts must be made in the athletic department. Please rate the fairness of the following methods for making the cuts.

**Distribution Principles**

- A. The teams which need the money the most due to a lack of resources in their existing budget would be given the most money.
- B. The teams which need the money the most due to the high operating expenses associated with their sport would be given the most money.
- C. The teams which need the money the most to be competitively successful would be given the most money.
- D. All money would be distributed equally among the teams in the athletic department.
- E. The teams that produce the most revenue would be given the most money.

**Reduction Principles**

- A. The teams which already lack resources the most would be cut the least.
- B. The teams which have the highest operating expenses would be cut the least.
- C. The teams which need money the most to be competitively successful would be cut the least.
- D. An equal amount of money would be cut from each team's budget.
- E. The teams that produce the most revenue would be cut the least.