

## **Examining Fairness Perceptions of Financial Resource Allocations in U.S. Olympic Sport**

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The purpose of this study was to measure U.S. National Governing Body (NGB) administrators' perceptions of fairness of financial resource allocation within the U.S. Olympic Movement. This study extends previous research on distributive justice in the sport industry by examining a new setting and controlling for the potential moderating effect of procedural justice. Presidents and executive directors responded to a survey containing three resource allocation scenarios. Study participants most often identified *need to be competitively successful* as the most fair distribution principle, but believed *equity based on medals won* was the most likely to be used. Results also indicated significant differences in the perceived fairness of distribution principles based on the budget size of the NGB, the membership size of the NGB, and the NGB's success in the Olympic Games. These results have implications for the evolving priorities of NGBs, how these priorities are being addressed, and possible reactions to resource distribution decisions.

Governance of Olympic sport in the United States is guided by the U.S. Olympic Committee (USOC) and is codified in federal law through the Ted Stevens Olympic and Amateur Sports Act (ASA). Currently, a contradiction seems to exist between the mission and practices of the USOC. The USOC's mission is to support "Olympic and Paralympic athletes in achieving sustained competitive excellence . . . and thereby inspire all Americans" (Bylaws of the United States

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Olympic Committee, n.d., p. 4). In addition, it is expected “that strong emphasis will be placed . . . on development programs, especially on those aimed at increasing mass participation” (“The Final Report . . .”, 1977, p. 24).

However, recent practices of the USOC have moved away from funding mass participation and toward rewarding medal production. This emphasis began in 1989 with the release of the Olympic Overview Report which stated, in part, “winning medals must always be the primary goal of the USOC” (Janofsky, 1989, p. C1). Consistent with this emphasis, in 2004 the USOC later shifted to what it called a “venture capital” model requiring member National Governing Bodies (NGBs) to present specific plans detailing how they intend to use financial resources from the USOC to increase their chances of winning Olympic medals (Piore, 2004). The USOC also announced it would eliminate \$250,000 in guaranteed funding to each NGB beginning in 2006 (Borzilleri, 2005b). These shifts represented changes in the methods of financial resource allocation to the NGBs.

Previous research on financial resource allocation within sport (e.g., Hums & Chelladurai, 1994b; Mahony, Hums, & Riemer, 2002, 2005) has considered the fairness of allocation decisions from the framework of organizational justice, which Greenberg (1990) defined as an attempt to describe and explain the role of fairness as a consideration in the workplace. The purpose of the current study was to extend the existing research on financial resource allocation within sport to a different context, that of the U.S. Olympic Movement, by measuring NGB administrators’ perceptions of fairness of financial resource allocation decisions by the USOC. This study also extends past work by controlling for the potential influence of procedural justice while examining distributive justice.

## Organizational Justice

Conceptually and empirically, *organizational justice* (the importance of fairness in the workplace) has been linked to job performance, job satisfaction, organizational commitment, organizational citizenship behaviors, and trust (e.g., Colquitt, 2001; Crompanzano, Rupp, Mohler, & Schminke, 2001), thus making organizational justice a critical antecedent of numerous organizationally-relevant outcomes. Over the years, researchers have uncovered a number of facets, or dimensions, of organizational justice that contribute to overall perceptions of fairness. For example, in the context of the current study, NGB administrators’ overall perceptions of fairness could be impacted by (a) the outcomes, such as the facilities or annual budget, their NGB receives (*distributive justice*: Deutsch, 1975; Homans, 1961; Leventhal, 1976), (b) the process adopted by the USOC to make decisions about the distribution of resources (*procedural justice*: Folger & Konovsky, 1989; Sweeney & McFarlin, 1993), or (c) the approach used by the USOC to inform NGB administrators of its final decisions (*interactional justice*: Bies & Moag, 1986).

The results of various studies on organizational justice have shown positive correlations among three dimensions of organizational justice (Ambrose & Cropanzano, 2003; Ambrose & Schminke, 2003; Aryee, Budhwar, & Chen, 2002; Cropanzano, Prehar, & Chen, 2002; Fong & Schaffer, 2003; Martin & Bennett, 1996; Masterson, Lewis, Goldman, & Taylor, 2000; Murphy, Wayne, Liden, &

Erdogan, 2003; Olkkonen & Lipponen, 2006; Roch & Shanock, 2006; Tekleab, Takeuchi, & Taylor, 2005; Wayne, Shore, Bommer, & Tetrick, 2002), yet the constructs—distributive justice, procedural justice, and interactional justice—are conceptually distinct. The majority of researchers have chosen to explore the construct of organizational justice by examining one, two, or all three of these dimensions (Cohen-Charash & Spector, 2001).

Some recent research has suggested that interactional justice should be further dichotomized into *informational* (perceived fairness of the social accounts, justifications, and explanations provided, when management makes an allocation decision) and *interpersonal* (perceived fairness of interpersonal treatment, such as respect and dignity) justice (Cohen-Charash & Spector, 2001). In fact, Colquitt (2001) found support using factor analysis for the existence of four distinct dimensions of organizational justice. However, it is important to note there is some controversy regarding the four-factor model (Cropanzano et al., 2001), as evidenced by a staunch defense of the three-factor model (Bies, 2001) and support for a three-factor structure from various meta-analytic studies (Bartle & Hays, 1999; Cohen-Charash & Spector, 2001). As a result, the three-factor model “may be the most widely used approach to organizational justice” (Cropanzano et al., 2001, p. 7).

All of the organizational justice dimensions identified in prior research have some empirical support and will likely be examined further in future research. Because research on distributive and procedural justice emerged first, the majority of research on organizational justice, like the current study, has focused on these constructs. The present study was concerned with the outcomes of financial resource allocation in the U.S. Olympic Movement, so examining distributive justice was appropriate. However, the researchers were also interested in controlling for the recent change in allocation procedures within the study population. Therefore, the perceptions of procedural justice were considered as well. Interactional justice (or the components of informational and interpersonal justice if one subscribes to the four-factor model described previously) was not considered in the current study. While this is a possibility for future research, the current study sought to (a) understand the impact of the two most commonly examined dimensions of organizational justice and (b) extend the literature on organizational justice in sport by examining a different context.

## Distributive Justice

Distributive justice relates to the perceived fairness of outcomes, such as pay selection, promotion decisions, and the relation of these justice perceptions to dependent variables, such as quality and quantity of work (Cohen-Charash & Spector, 2001). Distributive justice was originally based on Adams’ “Theory of Inequity” (1965), which suggested the means to distribute resources in an organization should be based on the ratio of one’s contributions to that organization (Colquitt, Conlon, Wesson, Porter, & Ng, 2001). While Adams’ original theory only considered the equity principle as a means to determine fairness, two other principles, equality and need, have been identified as ways to distribute resources fairly (Deutsch, 1975; Homans, 1961).

The three principles of distributive justice can be further defined through a number of subprinciples. Equity is the notion that each member or each group that has contributed the most to the organization should receive the greatest distribution and allocation of resources among other groups. The principle of equity or contribution can be implemented by examining (a) productivity (Tornborn & Johnson, 1985), (b) effort (Tornborn & Johnson, 1985), (c) ability (Tornborn & Johnson, 1985), (d) revenue generation (Hums & Chelladurai, 1994a), or (e) spectator appeal (Hums & Chelladurai, 1994a). Equality refers to the idea that each individual or each group should be treated equally when distributing resources. The subprinciples include equality of results (an equal distribution over the long term), equality of opportunities (an equal chance to receive resources), and equality of treatment (all distributions are equal in a given situation; Tornborn & Johnson, 1985). The need principle supports the rationale that an individual or group that lacks necessary resources needs to receive more of the share of additional resources than others (Hums & Chelladurai, 1994a). Mahony et al. (2005) identified the subprinciples of need: need due to lack of resources, need due to high costs, and need to be competitively successful. These new subprinciples were tested empirically by Patrick, Mahony, and Petrosko (2008). It is important to note that need tends to be more subjective than equality. For example, determining how much a team “needs” to be competitively successful could easily be debated.

## Distributive Justice Research in Sport

Research on distributive justice in sport has applied this construct in the unique setting of sport, primarily in the areas of intercollegiate and interscholastic athletics (Hums & Chelladurai, 1994b; Jordan, Turner, & DuBord, 2007; Kim, Andrew, Mahony, & Hums, 2008; Mahony et al., 2002, 2005; Mahony & Pastore, 1998; Mahony, Riemer, Breeding, & Hums, 2006; Patrick et al., 2008). The literature related to the distribution of resources in college athletics indicates the distribution principles of equality and need are perceived as the most fair by intercollegiate athletic administrators (Mahony et al., 2002; Patrick et al., 2008), but actual distributions appear to favor the equity principle (Mahony & Pastore, 1998). In addition, prior research has found differences based on gender, with women more likely to perceive equality as fair and men more likely to perceive distributions based on equity as fair (Hums & Chelladurai, 1994b; Mahony et al., 2006; Patrick et al., 2008).

The inconsistency between fairness perceptions and actual distributions may be related to the diverse goals of college athletics, as well as the subjective nature of the need principle (Mahony et al., 2002, 2005). For example, more resources may be given to a sport which generates more revenue (equity) because the decision maker believes that sport needs more resources to be competitively successful. While athletic directors’ method to distribute resources may appear to outsiders to be based on an equity principle, in their minds the athletic directors are making distributions based on need.

## Purpose of the Study

Because no prior research has examined resource allocation in Olympic sport, the current study sought to contribute to the expanding literature on resource distributions in the sport industry by focusing on a context other than intercollegiate athletics. At the same time, the current study extends the literature by controlling for procedural justice. It was anticipated that fairness perceptions of resource allocation decisions in intercollegiate athletics would differ from Olympic sport because these industry segments have different structures and emphases. For example, intercollegiate athletics involves several different sports within the same organization competing against each other for shared resources. In addition, one sport may generate resources used to fund other sports. In the Olympic setting, each NGB is a separate organization seeking resources from the USOC, and some NGBs are capable of generating significant resources on their own, which they do not share with other sports. Therefore, the primary research questions posed in the study were: (a) what do those involved with directing Olympic sports perceive as fair when financial resources are distributed within Olympic sport programs? and (b) what allocation principle is most likely to be used when financial resources are distributed within Olympic sport programs?

## Method

### Participants

Participants included executive directors and presidents from each of the 39 NGBs governed by the USOC. Executive directors were chosen because they are the paid day-to-day professional sport managers. While presidents are less in touch with day-to-day NGB operations, they play a key leadership role and their perceptions are important. Moreover, because they are frequently located away from their NGBs, they may have different impressions as to how their organizations operate than the executive directors. Because there are only 39 NGBs, the population for the study was small, so the decision was made to include the entire population in the study. The USOC revoked recognition of two NGBs, modern pentathlon and team handball, and currently manages the affairs of those sports using USOC staff.<sup>1</sup> In addition, two NGBs did not have presidents at the time of survey, creating a final survey population of  $N = 72$ .

### Instrumentation

**Operationalization of the Independent Variables.** Based on a review of literature using National Governing Bodies and National Sports Organizations as context (e.g., Berrett & Slack, 2001; Chelladurai & Haggerty, 1991; Frisby, 1986; Olberding, 2005; Papadimitriou & Taylor, 2002; Vail, 1986), the independent variables examined in this study were organizational size, participant position, and competitive success. Although research on fairness perceptions in sport has not examined organizational size, research on NGBs frequently employed size as a variable to

analyze NGBs. Organizational size was operationalized based on membership base and budget (Berrett & Slack, 2001) and organizational resources (Olberding, 2005). Budget size was collected using an item asking participants for the amount of their NGB's budget and then was converted to a categorical variable determined by a median split of responses (\$4 million or less = small budget; over \$4 million = large budget). Membership size was collected using an item asking participants for their NGB's current total membership and then was converted to a categorical variable determined by a median split of responses (equal to or less than 28,500 members = small membership; greater than 28,500 members = large membership).

Previous research on distributive justice in intercollegiate athletics by Mahony and his colleagues (2002, 2005) examined differences between responses of paid staff (athletic director) and volunteer staff (athletic board chair). A similar structure exists with NGBs with a full-time paid executive director and a voluntary president. Participant position was nominally scaled and defined as paid (executive director) or volunteer (president).

Chelladurai, Szyszlo, and Haggerty (1987) singled out the conflict between pursuit of excellence and promotion of recreational support as evidence of the complex nature of NGBs in the Canadian context. The USOC has stated its resource allocation focus is on winning Olympic medals (Janofsky, 1989), therefore competitive success was nominally scaled and defined as one or more medals won during the most recent Olympic Games (Athens 2004 or Torino 2006) or no medals won. It may have been preferable to determine competitive success by examining the number of medals won by each NGB as a percentage of the total number of medals possible in their sport. However, Institutional Review Board concerns regarding the anonymity of participants prevented the study from defining competitive success in this manner.

**Scenarios.** After responding to the demographic items, respondents read three scenarios and responded to a series of questions for each. Distributive justice scenarios were formed based on scenarios used in Hums and Chelladurai (1994a, 1994b), Mahony et al., (2002, 2006), and Patrick et al., (2008). Scenario 1 read "The U.S. Olympic Committee has received a multi-million dollar donation from a private source stipulating that the money be allocated to improving our Olympic teams. Please rate the fairness of the following distribution methods." Scenario 2 read, "The U.S. Olympic Committee has a large amount of travel value-in-kind (VIK) to distribute to National Governing Bodies. Please rate the fairness of the following distribution methods." Scenario 3 read, "The U.S. Olympic Committee is producing a prime-time television show highlighting Olympic sports. Please rate the fairness of the following methods for determining which National Governing Bodies are featured on the program and, thus, receive promotional time on television."

**Operationalization of the Dependent Variables.** After reading each scenario, participants rated the perceived fairness of seven distribution principles on a 7-point Likert-type scale (1 = *very unfair* and 7 = *very fair*) and were asked to identify which single distribution method they considered the most fair and which method they felt was most likely to be used. This approach is similar to those used in prior studies (e.g., Mahony et al., 2002; Patrick et al., 2008). In addition, the items assessing these seven principles were incorporated in prior studies of orga-



nizational justice in athletics (Hums & Chelladurai, 1994a; Mahony et al., 2002, 2006; Patrick et al., 2008). There were two items for the principle of equality, two items for the principle of equity, and three items for the principle of need.

The two methods which measured the principle of equality were: (a) *Equality of Treatment* and (b) *Equality of Results*. Equality of opportunity (Hums & Chelladurai, 1994b; Mahony et al., 2002) was used in previous studies but was largely rejected and not appropriate for this study. The two methods which measured the principle of equity were: (a) *Equity Based on Olympic Medal Won*, a function of productivity; and (b) *Equity Based on Membership Size*, a function of spectator appeal, as it was assumed NGBs with larger memberships would have a larger audience of potential spectators since members were presumed to be fans. Equity based on revenue production was found to be statistically significant in many studies of distributive justice in athletics (Mahony et al., 2002; Mahony & Pastore, 1998). However, each NGB is a separate organization which must be financially independent, unlike sports in an intercollegiate athletic department where revenue produced by one sport can help fund other sports. Therefore, equity based on revenue production was not considered in this study even though it was statistically significant in other studies. Equity based on ability and effort were not considered for the study as it was assumed that all Olympic athletes would be very high on ability and effort and none of these principles were rated highly in prior research on sport (e.g., Hums & Chelladurai, 1994b; Mahony et al., 2002). The three methods which measured the principle of need were: (a) *Need Due to Lack of Resources*, (b) *Need Due to High Operating Costs*, and (c) *Need to be Competitively Successful*. Because wide disparity is present among NGBs in terms of existing resources, operational expenses, and international success, all three principles of need were believed to be appropriate for the study.

Welbourne, Balkin, and Gomez-Mejia's (1995) Procedural and Distributive Fairness of Gainsharing scale was modified and used to assess the perceived fairness of the process of financial resource allocation from the U.S. Olympic Committee to NGBs. Only the seven items measuring procedural justice based on rules and administration in Welbourne et al.'s scale were used. Cronbach's alpha for the items included ranged from .71 to .90 (Welbourne et al., 1995). Items in this scale were scored on a 5-point Likert-type agreement scale with 1 signifying "*strongly disagree*" and 5 signifying "*strongly agree*." This scale was deemed appropriate for the study because of its emphasis on rules and administrative procedures, which is effectively what the USOC has altered in its new resource allocation plan. Minor modifications were made to the wordings of the items to ensure the scale was in the appropriate context for the current study. For example, "gainsharing plans" was replaced with "financial resource allocation plan," "the company" was replaced with "U.S. Olympic Committee," and "employees" was replaced with "National Governing Bodies."

## Validity

Content validity for the instrument was established through a panel of experts who reviewed the scenarios before the administration of the survey. The instrument was presented to two upper-level NGB managers who were not part of the study sample and four academics who published research on distributive justice in

sport. The panel's comments were reviewed and suggested changes were incorporated into the final version of the instrument.

## Field Test

A field test was used to confirm the viability of the methodological procedure. Five middle-level managers from an NGB completed the instrument to ensure its readability. Feedback from the participants was relatively cosmetic, and the resulting changes were incorporated into the final version of the instrument.

## Data Collection Procedures

A modified version of the methods proposed by Dillman (2000) was employed in the administration of the survey. Participants were sent a prenotification e-mail two days before the distribution of the survey. Any incorrect e-mail addresses were corrected through phone calls to NGBs. Reminder e-mails were sent to individuals who had not completed the survey one week after the initial emailed survey. A final reminder e-mail was sent two weeks after the initial survey mailing to individuals who had not completed the survey. The surveys were conducted in an online format using a third-party company (<http://www.formsite.com>) to maximize response rate through subject convenience and secure response confidentiality.

## Data Analysis

Descriptive statistics (i.e., frequencies, means, and standard deviations) were calculated for each demographic variable. Multivariate analysis of covariance (MANCOVA) was the primary statistical technique used to analyze the data. MANCOVA is an extension of analysis of variance (ANOVA) and is used in studies with more than one dependent variable and one or more covariates (Vogt, 2005). The researcher uses the covariate to remove from the dependent variable the variance predicted by the covariate. Given that (1) the global null hypothesis was not being examined, (2) the sample size represented greater than 50% of the population and nonparametric tests confirmed the sample was representative of the overall population, and (3) the researchers wanted to reduce the potential for Type II error, a Bonferroni correction for multiple tests was not necessary, which coincides with the recommendations of Perneger (1998). In cases where significant results were observed, post hoc procedures in the form of pairwise comparisons were carried out to compare cell means.

The present study was concerned with perceptions of fairness of financial resource allocation from the USOC to member NGBs. Since most NGBs are responsible for developing programs for both genders, allocation from the USOC to an NGB should be gender blind. Because gender has been found to be a statistically significant antecedent in many studies involving organizational justice (Hums & Chelladurai, 1994b; Mahony et al., 2006; Patrick et al., 2008; Sweeney & McFarlin, 1997), it was treated as a covariate in the analysis.

Since the USOC recently altered its process for distributing resources, it was believed that change may influence participant responses.<sup>2</sup> Several NGB adminis-



trators initially spoke out in opposition to the new process in 2005, including the executive director of USA Swimming, one of the largest NGBs in terms of membership and budget, who stated, “The NGBs wanted the USOC to know they felt the best way to support athletes was to support the system that supports the athletes and that system is the NGBs” (Borzilleri, 2005c, paragraph 10). The procedural justice literature suggests the process or procedures used to achieve a decision, regardless of whether the outcome is favorable or not, can impact an individual’s perceptions of fairness (Greenberg, 1987a; 1990). Therefore, collecting procedural justice data and using it as a control variable was the best way to eliminate this potential impact.

## Results

Thirty-seven participants responded to the survey, yielding a response rate of 51.4%. While the overall sample size was small at 37, it represented more than half of the population. Nonparametric analyses of the survey respondents to the population were employed to determine if the final sample was representative of the population. Separate chi square analyses were performed on each of the four independent variables. The findings indicated no significant difference between the study participants and the population for budget size ( $X^2 = 0.471$ ,  $df = 1$ ,  $p = .493$ ), membership size ( $X^2 = 0.000$ ,  $df = 1$ ,  $p = 1.000$ ), and competitive success ( $X^2 = 0.000$ ,  $df = 1$ ,  $p = 1.000$ ). The final analysis showed a slight difference between the study participants for position ( $X^2 = 6.924$ ,  $df = 1$ ,  $p = .009$ ). Taken together, the final sample appears to be representative of the population.

### Demographics

Survey respondents were grouped by their NGB’s annual budget, their NGB’s membership, their administrative position, and whether the NGB won a medal at the most recent Olympic Games. Median splits were used for budget and membership. Three respondents did not indicate budget or membership sizes, and their responses were excluded from the analyses of those two variables (Table 1).

### MANCOVA Results

MANCOVAs were performed for each of the independent variables of budget size, membership size, position, and competitive success in each of the three distribution scenarios, for a total of 12 MANCOVAs. Five of the 12 MANCOVAs

**Table 1** Number of Survey Respondents by Cell

Variable	Group 1	Group 2
Budget	Small ( $n = 19$ )	Large ( $n = 15$ )
Membership	Small ( $n = 17$ )	Large ( $n = 17$ )
Position	Paid ( $n = 27$ )	Volunteer ( $n = 10$ )
Olympic medal won	Yes ( $n = 28$ )	No ( $n = 9$ )

were statistically significant at the .05 level, two in Scenario 1 (for budget size and membership size), two in Scenario 2 (for budget size and membership size), and one in Scenario 3 (for competitive success).

## Results for Scenario 1

**Main Analysis for Scenario 1—Budget Size.** Scenario 1 depicted a large private donation from an anonymous source. Box's test for equality of covariance matrices revealed no differences in variability between the groups,  $F(28, 2689) = 1.34$ ,  $p = .107$  for budget size. The overall MANCOVA for budget size was statistically significant, Wilks's  $\Lambda = .490$ , exact  $F(7, 21) = 1.68$ ,  $p = .020$ . Tests on the individual dependent variables indicated significant differences for *need due to lack of resources* and *need to be competitively successful* only. Table 2 summarizes the overall MANCOVA for budget size and each distribution principle in Scenario 1.

**Follow-Up Tests for Scenario 1—Budget Size.** Estimated marginal mean comparisons were used to analyze the between-subjects effects for small budget and large budget groups and each distribution principle. For *need due to lack of resources*, the mean fairness rating of the small budget group ( $M = 4.55$ ) significantly exceeded the mean fairness rating of the large budget group ( $M = 3.05$ ),  $F(1,27) = 5.24$ ,  $p = .030$ . For *need to be competitively successful*, the main fairness rating of the small budget group ( $M = 6.37$ ) significantly exceeded the mean fairness rating of the large budget group ( $M = 4.07$ ),  $F(1,27) = 25.06$ ,  $p < .001$ . Partial eta square statistics were .162 for *need due to lack of resources* and .481 for *need to be competitively successful*, indicating that budget size had large effect sizes on those two dependent variables (Stevens, 2002).

**Main Analysis for Scenario 1—Membership Size.** Box's test for equality of covariance matrices revealed no differences in variability between the groups,  $F(28, 2902) = 1.10$ ,  $p = .324$  for membership size. The overall MANCOVA for membership size was statistically significant, Wilks's  $\Lambda = .541$ , exact  $F(7,21) = 2.55$ ,  $p = .046$ . Tests on the individual dependent variables indicated significant differences for *need to be competitively successful* only. Table 3 summarizes the overall MANCOVA for membership size and each distribution principle.

**Follow-Up Tests for Scenario 1—Membership Size.** Estimated marginal mean comparisons were used to analyze the between-subjects effects for small membership and large membership groups and each distribution principle. For *need to be competitively successful*, the main fairness rating of the small membership group ( $M = 6.17$ ) significantly exceeded the mean fairness rating of the large membership group ( $M = 4.42$ ),  $F(1,27) = 9.72$ ,  $p = .004$ . The partial eta square statistic was .265 for *need to be competitively successful*, indicating that membership size had a large effect size on that distribution principle (Stevens, 2002).

## Results for Scenario 2

**Main Analysis for Scenario 2—Budget Size.** Scenario 2 depicted unused travel value-in-kind to be allocated to NGBs. Box's test for equality of covariance matrices revealed no differences in variability between the groups,  $F(28, 2689) = 1.46$ ,

**Table 2 Multivariate Analysis of Covariance Table for Scenario 1—Budget Size**

Source	MS	MSE	F	p	$\eta^2$	1— $\beta$
	Between subjects					
Equality of treatment	1.68	4.90	.34	.563	.013	.087
Equality of results	8.42	2.67	3.15	.087	.105	.402
Equity of medals won	4.45	3.63	1.22	.278	.043	.187
Equity of membership size	2.51	1.66	1.51	.230	.053	.220
Need due to lack of resources	16.46	3.15	5.24	.030	.162	.597
Need due to high operating costs	3.83	2.69	1.42	.244	.050	.210
Need to be competitively successful	38.39	1.53	25.06	.000	.481	.998

*Note.* Each variable has  $df = 1$ . Error  $df = 27$  for all variables.

**Table 3 Multivariate Analysis of Covariance Table for Scenario 1—Membership Size**

Source	MS	MSE	F	p	$\eta^2$	1— $\beta$
	Between subjects					
Equality of treatment	9.29	4.61	2.01	.168	.069	.277
Equality of results	0.00	2.98	0.00	.988	.000	.050
Equity of medals won	5.88	3.58	1.64	.211	.057	.235
Equity of membership size	2.27	1.67	1.36	.254	.048	.203
Need due to lack of resources	12.69	3.28	3.86	.060	.125	.474
Need due to high operating costs	2.27	2.75	0.83	.371	.030	.142
Need to be competitively successful	21.11	2.17	9.72	.004	.265	.852

*Note.* Each variable has  $df = 1$ . Error  $df = 27$  for all variables.

$p = .058$  for Budget. The overall MANCOVA for budget size was statistically significant, Wilks's  $\Lambda = .438$ , exact  $F(7,21) = 3.86$ ,  $p = .008$ . Tests on the individual dependent variables indicated significant differences for *equity of membership size* and *need to be competitively successful*. Table 4 summarizes the overall MANCOVA for budget size and each distribution principle in Scenario 2.

**Follow-Up Tests for Scenario 2—Budget Size.** Estimated marginal mean comparisons were used to analyze the between-subjects effects for small budget and large budget groups and each distribution principle. For *equity of membership size*, the mean fairness rating of the large budget group ( $M = 2.92$ ) significantly exceeded the mean fairness rating of the small budget group ( $M = 1.83$ ),  $F(1,27) = 6.20$ ,  $p = .019$ . For *need to be competitively successful*, the main fairness rating of the small budget group ( $M = 6.08$ ) significantly exceeded the mean fairness rating of the large budget group ( $M = 3.97$ ),  $F(1,27) = 17.12$ ,  $p < .001$ . Partial eta square statistics were .187 for *equity of membership size* and .388 for *need to be competitively successful*, indicating that budget size had large effect sizes on those two distribution principles (Stevens, 2002).

**Main Analysis for Scenario 2—Membership Size.** Box's test for equality of covariance matrices revealed no differences in variability between the groups,  $F(28, 2902) = 1.13$ ,  $p = .289$  for membership size. The overall MANCOVA for membership size was statistically significant, Wilks's  $\Lambda = .500$ , exact  $F(7, 21) = 3.01$ ,  $p = .024$ . Tests on the individual dependent variables indicated significant differences for *need due to lack of resources* and *need due to be competitively successful* only. Table 5 summarizes the overall MANCOVA for membership size and each distribution principle in Scenario 2.

**Follow-Up Tests for Scenario 2—Membership Size.** Estimated marginal mean comparisons were used to analyze the between-subjects effects for small membership and large membership groups and each distribution principle in Scenario 2. For *need due to lack of resources*, the main fairness rating of the small membership group ( $M = 4.75$ ) significantly exceeded the mean fairness rating of the large membership group ( $M = 3.14$ ),  $F(1,27) = 5.88$ ,  $p = .022$ . For *need to be competitively successful*, the main fairness rating of the small membership group ( $M = 5.92$ ) significantly exceeded the mean fairness rating of the large membership group ( $M = 4.29$ ),  $F(1,27) = 7.41$ ,  $p = .011$ . Partial eta square statistics were .170 for *need due to lack of resources* and .215 for *need to be competitively successful*, indicating that membership size had a large effect size on these distribution principles (Stevens, 2002).

### Results for Scenario 3

**Main Analysis for Scenario 3—Competitive Success.** Scenario 3 depicted free promotion of NGBs through a USOC-produced television show. The overall MANCOVA for Scenario 3 was statistically significant for competitive success, Wilks's  $\Lambda = .438$ , exact  $F(7, 21) = 2.98$ ,  $p = .023$ . However, Box's test for equality of covariance matrices was also significant,  $F(28, 842) = 1.81$ ,  $p = .007$ , indicating a violation of the assumption of the equality of covariance matrices. Stevens (2002) suggests studying variance differences in groups when a Box's test is significant:

**Table 4 Multivariate Analysis of Covariance Table for Scenario 2—Budget Size**

Source	MS	MSE	F	p	$\eta^2$	1- $\beta$
	Between subjects					
Equality of treatment	1.00	5.10	0.20	.661	.007	.071
Equality of results	1.88	2.49	0.76	.392	.027	.134
Equity of medals won	1.05	3.59	0.30	.594	.011	.082
Equity of membership size	8.82	1.42	6.20	.019	.187	.670
Need due to lack of resources	6.35	3.42	1.86	.184	.064	.260
Need due to high operating costs	9.46	2.88	3.29	.081	.109	.416
Need to be competitively successful	32.59	1.90	17.12	.000	.388	.979

*Note.* Each variable has  $df = 1$ . Error  $df = 27$  for all variables.



**Table 5 Multivariate Analysis of Covariance Table for Scenario 2—Membership Size**

Source	MS	MSE	F	p	$\eta^2$	1- $\beta$
	Between subjects					
Equality of treatment	5.91	4.91	1.20	.282	.043	.185
Equality of results	0.43	2.54	0.17	.683	.006	.068
Equity of medals won	5.22	3.44	1.52	.229	.053	.221
Equity of membership size	3.00	1.64	1.83	.187	.064	.257
Need due to lack of resources	17.65	3.00	5.88	.022	.179	.647
Need due to high operating costs	4.89	3.05	1.61	.216	.056	.231
Need to be competitively successful	18.08	2.44	7.41	.011	.215	.746

*Note.* Each variable has df = 1. Error df = 27 for all variables.

If the Box test had been significant and the larger generalized variance was with the larger group size, then the multivariate statistics would be conservative. In that case, we would not be concerned, for we would have found significance at an even more stringent level had the assumption been satisfied (Stevens, 2002, p. 274).

Examination of the generalized variances in the competitive success group revealed four cases of the larger generalized variance residing with the larger group size: *equality of treatment*, *equity based on medals won*, *equity of membership size*, and *need to be competitively successful*. The remaining three cases were disregarded from further analysis as the risk of Type I statistical error would increase and statistical power would decrease (Stevens, 2002). Tests on the four individual dependent variables which satisfied Stevens' (2002) suggestions revealed significant differences for *equality of treatment* and *equity of membership size* only. Table 6 summarizes the overall MANCOVA for competitive success and each distribution principle in Scenario 3.

**Follow-Up Tests for Scenario 3—Olympic Medal Won.** Estimated marginal mean comparisons were used to analyze the between-subjects effects for small membership and large membership groups and each distribution principle in Scenario 3. For *equality of treatment*, the main fairness rating of the no Olympic medal won group ( $M = 5.48$ ) significantly exceeded the mean fairness rating of the Olympic medal won group ( $M = 3.81$ ),  $F(1,28) = 5.20$ ,  $p = .030$ . For *equity of membership size*, the main fairness rating of the Olympic medal won group ( $M = 3.69$ ) significantly exceeded the mean fairness rating of the no Olympic medal won group ( $M = 1.91$ ),  $F(1,28) = 7.51$ ,  $p = .011$ . Partial eta square statistics were .157 for *equality of treatment* and .211 for *equity of membership size*, indicating that competitive success had a large effect size on those distribution principles (Stevens, 2002).

### Most Fair Principle and Most Likely to Be Used Principle

Since survey participants could have rated two distribution principles the same, modal frequency comparisons were used to determine which of the seven distribution principles NGB administrators believed were the most fair and which would be most likely to be used in each scenario. In each of the scenarios, the result was the same. NGB administrators believed *need to be competitively successful* was the most fair distribution principle; *equality of treatment* was the second most cited. *Equity based on medals won* was identified as the distribution principle most likely to be used in each scenario, with *need to be competitively successful* the second most frequently cited. A summary of principles believed to be most fair and most likely to be used is provided in Table 7.

**Table 6 Multivariate Analysis of Covariance Table for Scenario 3—Competitive Success**

Source	MS	MSE	F	p	$\eta^2$	$1-\beta$
	Between subjects					
Equality of treatment	16.36	3.15	5.20	.030	.157	.595
Equity of medals won	6.90	2.44	2.83	.104	.092	.368
Equity of membership size	18.74	2.50	7.51	.011	.211	.753
Need to be competitively successful	2.99	3.60	0.83	.370	.029	.142

*Note.* Each variable has  $df = 1$ . Error  $df = 28$  for all variables.

**Table 7 Summary of Most Fair and Most Likely to be Used Distribution Principles by Group**

<b>Group</b>	<b>1-Private Donation</b>	<b>2-Value-in-Kind</b>	<b>3-Television Program</b>
Small budget (N = 19)	Most Fair—Need to be Competitively Successful (n = 11)	Most Fair—Need to be Competitively Successful (n = 10)	Most Fair—Need to be Competitively Successful (n = 8)
	Most Used—Equity Based on Medals Won (n = 12)	Most Used—Equity Based on Medals Won (n = 10)	Most Used—Equity Based on Medals Won (n = 8)
Large budget (N = 14)	Most Fair—Need to be Competitively Successful (n = 6)	Most Fair—Need to be Competitively Successful (n = 5)	Most Fair—Equity Based on Medals Won (n = 6)
	Most Used—Equity Based on Medals Won (n = 7)	Most Used—Equity Based on Medals Won (n = 6)	Most Used—Equity Based on Medals Won (n = 9)
Small membership (N = 18)	Most Fair—Need to be Competitively Successful (n = 11)	Most Fair—Need to be Competitively Successful (n = 9)	Most Fair—Need to be Competitively Successful (n = 8)
	Most Used—Equity Based on Medals Won (n = 11)	Most Used—Equity Based on Medals Won (n = 8)	Most Used—Equity Based on Medals Won (n = 8)
Large membership (N = 15)	Most Fair—Need to be Competitively Successful (n = 6)	Most Fair—Need to be Competitively Successful (n = 6)	Most Fair—Equity Based on Medals Won (n = 7)
	Most Used—Equity Based on Medals Won (n = 8)	Most Used—Equity Based on Medals Won (n = 8)	Most Used—Equity Based on Medals Won (n = 9)
Paid (N = 26)	Most Fair—Need to be Competitively Successful (n = 17)	Most Fair—Need to be Competitively Successful (n = 12)	Most Fair—Need to be Competitively Successful (n = 10)
	Most Used—Equity Based on Medals Won (n = 12)	Most Used—Equity Based on Medals Won (n = 10)	Most Used—Equity Based on Medals Won (n = 14)
Volunteer (N = 10)	Most Fair—Equity Based on Medals Won (n = 4)	Most Fair—Need to be Competitively Successful (n = 5)	Most Fair—Equality of Treatment (n = 4)
	Most Used—Equity Based on Medals Won (n = 9)	Most Used—Equity Based on Medals Won (n = 7)	Most Used—Equity Based on Medals Won (n = 5)

(continued)

**Table 7 (continued)**

<b>Group</b>	<b>1-Private Donation</b>	<b>2-Value-in-Kind</b>	<b>3-Television Program</b>
Medal won (N = 28)	Most Fair—Need to be Competitively Successful (n = 12) Most Used—Equity Based on Medals Won (n = 16)	Most Fair—Need to be Competitively Successful (n = 12) Most Used—Equity Based on Medals Won (n = 13)	Most Fair—Need to be Competitively Successful (n = 11) Most Used—Equity Based on Medals Won (n = 14)
No medal won (N = 9)	Most Fair—Need to be Competitively Successful (n = 7) Most Used—Equity Based on Medals Won (n = 5)	Most Fair—Need to be Competitively Successful (n = 5) Most Used—Equity Based on Medals Won (n = 4) and Need to be Competitively Successful (n = 4)	Most Fair—Equality of Treatment (n = 5) Most Used—Equity Based on Medals Won (n = 5)

## Discussion

The purpose of this study was to measure NGB paid and volunteer administrators' perceptions of fairness of resource allocations within the U.S. Olympic Movement. Five of the 12 main MANCOVAs analyses found statistically significant differences at the .05 level.

### Main Findings and Implications

The present study yielded several main findings: (a) NGB administrators believed *need to be competitively successful* was the most fair distribution principle, while *equity based on medals won* was most likely to be used; (b) NGBs administrators with smaller budgets and smaller memberships tended to prefer *need*-based distribution more than administrators from larger NGBs; (c) NGB administrators from NGBs which were competitively successful at the Olympic Games generally had the same perceptions as those which were not successful, but did differ when the scenario involved television programming; (d) no significant differences in fairness perceptions existed between paid and volunteer NGB administrators; and (e) NGB administrators believed the USOC is likely to reward Olympic success.

**Greater Need to be Competitively Successful for NGBs.** Since the Olympic Games in which the NGBs compete occur once every four years, it is natural to assume NGBs would be pressured to succeed when given the opportunity. The overwhelming belief that *equity based on medals won* would be used to distribute resources and the preference for *need to be competitively successful* likely underscores NGB administrators' recognition of this pressure. If NGB administrators believe Olympic success has the greatest impact on resource distribution, one would expect them to believe it is fair for their NGBs to receive the resources necessary to be competitively successful. However, the results also suggested at least some NGB administrators do not believe they receive sufficient funding to be competitively successful and that, instead, the rich get richer (i.e., those who win medals get more resources which helps them to continue to win more medals). Future research should examine the possible implications of this result. For example, this pressure to be competitively successful may have unintended consequences on various organizational behavior outcomes. This will be discussed in more detail in the *Future Research* section.

**Smaller NGBs Prefer Need-Based Distribution.** As mentioned above, *need to be competitively successful* was particularly popular among smaller NGBs (i.e., smaller budgets and smaller membership). As Mahony et al. (2005) discussed, the definition of *need* is highly subjective. Smaller NGBs may believe they are at a competitive disadvantage when compared with larger NGBs in acquiring resources; therefore, they have greater *need*. Larger NGBs with more members paying membership fees are logically more marketable to potential sponsors than smaller NGBs.

**Differences Between Medal-Winning and Non-Medal-Winning NGBs.** It would be reasonable to assume that administrators from NGBs that have been successful in the Olympic Games would have different perceptions of what they



feel is fair regarding resource allocation when compared with those who had not been successful. However, the only significant difference between these was in the scenario of television programming. The implication of this finding is twofold. First, the preference by unsuccessful NGBs for *equality of treatment* in this scenario indicates nonmedal winning NGBs fear being excluded from television in favor of medal winning NGBs. It would not be surprising if the USOC would feature successful sports in television programs since it is likely there would be more public interest in the successful sports. Therefore, those NGBs that did not win medals may be justified in their concern over exclusion. Second, the preference by successful NGBs for *equity based on membership size* suggests some correlation may exist between membership size and competitive success. However, this generalization was not always supported by the data, so there may be other explanations as well. In general, the results of the current study suggested that, should the USOC proceed with its plans for an Olympic television network (Barron, 2006), attention should be paid to the impact of programming decisions on perceptions of fairness.

**No Differences Between Paid and Volunteer Administrators.** The fourth main finding, no significant differences existed between paid and volunteer NGB administrators, is not surprising. Volunteer NGB presidents do not manage the day-to-day operations of the NGB and are often located away from the NGB headquarters. Their understanding of the financial situation of the NGB may reflect what they are told by the NGB's paid executive director. Mahony et al. (2002) studied differences between paid athletic directors and voluntary athletic board chairs at NCAA Division I and III institutions and found no significant difference between those groups. The results of this study seem to parallel their findings. Moreover, the implication that volunteer heads of organizational boards of directors may be largely figureheads for the organization was consistent with the literature on the role of nonprofit sport organizational boards of directors (Inglis, 1997; Shilbury, 2001).

**Possible Conflict With Ted Stevens Olympic and Amateur Sports Act.** The study's final major finding was the potential contradiction between what the Ted Stevens Olympic and Amateur Sports Act outlines as among the responsibilities for the USOC and the USOC's current practices. Nafziger (1982, p. 117) noted Congress assigned 14 "objects and purposes" to the USOC when it initially crafted the Amateur Sports Act in 1978. Among the responsibilities of the USOC in the Act is to promote and encourage physical fitness and public participation and develop amateur athletic activities (Ted Stevens Olympic and Amateur Sports Act, 1998). Because NGB administrators consistently believed the USOC would use *equity based on medals won* to distribute resources, it is logical to assume that physical fitness, participation, and developmental goals may be downplayed. While it is possible that the USOC is reflecting what the organization's stakeholders want—medal-winning athletes—one can easily see that the other goals are also important to larger society.

A larger concern for the USOC may be whether the Ted Stevens Olympic and Amateur Sports Act is still the best guiding organizational document in today's sporting climate. As Moorman, Dittmore, and Hums (2008) noted, several significant changes have occurred in the sporting landscape in the past 30-plus years,

including the Olympic Games no longer being restricted to “amateur” athletes, the dramatic increase in athletic events for women on the Olympic Program, the inclusion of the Paralympic Games within the jurisdiction of the USOC, and the rise of Olympic commercialism in the form of media rights and corporate sponsors.

Critics of the Act have questioned the utility of the document since its passage. Frey (1978) offered an analysis of the President’s Commission on Olympic Sports Report (the precursor to the Amateur Sports Act), criticizing the lack of recognition of the complex sport delivery system and overt emphasis on medal productivity. Drape (1995) authored an investigative and critical analysis of the USOC in the *Atlanta Journal-Constitution* before the 1996 Olympic Games in Atlanta. Among his observations pointed out that the USOC spent one-fifth of one percent of \$544 million in revenues from 1989 to 1995 on community development grants.

This finding, therefore, begs the question: What organization(s) presently encourage public participation and development in amateur athletic activities in the United States? And if it is not the USOC, should the Ted Stevens Olympic and Amateur Sports Act be rewritten to reflect the reality of today’s sporting environment? If the goals stated in the Amateur Sports Act (to promote and encourage physical fitness and public participation and develop amateur athletic activities) are still important, then assuring they are adequately resourced and receiving sufficient focus and attention is also important.

## Limitations

The current study has a few limitations. As Patrick (2004) noted, a prominent limitation in resource allocation studies involving a forced-response is that allocation decisions are frequently made on a case-by-case basis and depend on a number of factors, making their generalizability difficult. A second limitation was related to the exploratory nature of the study. Resource allocation in NGBs has not been previously studied. Additional subprinciples of distribution which would be more appropriate to the context of Olympic sport may have been perceived as more fair or likely to be used and should be considered for future studies. A third limitation of the current study relates to the operationalization of competitive success of NGBs based on Olympic medals won or not won. It is possible that an NGB such as curling could have won one medal out of two chances while an NGB such as swimming could have won one medal out of dozens of chances. Both NGBs would be categorized as having won an Olympic medal, however, swimming may not perceive its performance to be successful, while curling might. Concerns regarding the anonymity of participants prevented the study from more narrowly defining competitive success. At the same time, given the emphasis the USOC and the media place on overall medal counts among nations, each medal is significant, so there is an important distinction between NGBs that win medals and those that do not.

## Suggestions for Future Research

Further research on the Olympic Movement should compare the resource allocation systems employed in the United States to those used in other countries, examining the perspectives of elite and mass participation objectives from a sport policy standpoint. A study comparing financial resource allocation decisions may help the USOC modify its resource allocation procedure by illuminating areas in which the USOC could more effectively allocate additional resources to meet its goals.

As previously mentioned, past research has linked organizational justice perceptions with additional organizational behavior outcomes in sport (Jordan et al., 2007), and nonsport settings (e.g., Cohen-Charash & Spector, 2001; Colquitt et al., 2001). While not the focus of this study, the results of the current study provide the basis for future research examining those variables in the U.S. Olympic Movement. For example, inconsistencies between the principles identified as most fair and those most likely to be used have the potential to produce low levels of organizational commitment among NGB executive directors. Organizational commitment, the degree to which employees identify with the company and make the company's goals their own (Allen & Meyer, 1990), has been shown to have a relationship with organizational justice perceptions (Cohen-Charash & Spector, 2001; Folger & Konovsky, 1989; Greenberg, 1994; Lowe & Vodanovich, 1995; McFarlin & Sweeney, 1992; Sweeney & McFarlin, 1993). Although not a specific focus of the current study, the researchers found a turnover rate of 33% among NGB leaders each quadrennial cycle, meaning one in three NGB executives did not preside over that NGB during the previous Olympic Games. Further research could examine whether this potentially low level of organizational commitment may be caused by a variety of factors, one of which may be perceived levels of organizational justice.

Third, future research should examine resource allocation decisions within individual NGBs to their various programs, not just from the USOC to the NGB. A thorough examination of the resource allocation priorities of NGBs would help illuminate other aspects of organizational efficiency. Fourth, this study was grounded in distribution principles and subprinciples identified and examined in intercollegiate athletics. Similar to the work of Mahony et al. (2005), further research should seek to qualitatively identify the existence of any distribution subprinciples specific to the Olympic Movement.

Finally, the literature suggests an additional dimension of organizational justice (i.e., interactional) exists, and that this dimension may be a candidate for further dichotomization into dimensions of informational and interpersonal justice. Future studies on resource decisions within sport should consider the approaches organizations use to inform constituents of those decisions, which may impact the resulting perceptions of fairness. In addition, both the three- and four-factor models of organizational justice could be examined to determine which best fits when the distributions involve a larger organization distributing resources to several smaller organizations, as was the case in the current study.

## Notes

1. The USOC took control of Modern Pentathlon in 2005 after the federation went bankrupt. Organizational infighting and inadequate funding led the USOC to take control of Team Handball, a sport in which the U.S. has not taken part in the Olympic Games since 1996 (Borzilleri, 2006).
2. The USOC adopted a “venture capital” model for NGB funding which required NGBs to present specific plans detailing how they intend to use financial resources (Piore, 2004). Several NGBs expressed concern that the USOC would be telling them how to run their businesses. According to 2003 figures, the USOC provided anywhere from 4.5% to 70.8% of an NGB’s annual budget (Borzilleri, 2005a).

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