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ABSTRACT

Like other large organizations, universities often face the problem of distributing scarce resources among individuals. One such resource is university housing space. Students' reactions to a dormitory lottery in which each student had an equal chance of obtaining a rcom were studied. The lottery seemed fairest to students who shared the university's beliefs about the equitable distribution cf rooms and to those who actually won a room. The students varied widely in their beliefs about who should be given a dormitory room, and their beliefs played an important role in determining their reaction to the lottery. At the same time, however, most of the students seemed to share a single basic criterion for evaluating the lottery, namely, whether cr not they thought it would benefit them personally. (Author)

Students' Perceptions of Procedural Fairness in a Dormitory Lottery

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Like most other large organizations, universities are constantly faced with the problem of distributing scarce resources in both a fair and efficient manner. Salaries must be set and then paid to faculty and staff, space and equipment must be apportioned to departments, and a wide variety of social services must be made available to students. The distribution of these and other valuable commodities within the university must always be accomplished in ways that further the goals of the entire organization, without seriously alienating many of its constituent members. Clearly, this is not always an easy task.

Our research focused on how the students at our own university reacted to a change in the administration's policy regarding the distribution of rooms in the dormitories. Many universities across the country, including our own, face the increasingly difficult problem of finding dormitory space for their students. A number of different factors have contributed to this important problem. On the one hand, construction costs have risen so steeply that only a few universities have been able to build new dormitories. Some schools have been able to convert existing buildings into dormitories, but the costs of such remodeling can also be quite high, and it is often hard to find older buildings that are really suitable for conversion. The amount of dormitory space available at most universities is therefore somewhat limited, and unlikely to increase in the near future. On the other hand, the demand for dormitory space on the part of students has increased dramatically over the past few years. Off-campus housing has become more scarce, with the dismaying transformation of many apartment complexes into condominiums,

so that rents have grown higher and leases more restrictive. Also, many students seem disenchanted these days with life off-campus, perhaps because of all the indirect costs (e.g. crime, utility bills, cooking and cleaning hassles) associated with it. The result is that more and more students would like to live on campus, in a nice, safe dormitory room provided and maintained by the university. Sadly, there are just not enough of those rooms to go around.

Every university deals with the problem of distributing dormitory rooms to students in its own unique way. Until recently, our own school had followed the same simple procedure for many years. First, a specified number of rooms in the dormitories were set aside for "special" students, like those possessing athletic or other scholarships, foreigners, the physically handicapped, and freshmen. The remaining rooms were distributed to the rest of the student body on a first-come, first-served basis. Application forms, requiring personal information and a cash deposit, were sent out by mail to interested students at least a month before the beginning of the semester, and people who mailed their materials in earlier had a better chance of being assigned a room. This procedure worked fairly well, until the number of students applying for dormitory rooms grew so large that the system began to break down. Faced with increasing unrest among the students (as well as their parents), the administration decided in 1978 to abandon the old procedures for distributing dormitory rooms, and institute a lottery instead.

The purpose of the lottery was to make sure that every student who wanted a dormitory room had an equal chance of obtaining one. The new procedures created to attain this goal were relatively straightforward. As before, rooms meant for "special" students were set aside at the beginning. This left about 2000 spaces available for allocation through the lottery. Approximately 4000 numbered slips of paper were made up, each representing a position in the lottery queue. Those students interested in obtaining a dormitory room were given about a week to take part in the lottery by drawing (blindly and at random) one of the numbered slips.

Students drawing numbers between 1 a ere automatically assured of a room. The remaining participants in the lotte e denied dormitory rooms, unless one of the "winners" later cancelled out, in whi n case the room was offered to whatever person on the waiting list had the l west queue number.

From our point of view, the institu n of this new dormitory lottery at the university offered an interesting and timely opportunity to do applied research on perceptions of procedural fairness within a large organization. Relatively little work in this area has yet been done, especially in a university setting. Leventhal (1976,1980), however, has recently suggested an innovative theoretical approach to the problem. According to Leventhal (1980), organizations must try to distribute their available resources in ways that seem fair to their members, or else suffer from internal unrest. People in an organization evaluate the relative fairness of such policies by means of various distribution and procedure rules. Distribution rules involve personal beliefs about the kinds of criteria that entitle someone to receive something from the organization. Procedure rules involve personal beliefs about the kinds of organizational policies that would best match deserving persons (as defined by the distribution rules) with their just rewards. Every individual believes in a unique set of distribution and procedure rules, which can vary both with time and situation. By applying these rules to any particular organizational policy, organizational members can determine whether or not that policy is fair.

In designing a procedure to distribute dormitory rooms to students, several different distribution rules could be used. A needs rule, for example, could be invoked to make sure that students who have special need of a dormitory room are able to obtain one. An equity rule might assert that students who have special qualifications, or who are most deserving in some respect, should receive a room. An equality rule is also possible, in which every student is assumed to possess an equal right to a space in the dormitories. Many more such distribution rules can be imagined -- our own lottery clearly involved an ordered combination of a

needs and an equality rule. Given that combination of distribution rules, many different procedure rules could have been adopted by the university. Students might have been randomly assigned to dormitory rooms without participating in a lottery, for example, or they might have been required to purchase tickets that would later be chosen at random by some celebrity at a special lottery drawing. Of course, the procedure rule that the university actually utilized was to have each student randomly draw their own lottery number from a fishbowl, under the friendly but watchful eyes of a lottery official.

This kind of analysis led us to predict that the perceived fairness of the new dormitory lottery at our university would vary directly with the degree of similarity between the distribution and procedure rules of students, and those embodied in the lottery itself. Our research took the form of a survey, where students filled out questionnaires dealing with the new lottery both before and after it took place.

Method

Subjects. Two separate samples, pre-lottery and post-lottery, were randomly drawn from the population of undergraduates living in the dormitories. Each sample contained 500 students.

Questionnaires. The questionnaires that the students filled out were about four pages long, and contained items designed to provide data on (a) demographic variables like age, sex, education, and family background; (b) attitudes toward the old system for distributing dormitory rooms, and the new lottery system; (c) personal beliefs about the distribution and procedure rules that should be used in making room assignments; (d) knowledge and beliefs about off-campus housing; and (e) attitudes toward the dormitories. Aside from some minor differences in wording, the pre-lottery and post-lottery questionnaires were identical, except that the latter asked students who actually took part in the lottery whether or not they had won. All questionnaire responses were anonymous.

Procedure. Survey materials were mailed to the students in packets, each packet containing a cover letter, a questionnaire, and a postage-paid addressed return envelope. The pre-lottery packets were sent out about a week before the lottery was scheduled to begin, and the post-lottery packets were sent out one week after the lottery ended. The cover letters described the questionnaire as a part of a research project assessing students' attitudes toward the lottery; students were instructed to fill out the questionnaires on their own, and then to mail them back as soon as possible. No attempts were made to re-contact the students who failed to send back their questionnaires.

Results

Characteristics of the Respondents. We gave the students about one week to return their questionnaires, and discarded any questionnaires that came in later. We also discarded, whenever necessary, any pre-lottery questionnaires that had obviously been filled out after the respondent had already taken part in the lottery. Altogether, about 44% of the pre-lottery sample (222 students) and about 46% of the post-lottery sample (230 students) returned questionnaires that could be used. While not high, this rate is typical of surveys mailed to college students where no follow-up is attempted (cf. Moser & Kalton, 1972).

The demographic composition of these two groups of respondents was nearly identical, and reflected closely the characteristics of the greater population from which they were drawn. The average age of the respondents was just over 19, and roughly 2/3 of the respondents were women. Nearly all of the students came from families living in-state, and over 1/3 had relatives living near the university itself. About 38% of the respondents were freshmen, while 30% were sophomores, and 24% juniors. Only about 8% of the questionnaires were returned by seniors.

Early Reactions to the Lottery. Responses to the pre-lottery questionnaire revealed that early reactions to the lottery were quite negative. When asked to

judge the new lottery system on a seven-point FAIR-UNFAIR rating scale, students seemed to feel that system was very unfair, assigning it an average rating (M = 3.11, SD = 1.99, N = 217) significantly below the midpoint of the scale, t (216) = -6.59, $p < .01$. In order to measure the perceived fairness of the new lottery more reliably, however, we also created a composite scale by combining students' ratings on several items. The items chosen for that scale, and the mean ratings associated with each are shown in Table 1. Once again, the data indicated that

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Insert Table 1 about here

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the lottery seemed very unfair to the students. The average score on the scale was quite low (M = 2.62, SD = 1.19, N = 211), and again significantly below the scale's midpoint, t (210) = -17.25, $p < .01$.

The students' distribution rules were revealed by their responses to a set of open-ended questions asking them to list which individuals (if any) should be given priority by the university in assigning dormitory rooms. These data were coded independently by two judges, who were later found to be highly reliable in their evaluations. With few exceptions, the students seemed to believe in some combination of three distribution rules: equality, needs, and equity. About 19% of the students subscribed to a strict equality rule, arguing that there should be no priorities at all in the distribution of rooms. Approximately 51% of the students believed that only people with special needs should receive any special consideration from the administration. Finally, around 30% of the students proposed some kind of equity system, in which individuals with special "investments" (e.g. seniors, honors students, athletes) would be offered a room before anybody else. Where the students acquired their beliefs in these distribution rules is an intriguing but unanswerable question. It is noteworthy, however, that almost half of the students mentioned a distribution rule that would benefit themselves.

With regard to the students' procedure rules, the data were very surprising. In answering a series of special probe questions, nearly all the students agreed that the new lottery would be effective in accomplishing the distribution of the dormitory rooms. That is, most of the students acknowledged that the procedures associated with the lottery were all right, even though they may have felt some doubts about the distribution rules that those procedures reflected.

Given this apparent lack of variation in the students' procedure rules, we tested our hypothesis primarily on the basis of their distribution rules. First, we identified those students whose distribution rules matched those embodied in the lottery (i.e. needs/equality). About 50% of the students met this criterion, while the remaining students believed in distribution rules quite different from those of the university. The perceived fairness of the lottery, as measured by the scale scores mentioned earlier, was found to be higher for the former group ($M = 2.72$, $SD = 1.26$, $N = 107$) than it was for the latter ($M = 2.42$, $SD = 1.11$, $N = 104$). This difference was significant, t (209) = 2.14, $p < .05$, and so lent support to our hypothesis that the lottery would seem fairer to those students who shared the university's distribution and procedure rules. Even so, it must be noted that this effect emerged within a context of general anxiety about the lottery, and disliking for it. Few students actually favored the concept of a dormitory lottery, perhaps because it threatened to deprive them of their right to a room (cf. Brehm, 1972), or challenged their feelings of personal efficacy (cf. White, 1959). In fact, it might be more accurate to say that the lottery just seemed less unfair to students whose distribution and procedure rules were closest to those of the administration.

Later Reactions to the Lottery. Of the 230 students who returned the post-lottery questionnaire, about 50% were winners in the lottery, while another 31% were losers. The remaining students had not participated in the lottery at all. These figures were fairly representative of the general population.

Experience with the lottery did not seem to improve the students' attitudes toward it. The average rating of the lottery on the FAIR-UNFAIR scale remained quite low ($M = 3.29$, $SD = 2.02$, $N = 209$), and was still significantly below the midpoint of the scale, t (208) = -5.27, $p < .01$. Ratings on the composite scale of procedural fairness, as shown in Table 1, were also very poor ($M = 2.61$, $SD = 1.16$, $N = 205$), and were significantly lower than that scale's midpoint as well, t (204) = -17.37, $p < .01$.

The students' distribution rules were investigated by the same two judges, using the procedures described earlier. Once again, nearly everyone believed in some combination of equality, needs, and equity rules, with about 20%, 50%, and 30% subscribing to each of those rules respectively. These percentages are very similar to those observed in the pre-lottery sample, suggesting that not too much change may have occurred in the students' distribution rules as a result of the lottery. As before, self-interest appeared to play a major role in determining these distribution rules, with almost half of the students again favoring rules that would have qualified them for special consideration from the administration.

Even after participating in the lottery, the students still seemed to feel that it was procedurally sound -- an effectively managed lottery, though perhaps conducted for the wrong reasons. So, we again relied on the data regarding the students' distribution rules to test our hypothesis. About 50% of the students were found to have distribution rules matching those represented by the lottery, and once again, their average score on the procedural fairness scale ($M = 2.76$, $SD = 1.20$, $N = 107$) was higher than that of the other students ($M = 2.47$, $SD = 1.12$, $N = 98$). This difference, which proved to be significant, t (203) = 2.07, $p < .05$, provided further support for our hypothesis. Students who shared the university's distribution and procedure rules clearly perceived the lottery as less unfair than they might otherwise have done.

Several aspects of the students' responses on both the pre-lottery and the post-lottery questionnaires led us to believe that at least some of them might

have been committed to a fourth distribution rule involving their own personal interest. Leventhal (1980) has commented on such a rule, noting that it could be difficult to assess empirically, since most of us are unwilling to admit to any selfish attitudes. This seemed to be true of the students in our samples; while none of them came right out and said so, their comments often suggested that they cared little about the distribution of dormitory rooms to others, as long as they were assured of a room for themselves.

As yet another distribution rule, personal interest ought to have had an impact on the students' attitudes toward the lottery, but there was no obvious way to measure its effects directly. Instead, we adopted a somewhat different strategy, and looked to see whether the lottery was perceived as fairer by its winners than by its losers. The data, shown in Table 1, indicated that it was. Procedural fairness scale scores for lottery winners ($\underline{M}$ = 2.73, $\underline{SD}$ = 1.13, $\underline{N}$ = 103) were significantly higher, $\underline{t}$ (165) = 3.79, $\underline{p} < .01$, than those for lottery losers ($\underline{M}$ = 2.12, $\underline{SD}$ = 0.93, $\underline{N}$ = 64), and more positive (though only marginally so) than the scores observed in the pre-lottery sample. Scores for the lottery losers, on the other hand, were significantly lower than those measured before the lottery took place, $\underline{t}$ (273) = -3.44, $\underline{p} < .01$. The degree to which students' personal interests were satisfied by the lottery thus had a strong influence on their perceptions of its fairness. This effect was not due to lottery winners suddenly embracing the university's distribution rules, or to losers rejecting them, since winners and losers were both equally likely to mention distribution rules that matched those of the administration, χ^2 (1) = 0.88, ns. Instead, the actual effect was much simpler and more direct; students who won a room in the lottery saw it as fairer than those who did not, because their own problems had already been taken care of.

Conclusions

The results provided a new and interesting look at how people within real organizations respond to administrative policies designed to distribute scarce

resources. The students at our university were generally angry and upset when they heard about the new dormitory lottery, and relations between the students, their parents, and the administration grew strained. Some students talked, for example, of transferring to another school, while others asked their parents to call or write university officials in an effort to stop the lottery. Meetings were held to protest the lottery, and scathing articles appeared in the student paper. As it later turned out, almost all of the students who wanted a room in the dormitories got one. Our findings indicate, however, that at least some of the ill feeling that accompanied the introduction of the new system could have been avoided if the students had been persuaded to believe in the distribution rules embodied in the lottery, or if the lottery had been made to seem more in their personal interest.

In some ways, the issue of personal interest is one of the most intriguing aspects of our data. In laboratory studies of procedural justice (e.g. Austin & Walster, 1974; Messé, 1971), subjects often stick fairly closely to norms of equity or equality in the distribution of scarce resources. In the real world, however, the value of such resources is often much larger, and the competition for obtaining them more fierce. Our results suggest that people's behavior is somewhat different in these kinds of situations. The students that we studied varied widely in their beliefs about who should be given a dormitory room, and those beliefs were indeed an important factor in determining their reactions to the lottery. At the same time, however, most of the students seemed to share a single and rather basic criterion for evaluating the lottery, namely whether or not they thought it would provide them with a room.

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Table 1

Procedural Fairness Scale Scores

Questionnaire Items	Pre-Lottery Sample (N = 222)	Post-Lottery Sample (N = 230)		
		All Ss	Winners (n = 116)	Losers (n = 72)
How did you feel when you first heard the news about the new lottery?	2.02	2.16	2.36	1.80
How much input do you think students had in devising the new lottery system?	2.20	2.05	2.19	1.80
In adopting the new lottery, how sensitive was the administration to the students?	2.66	2.52	2.75	2.11
In general, how often does the administration take the needs of students into account when making decisions?	2.86	2.70	2.88	2.38
In your opinion, how fair is the new lottery system for assigning dormitory rooms?	3.11	3.29	3.80	2.46
Overall Perceptions of Procedural Fairness	2.61	2.62	2.73	2.12

Note. Procedural fairness scale scores were computed by averaging ratings across both subjects and items. The number of respondents varied slightly from one item to another; scale scores were only computed for subjects with complete data.