



The Cumulative Effects of Justice Perceptions

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ABSTRACT

We report some evidence that justice perceptions may be cumulative, or act together to bolster or undermine other perceptions. In several instances, procedural and distributive justice perceptions about one procedure were different for those reading about only one procedure and outcome versus those who read about that situation and a second situation. Evidence was also found that individuals may average justice perceptions together for two procedures when forming overall fairness and satisfaction perceptions.

Organizational justice continues to be a fruitful area for organizational research (e.g., Greenberg & Cropanzano, 1997). Much of this research has followed the suggestions outlined by Leventhal (1976), who recommended examining one procedure and outcome at a time. Leventhal's (1976) research design has continued to be the primary method used in justice research (Miles & Palmer, 1998). Indeed, numerous laboratory and field studies using this method have examined the relationship of organizational justice perceptions to outcomes such as drug testing (e.g., Konovsky & Cropanzano, 1993), layoffs (e.g., Brockner, et al., 1994), organizational citizenship behaviors (e.g., Konovsky & Pugh, 1994), pay satisfaction (e.g., Miceli, 1993), performance evaluation (e.g., Greenberg, 1987a), personnel selection (e.g., Steiner & Gilliland, 1996), punishment (Ball, Trevino, & Sims, 1994), smoking bans (Greenberg, 1994), and theft (e.g., Greenberg, 1993). For a review, see Greenberg and Cropanzano (1997).

Despite the attention afforded to Leventhal's (1976) research design, it may be argued that such an approach does not fully reflect how employees in organizations actually develop organizational justice perceptions. For example, in everyday organizational life, employees do not perceive one procedure and one outcome at a time. Rather, they are involved in multiple stages of various procedures with varying outcomes. The purpose of this paper is to report the results of a laboratory study exploring the cumulative effects of two procedures and outcomes on justice perceptions.

The recent emphasis on justice's outcomes in the organizational justice literature may be explained by observing the maturation of the justice construct. Early justice studies focused on predictors of justice perceptions. In a review of the justice literature, Greenberg (1990) called for more research on the outcomes of justice perceptions. Clearly, this call has resulted in a number of fruitful outcome-focused justice investigations. Yet, in a more recent review of the justice literature, Greenberg & Cropanzano (1997) recognized that there is still much work to be



done in identifying more determinants of fairness perceptions. Other justice researchers have agreed:

[Organizational justice] research has clearly established justice as an important organizational construct. We suggest that one of the next steps in the development of organizational justice theories is to develop a better understanding of *how* justice perceptions are formed . . . A (Gilliland, Benson, and Schepers, 1998, p. 129)

Despite the recent emphasis on the outcomes of justice perceptions, there is some basis from which to consider the broader context of multiple justice instances in which justice perceptions operate. For example, Lind, Kray, and Thompson (1998) reported that individuals take more than one instance of violation or nonviolation of justice into account (e.g., the experiences of others) when forming justice judgments. Specifically, they found that individuals' justice judgments were lower in a condition where several people experienced injustice than in a condition where only one person experienced injustice.

Gilliland et al. (1998) also explored how individuals might consider more than one instance of justice when making justice evaluations. The authors conducted a lab study on the justice perceptions of students who read about hypothetical layoff scenarios. Specifically, they found that justice violations and nonviolations can have different effects on justice perceptions, depending on whether the justice perceptions are operationalized as judgments (e.g., evaluations of events) or decisions (e.g., selecting a course of action from a set of alternatives). They suggested that when justice decisions are made, if violations exceed a threshold (the number of justice violations it takes before a decision-maker rejects a given alternative), the decision alternative will be rejected regardless of the nature and number of nonviolations. On the other hand, they argued that when judgments are made, both violations and nonviolations impact individuals' evaluations.

In the present study, we build on the findings of Lind et al. (1998) and Gilliland et al. (1998) by exploring the cumulative effects of justice instances on both procedural and distributive justice judgments. To explore these issues, a procedure similar to that used by Gilliland et al. (1998) was used. Students read hypothetical scenarios derived from actual student experiences on their first day of attending the university. For the scenarios, two procedures were selected: 1) getting a dorm room assignment at the Housing Office, and 2) getting a class schedule from the Registrar's Office. Two versions of each procedure were created: a good outcome (getting a great dorm room or a desirable class schedule) and a bad outcome (getting a terrible dorm room or an undesirable class schedule). Half of the students read about only one of the two procedures and half of those read about a good outcome or a bad outcome. The other half of the students read about two procedures with good/good, bad/bad, or mixed outcomes. All possible order combinations of procedures and outcomes were randomized across students to help reduce order effects. Students were asked about their procedural justice perceptions (perceived fairness of processes followed), their distributive justice perceptions (perceived fairness of outcomes), and their overall satisfaction levels.

This situation was seen as an ideal one for exploring possible cumulative effects of justice perceptions. Going through these two procedures is an important and relevant aspect of



college life, and a behavior familiar to many college students. The student subjects could personally identify with the procedures and outcomes themselves since all students at the university were required to go through these same procedures themselves. Further, as Gilliland et al. (1998) noted, this methodology allows for tight control over the information that is presented to participants.

Hypotheses

Currently, no theoretical framework in the organizational justice literature exists for explaining how people react when confronted with more than one justice procedure. However, cognitive consistency theories (e.g., Osgood & Tannenbaum, 1955) may offer some help in making predictions. For example, Osgood's (1960) congruity model discusses what might happen when someone is faced with two or more attitudes. Osgood (1960) wrote that cognitive elements that are held in a relation of balance might be added together to bolster a person's attitude. This view could be broadly applied to a situation in which a person perceived two good or two bad justice perceptions. In such a situation, the two positive or two negative justice perceptions might be added together to bolster or strengthen an attitude of positive or negative justice perceptions.

In addition, Osgood (1960) wrote that two cognitive elements that are held in a relation of imbalance might be added together and help undermine a person's attitudes. If this view were applied to a justice setting, a person perceiving both a good and a bad justice situation might have a lower justice perception than when facing a good procedure alone. The person's low justice perception of the bad procedure might help to undermine the person's justice perception of the good procedure (and vice versa for a bad procedure). Following this logic, the following hypotheses were formulated.

H1: Procedural justice perceptions of one procedure will be highest when reading about two good procedures (Housing and Registrar), lower when reading about one good procedure (Housing or Registrar), and lowest when reading about one good procedure and one bad procedure (Housing or Registrar).

H2: Distributive justice perceptions of one procedure will be highest when reading about two good procedures (Housing and Registrar), lower when reading about one good procedure (Housing or Registrar), and lowest when reading about one good procedure and one bad procedure (Housing or Registrar).

H3: Procedural justice perceptions of one procedure will be lowest when reading about two bad procedures (Housing and Registrar), higher when reading about one bad procedure (Housing or Registrar), and highest when reading about one bad procedure and one good procedure (Housing or Registrar).

H4: Distributive justice perceptions of one procedure will be lowest when reading about two bad procedures (Housing and Registrar), higher when reading about one bad procedure (Housing or Registrar), and highest when reading about one bad procedure and one good procedure (Housing or Registrar).



Osgood's (1960) congruity model may also help make predictions about what a person might do when perceiving one good and one bad procedure. Osgood (1960) wrote that dissonant elements may be combined into a larger unit which is balanced, through a process called transcendence. Following this logic for a justice situation, the following were hypothesized.

H5: Individuals will average or balance their distributive justice perceptions of two procedures when forming one overall distributive justice perception.

H6: Individuals will average or balance their procedural justice perceptions of two procedures when forming one overall procedural justice perception.

For overall satisfaction, it was anticipated that all three cognitive activities would occur (bolstering, undermining, and transcendence). As a result, the following was hypothesized.

H7: Individuals will have the highest overall satisfaction perceptions in the good Housing and good Registrar condition, followed in descending order in the conditions: good Housing or Registrar, mixed Housing and Registrar, bad Housing or Registrar, and lastly bad Housing and bad Registrar,

Method

Subjects

Participants were 202 undergraduate business students enrolled in introductory management courses at a small, private university in the western United States. Fifty-six percent were female; the average age was 21. The race composition was 2% Black/African American, 23% Asian/Pacific Islander, 64% Hispanic/Latino, 8% Caucasian/White, and 3% Other. No demographic differences were found for any of the variables across the eight conditions, $F(7, 201) \leq 1.11$, ns., in all cases.

Subjects were assigned at random to one of eight conditions created by cross-cutting three factors. The factors were: number of procedures (one, two), outcome (good/good, bad/bad, good/bad, bad/good, good only, bad only), type of procedure (Housing Office, Registrar's Office). The eight resulting conditions were: 1) Housing Office with a good outcome and Registrar's Office with a good outcome, 2) Housing good and Registrar's bad, 3) Housing bad and Registrar's good, 4) Housing bad and Registrar's bad, 5) Housing good only, 6) Housing bad only, 7) Registrar good only, and 8) Registrar bad only. To reduce possible order effects all factors were randomized in all possible ways across all conditions: Housing/Registrar first or second, good/bad outcome first or second.

The conditions were created by preparing written scenarios in which students read about one or two procedures (going to the Registrar's Office and/or the Housing Office at a University) with a good/good, bad/bad, mixed, good only, bad only outcome. Each of the conditions was represented by its own scenario printed in a booklet. Booklets for each of the eight conditions were distributed on a random basis to approximately equal numbers of participants (in each cell, values of n ranged from 20 to 30).



Procedure

Participants were recruited in their classes by the first author. The study was described as concerning the experiences of a student's first day on campus at a university. Students were asked to evaluate the fairness of the incident. Participants were instructed to read the scenario and to answer a series of questions about it.

Manipulations. Participants read about one or two procedures and outcomes. Those who read about two procedures and two outcomes saw this information when the order of information presented was Housing/Registrar:

Pat was instructed to do two things upon arriving on campus:

- 1) to go to the Housing Department to get a dorm room assigned.*
- 2) to go to the Registrar's Office to sign up for classes.*

Those in the Registrar/Housing condition saw the same information except #2 was presented before #1. Those who read about one procedure and one outcome saw the information presented only in #1 (Housing Office only condition) or #2 (Registrar's Office only condition).

Outcome variable. Information about the outcome received at the Housing and Registrar's Offices was used to create the outcome variable: Students read about one of two outcomes (good, bad) at the Housing Office, and/or one of two outcomes (good, bad) at the Registrar's Office: Those students who read about a good Housing Office outcome read the following:

Pat Anders is a new student, who is traveling to the University to start the Fall term. Three months ago, Pat reviewed all the University documents and decided which dorm room was the most desirable and which classes best fit Pat's work schedule and career goals. Pat sent in a room request form along with a deposit. When reaching the Housing Office, Pat was told that dorm room assignments were done alphabetically. Since Pat's last name begins with an A Pat was one of the first people to receive their dorm room assignments. As a result, Pat was assigned to a large, quiet, well-lighted room with a view. Pat was very excited about getting this room and was ready to move right in.

Those students who read about a bad Housing Office outcome read the following:

Pat Zanders is a new student, who is traveling to the University to start the Fall term. Three months ago, Pat reviewed all the University documents and decided which dorm room was the most desirable and which classes best fit Pat's work schedule and career goals. Pat sent in a room request form along with a deposit. When reaching the Housing Office, Pat was told that dorm room assignments were done alphabetically. Since Pat's last name begins with a Z, Pat was one of the last people to receive their dorm room assignments. As a result, Pat received one of the worst rooms in the building--a small, dark, cramped room with only one tiny window that was located next to a noisy elevator



and stairwell. Pat was very unhappy about having to move into such an awful room and dreaded the prospect of living there.

Those students who read about a good Registrar's Office outcome read the following:

Pat lived close to campus, so only had a short drive. Pat arrived early in the day at the Registrar's Office. Pat was told that classes were enrolled on a first-come, first-served basis. As a result, Pat was able to get in to all the desirable classes and had a great schedule that fit with the hours required of Pat's part-time job. Pat was very pleased about getting this course schedule.

Those students who read about a bad Registrar's Office outcome read the following:

Pat had a long way to fly to reach campus, so arrived late in the day. Upon finally arriving at the Registrar's Office, Pat was told that classes were enrolled on a First-come, first-served basis. As a result, Pat was not able to get into any desirable classes. Pat had to take classes that were at bad times and met throughout five days of the week. Pat was unhappy with this course schedule since it completely conflicted with the hours required for Pat's part-time job. Pat was also unhappy that the Registrar's Office hadn't said to be on campus early to sign up for classes.

Dependent measures. After reading one of the scenarios, subjects were asked to complete a questionnaire. Responses were made on 7-point scales anchored at the end-points as "None/Not at all" (1), and "Extremely/To a great extent" (7). The midpoints (4) were labeled as "A moderate amount."

It is critical that role-playing subjects fully understand the situations to which they are asked to respond (Greenberg & Eskew, 1990; Greenberg & Folger, 1988); thus, two questions served as manipulation checks. The questions confirmed whether subjects were aware of the good or bad outcomes Pat received from the Registrar's Office ("To what extent did Pat receive a desirable course schedule?") and the Housing Office ("To what extent did Pat get a desirable dorm room?"). Participants in the two-procedure conditions saw both questions, whereas those in the one-procedure condition saw only the one pertaining to their condition.

Perceptions of fairness. Consistent with previous research (e.g., Greenberg, 1987b), six items ($\alpha = .84$) were developed to assess procedural justice (e.g., "How fair were the Housing / Registrar's Office's procedures for determining who got which dorm room / course schedule?"). Four items ($\alpha = .76$) assessed distributive justice (e.g., "To what extent did Pat receive a desirable dorm room/course schedule?").

Satisfaction and Other Variables. Six items ($\alpha = .89$) assessed overall satisfaction (e.g., "Considering everything, how happy do you believe Pat is about the situation?). One item was used to assess overall procedural fairness ("Considering everything, how fair are the procedures followed at Pat's University?"). One item was used to assess overall distributive fairness ("Considering everything, how fair are the outcomes Pat received on her first day on campus?"). The mathematical average of fairness for procedural justice was created by taking all of the individual item scores for a person for procedural justice for Housing and for Registrar, summing



them and dividing by eight. The mathematical average of fairness for distributive justice was created by taking all of the individual item scores for a person for distributive justice for Housing and for Registrar, summing them and dividing by twelve.

Subjects' Demographic information. Subjects reported their age, gender, and race.

Results

Manipulation Checks

As noted earlier, subjects responded to questions concerning the perceived desirability of the outcomes they read about. The scores for the good outcome at the Housing Office condition ($M = 6.97$) were significantly different from those in the bad outcome condition ($M = 1.00$), $F(1, 147) = 1319.61$, $p < .001$. Similarly, the scores for the good outcome at the Registrar's Office condition ($M = 6.97$) were significantly different from those about in the bad outcome condition ($M = 1.00$), $F(1, 147) = 98917.61$, $p < .001$. Taken together, these scores show that the Housing Office and Registrar's Office conditions were successfully created.

Hypotheses

Hypotheses 1 and 2 examine good procedures, whereas Hypotheses 3 and 4 examine bad procedures. Three conditions were created for those reading about a good Housing Office procedure: 1) a good Housing Office and a good Registrar's Office procedure, 2) a good Housing Office procedure only, and 3) a good Housing Office and a bad Registrar's Office procedure. It was expected that the highest procedural justice perceptions would be found in 1) followed by 2) then 3). Scores are reported in Table 1. This hypothesis was not supported as no significant difference were found among scores for the three conditions, although scores were in the anticipated direction.

Hypothesis 1 was also examined for procedural justice perceptions of the Registrar's Office. As shown in Table 2, partial support for the hypothesis was found. Those reading about two good procedures had significantly higher scores than those reading about one good Registrar's Office procedure. However, those reading about a good Registrar's Office procedure and a bad Housing Office procedure had scores similar to those reading about two good procedures.



Table 1
Comparison of Justice Perceptions for Good One- and Two-Procedure
Housing Conditions Justice Conditions

Justice Variable	Housing good, Registrar good		Housing good, Registrar bad		Row simple main effects F(2, 75-77)
		Housing good			
Procedural Justice for Housing	3.54 _a (1.78)	3.23 _a (1.41)	2.91 _a (1.10)		1.07
Distributive Justice for Housing	5.26 _a (.96)	5.10 _{ab} (.75)	4.79 _b (.67)		2.36

Note. Means reflect subjects' self-reported justice scores for perceptions of one or two good procedures on a scale of 1 (lowest) to 7 (highest). Standard deviations are shown in parentheses. In each cell, n = 20-30. Within each row, mean not sharing a common subscript are significantly different from each other (at the .05 level or beyond) according to the Tukey LSD procedure.

Table 2
Comparison of Justice Perceptions for Good One- and Two-Procedure Registrar Conditions

Justice Variable	Justice Conditions			Row simple main effects F(2, 75-77)
	Registrar good, Housing good	Registrar good	Registrar good, Housing bad	
Procedural Justice for Registrar	4.81 _a (1.32)	4.12 _b (1.97)	4.43 _a (1.33)	2.36
Distributive Justice for Registrar	5.90 _a (.71)	5.71 _a (.66)	5.28 _b (.61)	6.10**

Note. Means reflect subjects' self-reported justice scores for perceptions of one or two good procedures on a scale of 1 (lowest) to 7 (highest). Standard deviations are shown in parentheses. In each cell, n = 20-30. Within each row, mean not sharing a common subscript are significantly different from each other (at the .05 level or beyond) according to the Tukey LSD procedure.

**p < .01

Hypothesis 2 examined distributive justice perceptions about a good procedure. Three conditions were created for those reading about a good Housing Office outcome: 1) a good Housing Office and a good Registrar's Office outcome, 2) a good Housing Office outcome only, and 3) a good Housing Office and a bad Registrar's Office outcome. It was expected that the highest distributive justice perceptions would be found in 1) followed by 2) then 3). As reported in Table 1, some support was found for this hypothesis. The scores occurred in the expected direction. Also, those reading about two good procedures had higher scores than those reading about a good Housing Office and a bad Registrar's Office procedure.



Hypothesis 2 was also examined for distributive justice perceptions of the Registrar's Office. As shown in Table 2, full support was found for this hypothesis. Those reading about two good procedures had significantly higher distributive justice perceptions for the Registrar's Office than did those reading only about the Registrar's office, who had higher distributive justice perceptions than did those who read about a good Registrar's outcome and a bad Housing Office outcome.

Hypotheses 3 and 4 examined bad procedures. Hypothesis 3 examined procedural justice perceptions about a bad procedure. Three conditions were created for those reading about a bad Housing Office procedure: 1) a bad Housing Office and a bad Registrar's Office procedure, 2) a bad Housing Office procedure only, and 3) a bad Housing Office and a good Registrar's Office procedure. It was expected that the lowest procedural justice perceptions would be found in 1) followed by 2) then 3). As reported in Table 3, full support for the hypothesis was found. Those reading about two bad procedures had significantly lower procedural justice perceptions for the Housing Office than did those reading only about the Housing Office, who had lower distributive justice perceptions than did those who read about a bad Housing Office outcome and a good Registrar's Office outcome.

Table 3
Comparison of Justice Perceptions for Bad One- and Two-Procedure Housing Conditions

Justice Variable	Justice Conditions			Row simple main effects $F(2, 69-72)$
	Housing bad, Registrar bad	Housing bad	Housing bad, Registrar good	
Procedural Justice for Housing	1.76 _a (.68)	2.38 _b (.94)	1.80 _a (1.06)	3.88*
Distributive Justice for Housing	1.61 _a (.53)	1.63 _a (.45)	1.63 _a (.45)	0.02

Note. Means reflect subjects' self-reported justice scores for perceptions of one or two bad procedures on a scale of 1 (lowest) to 7 (highest). Standard deviations are shown in parentheses. In each cell, $n = 20-30$. Within each row, mean not sharing a common subscript are significantly different from each other (at the .05 level or beyond) according to the Tukey LSD procedure.

* $p < .05$

Hypothesis 3 was also examined for procedural justice perceptions of the Registrar's Office. As shown in Table 4, no support for Hypothesis 3 was found in this condition. Procedural justice perceptions about a bad Housing Office outcome were not significantly different across the three conditions.



Table 4
Comparison of Justice Perceptions for Bad One- and Two-Procedure Housing Conditions

Justice Variable	Justice Conditions			Row simple main effects $F(2, 69-72)$
	Registrar bad, Housing bad	Registrar bad	Registrar bad, Housing good	
Procedural Justice for Registrar	2.28 _a (1.27)	2.72 _a (.68)	2.98 _a (1.38)	2.31
Distributive Justice for Registrar	1.97 _a (.80)	2.12 _a (.67)	2.64 _b (.98)	4.08*

Note. Means reflect subjects' self-reported justice scores for perceptions of one or two bad procedures on a scale of 1 (lowest) to 7 (highest). Standard deviations are shown in parentheses. In each cell, $n = 20-30$. Within each row, mean not sharing a common subscript are significantly different from each other (at the .05 level or beyond) according to the Tukey LSD procedure.

* $p < .05$

Hypothesis 4 examined distributive justice perceptions about a bad procedure. Three conditions were created for those reading about a bad Housing Office outcome: 1) a bad Housing Office and a bad Registrar's Office outcome, 2) a bad Housing Office outcome only, and 3) a bad Housing Office and a good Registrar's Office outcome. It was expected that the lowest distributive justice perceptions would be found in 1) followed by 2) then 3). As reported in Table 3, no support for Hypothesis 4 was found. Distributive justice perceptions about a bad Housing Office outcome were not significantly different across the three conditions.

Hypothesis 4 was also examined for distributive justice perceptions of the Registrar's Office. As shown in Table 4, some support for the hypothesis was found. Scores across all three conditions were different and in the anticipated direction. Those reading about two bad or one bad outcome had scores significantly lower than did those reading about one bad and good outcome. However, no significant differences were found in distributive justice scores for those who read about two versus one outcome.

Hypothesis 5 examined the possibility of people averaging distributive justice perceptions of two procedures to form one overall distributive justice perception. Table 5 shows the distributive justice scores for the Housing procedure (column 1) and the Registrar's procedure (column 2) for all conditions. A Mathematical average of the two scores was computed (when possible) and is shown in column 3. Column 4 shows participants' scores for the question, "Considering everything, how fair were the outcomes Pat received on her first day?" For those reading about two procedures, Table 5 clearly shows that individuals determined their overall distributive justice perception by averaging their scores for each individual procedure. The overall distributed justice score is nearly identical to the mathematically calculated average of the two individual distributive justice scores for each procedure.



Table 5
Comparison of Self-Reported Overall Outcome Fairness versus Mathematical Average of
Distributive Justice for Housing and for Registrar's Offices Scale Scores

Justice Condition	Distributive Justice for Housing	Distributive Justice for Registrar	Mathematical Average of DJ for Housing & DJ for Registrar	Self-Report Considering All Outcomes
Registrar good and Housing good	4.79	5.28	5.03 _a	5.03 _a
Registrar good	---	5.71	---	4.79
Housing good	5.10	---	---	4.69
Registrar good and Housing bad	1.63	5.89	3.76 _a	3.60 _a
Housing good and Registrar bad	5.26	2.64	3.95 _a	3.90 _a
Housing bad	1.63	---	---	2.54
Registrar bad	---	2.12	---	2.46
Registrar bad and Housing bad	1.61	1.97	1.79 _a	1.73 _a

Note: Means reflect subjects' scores on a scale of 7 (highest) to 1 (lowest) for all but the last column. Standard deviations appear in parentheses. In each cell, n = 20-30. Self-Report Considering All Outcomes is the subject's score for the item, "Considering everything, how fair were the outcomes Pat received on the first day on campus?" Scale scores were used for Distributive Justice for Housing or for Registrar. The Mathematical Average of DJ for Housing and DJ for Registrar was determined by adding up the scores for all scale items and dividing by twelve. Between columns, means not sharing a common subscript are significantly different from each other (at the .05 level or beyond) according to the t-test for related measures (Bruning & Kintz, 1987).

Interestingly, for those reading about only one procedure, the distributive justice perception of one procedure (column 1 or 2) was different from the overall perception of distributive justice of the entire situation (column 4). This provides some evidence that an individual's overall distributive justice perception is formed by more than just perceptions about one procedure, but about this and other as yet unexplored situational variables.

Hypothesis 6 examined the possibility of people averaging procedural justice perceptions of two procedures to form one overall procedural justice perception. The results for hypothesis 6 were not as straightforward as they were for hypothesis 5 (See Table 6). In two cases, averaging clearly occurred (two good procedures, and good Registrar/bad Housing procedure conditions). In the other two conditions (two bad procedures, and good Housing/bad Registrar), the scores do not reflect that individuals averaged their two separate procedural justice scores to form one overall justice perception score.



Table 6
Comparison of Self-Reported Overall Procedural Fairness versus Mathematical Average of Procedural Justice for Housing and for Registrar's Offices Scale Scores

Justice Condition	Procedural Justice for Housing	Procedural Justice for Registrar	Mathematical Average of PJ for Housing & PJ for Registrar	Self-Report Considering All Procedures
Registrar good and Housing good	3.54	4.81	4.17 _a	4.43 _a
Registrar good	----	4.12	----	3.93
Housing good	3.23	----	----	3.08
Registrar good and Housing bad	1.80	4.43	3.12 _a	3.35 _a
Housing good and Registrar bad	2.91	2.98	2.95 _a	2.40 _b
Housing bad	2.38	----	----	2.23
Registrar bad	----	2.72	----	3.08
Registrar bad and Housing bad	1.76	2.28	2.02 _a	2.50 _b

Note: Means reflect subjects' scores on a scale of 7 (highest) to 1 (lowest) for all but the last column. Standard deviations are shown in parentheses. In each cell, n = 20-30. Self-Report Considering All Outcomes is the subject's score for the question, "Considering everything, how fair are the procedures followed at Pat's University? Scale scores were used for Procedural Justice for Housing or for Registrar. The Mathematical Average of PJ for Housing and PJ for Registrar was determined by adding up the scores for all scale items and dividing by eight. Between columns, means not sharing a common subscript are significantly different from each other (at the .05 level or beyond) according to the t-test for related measures (Bruning & Kintz, 1987).

Interestingly, for those who read about only one procedure, the procedural justice perceptions for the overall situation were also different from the procedural justice perception of single procedure. This provides further evidence that an individual's overall procedural justice perception is formed from more than just procedural justice perceptions of one procedure.

Hypothesis 7 examined the overall satisfaction levels of those in the eight conditions created. Results are shown in Table 7. Clear support was found; those reading about two good procedures had the highest satisfaction levels and those reading about two bad procedures had the lowest satisfaction levels. More specifically, those reading about two good procedures had higher satisfaction levels than did those reading about only one good procedure (either Housing or Registrar). Also, those reading about two bad procedures had lower satisfaction levels than did those reading about only one bad procedure (either Housing or Registrar). Lastly, those reading about mixed procedures (one good/one bad) had satisfaction levels that fell in the middle of the range.



Table 7
Overall Satisfaction with the Situation

Justice Condition	Self-Reported Overall Satisfaction
Registrar good and Housing good	6.05 ^a (.63)
Registrar good	5.48 ^b (.77)
Housing good	5.27 ^b (.70)
Registrar good and Housing bad	3.63 ^c (.83)
Housing good and Registrar bad	3.52 ^c (1.10)
Housing bad	2.37 ^d (.57)
Registrar bad	2.35 ^d (.58)
Registrar bad and Housing bad	1.76 ^e (.58)

Note: Means reflect subjects' self-reported scores for overall satisfaction on a scale of 7 (highest) to 1 (lowest). Standard deviations are shown in parentheses. In each cell, $n = 20-30$. Within the column, means not sharing a common subscript are significantly different from each other (at the .05 level or beyond) according to the Tukey LSD procedure. Good/Bad, Bad/Good, Good/Good, Bad/Bad, Housing/Registrar and Registrar/Housing order was randomized across all conditions to reduce order effects of variables presented.

Discussion

The present findings provide some support that organizational justice perceptions are not distinct for each and every procedure and outcome that an individual perceives. Rather, organizational justice perceptions may be cumulative, or act together to influence an individual's overall justice perceptions in a situation. Some evidence was found that individual justice perceptions might be considered simultaneously causing bolstering or undermining of them in both positive and negative directions. Stronger support was found suggesting that transcendence may occur when individuals perceive more than one justice situation. Individuals were found to average their justice and satisfaction perceptions when considering two procedures.

Specifically, individuals in some conditions read about one good or one bad procedure regarding a University Housing Office or Registrar's Office. Individuals in the other conditions read about two good, two bad, or two mixed procedures involving both the University Housing Office and Registrar's Office. If no cumulative justice effects were present then the procedural and distributive justice scores for those reading about one procedure should have been the same compared to those reading about that procedure as well as a second procedure. In three of eight instances examined, the justice scores were different for those reading about one procedure versus those who read about two procedures. However, in five cases, the scores were not significantly different across the two groups of individuals. Thus, although not unequivocal, the present study reports some evidence that cumulative justice effects do occur when individuals are presented with more than one organizational justice procedure and outcome.



The present findings also provide some evidence that individuals will average or combine their justice perceptions of two procedures and two outcomes to form their overall organizational fairness and satisfaction perceptions. First, most individuals who read about two procedures were shown to average their justice perceptions for each procedure and outcome. As a result, individuals' overall fairness perceptions were close to the mathematical average of their individual procedural and distributive justice scores for the two separate procedures or outcomes.

In addition, those individuals reading about two good procedures had significantly higher overall satisfaction scores than did those reading about only one good procedure. Conversely, those individuals reading about two bad procedures had significantly lower overall satisfaction scores than did those reading about only one bad procedure. Also, those reading about mixed situations (one good and one bad outcome) had overall satisfaction scores that appeared to average their separate perceptions of the good and of the bad procedures and outcomes.

The findings of the present study offer only partial support in many cases for the hypotheses examined. It is important to speculate why the findings were not stronger. One possible explanation is the exploratory, laboratory nature of the study. Subjects examined only two hypothetical procedures designed to be of about equal importance to subjects. As a result, the bolstering and undermining effects might not be as strong in a survey study compared to what might actually occur for more important and meaningful procedures experienced by individuals themselves in organizations. In addition, it was not possible to test whether the availability heuristic (Markus & Zajonc, 1985; Tversky & Kahneman, 1973), which suggests that subjects tend to base their perceptions on what information is available, might help to explain the study's results. It may be that the results would be different in work organizations where employees have more information available to them than what was presented in the present study. The present findings have implications for organizational justice research. Most justice research investigates individuals' fairness perceptions concerning one procedure and one outcome. As a result, researchers often conclude that managers in organizations could improve their employees' justice perceptions by using a particular fair procedure or outcome and by avoiding other unfair procedures and outcomes. However, the present study suggests that the findings of research examining only one justice procedure or outcome should be interpreted with caution. For example, individuals who read about two bad procedures and outcomes had significantly lower fairness perceptions for each separate procedure and outcome than did individuals who read about only one bad procedure and outcome. Thus, in organizations where individuals experience a number of bad procedures and outcomes, their fairness perceptions for one procedure and for one outcome might be lower than for individuals who experienced only one procedure and one outcome examined by researchers. Or at the very least, employees' perceptions of one fair procedure and one outcome might be averaged along with their fairness perceptions of other fair or unfair organizational procedures and outcomes that are experienced. Thus, it follows that future research should include an examination of as many justice procedures and outcomes as possible in order to gain a more accurate representation of employees' justice perceptions. Further, most existing justice research is cross-sectional. Longitudinal research is needed to further uncover how numerous procedures and outcomes affect individuals' justice perceptions over time.



The present study also offers some implications for practice. Managers should recognize that their employees' justice perceptions may be cumulative or averaged. Thus, multiple poor procedures and outcomes are likely to be viewed more negatively than one. Conversely, efforts at ensuring that a given procedure is fair may act to lessen employees' negative reactions to other unfair procedures.

Suggestions for Future Justice Research

The present exploratory laboratory study was designed to provide an initial test of the cumulative effects of justice perceptions. Some evidence was found that individuals combine their justice perceptions to form overall justice and satisfaction perceptions. Some evidence was also found that individuals may combine good and bad justice perceptions to form even greater or even worse justice perceptions. Since the findings here provided only partial support, it is clear that further research needs to be conducted to examine possible cumulative and averaging effects of justice perceptions in other kinds and types of settings and for other kinds and types of subjects.

The current study was designed with two procedures of approximately equal weight or importance to subjects. However, we do not have direct evidence that students viewed them as of equal importance. For example, it may be that students view housing scenarios as more permanent whereas class schedules change every 16 weeks. Future research might examine the cumulative effects of more than two procedures and of procedures with different importance levels for subjects. For instance, the justice perceptions of one very important procedure might overshadow the justice perceptions of a minor and insignificant procedure for individuals. Also, future research should examine the cumulative effects of organizational justice perceptions in other field settings, as well as in actual organizational settings. Lastly, the present study examined only procedural and distributive justice perceptions. Due to the complexity of the design, interactional justice (or social components of justice) were not examined. Future research should examine the impact of multiple procedures on interactional justice perceptions.

Limitations

Finally, the generalizability of the study's findings are limited by the laboratory nature of the design. Clearly, all research designs involve tradeoffs. The present study sacrificed external validity for internal validity. It remains an important task for future research to demonstrate the degree to which the present findings are generalizable to organizational contexts. Because role-playing data can only be used to tap perceptions of situations influenced by limited factors, it remains possible that additional dynamics encountered in organizational contexts might qualify the present results. Despite these limitations, the tight controls over the independent variables and manipulation checks allow more confidence to be placed in the internal validity of the findings.



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