

BUDGETARY PARTICIPATION AND STRETCH TARGETS: PROCEDURAL FAIRNESS IN A STRETCH BUDGET CONDITION

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ABSTRAK

Penganggaran yang berkaitan dengan masalah perilaku memiliki pengaruh penting pada efektivitas organisasi. Partisipasi anggaran umumnya mengacu pada sejauh mana bawahan berpartisipasi dalam penyusunan anggaran dan mempengaruhi sasaran anggaran. Tujuan penelitian ini adalah untuk menguji apakah komponen kontrol (ekonomi) dari keadilan prosedural memberi kontribusi yang signifikan dalam menjelaskan hubungan antara partisipasi anggaran dan komitmen anggaran dalam kondisi stretch budget. Mahasiswa melaksanakan tugas yang melibatkan keputusan penganggaran dasar. Tugas utama mereka adalah mengkode simbol sebanyak mungkin dalam sesi pekerjaan atas kondisi yang berbeda. Manipulasi suara, pilihan, dan jenis anggaran secara acak ditugaskan pada partisipan. Dua variabel dependen, judgment keadilan prosedural dan komitmen anggaran, diukur. Hasil penelitian menunjukkan bahwa kombinasi suara dan pilihan mempengaruhi judgment keadilan prosedural. Dalam kondisi stretch budget, keadilan prosedural memiliki pengaruh mediasi dalam hubungan antara suara dan pilihan dan komitmen anggaran. Selain itu, studi ini menemukan bahwa dalam kondisi stretch budget, suara dan pilihan memiliki hubungan negatif dengan komitmen anggaran, hal tersebut menunjukkan bahwa partisipasi anggaran menciptakan masalah perilaku.

Kata kunci: Partisipasi anggaran, stretch budget, keadilan prosedural, komitmen anggaran

ABSTRACT

Budgeting carries behavioral problems that can have important effects on the effectiveness of an organization. Budgetary participation generally refers to the extent to which subordinates participate in preparing the budget and influence the budget goals. The purpose of this research is to investigate whether control (economic) components of procedural justice provide a significant contribution in explaining the relation between budgetary participation and budget commitment in a stretch budget condition. College students perform a task involving basic budgeting decisions. Their main job is to decode symbols as many as possible in a work session under different conditions. Manipulations of voice, choice, and budget type are randomly assigned to the participants. Two dependent variables, procedural justice judgments and budget commitment are measured. The results show that voice and choice combine to influence procedural justice judgments. In a stretch budget condition, procedural justice has a mediating effect in the relations between voice and choice and budget commitment. Moreover, the study finds that in the stretch budget condition, voice and choice have negative relations with budget commitment, suggesting that budgetary participation creates a behavioral problem.

Keywords: Budgetary participation, stretch budget, procedural justice, budget commitment

INTRODUCTION

In accounting area, research has placed heavy emphasis to the cognitive and behavioral effects of budgetary participation on a wide range of dependent variables such as satisfaction, motivation, and performance (e.g. Davis et al., 2006).

However, numerous studies have resulted in mixed findings on the consequences of budgetary participation. Shields and Young (1993) suggest that the effects of budgetary participation depend on other variables. They suggest the investigation of intervening variables in the relation between

budgetary participation and the dependent variables.

Researchers realize the importance of procedural justice in budgetary participation research (e.g. Libby, 1999; Lindquist, 1995). Procedural justice theory postulates that people care at least as much about the procedures used in making allocation decisions as they do about the outcomes themselves (Konovsky, 2000).

Subordinates often see hard-to-achieve budgets as unfair (Libby, 1999), and that perception leads to behavioral problems (Lindquist, 1995). However, recent research suggests that providing people the opportunity to participate in a budgeting decision process is more likely to result in overcoming the behavioral problems since the people perceive the budgeting process as just (Libby, 1999). Moreover, a higher perception of justice leads to higher individuals' performance.

The participative budgeting research that includes procedural justice is mainly based upon the self-interest theory established by Thibaut and Walker (1975).

This theory suggests that the distribution of control among individuals in a decisionmaking process is the key procedural characteristic shaping people's procedural justice perceptions.

The theory indicates that both voice and choice, which represent budgetary parti-

icipation, enhance procedural justice judgments. Voice, the opportunity to express one's views in a decision-making process, and choice, the opportunity to vote on the decision outcome, solicit individuals' process and decision control perceptions, which lead to higher procedural justice judgments. Nevertheless, while the role of voice and choice in organizational behavior research is extensively confirmed, earlier studies in participative budgeting yield ambiguous results. Lindquist (1995) finds that voice always enhances procedural justice judgments while Libby (1999) suggests that individuals' procedural justice perceptions do not always depend upon voice.

The purpose of this study is to investigate whether two controls (economic) components of procedural justice, voice and choice, provide a significant contribution in explaining the relationship between budgetary participation and budget commitment. Particularly, this study examines (1) the impact voice and choice on procedural justice judgments, and 2) whether procedural justice judgments mediate the relationship between budgetary participation and budget commitment in a stretch budget condition (see Figure 1).

This paper is organized as follows. In the first section, this study provide background and synthesize previous literature.

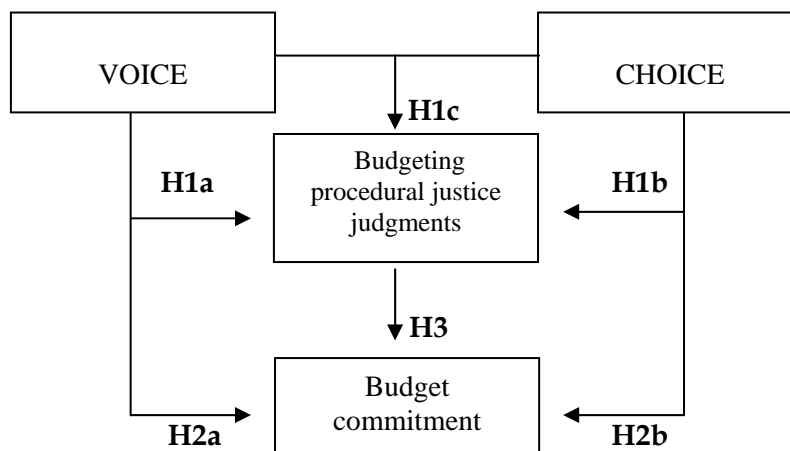


Figure 1
Theoretical model linking budgetary participation to commitment

Based on this discussion, this study propose research hypotheses for the present study, followed by a discussion of method for testing the research hypotheses.

Next, the results of the study are reported in the final section, I draw conclusions and offer suggestions for future research.

THEORETICAL REVIEW

Self-Interest Theory

In their seminal work of procedural justice, Thibaut and Walker (1975) assert that interpersonal or intergroup conflicts over scarce resources can be resolved through peaceful means of conflict resolution. They posit that the peaceful procedures must be seen as just by participants and observers Thibaut and Walker (1975) contend that.

Procedures that vest process control in those affected by the outcome of the procedures are viewed as more fair than procedures that vest control in the decision maker. Further, they argue that institutions performing procedures in a fair way will induce commitment and loyalty, which will subsequently contribute to the stability of the institutions.

Thibaut and Walker (1975) state that individuals are affected not only by the outcomes that they receive but also by the processes used to plan and implement the decision. They argue that procedural justice is determined by the structure of the decision process. The structural considerations include process control (i.e. voice) and decision control (i.e. choice). The former refers to whether people are allowed to have input into the process, whereas must be later refers to whether the individuals are enabled to control the actual decision made (Naumann and Bennett, 2000).

Self-interest theory also asserts that people may be willing to take a longterm focus when evaluating their economic gains and forego immediate, shortterm

benefits from an exchange relationship if they believe that advantage outcomes will be forthcoming in the future. Procedural justice is highly valued insofar as it suggests the existence of a system that will yield a desired outcome in the long run (Konovsky, 2000). On the other hand, if the procedure is perceived as unfair, individuals will not have assurance about their longterm benefits. This may lead people to believe that the outcome is unpredictable, if not, at worst, negative. As a consequence, the individuals will care mostly about short-term outcomes. Empirical research supports this model, suggesting that individuals value procedural justice for self-interest reasons (Derfuss, 2008).

Participation in Budgeting

Budgetary participation generally refers to the extent to which subordinates participate in preparing the budget and influence the budget goals (Kenis, 1979; Milani, 1975). Milani (1975) argues that the amount of subordinate participation in decision-making can be viewed as a continuum ranging from no subordinate influence to a complete subordinate influence.

Theoretical models and empirical research about participation in decision-making suggest that an increased participation is preferable to less. Employing the Vroom-Yetton model, some research evaluate the appropriateness of participative styles in a budgeting decision. The findings support the importance of participation in the budgetary process and confirm a general rule, which recommends only high levels of participation to ensure the success of the decision process.

If the amount of participation is the sole determinant of the success of participative budgeting, then the type of participation that only gives subordinates the opportunity to provide input whereas the final say belongs to

superiors (i.e. voice) will not ensure budgetary participation effectiveness. In other words, choice, the opportunity to vote the final decision, which entails decision control is always better than voice (which entails process control).

Nonetheless, research in procedural justice provides convincing evidence that there is a strong preference for procedures permitting voice over procedures providing no voice (Vermunt et al., 2001). When voice is provided to decision-making participants, this seems to satisfy participants' preferences for some measures of control. Voice works even when individuals making the judgments do not have direct control over the decision itself (Lind et al., 1990).

Procedural Justice Judgments

Research finds that process control and decision control enhance individuals' procedural fairness perceptions. Subsequent research findings show that procedures allowing voice and choice have positive effects on individuals' procedural justice judgments (Lind et al., 1990; Lindquist, 1995). In the current study, individuals work in a budgeting process that give (or do not) them a voice or choice opportunity. Self interest theory and previous empirical findings lead to the hypotheses that individuals who have a voice or choice opportunity in the budgeting process will perceive higher procedural justice regarding the process than those who do not have either opportunity.

Budget Commitment

The current study measures procedural justice judgments before a stretch budget decision takes effect. Acting as subordinates in the budgeting process, the individuals are expected to exhibit dissatisfaction of the process when the stretch budget is enacted. The study expects a decrease in the procedural justice perception level once the subordinates realize that the budgeting

process does not produce satisfactory outcomes. Prior research suggests that providing participation opportunity to subordinates in a decision process increases budget commitment (Nouri and Parker, 1998). However, as suggested by referent cognition theory, when the final budget turns out to be difficult to achieve, then the subordinates will not value the participation opportunity as much as they did. Therefore, the current study hypothesizes that in a stretch budget condition, voice and choice will have negative relations with budget commitment.

Referent cognition theory suggests that the decision of administering a stretch budget will lower procedural justice judgments which were initially high. Additionally, prior research suggests that when subordinates learn that their initial procedural justice judgments do not positively relate to favorable outcomes, they will be frustrated and disappointed (Lindquist, 1995). The theory and prior research suggests that in the stretch budget condition, procedural justice judgments will have a negative relation with budget commitment.

Lindquist (1995) argue that participation in goal setting increases goal acceptance by increasing an individual's feelings of control over the goal setting process. Tyler and DeGoey (1996) find that inferences about the trustworthiness of authorities have a powerful effect on individuals' willingness to accept decisions. Parallel with the research findings concerning the relations between participation and procedural justice judgments, and procedural justice judgments and organizational commitment (Fisher et al., 2002; Folger and Konovsky, 1989; Tyler and DeGoey, 1996), and founded by self-interest theory, the current study expects that procedural justice judgments mediate the effects of voice and choice on budget commitment.

Procedural Justice Judgments

The study investigates the effects of procedural justice separately from those of distributive justice. Nouri and Parker (1998) argue that the effects of voice and choice should not depend on distributive justice effects. Therefore, procedural justice judgments should have already existed before a decision (i.e. the budget) is set. Individuals who are given voice and choice opportunity have perceived fairness effects despite the nature of the budget. Accordingly, in this study, I measure the procedural justice judgments before the budget is determined.

Despite the controversy between traditional participation research and the extant literature in budgeting that considers procedural justice (Lindquist, 1995; Libby, 1999; Fisher et al., 2002), both streams of research agree on the importance of voice and choice. Self-interest theory suggests that providing voice and/or choice opportunity provides individuals with a sense of control of the budgeting process and/or the final decision. In turn, higher process and decision control perceptions lead to higher level of procedural justice judgments (Lindquist, 1995; Libby, 1999).

The self-interest theory and empirical findings discussed above lead to the following hypotheses:

- H_{1a}: Individuals who have a voice opportunity in the budgeting process will perceive higher procedural justice regarding the process than those who do not have the opportunity
- H_{1b}: Individuals who have a choice opportunity in the budgeting process will perceive higher procedural justice regarding the process than those who do not have the opportunity

Brett and Goldberg (1983) state that choice has more influence on procedural justice perceptions than voice does, arguing that because choice is a more

certain and more direct form of personal control over decision outcomes. Brett and Goldberg's study find that higher levels of participation ensure the success of a decision process. However, Lindquist (1995) finds that choice is only effective in a favorable decision outcome (fair budget) condition, while voice works more effective in an unfair budget condition.

Both Brett and Goldberg's (1983) and Lindquist's (1995) studies indicate that choice is the stronger determinant of perceived procedural justice than voice. However, when an opportunity for voice occurs in a decision-making process, there may be some improvement of procedural justice perceptions beyond that produced by choice. Procedural justice theory predicts that individuals will be more satisfied with a decision outcome as well as the decision procedures when given the opportunity to present information to the decision maker because the opportunity promotes their self-interest (Kwong and Leung, 2002).

The voice opportunity can have value added when the individuals have the choice opportunity. This is because voice has the power to convey the reasons behind the choice and thus provides a finer control over the decision outcome. On the other hand, giving the individuals choice opportunity in addition to voice opportunity can enhance their procedural fairness judgments since choice can increase the individuals' sense of power (Brett and Goldberg, 1983). Based on this line of reasoning, choice or voice alone can be seen as achieving less control over the outcome than the combination of voice and choice.

H_{1c}: The combination of subordinate voice and choice in the budgeting process will positively affect procedural justice judgments.

Stretch Budget and Budget Commitment

The current study measures procedural justice judgments before the decision of the budgeting process is given to the subordinates. I expect a change in the justice perception level once the subordinates realize that the budgeting process does not produce satisfactory outcomes (Masterson, 2001; Stevens, 2002). The enactment of a stretch budget as the final budget is indicated to stimulate subordinates' dissatisfaction on the budgeting process.

When participation is solicited from the subordinates in the budgeting process, the subordinates will expect that the final budget will benefit them. If the budget turns out to be difficult to achieve, then the subordinates will not value the participation opportunity as much as they did. Moreover, participation opportunity has a frustration effect in the case of an unfavorable decision outcome. The effect occurs when the subordinates eventually learn that their participation does not affect the decision outcome. The subordinates are disappointed and frustrated because their expectation regarding the decision outcome is not met. The frustration and disappointment can hurt their commitment with the decision outcome (i.e. the final budget). The line of reasoning leads to the following hypotheses.

H_{2a}: In a stretch budget condition, voice opportunity in the budgeting process will have a negative relation with budget commitment

H_{2b}: In a stretch budget condition, choice opportunity in the budgeting process will have a negative relation with budget commitment

The following hypothesis deals with the relation between procedural justice judgments and budget commitment. The argument for the hypothesis is parallel with those of the hypotheses 2a and 2b,

since those hypotheses cover the relations between the determinants of procedural justice and budget commitment. Fairness heuristic theory (Lind et al., 2001) suggests that the subordinates will use their procedural justice judgments as cognitive shortcuts to arrive at decisions about the extent to which they commit to the final budget. The theory predicts that when subordinates perceive fairness in budgeting procedures as the result of having control, they will perceive themselves as having more investments in the organization. Confidence that in the long run their interests will be recognized through the budgeting process motivates the subordinates to comply with the final budget.

In the stretch budget condition, the subordinates face the reality that their initial procedural fairness judgments do not positively correlate with the outcome favorability. Given that the subordinates are goal-seeking individuals, the receipt of the stretch budget decision threatens their goal attainment (Fuller and Jensen, 2010). When making sense of the unfair budget, the subordinates seek to understand the causes. Research shows that people given a relatively clear explanation regarding an unfavorable outcome demonstrate greater organizational commitment (Brockner et al., 1997, 2000). However, since the subordinates in the current study will not find any explanation, it is reasonable to expect that they will adjust their procedural justice judgments to a lower level. Brockner et al. (1992) find that citizens who initially have higher trust in authorities demonstrate a very sharp decline in subsequent trust after they perceive that their trust has been violated (a contrast effect). Lindquist (1995) find that when unfair budgets are imposed to subjects who previously have a choice opportunity, the subjects are less satisfied with the budgets and tasks.

An important implication of this reasoning is that the receipt of the unfair budget elicits the adjustment process of procedural justice judgments. The final budget will not receive as much commitment as it used to when the procedural fairness judgments decline.

H₃: In a stretch budget condition, procedural justice judgments will have a negative relation with budget commitment.

Parallel with the research findings concerning the relations between participation and procedural justice judgments, and procedural justice judgments and organizational commitment (Fisher et al., 2002; Folger and Konovsky, 1989; Tyler and DeGoeij, 1996), the current study proposes that the effects of voice and choice on budget commitment may operate through procedural justice perceptions. Fisher et al. (2002) argue that participation in goal setting increases goal acceptance by increasing an individual's feelings of control over the goal setting process.

The current study investigates whether procedural justice judgments mediate the effects of subordinates' possession of voice and choice on budget commitment. The study examines not only differences in budget commitment means resulting from manipulations of voice and choice but also the covariance structure of perceived procedural justice and budget commitment measures. The study proposes a finer explanation to the relation between budgetary participation and budget commitment beyond prior research findings (Poon et al., 2001; Lilis and Mundy, 2005).

Prior studies show that providing a participation opportunity (i.e. voice and choice) in a budgeting process gives individuals a sense of control of the process and the final decision, which leads to higher perceived procedural fairness (e.g. Lindquist, 1995). Provided

with voice and choice conditions, subordinates should judge the budgeting process fairness as high. They will expect the final budget to be able to provide them with the highest benefit possible given a specific reward system (Jensen, 2001). However, if the final budget determined by the superior is likely to be unachievable or unfair (i.e. stretch budget), the subordinates will re-examine the budgeting procedures. The subordinates will perceive that the budgeting process fails to fulfill their expectations. In this situation, they begin to realize that they do not really have the control power in the budgeting process, and thus, their process and decision control become unrealistic.

Referent cognition theory suggests that the unmet expectation can transform subordinates' initial high procedural justice judgments into negative effects on their commitment to the final budget. The subordinates will believe that the superior should have acted differently in the process so that the budget would have been more favorable to the subordinates (See, 2009). Stated differently, subordinates who have voice and choice conditions are the ones who suffer the most when the stretch budget is set. Based on the arguments, this study offers the following hypotheses:

H_{4a}: Given the stretch budget decision, the procedural justice judgments will mediate the negative effect of voice on budget commitment

H_{4b}: Individuals Given the stretch budget decision, the procedural justice judgments will mediate the negative effect of choice on budget commitment

RESEARCH METHOD

Subjects

The study uses college students as its subjects. The students were invited to participate in the study and were offered a partial credit in courses and an

opportunity to win one of four two hundred dollar cash prizes. Two hundred and twenty students were invited to the study through Research Experience Program (REP) administered by Gatton College of Business and Economics, University of Kentucky. The use of the student subjects is considered appropriate since the experimental task involves symbol decoding activities and basic budgeting decisions, which the students can learn in a few minutes.

Design

The study employs a laboratory experiment because of the clarity of causal inference gained by being able to manipulate antecedents to perceptions of control and procedural justice. It is important since the study attempts to highlight a critical link between the budgetary participation and procedural justice literature.

The study employs a 2 X 2 between-subjects experimental design. The independent variables are the types of budgetary participation: voice and choice. Voice is manipulated by giving the participants an opportunity to express their thoughts about the initial (150-symbol) final budget that the supervisor wanted to assign. Choice is manipulated by providing the participants a right to vote for the final budget.

Two dependent variables are measured in the study. I measure procedural justice judgments using a 5-point scale for which the participants respond to a question asking how fair procedure is used to determine the final budget (Lind et al., 1990; Libby, 1999). The subjects' commitment to the budget is measured by a measure developed by Klein et al. (2001).

Materials and Procedures

The participants sign up to the study at a website maintained by the Research Experience Program. The website

informs the participants regarding appointment date and time, the study location, as well as general instructions. There are multiple appointment dates available to accommodate different participants' convenience. Sixteen versions of study material were randomly distributed to the participants. The experiment required approximately 45 minutes to complete. The case study was developed based on that of Libby (1999). I did two pilot tests with two different types of audience, doctoral students and faculty, and college students. In the case study, the participants act as subordinates in a budgeting process and the researcher acts as their superior. The subjects' main job is to decode a number of symbols under the supervision of the superior. The superior tells the subordinates that they get paid in raffle tickets. The tickets are used to determine four US\$200 cash prize winners. The number of tickets that the subjects can earn depends on their performing a simple task quickly and accurately.

Following a measurement of the subjects' self-esteem, this study explained the reward scheme and conducted two three minute practice sessions. Then, the manipulations were administered after the subjects learn that the tentative budget was set at 150 correctly-decoded symbols. The compensation scheme is represented in a formula: $P = F + AX$, where P = total payment, F = a number of raffle tickets as fixed payment regardless of the number of items correctly decoded, and X = the difference between actual number of symbols correctly decoded and the final budget. To make sure that the subjects understood the reward scheme, multiple tests were administered with numerical examples. Following this, manipulation checks for voice and choice were made and the participants' procedural justice judgments were measured.

Then, a final budget was set. The final budget was highly unattainable (stretch budget) to motivate the subjects to rethink their initial procedural fairness perceptions. Finally, after measuring subjects' budget commitment and checking on the budget type manipulation, the subjects were debriefed.

ANALYSES AND DISCUSSION

Manipulation Checks

Manipulation checks are conducted to ensure that participants perceive the strength of the voice and choice manipulations as intended in the research instrument. The study employs 5-point Likert-type scales to measure indicate a mean (standard deviation) process control of 4.16 (0.85), compared with 3.24 (1.35) for no-voice condition. The difference in mean is statistically significant at $p < 0.01$ ($t = 6.03$; 1-tail). For choice manipulation, the participants assess the decision control at 3.01 (0.99) and 2.72 (0.96) for the choice and no-choice conditions respectively. The difference in mean is statistically significant at $p < 0.05$ ($t = 2.25$; 1-tail).

Procedural Justice Judgments

This study expect that individuals' procedural justice judgments (PJJ) will be significantly affected by voice (H1a),

choice (H1b), and by the interactions among the conditions (H1c).

Table 1 presents the results of analysis of variance for PJJ. The analysis reveals significant main effects of voice ($F = 22.71$, $p < 0.01$) and choice ($F = 26.63$, $p < 0.01$) on the measure of procedural justice, supporting

Hypotheses 1a and 1b. The results also show significant interaction effects of voice and choice ($F = 14.58$, $p < 0.01$), providing support for Hypothesis 1c.

Budget Commitment

The next hypotheses posit that in a stretch budget condition, voice (H2a) and choice (H2b) will be negatively related to budget commitment. Hypothesis 3 predicts that procedural justice judgments and budget commitment will have a significant negative relationship. The subsequent hypotheses predict that procedural justice judgments will mediate the relationships between voice (H4a) and choice (H4b) and budget commitment.

Path analysis is used to test the proposed hypotheses. Path analysis entails the use of multiple regressions in relation to explicitly formulated causal models. The analysis provides the tests of linkages in the models. The path model

Table 1
Analysis of Variance for Procedural Justice Judgments

Source	Type III Sum of Squares	Df	Mean Square	F	p-value
Model	70.88	3	10.13	15.27	.00
Intercept	2922.65	1	2922.65	4408.35	.00
V	15.06	1	15.06	22.71	.00
C	17.66	1	17.66	26.63	.00
V*C	9.67	1	9.67	14.58	.00
Error	140.55	216	.66		
Total	3157.00	220			

Note:

R2 = .335; V= voice; C= choice

used in the analysis corresponds to the theoretical model in Figure 1.

In Figure 1, each link between the variables has a path coefficient that provides a quantitative estimate of the direct causal connections between the variables. Figure 2 presents the path model that makes explicit the likely causal linkages between variables in this study.

The model proposes that each exogenous variable (voice or choice) has a direct effect on budget commitment ($p1$ and $p2$, respectively). The model also

proposes indirect effects of the exogenous variables on budget commitment (BC) through procedural justice judgments (PJJ). Voice affects PJJ ($p3$), and choice affects PJJ ($p4$) which in turn affects BC ($p5$).

In addition, there is some amount of unexplained variance for each endogenous variable. In the model, $e1$ refers to the amount of variance in PJJ that is not accounted for by voice and choice; $e2$ denotes the amount of error arising from the variance in BC that is not explained by V, C, and PJJ.

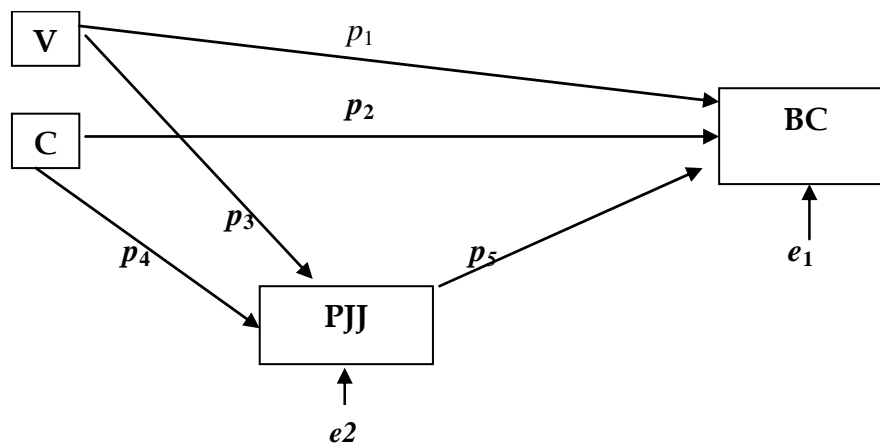


Figure 2
Path Model

Note: V = voice
C = choice
PJJ = procedural justice judgments
BC = budget commitment

Table 2
Path Analysis Results - Stretch Budget Condition

Dependent Variables	Independent Variables	Associated Hypothesis	Path Coefficients	t-value	p-value	R2
PJJ	V		0.25	2.83	0.00	0.20
	C		0.30	3.39	0.00	0.20
BC	V	H2a	-0.13	-1.33	0.09	0.08
	C	H2b	-0.17	-1.71	0.04	0.08
	PJJ	H3	0.24	2.27	0.01	0.08

Note:
V = voice; C = choice; PJJ = procedural justice judgments; BC = budget commitment

Values for path coefficients are estimated using regression and correlation analysis. The path coefficient is the standardized regression coefficient. Computation using SPSS to complete all of the paths results in path coefficients as displayed in Table 2. Based on table 2, the complete structural equations for the three endogenous variables are:

(1) $PJJ = 0.25 V + 0.30 C + 0.90$

(2) $BC = -0.13V - 0.17 C + 0.24 PJJ + 0.96$

Figure 3 illustrates the path coefficients in the path model with significant path coefficients shown in bold. Path coefficients of PJJ/V and PJJ/C are all significant at $p < 0.01$. Path coefficients of BC/C and BC/PJJ are significant at $p < 0.05$ while path BC/V is moderately significant ($p < 0.1$).

The results in Table 2 (illustrated in figure 3) indicate that voice and choice

affects PJJ directly. This is consistent with the findings of the previous analysis of variance (for Hypotheses 1 & 2).

The results show that path BC/V has a moderately significant coefficient and therefore hypothesis 2a is partially supported. Path coefficient of BC/C is significant and, thus, providing support for hypotheses 2b. In short, there are direct negative relationships between voice and BC and between choice and BC.

The path analysis finds an interesting result regarding hypothesis 3. The path coefficient of BC/PJJ is significant but in the opposite direction. The result indicates a significant positive relation between PJJ and BC, while it is predicted that a negative relation will occur. Therefore, the data do not provide support for hypothesis 3.

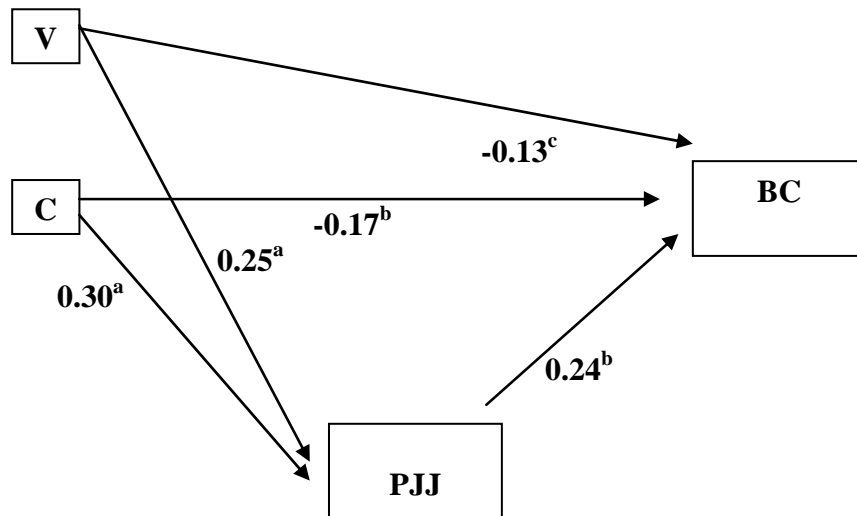


Figure 3
Path Coefficients – Stretch Budget Condition

Note:

^a significant at the 0.01 level

^b significant at the 0.05 level

^c significant at the 0.10 level

V = voice

C = choice

PJJ = procedural justice judgments

BC = budget commitment

Table 3
The Decomposition of Path Analysis Model Relationships

Paths	Total Effect(<i>r</i>)	Effect Coefficients	Direct Effect (Path Coeff.)	Indirect Effect	Spurious Effect	Unanalyzed Effect
Voice → PJJ	0.25	0.25	0.25	--	--	0.006
Voice → BC	-0.07	-0.07	-0.13	0.06	--	-0.001
Choice → PJJ	0.30	0.30	0.30	--	--	0.001
Choice → BC	-0.10	-0.10	-0.17	0.07	--	-0.001
PJJ → BC	0.12	0.24	0.24	--	-0.12	--

Note: V = voice; C = choice; PJJ = procedural justice judgments; BC = budget commitment

Table 4
Analysis of Indirect Effects - Stretch Budget Condition

Indirect Effect	Indirect Effect Coefficients ^a	Standard Deviation of Coefficient	<i>t</i> -values
V on BC (via PJJ)	0.09	0.05	1.77 ^b
C on BC (via PJJ)	0.11	0.06	1.89 ^b

Note:

^a Indirect effect coefficients are calculated using unstandardized path coefficients.

^b *t*-value is statistically significant at *p* < 0.05

V = voice

C = choice

PJJ = procedural justice judgments

BC = budget commitment

Hypotheses 4 posit that the indirect effects of voice (H4a) and choice (H4b) on BC through PJJ will be significant. In other words, the hypotheses predict that PJJ will serve as a mediator in the relationships between the exogenous variables and BC. Figure 3 suggests that each of the exogenous variables affect BC directly and indirectly via PJJ.

To examine the relative magnitude of each type of effects, the total effects are decomposed. Table 3 presents the decomposition of the model relationships. Basically, a correlation coefficient can be decomposed into the following components: direct effect (DE), indirect effect (IE), unanalyzed effect (U) due to correlated cause(s), and spurious effect (S) due to common cause (Pedhazur, 1982). Effect coefficients (EC) are obtained by adding the DE and the IE.

Since the model under consideration is relatively complex. This study use the method for the calculation of EC and IE developed (Fox in Kwong and Leung, 2002).

Kwong and Leung (2002) argue that a variable functions as a mediator when (1) an independent variable significantly affects the mediating variable, (2) the independent variable has a significant relation with the dependent variable, (3) the mediating variable is significantly related to the dependent variable, and (4) the relationship between independent variable and dependent variable decreases after controlling for the mediating variable. Also, (5) the independent variable should have significant correlations with the mediating variable. With regard to hypotheses 4a and 4b, the results suggest that the conditions are fulfilled.

Further analyses regarding the significance of the indirect effects of voice and choice on BC via PJJ do support the hypotheses (table 4). Table 4 displays the results of the analysis of indirect effects. To assess the significance of the indirect effects, their standard deviations were estimated using the methods of Sobel. Table 4 shows that the indirect effects of voice and choice are significant at $p < 0.05$ (t-values are 1.77 and 1.89, respectively; 1-tail tests).

In conclusion PJJ does function as the mediator in the relationships between the exogenous variables and BC.

CONCLUSION AND SUGGESTION

The study provides support to self-interest theory. The results indicate that the theory is reasonably accurate and that the subordinates consider their self-interests in judging procedural fairness. The study is consistent with previous studies indicating that procedural justice judgments affect individuals' behavior in a budgeting process (Lindquist, 1995; Libby, 1999; Fisher et al., 2002). In addition, the study asserts that procedural justice judgments can exist regardless of the fairness of the budget, supporting the extant justice literature.

The study suggests that voice and choice can lead to frustration effects when the subordinates learn that their participation does not affect the final budget. Frustrated subordinates reassess their procedural justice judgments and subsequently lower their budget commitment. This implies that procedural justice is as important as outcome fairness, and therefore, managers should attend to procedural justice issues as early as possible in the budgeting process, especially in a stretch budget condition.

Managing procedural justice perceptions effectively can decrease the economic costs and therefore, increase the efficiency and effectiveness of a budgeting process.

The current study contributes to the literature in several ways. The study extends those of Libby (1999) and Lindquist (1995) by presenting evidence regarding process fairness perceptions independent from outcome justice judgments. The results, when considered with the other studies, suggest that individuals rely intensively on voice and choice judge procedural justice. Nevertheless, the study still portrays the role of outcome justice judgments in a particular condition.

Finally, using a stretch budget condition, the study offers some empirical evidence regarding behavioral problems that stretch budget principle carries. Nonetheless, the results offer some possibilities for reducing the problems. As in any empirical studies, there are limitations associated with this study that should be identified.

The limitations are discussed as areas that may be fruitful for future research. First, the sample was from a pool of relatively homogenous college students, which may limit the external validity of the findings. The results may not be generalizable to organizations that differ significantly from the subject pool.

In the future, researchers may address the effect of demographic variables, which traditionally are treated as control variables. For instance, organizational tenure may result in various responses regarding procedural fairness. The longer the tenure individuals have with an organization, the more likely they are more attached to the organization. In turn, they will tend to perceive higher justice.

Second, in this study I did not examine the order of presentation of the two types of justice and their nature. In reality, people might be affected by primary or recency bias in perceiving fairness. For example, in companies outside the laboratory setting, employees receive mixed information regarding

justice, sometimes favorable and sometimes unfavorable, with random order of types of justice presentation, sometimes procedural fairness information following distributive justice information or otherwise. As a possible result, subordinates may be directed to depend on the history of justice they experienced in the past instead of on the recent information. This possibility warrants future research.

Third, the study defines stretch budget as an unfair budget. It is possible that the participants might not have believed that stretch budget is similar to an unfair budget. They may see a stretch budget as a challenging goal that motivates them to perform better. The belief could have led to reduced power in the test of the coefficients in the relation between procedural justice judgments and performance. Future research can be prompted to investigate the effects of stretch budget on justice perception.

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