EB_How Groups Diversity and Power Intensity of Leadersmay Affect Corruption

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How Groups Diversity and Power Intensity of Leaders may Affect Corruption of Public Resource in Communities: Insights from Laboratory Experiment

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Abstract

This laboratory experimental study aims to examine the effect of groups diversity and power intensity of leaders on corruption of public resource in communities. In particular, this study observes the interaction effect of those two factors on the corruption, which is still rare in the existing literature. The findings of this study provide the insights that all leaders with power tend to corrupt, but leaders with unrestricted power in diverse groups corrupt the most. The results of post-experiment survey suggest possible rationales for this phenomenon. This study may offer alternatives to curb the practices of power abuse by the local leaders, thus mitigating the incidences of corruption.

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1. Introduction

This laboratory experimental study calibrates the public resource distribution in local communities. Local leader is responsible for allocating the resource for public benefit; however, a leader may act corruptly by capturing the resource for personal gain at the expense of the community. This situation is prevalent in the local communities of developing countries (see, among others, Fritzen 2007, Casey et al. 2012, Humphreys et al. 2013, Dal[illegible]awan and Klasen 2013, Alatas et al. 2013). Given this setting, this study aims to examine the relationship between local corruption and the initial conditions embedded in typical communities, such as the power of leader and group diversity.

Existing literature shows that people with power are more receptive to prospective gains and willing to satisfy their personal goals at the expense of others (Keltner, Gruenfeld, and Anderson 2003). They may act corruptly, serving their own gains even though their behavior reduces social welfare (Bendahan et al. 2015). However, Overbeck and Park (2001) find that power does not always corrupt, thus, Bendahan et al. (2015) cautiously suggest that the impact of power on corruption may be more intricate than has currently been recognized.

Diversity has been studied in conjunction with corruption. Alesina et al. (2004) and Glaeser and Saks (2006) find that corruption is worse in societies with higher ethnic diversity. Dincer (2008) also observes a significant relationship between corruption and ethnic diversity in the US. However, Serra (2006) and Elbahnasawy and Revier (2012) fail to find a convincing link between social diversity and corruption.

Employing laboratory experimental approach, this study investigates the combined effects of group diversity and power of leader on public resource corruption. This issue is rarely pursued in the existing literature. This study assumes that diversities in social context correspond with the diversities of interests that subsequently require a relevant arrangement of public resources.

2. Methods

This study involves students of Diponegoro University in Indonesia as experiment subjects. The common concern of employing students in the experiments is the issue of population validity, whether or not the behavior of students is indicative of the real economic agents. However, existing studies suggest that demographic differences among experimental subjects do not affect experimental results (see Guillen and Veszteg, 2006). Alm et al. (2011), among others, also find that behavioral responses of students and other subjects in the same experimental settings are identical.

All subjects in this experiment are assuming the role of leaders. Using written instructions, each subject is informed that she/he is the leader of a group and responsible for distributing the money within the group. The instruction describes the group as a group of five that consists of a leader and unknown “four members”. Those four "members" are hypothetical. However, the protocol is carefully worded so that subjects may perceive they are dealing with real persons. The instruction also notifies the subjects that they will act anonymously during the experiment, and they are not allowed to communicate with each other.

The experiment consists of six rounds. The subjects are given a fixed amount of money in each round, written in a card and denoted in real monetary value. The card also conveys information that "group members" know the total amount of money. The subjects should decide the amount of money to share equally within the group, which is identified as the *group benefit*. The subjects are entitled to 20% share of the group benefit. The number of rounds is not disclosed to avoid the end-of-game bias. Furthermore, there is no direct feedback at the end of each round to prevent the dynamic effect.

The experiment does not prevent the subjects from keeping the money for themselves. The size of money captured by the subjects, instead of being allocated for the group benefit, is identified as *personal gain*. Capturing the money for personal gain implies an act of corruption, and the size of personal gain reflects the magnitude of corruption. Naturally, the word "corruption" does not appear during the experiment to avoid framing effect bias.

Each subject makes decisions by choosing the portion of money for group benefit, ranging from 0 % to 100 %, in a provided card. Selecting "100 %" indicates that the total money is allocated for the group benefit, while choosing "0 %" means that all money is kept by the subject as personal gain. The subjects are free to decide a combination of group benefit and personal gain. After all rounds are completed, accumulated shares of group benefit and secured personal gains are given to the subjects as the payoff.

Figure 1
Experiment Design

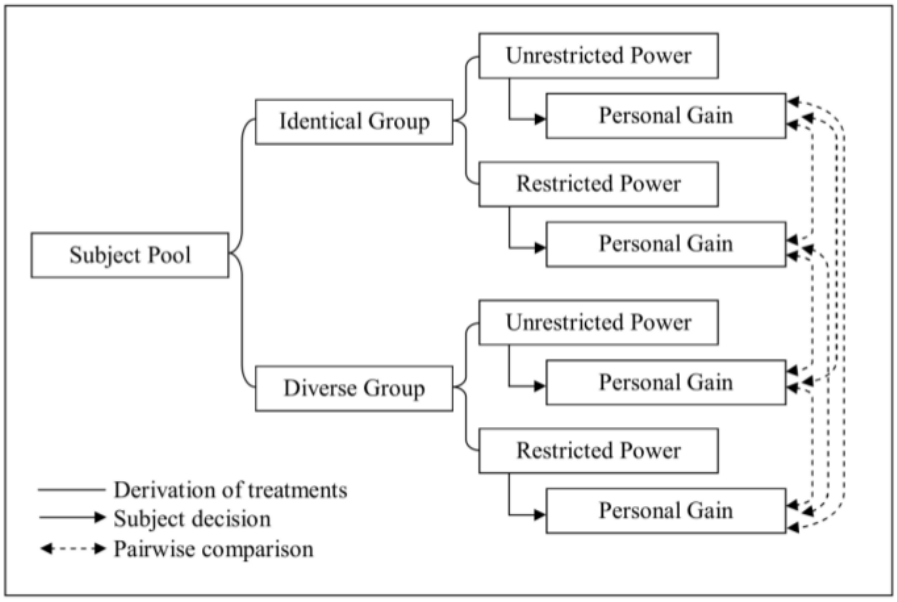

Figure 1 demonstrates the experiment design. Firstly, half of the subjects are given written information that their "members" have agreed to buy certain goods collectively with their accumulated benefit shares. Their groups are identified as *the identical group* because their

respective "members" share an identical interest. The rest of the subjects are provided with different information that their "members" are prohibited from communicating with each other, implying that each member may have a different interest in using her/his accumulated benefit shares. Their groups are identified as *the diverse group*, simply indicating that there are diverse interests within the group.

During the experiment, the subjects are assigned *unrestricted* and *restricted power* using written notification. The subjects with unrestricted power may freely decide the allocation of money on group benefit and the portion of money to capture for personal gain. In contrast, restricted power implies that the decision of subjects to disburse the money is conditional to the approval of their "members". The subjects with restricted power cannot disperse the money (thus unable to get benefit share and to secure personal gain) if their "members" reject the proposed amount of group benefit. All subjects are given unrestricted power in three out of six rounds in random order. For simplicity purpose, subjects with unrestricted power are indicated as *unrestricted subjects* while those with restricted power are identified as *restricted subjects*.

Combination of power intensity and group diversity in this experiment results in four treatments; restricted power in the diverse group, unrestricted power in the diverse group, restricted power in the identical group, and unrestricted power in the identical group. Secured personal gains, as the indicator of corruption, are compared between different treatments using non-parametric statistical tests. Post-experiment survey is undertaken afterward, focusing on two simple questions. First, who will typically capture more money for personal gain; the subjects with restricted power or the ones with unrestricted power? Second, who will typically capture more money for personal gain; the subjects whose members agree to use the money collectively or the ones without that condition? The survey also asks the subjects to explain their rationales. Responses of the subjects are indicative of their behavior during the experiment and may explain the experiment outcomes.

3. Results and Discussion

Experimental results show that all subjects capture the group money for personal gain in various degrees (see Table 1). In general, personal gains secured by the unrestricted subjects are notably higher, indicating a greater magnitude of corruption. In diverse groups, personal gains drastically increase when the subjects have unrestricted power. However, the gap of personal gains between those with different power intensity is less severe in the identical group. The results also suggest that personal gains secured by unrestricted subjects in the diverse groups are higher than those in the identical ones.

Table 1
Average Personal Gains

Treatments		**Average Personal Gains**
Diverse Group	Restricted Power	32%
	Unrestricted Power	58%
Identical Group	Restricted Power	38%
	Unrestricted Power	45%

This study proceeds with Scheirer-Ray-Hare Test (a non-parametric alternative to Two Way ANOVA) to examine whether the variation of personal gains can be attributed to group diversity and the power intensity of subjects. The results presented in Table 2 show that the power intensity significantly affects the volume of personal gains. On the contrary, the effect of group diversity on the size of personal gain is not significant[1]. Nevertheless, those individual effects of power intensity and group diversity should be treated carefully, since the significance of interaction effect indicates that the effect of power intensity varies with group diversity.

Table 2
Scheirer-Ray-Hare Test Results

Effects	H-Criteria	p-value
Group Diversity Effect	0.59	0.44
Power Intensity Effect	11.71	0.00*
Interaction Effect	4.07	0.04*

* Significant at α=0.05

Having established the presence of interaction effect, this study employs Wilcoxon Signed-Rank Test to compare personal gains between subjects in the same groups, and Mann-Whitney Test to contrast personal gains between those in different groups. The results are presented in Table 3.

Table 3
Summarized Results of Group-Difference Tests (p-value)

		Diverse Group		Identical Group	
		Restricted	Unrestricted	Restricted	Unrestricted
Diverse Group	Restricted		0.00*	0.37	0.06
	Unrestricted	0.00*		0.00*	0.04*
Identical Group	Restricted	0.37	0.00*		0.30
	Unrestricted	0.06	0.04*	0.30	

* Significant at α=0.05

The results in Table 3 show a significant difference between personal gains secured by restricted and unrestricted subjects in diverse groups. Significant differences also persist between personal gain of unrestricted subjects in diverse groups and those of all subjects in identical groups. However, the difference in power does not affect the variation of personal gains in identical groups. Taking into account the results presented in Table 1, this study concludes that unrestricted subject in diverse groups captures more money for personal gains (hence greater magnitude of corruption) than the restricted ones in the same groups and all subjects in identical groups.

[1] Spearman correlation test also finds that personal gains have a significant correlation with power but not with group diversity. The correlation coefficient of power and secured personal gain is 0.26, with p-value of 0.0005.

According to the findings of post-experiment survey, subjects believe that those with unrestricted power typically take more money for personal gain than the restricted ones. They suggest that restricted subjects will perceive the probability of successfully capturing the money to be determined by the "members"' approval on the group benefit allocation, and this probability decreases with each reduction of group benefit. In contrast, the success of unrestricted leaders to capture the money is independent of the group benefit size.

The survey findings also imply that subjects will capture more money in diverse groups than in identical ones. The subjects assume that the loss of incremental benefit share is less noticeable to the members of diverse groups, since the effect is spread among independent members. Given this judgment, the subjects may feel less guilty to capture the money for personal gain. On the contrary, the effect of similar benefit reduction will dominate a single interest shared by all members in identical groups, making the consequence more noticeable. It will incur a greater psychological cost for the subjects, and this cost increases with the size of captured money.

It follows from the survey that the marginal probability of successful capture increases with power intensity, while the marginal psychological cost of capturing the money decreases with group diversity of interest. These findings may explain why unrestricted subjects in groups with diverse interests are associated with a greater magnitude of corruption. It also explains why unrestricted subjects in identical groups are not as corrupt as their equals in diverse ones.

4. Conclusion

This experimental study provides insight that leaders with power tend to corrupt; however, leaders with unrestricted power in groups with diversity of interests corrupt the most. According to the results of post-experiment survey, the marginal probability of successful corruption is higher for unrestricted leaders while its marginal psychological cost is relatively less in diverse groups. Thus, unrestricted leaders in diverse groups are associated with a greater magnitude of corruption.

The findings of this study offer alternatives to curb the power abuse by local leaders, and mitigate the incidences of public resource corruption. In addition to promoting participatory local development, increasing the cohesiveness of communities in pursuing common interests should be encouraged. Future experimental studies may investigate alternative policy interventions to further restraint the corruption at the community level.

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