

## Abstract

Earlier seminal research on fairness and distributive justice (Fehr & Fischbacher, 2004; Bazerman, Loewenstein, & White, 1992) uncovered a highly consistent self-centered inequality aversion, as well as aversion to inequality among others. So far, these two concerns – inequality involving the self and inequality among others – have been studied as separate phenomena. The present research aims to examine decisions in which these two concerns appear simultaneously, i.e. decisions that involve both self-centered and among-others inequality concerns. Based on the Fehr & Schmidt (1999) Inequality Aversion model, we propose a conceptual Generalized Inequality Aversion model that includes reference to self-centered concerns in addition to self-centered motives. We examined the conceptual model via four experiments comprised of decision matrices which isolated the prediction of the Generalized Inequality Aversion from the predictions of other relevant known motivations in resource allocation. Additionally, we manipulated the direction of the social comparison of the self compared to others. In accordance with the hypotheses, the findings revealed that inequality aversion affects resource allocation decisions even when the inequality was not directly relevant to one's own outcome. Moreover, when the allocator had more resources than others, concerns regarding equality among others seemed to be more salient.

## Introduction

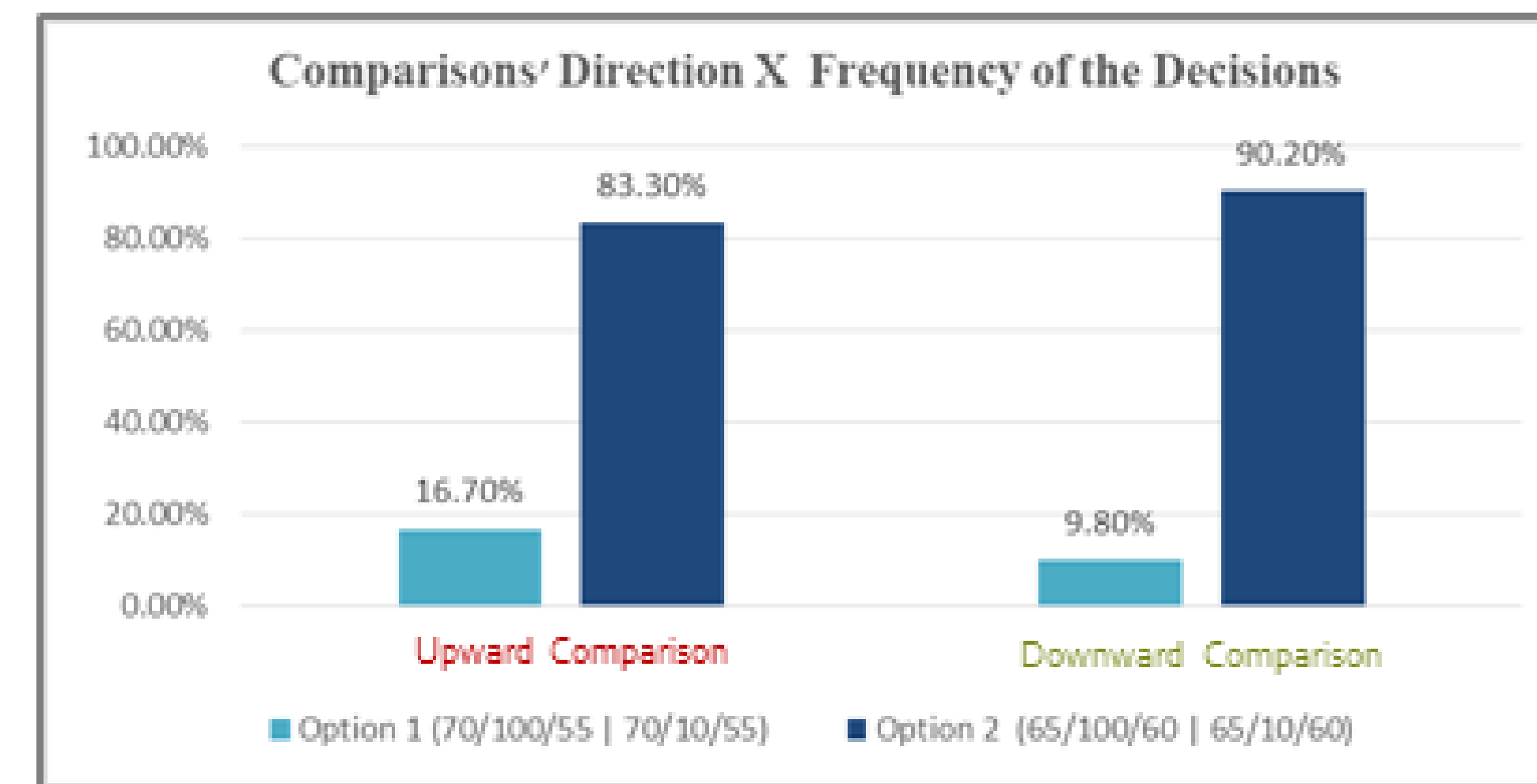
- **Motivations in Allocation Decisions:** Resource allocation is driven, in addition to other motivations such as self-maximizing and efficiency, by fairness concerns as reflected in the Inequality Aversion models of Fehr & Schmidt (1999) and of Bolton & Ockenfels (2000). However, the absence of reference to the equality among the other subjects is conspicuous in these models. Intuitively, and according to the essence of the fairness and distributive justice concepts, an individual may strive for equality between others and not only for equality between himself and another. This intuition is supported by research on third party punishment, which demonstrated that participants were willing to punish unfair allocators even when they had to sacrifice from their own profit in order to punish.
- **Social Comparison Direction:** A specific aspect of social comparison that was found to affect decisions is its direction- upward vs. downward comparison. The existing literature hints that in upward comparisons there are fewer fairness concerns than in downward social comparisons.
- **The Current Study:** We examined the predictive power of the Generalized Inequality Aversion concept, which was based on the Inequality Aversion model of Fehr & Schmidt (1999), and includes an additional component that captures the cost of experiencing inequality among the others in the interaction.
- **Hypotheses: (H1)** Individuals would prefer an allocation option that minimizes the gaps between all the subjects in the interaction. **(H2)** This preference would be stronger in downward comparisons than in upward comparisons.

## Method & Results

We used four experimental designs\* that combined allocation decisions with manipulation of social comparison direction:

### Experiment 1

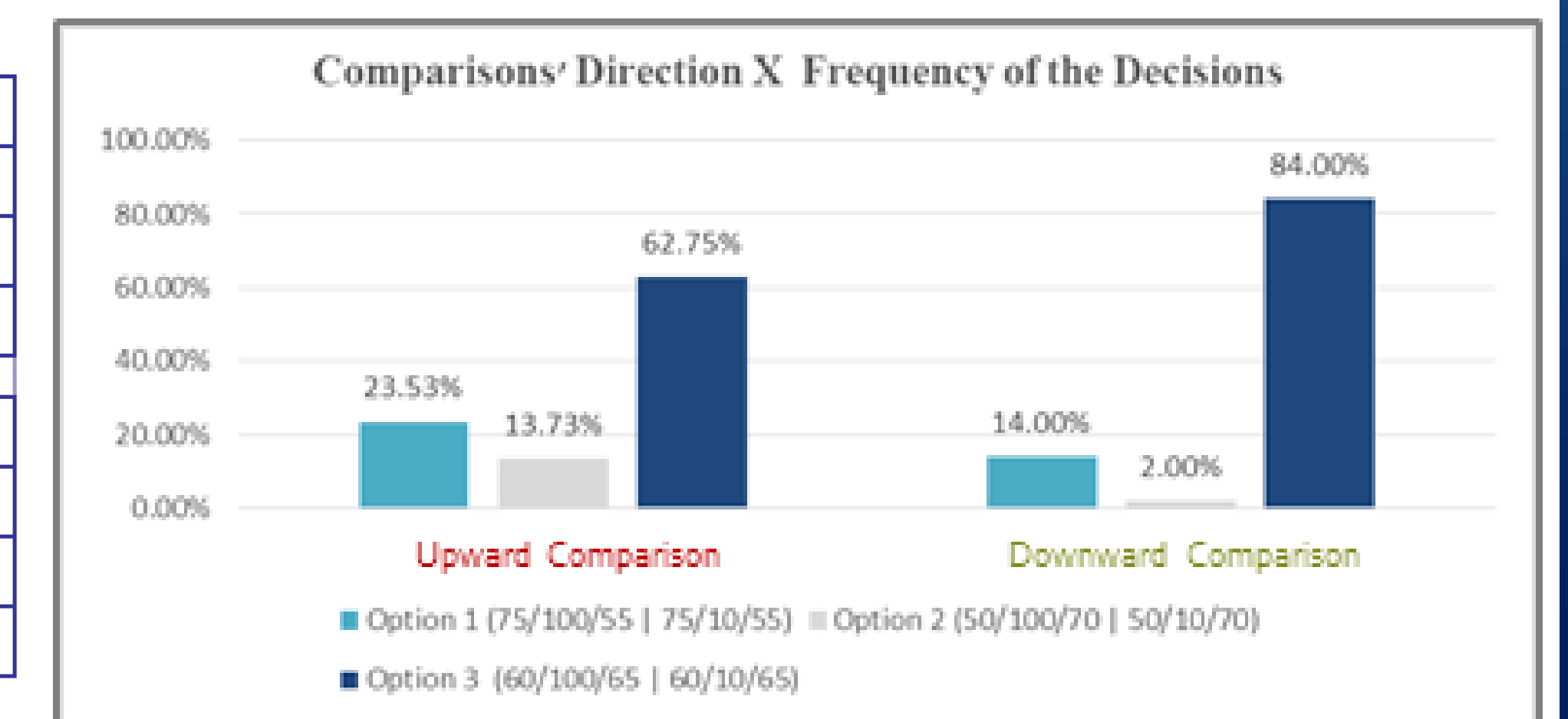
Direction	Subject A	Decision Maker	Subject C	Efficiency	Self.IA	Gen.IA
Downward						
Option 1	70	100	55	225	75	90
Option 2	65	100	60	225	75	80
Upward						
Option 1	70	10	55	135	105	120
Option 2	65	10	60	135	105	110



- Overall, 87% of the participants chose Option 2, compared to 13% who chose Option 1, a proportion that is significantly different from 50/50 distribution ( $p < 0.001$ ).
- In the Downward treatment: ( $p < 0.001$ ), in the Upward treatment: ( $p < 0.001$ ).
- A Chi square test (difference between the two treatments):  $\chi^2(1) = 1.02$ ,  $p = 0.38$ .

### Experiment 2

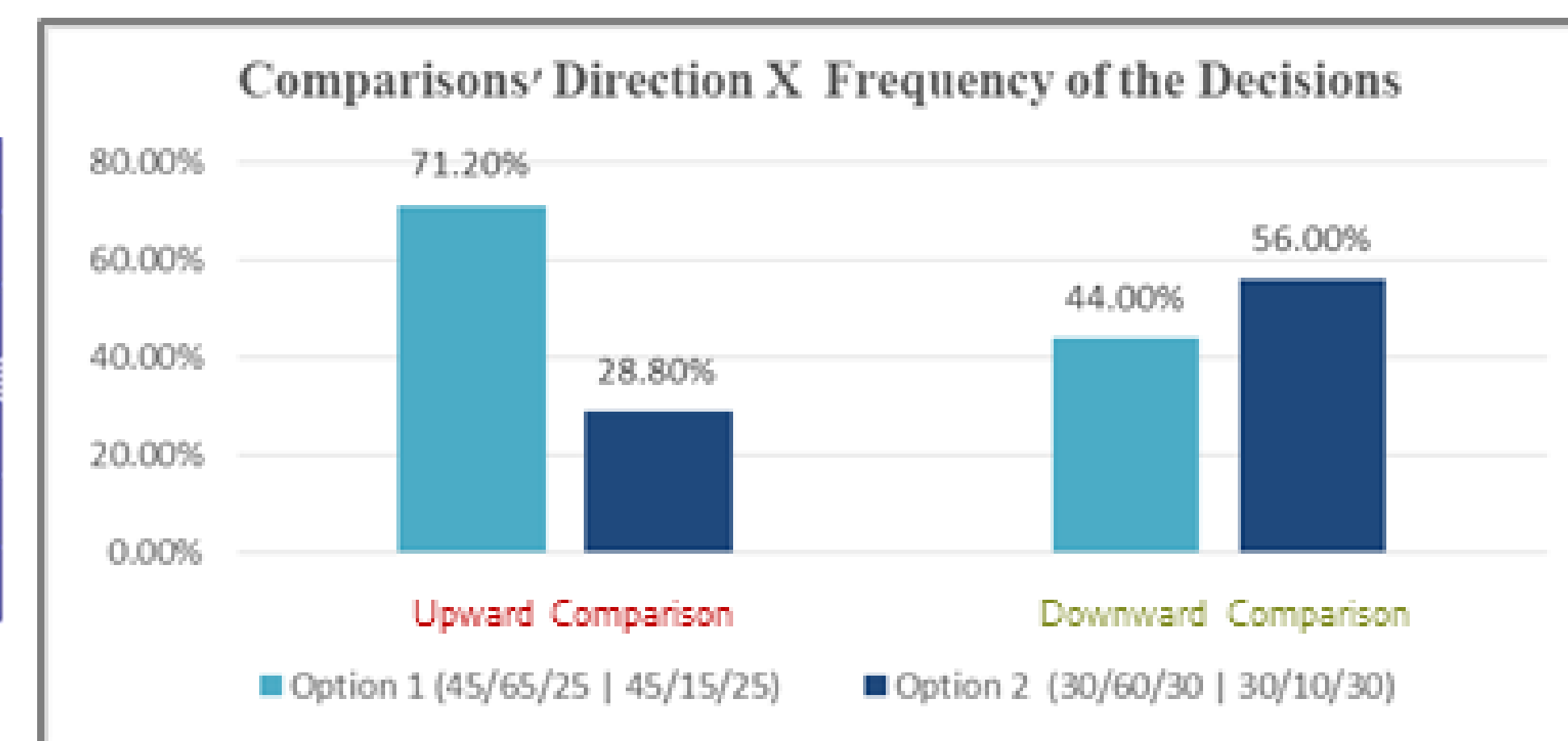
Direction	Subject A	Decision Maker	Subject C	Efficiency	Self.IA	Gen.IA
Downward						
Option 1	75	100	55	230	70	90
Option 2	50	100	70	220	80	100
Option 3	60	100	65	225	75	80
Upward						
Option 1	75	10	55	140	110	130
Option 2	50	10	70	130	100	120
Option 3	60	10	65	135	105	110



- Overall, 73% of the participants chose Option 3, compared to 27% who chose Option 1 or Option 2, a proportion that is significantly different from 50/50 distribution ( $p < 0.001$ ).
- Option 3 versus Options 1&2, in the Downward treatment:  $p < 0.001$ , in the Upward treatment:  $p = 0.092$ .
- A Chi square test (difference between the two treatments):  $\chi^2(1) = 5.82$ ,  $p < 0.05$ .

### Experiment 3

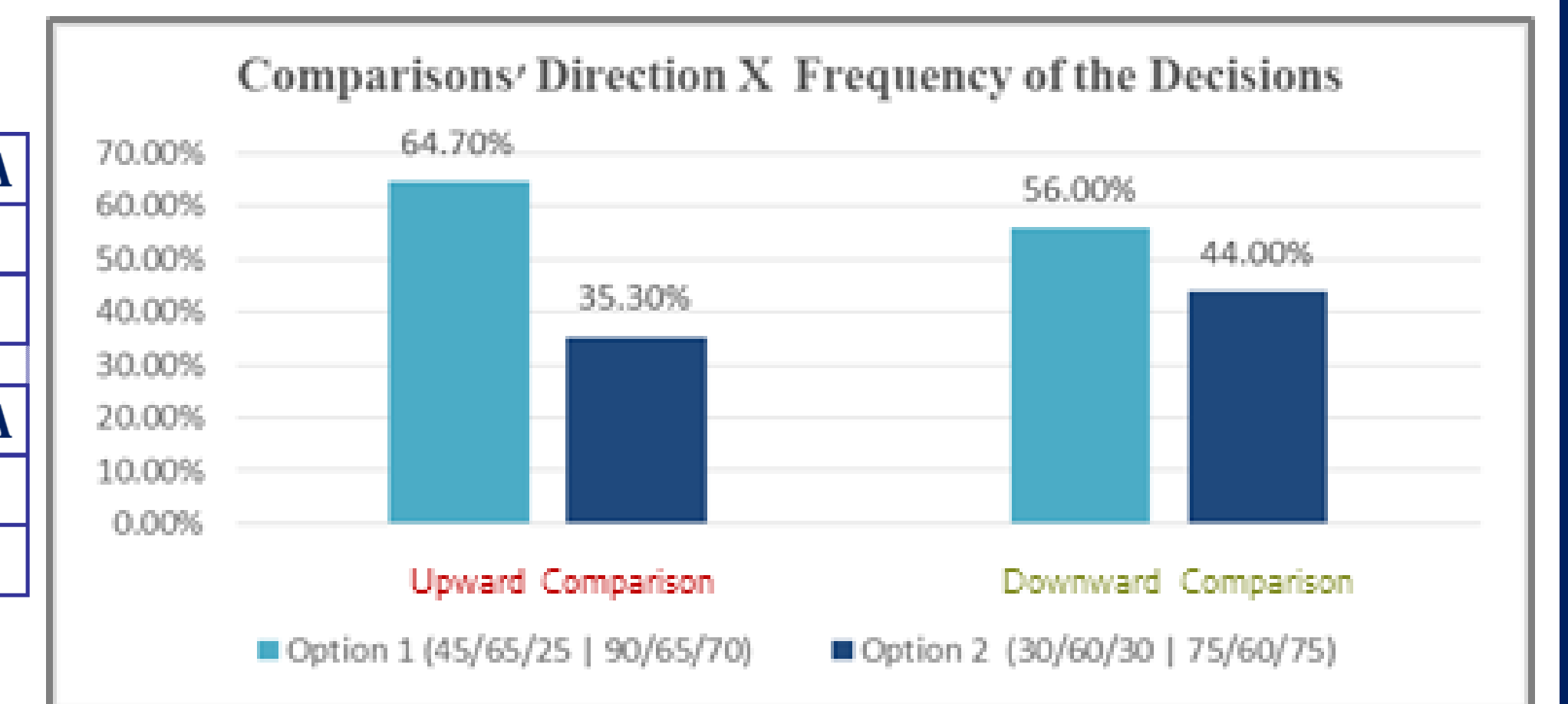
Direction	Subject A	Decision Maker	Subject C	Efficiency	Self.IA	Gen.IA
Downward						
Option 1	45	65	25	135	60	80
Option 2	30	60	30	120	60	60
Upward						
Option 1	45	15	25	85	40	60
Option 2	30	10	30	70	40	40



- Overall, 42% of the participants chose Option 2, compared to 58% that chose Option 1, a proportion that is not significantly different from 50/50 distribution ( $p = 0.14$ ).
- In the Downward treatment: ( $p = 0.48$ ), in the Upward treatment: ( $p < 0.005$ ).
- A Chi square test (difference between the two treatments):  $\chi^2(1) = 7.71$ ,  $p < 0.01$ .

### Experiment 4

Direction	Subject A	Decision Maker	Subject C	Efficiency	Self.IA	Gen.IA
Downward						
Option 1	45	65	25	135	60	80
Option 2	30	60	30	120	60	60
Upward						
Option 1	90	65	70	225	30	50
Option 2	75	60	75	210	30	30



- Overall, 40% of the participants chose Option 2, compared to 60% who chose Option 1, a proportion that is significantly different from 50/50 distribution ( $p < 0.05$ ).
- In the Downward treatment: ( $p = 0.48$ ), in the Upward treatment: ( $p < 0.05$ ).
- A Chi square test (difference between the two treatments):  $\chi^2(1) = 0.8$ ,  $p = 0.42$ .

## Conclusions:

- Inequality between others is a significant motivation, among other motivations, when choosing how to allocate resources.
- This motivation has a stronger impact when the allocator is in a superior position relative to others, compared to circumstances in which the allocator is in an inferior position.
- In some cases, such as in circumstances of downward comparison, the motivation of inequality between others may be as strong as the self-maximizing motivation.

\*Definitions of the criteria in the tables:

	Subject A	Decision Maker	Subject C	Efficiency	Self.IA	Gen.IA
Option 1	A1	B1	C1	A1+B1+C1	B1-A1 + B1-C1	Self.IA+ A1-C1
Option 2	A2	B2	C2	A2+B2+C2	B2-A2 + B2-C2	Self.IA+ A2-C2

## Reference

Fehr, E., & Schmidt, K. M. (1999). A theory of fairness, competition, and cooperation. The quarterly journal of economics, 114(3), 817-868.