# Perceived Utility (not Sympathy) Mediates the Proportion Dominance Effect

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# Perceived Utility (not Sympathy) Mediates the Proportion Dominance Effect.

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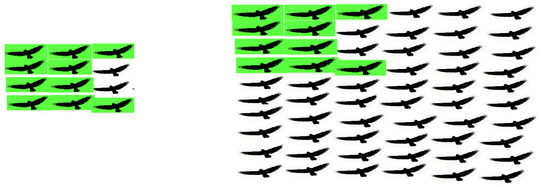
## The Proportion Dominance Effect

The Proportion Dominance Effect (PDE) refers to the tendency to focus on the proportion rather than the absolute numbers of victims in helping situations. Keeping the actual numbers of victims possible to save constant, people are more motivated to help when the reference group is small (i.e. the rescue proportion is high = HRP) than when the reference group is big (i.e. the rescue proportion is low = LRP).



**High rescue proportion (HRP):** You can save 10 out of 12 birds

**Low rescue proportion (LRP)**: You can save 10 out of 60 birds

## Underlying factors of PDE?

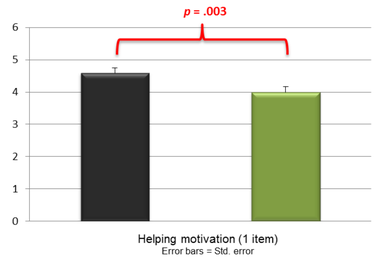
In an often cited article by Jenni & Loewenstein (1997) PDE is suggested to be the strongest and most explicit aspect of the "identifiable victim effect". The rationale is that an identifiable victim is usually his or her own reference group, making the rescue proportion 100%.

In general, strong prosocial emotions such as empathy and sympathy are considered to be the best predictors of helping motivation and have for example been shown to explain the identifiable vs. statistical victim effect and the singularity effect (Kogut & Ritov 2005a, 2005b, 2007). However, there seems to be little empirical support for a link between emotional reactions and the PDE.

In this study, the aim is to investigate three possible mediators of the PDE - sympathy, perceived utility and perceived rights. The hypothesis is that PDE is mediated by a cognitive (perceived utility) rather than an affective (sympathy) or moral factor (perceived rights).

## Phase 1: Replicate PDE

48 students read six vignettes created by Bartels (2006), each describing an emergency situation and rescue project. All participants read three vignettes in the LRP-condition and three in the HRP condition (6×6 balanced between-within Latin-square design). After each vignette participants stated their attitude towards supporting the rescue project (0 = would not support at all; 6 = would give strongest possible support).




**Results:**

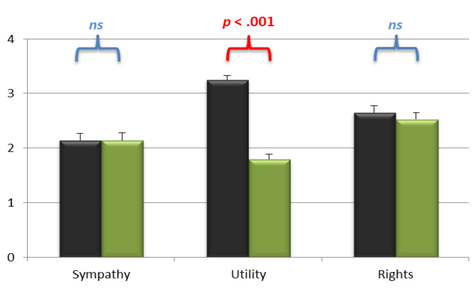
As expected, helping motivation was higher in the HRP-condition ($M$ = 4.59, $SD$ = 1.16) than in the LRP-condition ($M$ = 3.99, $SD$ = 1.20; paired $t$[47] = 3.18, $p$ = .003, Cohen's $D$ = 0.46).

## Phase 2: Only the mediators

48 students participated. The design and vignettes were identical to phase 1. After each vignette participants responded to nine statements about the emergency situation or the rescue project. Each statement measured one of the following reactions or perceptions:

- Sympathy felt towards the victims
- Perceived utility of the rescue project
- Perceived rights of the victims to receive help.

Participants rated their agreement with each statement (0 = do not agree at all; 4 = agree completely). No question about helping motivation was included.




**Results:**

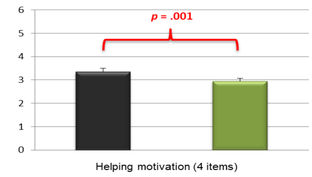
- Perceived utility of the rescue project was higher in the HRP-condition ($M$ = 3.25, $SD$ = 0.54) than in the LRP condition ($M$ = 1.80, $SD$ = 0.62; paired $t$[47] = 13.15, $p$ < .001, Cohen's $D$ = 1.89).
- Sympathy towards the victims did not differ in the HRP-condition ($M$ = 2.14, $SD$ = 0.87) and the LRP-condition ($M$ = 2.14, $SD$ = 0.95, $ns$).
- Perceived rights of the victims did not differ in the HRP-condition ($M$ = 2.65, $SD$ = 0.83) and the LRP-condition ($M$ = 2.53, $SD$ = 0.83, $ns$)

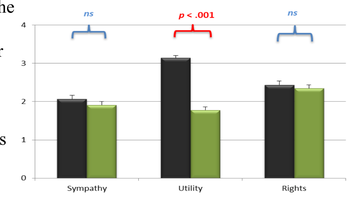
## Phase 3: The mediation analysis

72 students participated. The design and vignettes were identical to phase 1 and 2. After each vignette participants responded to the nine statements (used in phase 2) and thereafter to four highly correlated questions about their helping motivation.

**Results:**

- Motivation to help was higher in the HRP-condition ($M$ = 3.35, $SD$ = 1.22) than in the LRP-condition ($M$ = 2.95, $SD$ = 1.06; paired $t$[71] = 3.55, $p$ = .001, Cohen's $D$ = 0.42.
- Perceived utility was higher in the HRP-condition ($M$ = 3.14, $SD$ = 0.51) than in the LRP-condition ($M$ = 1.78, $SD$ = 0.68; paired $t$[71] = 14.71, $p$ < .001, Cohen's $D$ = 1.65).
- Sympathy did not significantly differ in the HRP-condition ($M$ = 2.07, $SD$ = 0.82) and the LRP-condition ($M$ = 1.91, $SD$ = 0.81, $ns$).
- Perceived rights of the victims did not differ in the HRP-condition ($M$ = 2.44, $SD$ = 0.85) and the LRP-condition ($M$ = 2.35, $SD$ = 0.77, $ns$)
- Mediation analysis of within-subject designs was done as suggested by Judd, Kenny & McClelland (2001). Perceived utility significantly mediated the relation between conditions and helping motivation. B = .395, SE. B = .250, $\beta$ = .326, $t$ = 2.73, $p$ = .008).




## Conclusion

**The results indicate that PDE is driven by increased perceived utility rather than increased sympathy. As the study was divided into three phases, each link could be confirmed independently. The results suggest that the PDE is the result of a cognitive bias rather than an affective bias and hence that it is fundamentally different from the identifiable victim effect or the singularity effect in helping situations.**

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