

# The Effects of Economic Incentives on Pro-Environmental Behavior: A Meta-Analysis

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## Introduction

- Many behavior change interventions have used economic incentives (e.g., cash, free tickets) to promote pro-environmental behavior (e.g., recycling, conserving water).
- The current meta-analysis reviews past research on the overall impact of economic incentives on pro-environmental behavior, in addition to determining how certain types of incentives (cash vs non-cash incentives) or behaviors (public vs private behaviors) might strengthen or weaken these impacts. We expect that overall economic incentives will have a positive impact on pro-environmental behaviors.
- Hypothesis 1: Non-cash incentives (e.g., coupons, gifts) will have a larger impact on behavior compared to cash incentives. Past research in social psychology suggests that non-cash incentives generally receive more favorable evaluations from recipients.
- Hypothesis 2: Incentives will have a larger impact when they are provided in a private setting (e.g., mail, phone) or when behaviors occur in a private setting (e.g., home). Incentives have been shown to interfere with social norms, and are less effective in public settings.

## Method

- Each article (48 collected and initially reviewed) had to contain all five of the following:
  - (1) an acceptable pro-environmental behavior
  - (2) an acceptable type of incentive
  - (3) an experimental or quasi-experimental design
  - (4) comparisons of at least two groups or two time points
  - (5) a measure of behavior

- In total, 22 studies qualified for the meta-analysis ( $k = 30$  effect sizes, total  $N = 3,756$ ).
- Types of behaviors in the qualified studies included recycling, conserving resources (e.g., water, gas), carpooling, and buying “green” products. Types of incentives included coupons, cash, rebates, free tickets, and non-cash merchandise.
- We computed the magnitude of the difference between groups (Cohen’s  $d$  effect size) at the end of the incentive intervention, as well as during follow-up, after the incentive was removed.

## Results and Conclusion

	End of intervention	Follow-up
<b>Overall effect size</b>	$d = .34$	$d = .42$
<b>Cash incentives</b>	$d = .12$	$d = .37$
<b>Non-cash incentives</b>	$d = .26$	$d = .44$
<b>Public incentives</b>	$d = .30$	$d = .58$
<b>Private incentives</b>	$d = .38$	$d = .40$
<b>Public behaviors</b>	$d = .37$	$d = .42$
<b>Private behaviors</b>	$d = .20$	N/A

- Economic incentives produce a moderate impact on pro-environmental behavior.
- Non-cash incentives produce a larger impact on pro-environmental behavior.
- Incentives produce a larger impact on pro-environmental behavior in public settings.

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