MATCHING INCENTIVES AND MOTIVATION

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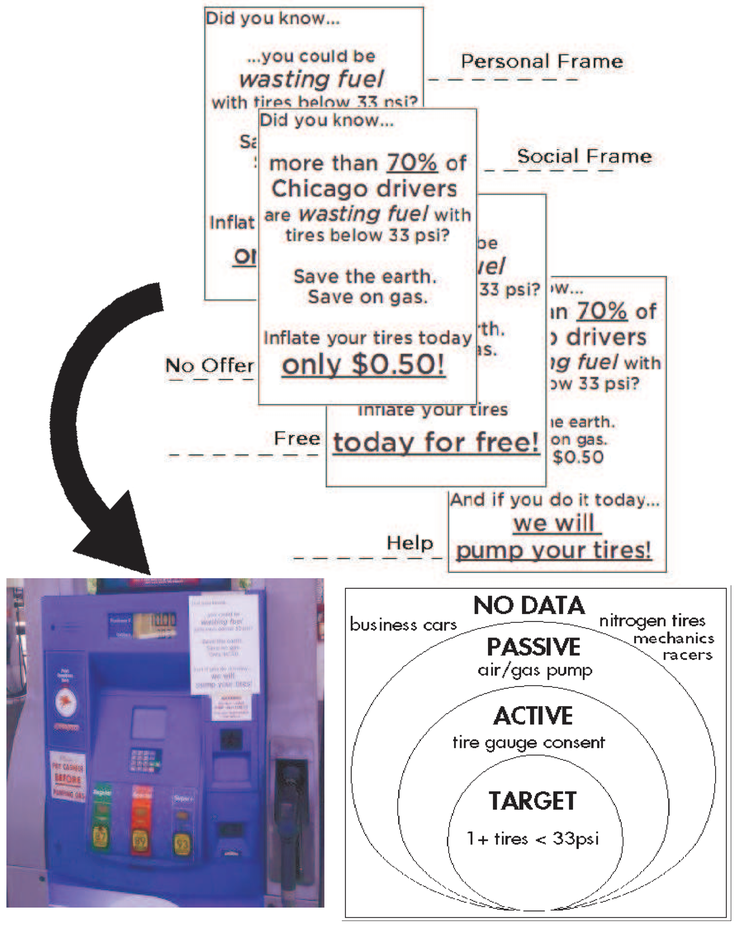
ABSTRACT

Many theories of incentives make a distinction between social and monetary rewards. However, important decisions can straddle this divide. In this case we study energy efficiency in a framed field experiment, encouraging tire inflation at gas stations. We found that a price discount was more effective when saving gas was framed as a personal concern instead of a social concern. But the reverse was true for offering help, which was better in the social frame than the personal frame. We propose this is a demonstration of **incentive fit**, whereby the effectiveness of our treatments depended on the resonance between the type of incentive and the construal of the motivation.



METHODS

Data were collected at two gas stations in Chicago. Treatments varied the incentive (free air vs help vs no offer) and construal (social vs personal concern), in a 3x2 between-subjects design (+1 control). During treatments, one of six posters was hung on every gas pump for a half hour block. Every individual buying gas was offered a free gauging by an RA. If they accepted **(n=285)**, the RA mentioned the poster, asked when the last time their tires were filled and reported the tires below 33psi **(n=221)**. [Treatment On the Treated]

Further, in all 7 conditions, a second RA secretly recorded all customers' license plates **(n=700)**, and covariates of interest (duration, time of day, demographics, # of passengers). [Intent To Treat]

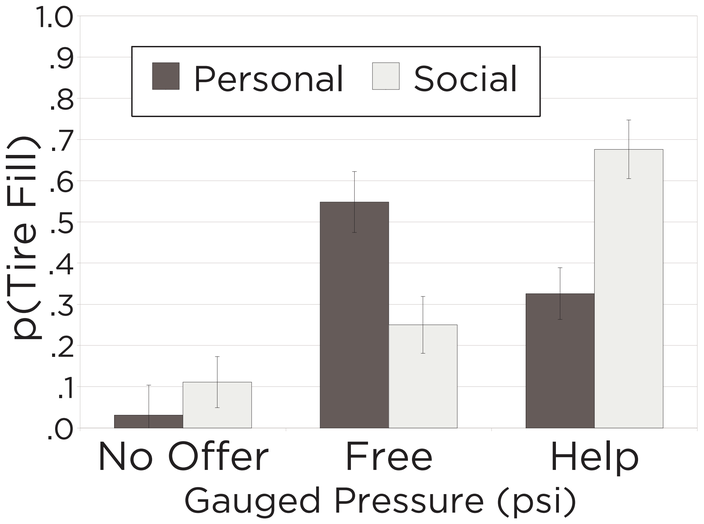
This passive data also helped determine whether subjects' consent induced selection effects. No systematic differences were found that would affect our interpretations between conditions.

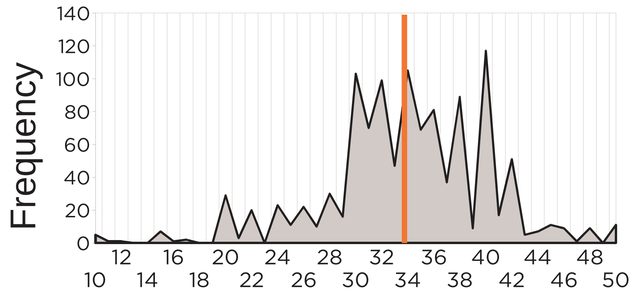
BACKGROUND

Nudging environmental decisions requires careful consideration of the pecuniary and social pressures. In particular, incentivizing such socially beneficial behavior may crowd out prosocial motivation and reducing the desired behavior (1,2). Other work has shown that emphasizing social factors can encourage behavior (3). Our study examines whether construal as a social or personal good moderates the efficacy of different incentives. Can prosocial behavior be incentivized while avoiding crowding out?

We examined tire pressure. It is both personally and socially beneficial (allowing multiple construals) and its upfront costs are both monetary and non-monetary (time & effort). Further it is a target of import – proper inflation can reduce fuel consumption by ~3% and reduce accidents (4). Running the experiment in the field also permits more general inferences about social incentives (5).

RESULTS





LOGISTIC REGRESSIONS

Significance
p<0.10
p<0.05
p<0.02

	ITT		TOT		TOT+	
	Beta	SE	Beta	SE	Beta	SE
(P/Help)-(P/Free)	-0.52	0.39	-0.92	0.49	-0.89	0.57
(S/Help)-(P/Free)	0.34	0.36	0.54	0.51	0.65	0.64
(S/Free)-(P/Free)	-0.88	0.43	-1.29	0.53	-1.26	0.62
(P/Help)-(S/Help)	-0.85	0.38	-1.47	0.49	-1.54	0.59
(S/Free)-(S/Help)	-1.21	0.41	-1.84	0.53	-1.91	0.63

DISCUSSION

Our results suggest that crowding out can be avoided if extrinsic incentives are consistent with the dominant intrinsic motivation. The mechanism is unclear - "incentive fit" may operate by increasing the perceived value of the incentive; or offering a simpler, more coherent justification for action; or else ease the subjects' perceptions of our intent to control their behavior.

This study has many potential applications. Choice architects (6) can be more effective if they avoid mixing monetary and social justifications for socially beneficial, but low base-rate, behavior, which includes many environmental decisions. These data also contribute to our understanding of incentives, and suggest a kind of "mental accounting" for motivation.

REFERENCES

1. Heyman & Ariely (2004). *Psych Science, 15(11),* 787-793
2. Gneezy & Rustichini (2000). *J of Legal Studies, XXIX,* 1-18.
3. Schultz et al. (2007). *Psych Science, 18 (5),* 429-434.
4. US NHTSA (2001). *DOT HS 809 317.*
5. Levitt & List (2007). *J Econ Perspectives, 21(2),* 153-174
6. Thaler & Sunstein (2008). *Nudge.* Penguin.