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因思想而光华

Echoes from the Past: Too Costly or Worth Gaining to Be Nice Again?

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CMAU Conference, Jinan, July 2025

Charitable Crowdfunding Platforms

Charitable crowdfunding is becoming **one of the major channels for charitable donations** in China since its foundation from 2016 (like GoFundMe).

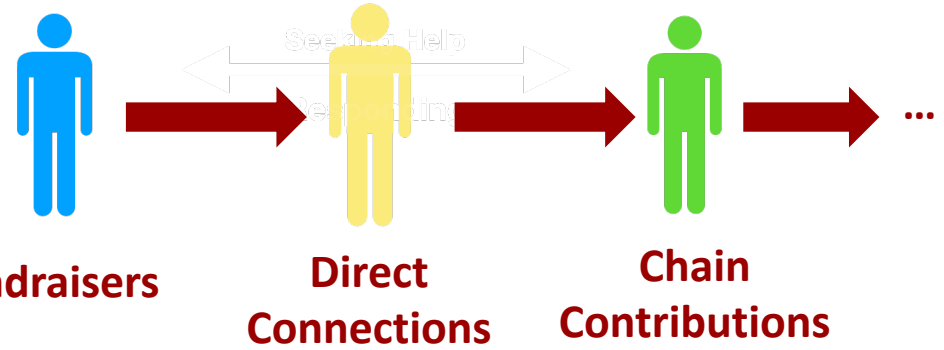
More than **1 billion** users who have visited.

More than **0.5 billion** users who have donated.

More than **3 million** patients have been helped.

More than **68 billion** ¥ has been raised.

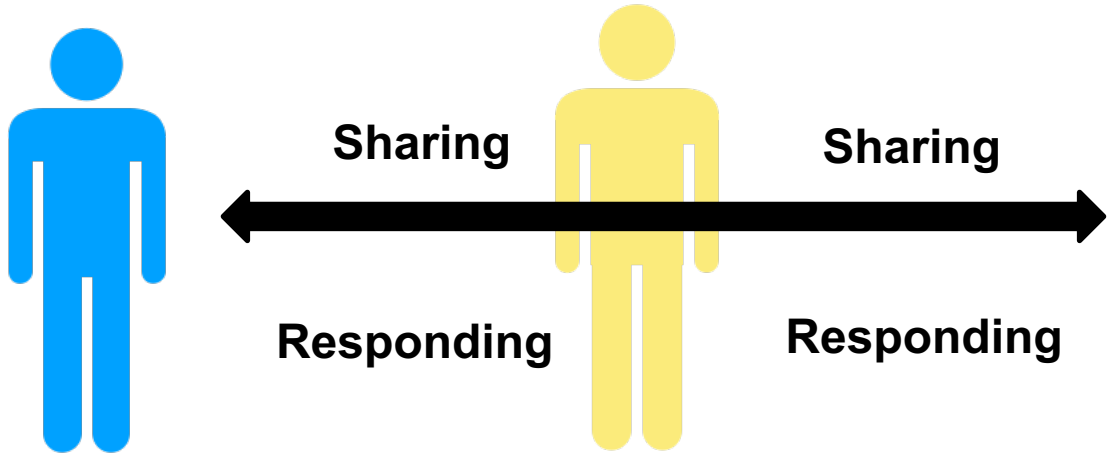
Around **10%** of total societal donations in China



Charitable:
unique from other crowdfunding, without returns

Crowdfunding:
unique from other charitable, social equity are important

Information design of the platform



Fundraiser Information Design

Wang et al. 2022

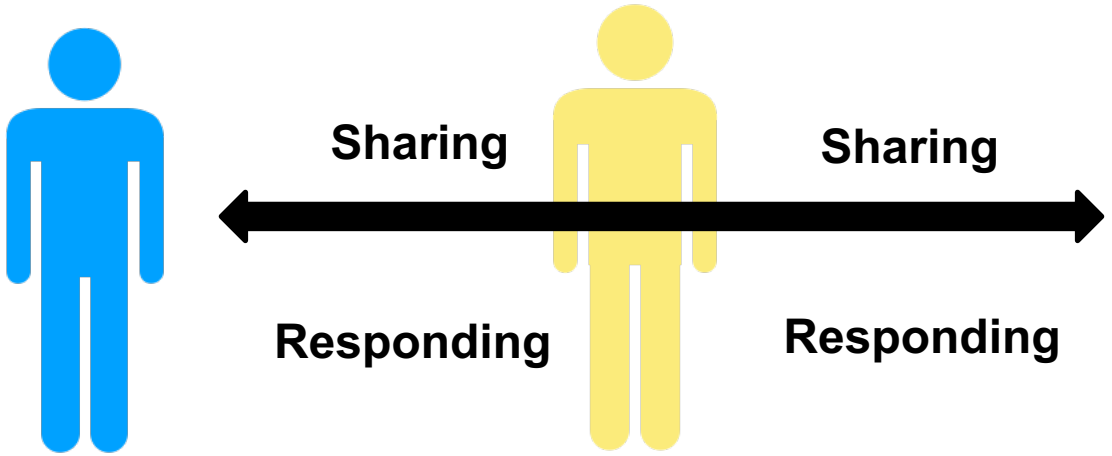
Social Influence Information Design

Chan et al. 2024
Hur et al. 2022

Donator Information Design

Directly connects to self-evaluation on self-image, one of major motives for generosity
(Benabou and Tirole, AER, 2006)

Information design of the platform



Fundraiser Information Design

Social Influence Information Design

Donator Information Design

Wang et al. 2022

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Detailed historical acts documented anonymously retrospect

A clean examination on self-evaluation on self-image

Literature : why historical donations matter?

Decades of Debate in Charitable Literature and Fundamental Traits of Human-beings:

Consistency Seeking VS. Moral Licensing?

1. Consistency Seeking

a. theoretical foundation

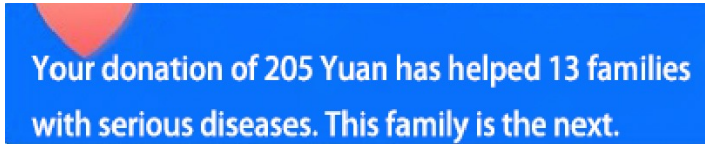
(1) self-perception theory(Bem, 1972)

(2) cognitive dissonance theory (Festinger, 1957)

b. illustrations

2. Moral Licensing (Jordan et al., 2011; Mazar & Zhong, 2010)

How to design the information is still unclear.



2 pieces of historical information exist on this platform.

- **Amount information: the total money incurred (similar to cost)**
- **Frequency Information: the total families being helped (similar to benefits)**

The impacts of both aspects are unclear:

Cost Information:

—: Moral Credit or Mental accounting (Thaler, 1985)

+ : Paying to be nice (Gneezy et al., 2012)

Frequency Information:

—: Goal progress vs.

+ : Goal commitment (Fishbach et al. 2009, 2014)

The Field Experiment: Design

Control

Your donation has helped 13 families with serious diseases. This family is the next.

Frequency

Your donation of 205 Yuan has helped families with serious diseases. This family is the next.

Amount

Your donation of 205 Yuan has helped 13 families with serious diseases. This family is the next.

Both

The Field Experiment: Basics

a. Platform: The largest medical crowdfunding platform in China, WaterDrop

b. Time window: 2023.3.23 ~ 2023.4.07(2 weeks), 5% of the platform's traffic

c. Randomization Level: User Level (conditional on having donations, 60~70% of total)

	Control	Frequency	Amount	Both
PPs	709,740	709,789	709,751	709,692
Cases	28,416	28,237	28,458	28,156

The Field Experiment: Results

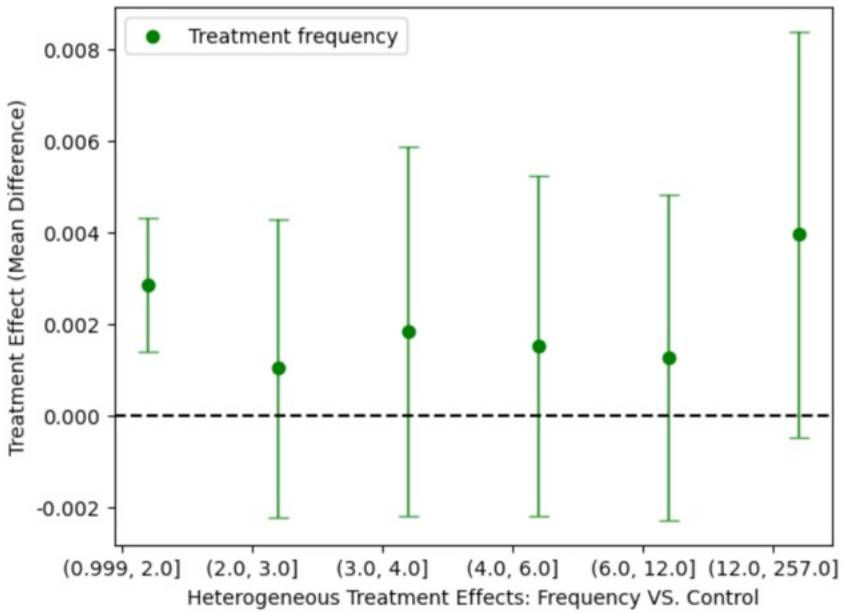
	Control	Frequency	Amount	Both
Donation Rate	17.2%	17.5%	17.0%	17.3%
TE		1.38%*** [0.4%,2.3%]	-1.02%** [-2.0%,-0.05%]	0.24% [-0.7%,1.16%]
Donation Amount (conditional)	¥27.35	-1.6%* [-2.9%,-0.2%]	-0.85% [-2.2%, 0.5%]	-0.82% [-2.2%, 0.6%]
				
PPs	709,740	709,789	709,751	709,692

*p<0.05 ** p<0.01 ***p<0.001

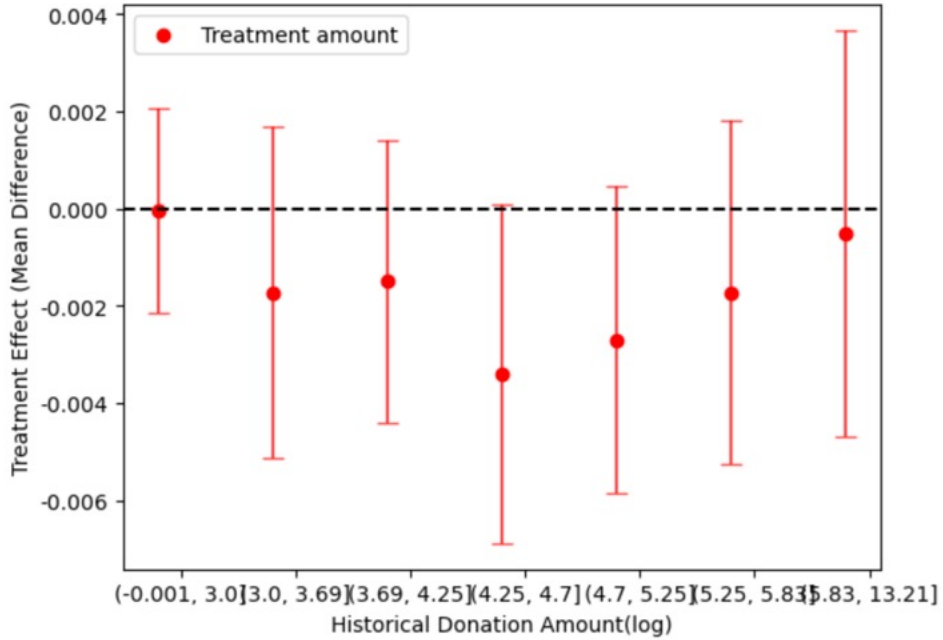
Role1: A diagnostic signal on model-identity progress

Moral Identify

novices	**Mid-spenders**	**veterans**
still forging a moral identity	Some moral identity	moral identity established

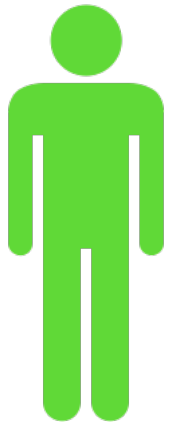


novices (still forging a moral identity)&
veterans (keen to uphold it)



Mid-spenders
(midway through shaping their image)

Role2: Accelerator



Clicked

Decide

Donate

Exit

Additional Information

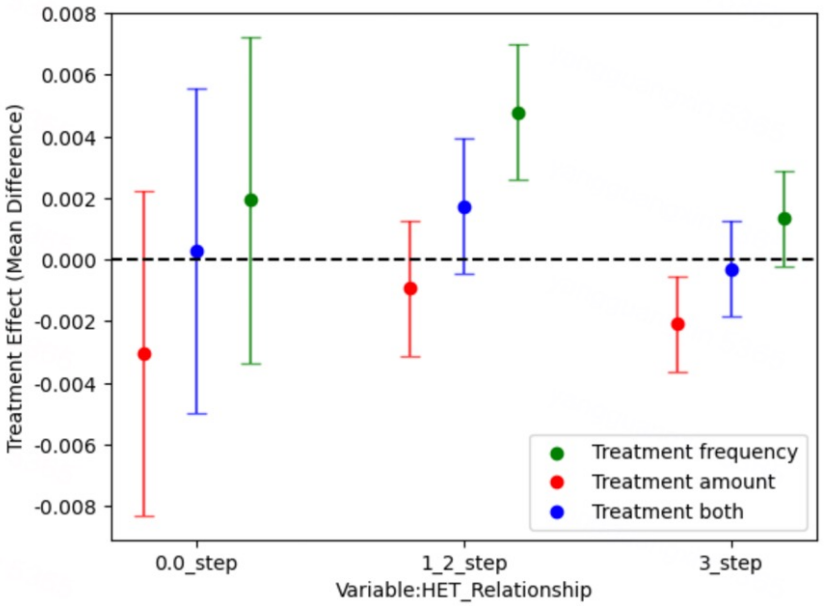
Your donation of 205 Yuan has helped 13 families with serious diseases. This family is the next.

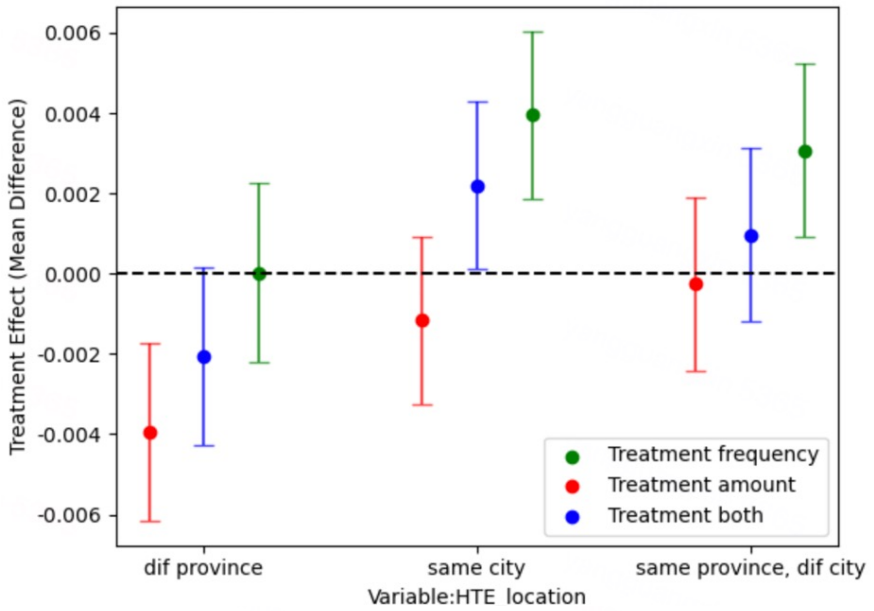
Accelerator: Previous Information as Peripheral Cues for not Donating

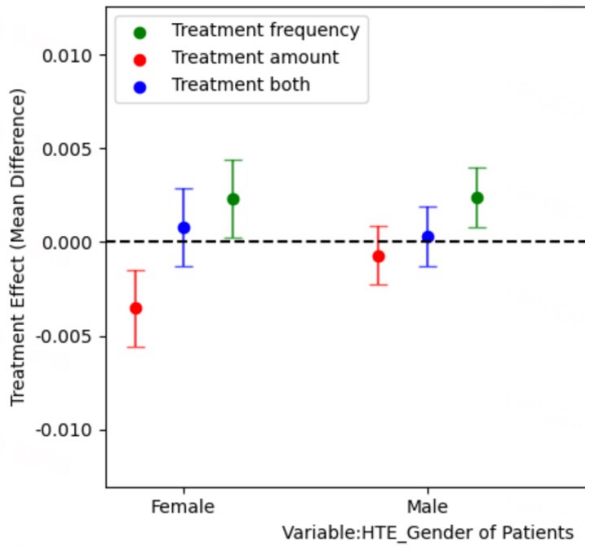
		Control	Frequency	Amount	Both
Decision Time	81.68s		-0.95%***	-0.63%***	-0.58%***
Donating Time	110.72s		—	—	—
Exit Time	75.65s		-1.01%***	-0.72%***	-0.65%**
PPs		709,740	709,789	709,751	709,692

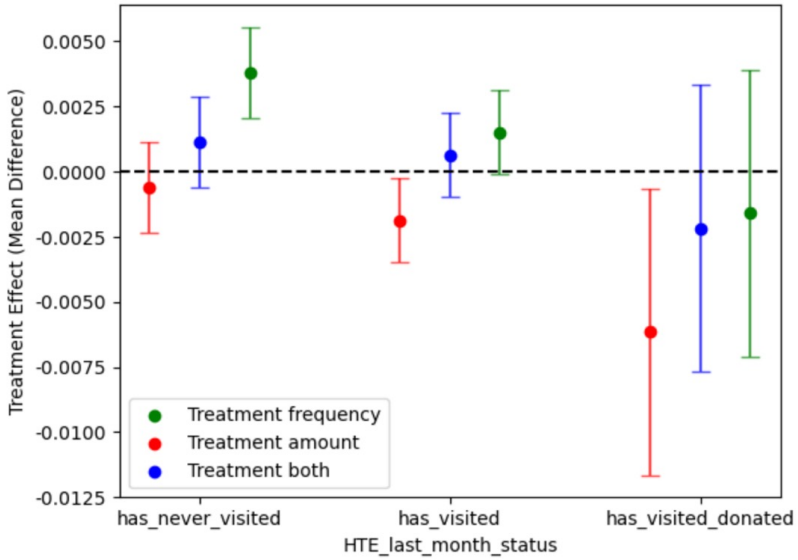
*p<0.05 ** p<0.01 ***p<0.001

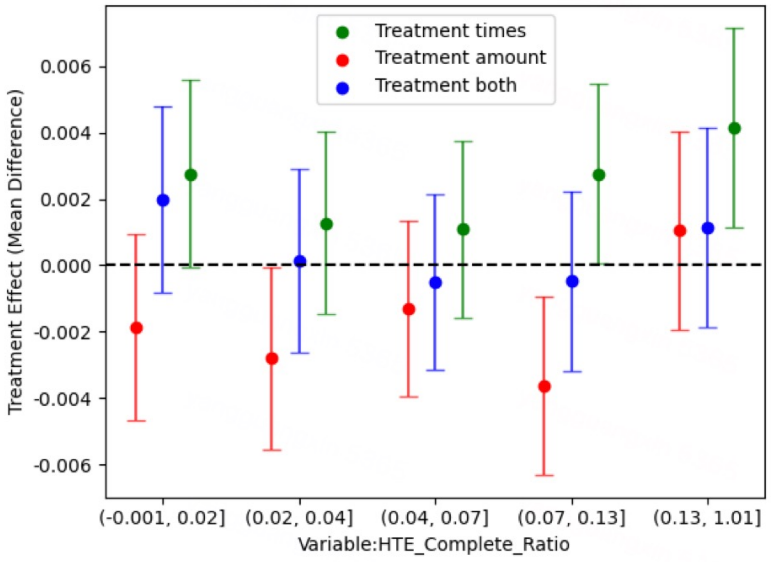
Large Heterogeneity

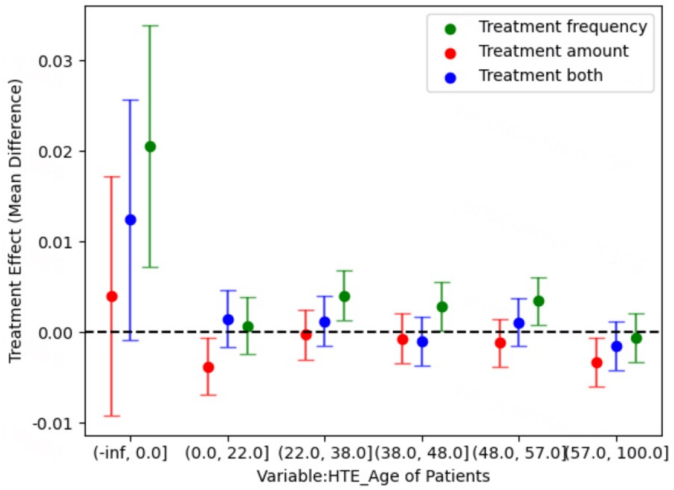












Personalized Policy Design (Yoganarasimhan et al. 2023)

1. HTE based on Causal Forest(Athey, 2016) for each treatment pair ;

2. Find the treatment that has positive TE over all pairs included.

e.g. for a potential donator, (s)he will be assigned to group 'both' only if for CF('control','both'), CF('amount','both'), CF('frequency','both') are all suggesting positive treatment effects.

3. Off-policy Evaluation: inverse propensity score reward estimator

(Hitsch and Misra 2018, Simester et al. 2020)

$$\hat{R}_{IPS}(\pi, Y) = \frac{1}{N}\sum_{i=1}^{N}\frac{1[W_i = \pi(X_i)]Y_i}{\hat{e}_{\pi(X_i)}(W_i)}$$

Off-Policy Evaluation: Assignment & Users

Covariates	Variables	Causal Forest Assignment		
		Control (27.2%)	Frequency (71.1%)	Both (1.7%)
Demographic	gender(1=male)	35.81%	34.79%	37.79%
	age	38.86	38.41	34.18
	is_same_province(1=yes)	**68.74%**	67.12%	63.78%
	acquaintance% (vs. strangers%)	**32.65% (vs. 58.52%)**	28.06% (vs. 65.11%)	27.84% (vs. 67.18%)
History	visit	62.75	**45.41**	87.27
	donate	7.98	6.59	**52.25**
	share	1.98	1.59	3.67
	donate ratio	19.19%	17.74%	**63.69%**
Recency	days_since_visit	120.51	111.07	**47.37**
	days_since_donate	633.72	612.95	**107.59**

Off-Policy Evaluation: Another 0.5~1%

Policy	Estimated donation ratio(%)		Increase in donation(%)	
	Training Set	Test Set	Training Set	Test Set
control	17.19	17.26	——	——
amount	17.06	17.01	-0.76%	-1.45%
frequency	17.45	17.43	1.51%	0.98%
both	17.27	17.23	0.47%	-0.17%
Causal Forest	**17.61**	**17.59**	**2.44%**	**1.91%**

Conclusion

- **Priming people's prior donations influence their next charitable behavioral. Specifically,**
  - **Frequency** VS. **Amount** information are consistent with **consistency-seeking** and **moral licensing** phenomenon respectively. Presenting both information simultaneously offsets their respective effects.
  - The additional information serve as **peripheral cues** for those not donating, accelerating their decision.
- **We can leverage the large heterogeneity to design the best priming policy.**
  - Off-policy evaluation based on causal forest algorithm suggest **additional 0.5%~1% gains** can be achieved from personalization.

Thank you for listening!