# Online Appendix

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## Experimental Stimuli: Survey of Experts (Study 1)

#### Introduction

We are planning to **test a few matching fundraising solicitations on prior donors** of a local non-profit. The non-profit promotes young artists by organizing exhibitions and workshops. It also offers summer art classes for children.

The solicitations will be sent using postal mail. The mail will include an appeal letter, a pledge card, and a return envelope.

Random groups of donors will be sent different matching solicitations, and we are interested to compare the groups on participation (average donate rate) and the amount donated by participating donors (average donation amount).

We are interested in your opinion about these matching fundraising solicitations. There are no right or wrong answers.

We are **planning to test five (5) different appeal letters**. A random group of **prior donors will see only one letter**.

Below you will see the actual texts (shown within quotation signs) in these letters. Please review them carefully before answering a few questions about them.

#### Details about the five appeals (including control) shown to the experts

#### 1. Control

"During our 75th Anniversary, we hope you will continue to join us in demonstrating your commitment to Chicago's art and artists by making a contribution today."

#### 2. Standard Matching

"In recognition of the Organization's success over its 75-year history, a supporter has offered a matching grant to encourage you to increase your donation and invest in our future.

This supporter will give \$1 for EVERY \$1 you contribute. **So, for every dollar you give**, we will receive two dollars in support of our programs – your dollar and a dollar from this supporter.

Let's not lose this match - please give today!"

#### 3. Standard Matching with Credit to the Donor

"In recognition of the Organization's success over its 75-year history, a supporter has offered a matching grant to encourage you to increase your donation and invest in our future.

This supporter **will add \$1 to your contribution** for EVERY \$1 you give. So, for each dollar you give, **we will receive two on your behalf** in support of our programs.

Let's not lose this match-please give today!"

#### 4. Incremental Matching

"In recognition of the Organization's success over its 75-year history, a supporter has offered a matching grant to encourage you to increase your donation and invest in our future.

This supporter **will give \$1 for every additional \$1 you donate OVER your last gift**. So, for each dollar you add to the amount of your last contribution of \$«PREVIOUS», we will receive two in support of our programs –your dollar and a dollar from this supporter.

Let's not lose this match - please give today!"

[the placeholder \$<<PREVIOUS>> reminded the donor about his/her last contribution amount]

#### 5. Incremental Matching with Credit to the Donor

"In recognition of the Organization's success over its 75-year history, a supporter has offered a matching grant to encourage you to increase your donation and invest in our future.

This supporter **will add \$1 to your contribution for every \$1 you donate OVER your last gift.** So, for every dollar you add to the amount of your last contribution of \$«PREVIOUS», **we will receive two dollars on your behalf** in support of our programs.

Let's not lose this match-please give today!"

[the placeholder \$<<PREVIOUS>> reminded the donor about his/her last contribution amount]

## Illustrative example of a comparison (Standard matching with regular framing vs. Control)

Considering the cont the two questions th	trol and the standard at follow.	matching conditions,	shown below once a	gain, please answer
<u>1. Control</u> "During our 75th Anr Chicago's art and art	niversary, we hope yo iists by making a con	u will continue to join tribution today."	us in demonstrating	your commitment to
<ul> <li>2. Standard Matching</li> <li>"In recognition of the Organization's success over its 75-year history, a supporter has offered a matching grant to encourage you to increase your donation and invest in our future.</li> <li>This supporter will give \$1 for EVERY \$1 you contribute. So, for every dollar you give, we will receive two dollars in support of our programs – your dollar and a dollar from this supporter.</li> <li>Let's not lose this match – please give today!"</li> </ul>				
Compared to the <b>Co</b> appeal) would be HIC	ntrol condition, do yo GHER in the <b>Standard</b> Probably Yes	u think <i>participation</i> (i I <b>Matching</b> condition?	e., number of peopl	e responding to the
0	0		0	0
Compared to the <b>Control</b> condition, do you think <i>average donation amount</i> (i.e., non-zero dollar amount donated by those who decided to respond to the appeal) would be HIGHER in the <b>Standard Matching</b> condition?				
Definitely Yes	Probably Yes	Cannot Predict	Probably No	Definitely No

## **Experimental Stimuli: Survey of Experts (Study 2)**

#### Introduction after passing screener

(1/4) Thank you for your answers. The main survey will begin now. This will take approximately 5-10 minutes to complete.

We are doing some academic research on fundraising solicitations and your feedback will be immensely valuable to better understand the effectiveness of fundraising strategies.

(2/4) One common solicitation technique used in fundraising is **matching donations**. There could be several types of matching. For example, every dollar donated could be matched by a dollar from a generous benefactor.

(3/4) We are interested in **testing matching-based fundraising campaigns which target prior donors** of an actual local non-profit. The non-profit promotes young artists by organizing exhibitions and workshops. It also offers summer art classes for children.

The solicitations will be sent using postal mail. The mail will include an appeal letter, a pledge card, and a return envelope.

Randomized groups of donors will each be sent a different matching solicitations, and we are interested in how you would evaluate these matching fundraising solicitations.

(4/4) We are interested in your opinion about these matching fundraising solicitations. There are no right or wrong answers.

Main questions asked for the standard matching with regular framing (Appeal A). Appeal A is evaluated first in this illustrative example.

Appeal A						
"For a limited time, a supporter has offered a matching grant to encourage you to increase your donation and invest in our future. This supporter will give \$1 for EVERY \$1 you contribute. So, for each dollar you give, we will receive two dollars in support of our programs – YOUR DOLLAR AND A DOLLAR FROM THIS SUPPORTER. Let's not lose this match – please give today!"						
How would you range of people	How would you rate this appeal in terms of its ability to increase <b>participation</b> (i.e., the number of people responding to the appeal)?					
1. Low ability to increase participation	2	3	4	Б	6. High ability to increase participation	
How would you rate this appeal in terms of its ability to increase <b>donation</b> (i.e., the amount donated by those who send money in response to the appeal)						
1. Low ability to increase donation	2	3	4	5	6. High ability to increase donation	

Follow-up questions asked for the standard matching with regular framing (Appeal A). Appeal A is evaluated first in this illustrative example.



#### Transition before within-subject evaluation of the next appeal.

Now you will see the relevant portion from a <u>different</u> appeal letter. A different randomized group of prior donors would receive this letter.

Main questions for the "giving-credit" framing (Appeal B). Appeal B is evaluated second in this illustrative example



# Follow-up questions for the "giving-credit" framing (Appeal B). Appeal B is evaluated second in this illustrative example.

1	2			
The difference between the messages is highlighted in different colors.	Please rate Appeal B on the degree to which you think potential donors would feel that they are helping others?			
Appeel A	ene negaring okinetar			
"For a limited time, a supporter has offered a matching grant to encourage you to increase your donation and invest in our future. This supporter will give \$1 for EVERY \$1 you contribute. So, for each dollar you give, we will receive two dollars in support of our programs - YOUR DOLLAR AND A DOLLAR FROM THIS SUPPORTER. Let's not lose this match - please give today!"	Eor comparison, your rating of Appeal A on the same guestion was: 3			
Appeal B				
*For a limited time, a supporter has offered a matching grant to encourage you to increase your donation and invest in our future. This supporter will ADD \$1 TO YOUR CONTRIBUTION for EVERY \$1 you give. So, for each dollar you give, we will receive TWO DOLLARS ON YOUR BEHALF in support of our programs. Let's not lose this match—please give today!*				
Please rate the degree to which you think potential donors would see Appeal B as an overall beneficial opportunity to donate? For comparison, your rating of Appeal A on the same question was: 3	1. Low 8. High responsibility 2 3 4 5 responsibility for the funds received received			
1. Poor opportunity 2 3 4 δ opportunity to donate to donate	Please rate Appeal B on the degree to which you think potential donors would find it easy to understand the terms of the matching campaign? For comparison, your rating of Appeal A on the same guestion was: 3			
Please rate the degree to which you think Appeal B would make potential donors feel personally good about giving? For comparison, your rating of Appeal A on the same guestion was: 4	1. Not at all 6. Very easy to 2 3 4 5 easy to understand understand			
1. Low 6. High impact on 2 3 4 5 impact on feeling good good good	Please rate the degree to which you think Appeal B would feel pushy or manipulative to potential donors? For comparison, your rating of Appeal A on the same guestion was; 3			
	1. Not at all 9 ushy or 2 3 4 δ pushy or manipulative manipulative			

## **Experimental Stimuli: Field Experiment (Study 3)**

Letter sent to prior donors in control condition

September 5, 2014

«Name» «Company» «Address» «City», «State» «Postal\_Code»

Dear «Short\_Salutation»,

Art enters our lives at different moments, both intentionally and unexpectedly. For some, it is a brief yet memorable encounter; for others, a long-term relationship that has been cultivated over years. And for many more, art is an essential part of life—something that has always been there, engrained in everything you do. Whatever your relationship, the fact that art begins and ends with people is universal. Art exists solely because of the people who communicate through it, interpret it, share in it—you.

At the Hyde Park Art Center, we work to make sure that anyone in our city can participate and progress in the visual arts. With your help, we provide long-term arts education both within our award-winning facility and inside of our neighboring south side Chicago Public Schools. Alongside this work, we nurture artistic advancement and launch diverse Chicago artists into the international contemporary art dialogue.

Successfully carrying out and intertwining these differing activities has grown our audience to over 45,000 participants each year and gained us national recognition as a model for how an organization can develop its city's artists while remaining accessible and relevant to its immediate community.

# During our 75<sup>th</sup> Anniversary, we hope you will continue to join us in demonstrating your commitment to Chicago's art and artists by making a contribution to the Hyde Park Art Center today.

By investing in the Art Center you will: provide artists at all levels the opportunity to challenge their practice and take the next step in their career; empower students to learn new skills through art and become positive leaders amongst their peers; and, continue to build a vibrant community of art participants and supporters in Chicago.

We truly appreciate your involvement and support, and hope to see you soon!

Thank you,

Christina lensen

Deputy Director

#### Letter sent to prior donors in standard matching with regular framing condition

September 5, 2014

«Name» «Company» «Address» «City», «State» «Postal\_Code»

Dear «Short\_Salutation»,

Art enters our lives at different moments, both intentionally and unexpectedly. For some, it is a brief yet memorable encounter; for others, a long-term relationship that has been cultivated over years. And for many more, art is an essential part of life—something that has always been there, engrained in everything you do. Whatever your relationship, the fact that art begins and ends with people is universal. Art exists solely because of the people who communicate through it, interpret it, share in it—you.

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During our 75<sup>th</sup> Anniversary, we hope you will join us in demonstrating your commitment to Chicago's art and artists by making a contribution to the Hyde Park Art Center. **In recognition of the Art Center's success over its 75 year history, a supporter has offered a matching grant to encourage you to increase your donation and invest in our future.** 

This supporter will give \$1 for EVERY \$1 you contribute. So, for each dollar you give, we will receive two dollars in support of our programs—your dollar and a dollar from this supporter.

By investing in the Art Center you will: provide artists at all levels the opportunity to challenge their practice and take the next step in their career; empower students to learn new skills through art and become positive leaders amongst their peers; and, continue to build a vibrant community of art participants and supporters in Chicago.

We truly appreciate your involvement and past support, and hope that you will help us take advantage of this matching grant and give today!

Thank you,

Christina Jensen Deputy Director

#### Letter sent to prior donors in standard matching with "giving-credit" framing condition

September 5, 2014

«Name» «Company» «Address» «City», «State» «Postal\_Code»

Dear «Short\_Salutation»,

Art enters our lives at different moments, both intentionally and unexpectedly. For some, it is a brief yet memorable encounter; for others, a long-term relationship that has been cultivated over years. And for many more, art is an essential part of life—something that has always been there, engrained in everything you do. Whatever your relationship, the fact that art begins and ends with people is universal. Art exists solely because of the people who communicate through it, interpret it, share in it—you.

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We truly appreciate your involvement and past support, and hope that you will help us take advantage of this matching grant and give today!

Thank you,

Christina Jensen

Deputy Director

#### Letter sent to prior donors in threshold matching with regular framing condition

September 5, 2014

«Name» «Company» «Address» «City», «State» «Postal\_Code»

Dear «Short\_Salutation»,

Art enters our lives at different moments, both intentionally and unexpectedly. For some, it is a brief yet memorable encounter; for others, a long-term relationship that has been cultivated over years. And for many more, art is an essential part of life—something that has always been there, engrained in everything you do. Whatever your relationship, the fact that art begins and ends with people is universal. Art exists solely because of the people who communicate through it, interpret it, share in it—you.

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This supporter will give \$1 for every additional \$1 you donate OVER your last gift. **So, for each dollar you add to the amount of your last contribution of \$«Gift», we will receive two in support of our programs—your dollar and a dollar from this supporter.** 

By investing in the Art Center you will: provide artists at all levels the opportunity to challenge their practice and take the next step in their career; empower students to learn new skills through art and become positive leaders amongst their peers; and, continue to build a vibrant community of art participants and supporters in Chicago.

We truly appreciate your involvement and past support, and hope that you will help us take advantage of this matching grant and give today!

Thank you,

#### Letter sent to prior donors in threshold matching with "giving-credit" framing condition

September 5, 2014

«Name» «Company» «Address» «City», «State» «Postal\_Code»

Dear «Short\_Salutation»,

Art enters our lives at different moments, both intentionally and unexpectedly. For some, it is a brief yet memorable encounter; for others, a long-term relationship that has been cultivated over years. And for many more, art is an essential part of life—something that has always been there, engrained in everything you do. Whatever your relationship, the fact that art begins and ends with people is universal. Art exists solely because of the people who communicate through it, interpret it, share in it—you.

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We truly appreciate your involvement and past support, and hope that you will help us take advantage of this matching grant and give today!

Thank you,

tina Jensen

Deputy Director

#### Pledge Card included in all conditions

	you for your sup	port:		
0.000 0.000				
0,550 0,575 0	\$100 \$250 \$500 \$1,000*	0 \$2,500* 0 Other \$		
O I'd like to supp	ort the Art Center all year long by maki	ng a monthly gift of \$	ending on Month	Year
*Gifts of \$1,000+ give art and artists directly	you access to Ruth's Circle, the Art Center's group by deeply investing in the Art Center's exhibition,	of dedicated supporters who, like residency, education, and outrea	e the group's namesake Ruth Horwich, impact ( ach programs. For more info visit hydeparkart.	Chicago's org.
Board of Directors				
Name (as you wish	o be recognized)	O I would like my gift tr ○ My company matche	o remain anonymous. s emoloyee aifts (form enclosed).	
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Name (as you wish Address City	io be recognized) State Zip	O I would like my gift to O My company matche O I would like to learn r O This gift is in honor o	o remain anonymous. s employee gifts (form enclosed). more about my planned giving options. f:	_
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Name (as you wish Address City Email O Check enclosed t Please charge my: C	io be recognized) State Zip Phone > Hyde Park Art Center I Visa O MasterCard O American Express	O I would like my gift to O My company matche O I would like to learn r O This gift is in honor o Address City	o remain anonymous. s employee giffs (form enclosed). more about my planned giving options. fr:	- - -

Return envelope in control condition



Return envelope in standard matching with regular framing condition



Return envelope in standard matching with "giving-credit" framing condition

<b>Join!</b> Celebrate the Hyde Park Art Center community, and help make 75 our best year yet!
In recognition of the Art Center's success over its 75 year history, a supporter has offered a matching grant to encourage you to donate and invest in our future. This supporter will add \$1 to your contribution for EVERY \$1 you give. So, for each dollar you give, we will receive two on your behalf in support of our programs. Let's not lose this match—please give today!
 Hyde Park ARTCENTER 5020 S. Cornell Avenue

Return envelope in threshold matching with regular framing condition

Celebrate the Hyde Park Art Center community, and help make 75 our best year yet!
In recognition of the Art Center's success over its 75 year history, a supporter has offered a matching grant to encourage you to increase your donation and invest in our future.
This supporter will give \$1 for every additional \$1 you donate OVER your last gift. So, for every dollar you add to the amount of your last contribution, we will receive two dollars in support of our programs—your dollar and a dollar from this supporter. Let's not lose this match—please give today!
Hyde Park ARTCENTER 5020 S. Cornell Avenue Chicago. II. 60615

Return envelope in threshold matching with "giving-credit" framing condition



## **Experimental Stimuli: Field Experiment (Study 4)**

Letter sent to prior donors in standard matching with regular framing condition

May 7, 2018

[Long Salutation] [Address Lines] [City], [State], [Postal Code]

"The Art Center is a key component of the community. It is the space where people gather to share ideas, projects, and experiences. The Art Center has allowed me to meet people and to better know our neighborhood, its history, and its community." –Hyde Park Art Center Student



Spring 2018 Portrait Painting Class with Teaching Artist Randall

Dear [Short Salutation],

Behind the Coca Cola machine that serves as a secret passageway at Hyde Park Art Center, the Oakman Clinton School & Studios reverberate with creative energy. Sometimes the spaces are quiet and artists are focused. At other times, the studios buzz with conversation, critique, instruction, and exchange of ideas between people of all different backgrounds. Seven days a week, art projects are started, reworked, and completed.

On Saturday mornings, the drawing and painting studio fills with people who know each other well. Some artists have taken this class for years and are honing their craft. "Our Portrait Painting class is like a community within the community," says teaching artist Randall Miller. "Many of the artists have been taking Portrait for years, nurturing friendships as well as individual talent. There is an amazing collective wisdom to the group; techniques, ideas about materials, and even coupons for art supplies are shared freely." At the same time, new students are quickly welcomed into the micro-community of the classroom and the larger community of the Art Center.

Whether you are a long-time class-taker, or you have never been behind the "Coke door," your personal investment of money, time, or other resources is what makes the Art Center thrive. **We hope you will continue to support these creative communities by making a financial contribution to Hyde Park Art Center today.** 

For a limited time, a supporter has offered a matching grant to encourage you to increase your donation and invest in our future.

This supporter will GIVE \$1 for EVERY \$1 you contribute. So, for each dollar you give, we will receive two dollars in support of our programs—YOUR DOLLAR AND A DOLLAR FROM THIS SUPPORTER.

Hyde Park Art Center is one of the only places in Chicago where art makers of all levels, ages, and stages come together in an inclusive learning environment. Each person's perspectives are specific and personal, but also contribute to an environment of exchange and conversation where the whole is greater than the sum of its parts. "I've been working with Hyde Park Art Center for some time, and it's been a pleasure being part of such a diverse community," says DaLawn Simpson, a regular figure model for the Portrait Painting class and others such as Sculpture: Portrait & Figure, and The Figure in Watercolor. (Simpson is pictured above as the subject of students' paintings.) "Society would find it very beneficial to have more facilities like this."

In an increasingly polarized society, institutions that bridge the economic, racial, and geographic lines that divide us through art-making, like those in Hyde Park Art Center's studios, are more important now than ever.

Your contribution today will help the Art Center continue offering 200 skill-based courses annually in painting, drawing, ceramics, textiles, printmaking, digital media, and more while ensuring all spaces in the building are vibrant and diverse learning environments. **Because of supporters like you, the Art Center is able to welcome both long-time class-takers and newcomers who might not otherwise be able to participate to learn skills like portrait painting.** 

We truly appreciate your involvement and hope that you will help us take advantage of this matching grant and give today!

Sincerely,

Kate Lorenz Executive Director

Letter sent to prior donors in standard matching with "giving-credit" framing condition

May 7, 2018

[Long Salutation] [Address Lines] [City], [State], [Postal Code]

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We truly appreciate your involvement and hope that you will help us take advantage of this matching grant and give today!

Sincerely,

Kate Lorenz Executive Director

Pledge Card included in all conditions

		Grey areas do not print: to indicate glue areas
Hyde Park 🗛 🖡		
fes! I want to suppor	t Chicago's Art, Artists & Creative Com	munity!
\$50 O\$100 O\$2	50 0 \$500 0 \$1,000* 0 \$2,500* 0	\$5,000* O Other \$
) I'd like to make this	an ongoing monthly gift ending on Mor	th Year (credit/debit cards only
Donate or become a r	member online at: www.hydeparkart.or	g/donate
receive additional ber	efits.	
Name (as you wish it	to appear in clonor Estings)	O I would like for my diff to remain anonymous
Name (as you wish it	to appear in donor listings)	<ul> <li>I would like for my gift to remain anonymous.</li> <li>My company matches employee gifts.</li> </ul>
Name (as you wish it Address	to appear in donor Estings)	<ul> <li>I would like for my gift to remain anonymous.</li> <li>My company matches employee gifts.</li> <li>I would like to learn more about leaving a legacy in my will.</li> </ul>
Name (as you wish it Address City	to appear in donor Estings) State Zip	<ul> <li>I would like for my gift to remain anonymous.</li> <li>My company matches employee gifts.</li> <li>I would like to learn more about leaving a legacy in my will.</li> <li>This gift is in honor of:</li></ul>
Name (as you wish it Address City Email	to appear in donor listings)  State Zip Phone	<ul> <li>I would like for my gift to remain anonymous.</li> <li>My company matches employee gifts.</li> <li>I would like to learn more about leaving a legacy in my will.</li> <li>This gift is in honor of:</li></ul>
Name (as you wish it Address City Email O Check enclosed to Please charge my: O'	to appear in donor listings)  State Zip  Phone  Hyde Park Art Center  //sa O MasterCard O American Express	<ul> <li>I would like for my gift to remain anonymous.</li> <li>My company matches employee gifts.</li> <li>I would like to learn more about leaving a legacy in my will.</li> <li>This gift is in honor of:</li></ul>
Name (as you wish it Address City Email O Check enclosed to Please charge my: O 1 Card #	to appear in donor listings)  State Zip  Phone Hyde Park Art Center //sa O MasterCard O American Express Exp. Date CVV	I would like for my gift to remain anonymous.     My company matches employee gifts.     I would like to learn more about leaving a legacy in my will.     This gift is in honor of:



Return envelope in standard matching with regular framing condition

Return envelope in standard matching with "giving-credit" framing condition



#### Study 4 pre-registration from aspredicted.org

http://aspredicted.org/blind.php?x=na3yk9



### Additional Analysis: Survey of Experts (Study 2)

#### 1. Between-subject evaluations

#### 1.1 Mediation Effects

**Mediating role of personal resonponsibility** in the relationship between "giving-credit" framing and feelings of warm glow.



DV: Feeling of warm glow	β	SE	t	р
Intercept	4.18	0.13	33.30	<.001
"GC" appeal	0.39	0.18	2.16	.032
DV: Personal responsibility	β	SE	t	p
Intercept	3.90	0.12	33.12	<.001
"GC" appeal	0.29	0.17	1.72	.087
DV: Feeling of warm glow	β	SE	t	р
Intercept	1.41	0.24	5.87	<.001
Personal responsibility	0.71	0.06	12.56	<.001
"GC" appeal	0.18	0.14	1.34	.181

**Mediating role of personal resonponsibility** in the relationship between "giving-credit" framing and perceptions as a good opportunity to help others (measure of pure altruism)



\*<.10; \*\*<.05;\*\*\*<.01

DV: Better opportunity to give	β	SE	t	р
Intercept	4.35	0.12	37.54	<.001
"GC" appeal	0.35	0.17	2.09	.038
DV: Personal responsibility	β	SE	t	р
Intercept	3.90	0.12	33.12	<.001
"GC" appeal	0.29	0.17	1.72	.087
DV: Better opportunity to give	β	SE	t	р
Intercept	1.62	0.21	7.76	<.001
Personal responsibility	0.69	0.05	14.17	<.001
"GC" appeal	0.15	0.12	1.22	.224

#### 2. Within-subject evaluations

#### 2.1 Mediation Effects

**Mediating role of warm glow** in the relationship between "giving-credit" framing and beliefs about participation.



DV: Beliefs about participation	β	SE	t	р
Intercept	4.05	0.08	48.22	<.001
"GC" appeal	0.20	0.09	2.38	.018
DV: Feeling of warm glow	β	SE	t	p
Intercept	4.30	0.09	48.16	<.001
"GC" appeal	0.28	0.08	3.63	<.001
DV: Beliefs about participation	ß	SE	t	p
Intercept	<u> </u>	0.18	8.07	< 001
Feeling of warm glow	0.61	0.10	16.16	< 001
"GC" appeal	0.01	0.07	0.43	<.001
	0.05	0.07	0.43	.071

Mediating role of warm glow in the relationship between "giving-credit" framing and beliefs about dollars donated.



\*<.10; \*\*<.05;\*\*\*<.01

DV: Beliefs about donation	β	SE	t	р
Intercept	3.98	0.08	48.82	<.001
"GC" appeal	0.14	0.08	1.73	0.084
DV: Feeling of warm glow	β	SE	t	p
Intercept	4.30	0.09	48.16	<.001
"GC" appeal	0.28	0.08	3.63	<.001
DV: Beliefs about donation	β	SE	t	p
Intercept	1.53	0.17	8.78	<.001
Feeling of warm glow	0.56	0.04	15.09	<.001
"GC" appeal	-0.02	0.07	-0.33	0.742

**Mediating role of pure altruism** in the relationship between "giving-credit" framing and beliefs about participation.



		an a		
DV: Beliefs about participation	β	SE	t	p
Intercept	4.05	0.08	48.22	<.001
"GC" appeal	0.20	0.09	2.38	.018
DV: Better opportunity to give	β	SE	t	р
Intercept	4.44	0.08	53.17	<.001
"GC" appeal	0.23	0.07	3.38	<.001
DV: Beliefs about participation	β	SE	t	р
Intercept	1.28	0.20	6.48	<.001
Better opportunity to give	0.62	0.04	14.83	<.001
"GC" appeal	0.06	0.08	0.77	0.442

**Mediating role of pure altruism** in the relationship between "giving-credit" framing and beliefs about dollars donated.



\*<.10; \*\*<.05;\*\*\*<.01

DV: Beliefs about donation	β	SE	t	р
Intercept	3.98	0.08	48.82	<.001
"GC" appeal	0.14	0.08	1.73	.084
DV: Better opportunity to give	в	SE	t	p
Intercept	4.44	0.08	53.17	<.001
"GC" appeal	0.23	0.07	3.38	<.001
DV: Beliefs about donation	β	SE	t	p
Intercept	1.46	0.20	7.33	<.001
Better opportunity to give	0.57	0.04	13.47	<.001
"GC" appeal	0.006	0.07	0.09	.930

Mediating role of total perceived utility of giving in the relationship between "givingcredit" framing and beliefs about participation.



DV: Beliefs about participation	β	SE	t	р
Intercept	4.05	0.08	48.22	<.001
"GC" appeal	0.20	0.09	2.38	.018
DV: Total perceived benefits	β	SE	t	р
Intercept	4.52	0.08	55.57	<.001
"GC" appeal	0.17	0.07	2.33	.021
DV: Beliefs about participation	β	SE	t	р
Intercept	1.14	0.20	5.65	<.001
Total perceived benefits	0.64	0.04	15.16	<.001
"GC" appeal	0.09	0.07	1.30	.196

**Mediating role of total perceived utility of giving** in the relationship between "giving-credit" framing and beliefs about dollars donated.



DV: Beliefs about donation	β	SE	t	р
Intercept	3.98	0.08	48.82	<.001
"GC" appeal	0.14	0.08	1.73	.084
DV: Total perceived benefits	β	SE	t	p
Intercept	4.52	0.08	55.57	<.001
"GC" appeal	0.17	0.07	2.33	.020
DV: Beliefs about donation	β	SE	t	р
Intercept	1.51	0.21	7.13	<.001
Total perceived benefits	0.54	0.04	12.37	<.001
"GC" appeal	0.05	0.07	0.69	.489

**Mediating role of personal resonponsibility** in the relationship between "giving-credit" framing and beliefs about participation



DV: Beliefs about participation	β	SE	t	р
Intercept	4.05	0.08	48.22	<.001
"GC" appeal	0.20	0.09	2.38	.018
DV: Personal responsibility	β	SE	t	р
Intercept	4.01	0.09	46.33	<.001
"GC" appeal	0.35	0.08	4.42	<.001
DV: Beliefs about participation	β	SE	t	p
Intercept	1.76	0.18	9.88	<.001
Personal responsibility	0.57	0.04	13.95	<.001
"GC" appeal	0.005	0.08	0.06	.949

**Mediating role of personal resonponsibility** in the relationship between "giving-credit" framing and beliefs about dollar donated



\*<.10; \*\*<.05;\*\*\*<.01

DV: Beliefs about donation	β	SE	t	р
Intercept	3.98	0.08	48.82	<.001
"GC" appeal	0.14	0.08	1.73	.084
		<b>aF</b>		
DV: Personal responsibility	β	SE	t	p
Intercept	4.01	0.09	46.33	<.001
"GC" appeal	0.35	0.08	4.42	<.001
DV: Beliefs about donation	β	SE	t	р
Intercept	1.75	0.17	10.17	<.001
Personal responsibility	0.56	0.04	14.08	<.001
"GC" appeal	-0.05	0.07	-0.80	.423

**Mediating role of personal resonponsibility** in the relationship between "giving-credit" framing and feelings of warm glow (incomplete mediation)



\*<.10; \*\*<.05;\*\*\*<.01

DV: Feeling of warm glow	β	SE	t	р
Intercept	4.01	0.09	46.33	<.001
"GC" appeal	0.35	0.08	4.42	<.001
DV: Personal responsibility	β	SE	t	р
Intercept	4.30	0.09	48.16	<.001
"GC" appeal	0.28	0.08	3.63	<.001
DV: Feeling of warm glow	β	SE	t	р
Intercept	1.12	0.17	6.76	<.001
Personal responsibility	0.67	0.04	18.79	<.001
"GC" appeal	0.16	0.06	2.50	.013

**Mediating role of personal resonponsibility** in the relationship between "giving-credit" framing and perceptions as a good opportunity to help others (measure of pure altruism)



\*<.10; \*\*<.05;\*\*\*<.01

DV: Better opportunity to give	β	SE	t	р
Intercept	4.44	0.08	53.17	<.001
"GC" appeal	0.23	0.07	3.38	<.001
DV: Personal responsibility	β	SE	t	р
Intercept	4.01	0.09	46.33	<.001
"GC" appeal	0.35	0.08	4.42	<.001
DV: Better opportunity to give	β	SE	t	р
Intercept	1.91	0.15	12.60	<.001
Personal responsibility	0.63	0.03	18.04	<.001
"GC" appeal	0.01	0.06	0.24	0.81

#### 2.2 Order Effects

When experts evalued the two appeals: standard matching with regular framing and the standard matching with "giving-credit" framing, in a counterbalanced fashion, the order of evaluation affected their estimates. We report significant and marginally significant order effects here. In particular, the order effect was marginally significant when experts evaluated the perceived warm-glow benefits of the two appeals, and was significant when they evaluated the total perceived benefit from giving, and perceived personal responsibility for the funds rasied by the charity. No order effects were observed when experts evaluated the appeals on perceived good opportuity to help others (i.e., pure altruism), coerciveness of the appeals, or ease of understanding the appeals.

#### DV: Warm-glow ratings SE β t р 0.12 4.17 34.08 Intercept <.001 "GC" evaluated first 0.25 0.17 1.43 .152 "GC" appeal 0.41 0.10 3.87 <.001 "GC" appeal \* "GC" evaluated first -0.27 0.15 -1.77 .078



Warm-glow utility



#### Total perceived utility of giving

#### Feeling of personal responsibility

DV: Feeling of personal responsibility	β	SE	t	р
Intercept	3.90	0.12	32.94	<.001
"GC" evaluated first	0.23	0.17	1.34	.181
"GC" appeal	0.60	0.11	5.71	<.001
"GC" appeal * "GC" evaluated first	-0.54	0.15	-3.50	<.001
Regular framing evaluated first	"Giving	Credit" fram	ning evaluate	d first
Std Matching Std Matching with	5.0- 4.9- 4.8- 4.7- 4.6- 4.5- 4.4- 4.3- 4.2- 4.1- 4.0- 3.9- 3.8- 3.7- 3.6- 3.5- Std 4	Aatching with	Std Matchin	
Std. Matching Std. Matching with Giving Credit	Std. I Gi	viatching with ving Credit	Std. Matchin	Ig

#### Additional Analysis: Field Experiment (Study 3)

#### 1. Additional Results: Randomization Check

**Online Table 1:** The table examines the balance of the five experimental cells. The variables examined are Last Donation Amount (\$), Median Household Income (\$), Lifetime Transaction Amount (\$), Lifetime Transaction Count. Due to certain technical problems (migration to a new MIS, etc.) we could not retrieve the Last Donation Amount figures for 127 prior donors. The non-profit did not share demographic information about the donors like age, gender, education, or income, and we use publicly available data (<u>www.psc.isr.umich.edu/dis</u>) to retrieve median household income from zip codes.

	Control	1:1	1:1 +	Threshold	Threshold	F	р
			"GC"		+ "GC"		
Last Donation Amount (\$)	63.51	68.66	78.25	74.21	79.20	1.66	.155
Median Household Income (\$)*	54526.85	54713.19	55019.63	52983.56	54771.48	0.22	.926
Lifetime Transaction Amount (\$)	1736.20	2142.11	702.97	561.60	682.78	1.53	.188
Lifetime Transaction Count	5.5	5.1	3.6	3.9	3.8	5.32	<.001

\*based on zip-code

The table shows that the randomization for the field experiment worked for all the variables except the lifetime transaction count. Below, we reanalyzed the main results of the study after controlling for this covariate.

*Participation:* Controlling for lifetime transaction count, the participation was marginally higher with standard matching compared to control ( $\beta$ =0.58, z=1.66, p=.093). Adding "giving-credit" framing to a 1:1 match reduced participation directionally ( $\beta$ = -0.55, z=1.51, p=.132). Likewise, adding "giving-credit" framing to a threshold match also reduced participation directionally ( $\beta$ = -0.53, z=1.35, p=.175). Overall, "giving-credit" framing reduced participation compared to the regular framing across the two matching mechanisms ( $\beta$ = -0.55, z=2.07, p=.038). In the regression controlling for lifetime transaction count, there was no significant difference between a threshold match compared to a standard match, both using a regular framing ( $\beta$ = -0.12, z=0.37, p=.708).

Average (non-zero) Contribution: Among donors, controlling for lifetime transaction count, the average amount raised in the regular 1:1 matching condition was not statistically different from the control condition ( $\beta$ = -0.35, t=1.31, p=.197). However, adding "giving-credit" framing to a 1:1 match reduced the average donation significantly ( $\beta$ = -0.49, t=2.34, p=.025). The threshold matching mechanism was also severely detrimental for average contribution relative to full matching ( $\beta$ = -0.54, t=2.49, p=.016), and adding a "giving-credit" framing also did not result in a significant reduction ( $\beta$ = 0.14, t=0.35, p=.728). Overall, controlling for lifetime transaction count, there was no significant decrease in contributions from the "giving credit" framing compared to regular framing, across different matching mechanisms ( $\beta$ = -0.21, t=0.96, p=.338).

*Net Money Raised:* Controlling for lifetime transaction count, the net money raised per mailer in the regular 1:1 matching condition was not statistically different from the control condition ( $\beta$ = -0.15, *t*=1.52, *p*=.129). However, adding "giving-credit" framing to a 1:1 match reduced the net

money raised per mailer marginally ( $\beta$ = -0.16, t=1.72, p=.085). The threshold matching mechanism did not reduce net money raised per mailer significantly compared to regular matching ( $\beta$ = -0.06, t=0.66, p=.509), and adding a "giving-credit" framing did not reduce money raised any further ( $\beta$ = -0.11, t=1.29, p=.196). Overall, controlling for lifetime transaction count, there was a significant decrease in the net money raised per mailer from the "giving credit" framing compared to regular framing, across different matching mechanisms ( $\beta$ = -0.14, t=2.24, p=.025).

Therefore, overall, the results reported in the main paper were substantively replicated even after controlling for lifetime transaction count.



2. Distribution of actual non-zero donations in the five experimental conditions, including control

3. Non-parametric Analysis

We used the Wilcoxon rank sum test to perform non-parametric analysis for average contribution and net amount raised in the campaign, to account for skewed data.

Average (non-zero) Contribution: Using the Wilcoxon tests, "giving-credit" framing significantly reduced average contribution compared to regular framing for a 1:1 match (p=.010), although the regular match did not yield statistically distinguishable contribution compared to control (p=.545). Reducing the matching multiplier, by introducing a threshold matching, reduced contributions compared to full matching with regular framing (p=.013); and credit

framing for threshold matches did not improve performance significantly (p=.481). Overall, combining the various matching mechanisms, the results of "giving-credit" framing was not statistically different from regular framing (p=.255).

Net Money Raised: Non-parametric Wilcoxon tests confirmed that a "giving-credit" framing significantly reduced net money raised compared to regular framing for a 1:1 match (p=.036), although a 1:1 match was not a significant improvement over control (p=.140). The threshold matching mechanism did not improve performance compared to a full match (p=.434); and adding a "giving-credit" framing to the threshold mechanism was marginally detrimental (p=.155). Overall, combining both matching mechanisms, the "giving credit" framing raised significantly less money per mailing compared to regular framing (p=.011).

The results using non-parametric tests further confirms while that the effect of "giving-credit" framing on contribution upon participation is ambiguous, there is indeed a significant decrease in net money raised with "giving-credit" framing. The findings suggest that the decrease in net money raised with "giving credit" framing is largely driven by a decrease in participation.

In sum, the conclusions drawn in the paper hold if we use non-parametric tests that are more robust to skewed data for analyzing statistical significance.

#### 4. Analysis of Raw Donation Amount after Handling Outliers

We attempted to flag outliers in the raw donation amounts using multiple techniques: Iterative Grubbs' test that assumes the univariate data set comes from a normal distribution, and Winsorizing that does not impose any distributional assumptions on the data set. Both 90% and 95% Winsorizing were used. The results of all three approaches are described below.

*4.1 Iterative Grubbs' test*: The test detected seven outliers, all on the higher end of the data set i.e., donations > \$300. These donations were replaced by the highest non-outlier donation amount, i.e., \$300.

4.1.1 Average (non-zero) Contribution: Among donors, the average money raised in control was \$177.18. The average amount raised in the regular 1:1 matching condition was \$155.96 (ns vs. control, t(40)<1). However, adding "giving-credit" framing to a 1:1 match raised only \$89.75, on average, from participating donors. This reduction was significant (t(36)=2.41, p=.021). Therefore, the decrease in average contribution in a 1:1 matching solicitation on account of "giving-credit" framing was robust to outlier treatment using Grubbs' test. The threshold matching mechanism was also severely detrimental for average contribution relative to full matching (\$99.94; t(42)=2.19, p=.033), and adding a "giving-credit" framing did not increase contributions significantly (\$122.27; t(27)<1). Overall, using this outlier handling strategy, there was a marginal decrease in contributions from the "giving credit" framing compared to regular framing, across different matching mechanisms (\$105.30 vs \$133.04, t(65)=1.29, p=.199).

4.1.2 Net Money Raised: The net revenue here should be interpreted as outlier-recoded average donation times the probability of donating. The net money raised per mailer was \$9.05 in control and was \$12.59 in the regular matching condition (t(633)<1). However, adding the "giving credit" framing to a 1:1 match significantly reduced money raised (\$3.71; t(610)=2.86, p=.004). The threshold matching mechanism was also marginally detrimental compared to full matching (\$6.61; t(592)=1.73, p=.083), and adding a "giving-credit" framing reduced net money raised further, though this reduction was not significant (\$4.75, t(553)<1). Overall, across different matching mechanisms, "giving-credit" framing raised significantly lower money per mailer compared to regular framing (\$4.23 vs \$ 9.85, t(1165)=2.76, p=.006).

4.2 90% Winsorizing: The test detected nine outliers – five in the lower end of the data set (< \$35) and four on the upper end (>\$500). The outliers at the lower end were replaced by the lowest non-outlier donation amount, i.e., \$35. The outliers at the upper end were replaced by the highest non-outlier donation amount, i.e., \$500.

4.2.1 Average (non-zero) Contribution: Among donors, the average money raised in control was \$252.18, and a 1:1 match generated significantly lower contributions (\$156.34; t(40)=2.11, p=.041). Moreover, adding the "giving-credit" framing to a 1:1 match reduced contributions even further (\$89.75; t(36)=2.43, p=.019). Therefore, once again, the decrease in average contribution in a 1:1 matching solicitation on account of the "giving-credit" framing was robust to outlier treatment. The threshold matching mechanism also reduced average contribution relative to a regularly framed 1:1 match (\$101.01; t(42)=2.19, p=.034), and adding the "giving-credit" framing did not increase contributions significantly (\$145.00; t(27)=1.13, p=.269). Overall, using this outlier handling strategy, there was a directional decrease in contributions from the "giving-credit" framing compared to regular framing, across different matching mechanisms (\$116.17 vs \$133.75, t(65)<1).

4.2.2 Net Money Raised: The net revenue here should be interpreted as outlier-recoded average donation times the probability of donating. The net money raised per mailer in control was \$12.89 and that in the regular matching condition was 12.62 (t(633)<1). However, adding the "giving-credit" framing to a 1:1 match reduced money raised significantly (3.71; t(610)=2.86, p=.004). The threshold matching mechanism was also marginally detrimental compared to full matching (6.69; t(592)=1.72, p=.086), and adding a "giving-credit" framing reduced net money raised further, though this reduction was not significant (5.63, t(553)<1). Overall, across different matching mechanisms, "giving-credit" framing raised significantly lower money per mailer compared to regular framing (4.66 vs 9.91, t(1165)=2.43, p=.015).

*4.3. 95% Winsorizing*: The test detected six outliers – three in the lower end of the data set (< \$25) and three on the upper end (>\$550). The outliers at the lower end were replaced by the lowest non-outlier donation amount, i.e., \$25. The outliers at the upper end were replaced by the highest non-outlier donation amount, i.e., \$550.

4.3.1. Average (non-zero) Contribution: Among donors, the average money raised in control was \$261.56, and a 1:1 match generated significantly lower contributions (\$155.96; t(40)=2.22, p=.032). Moreover, adding a "giving-credit" framing to a 1:1 match reduced contributions even further (\$89.75; t(36)=2.41, p=.021). Therefore, once again, the decrease in average contribution

in a 1:1 matching solicitation on account of "giving-credit" framing was robust to outlier treatment. The threshold matching mechanism also reduced average contribution relative to a regularly framed 1:1 match (100.00; t(42)=2.19, p=.033), and adding a "giving-credit" framing did not increase contributions significantly (147.72; t(27)=1.14, p=.265). Overall, using this outlier handling strategy, there was a directional decrease in contributions from the "giving-credit" framing compared to regular framing, across different matching mechanisms (117.47 vs 133.07, t(65)<1).

4.3.2 Net Money Raised: The net revenue here should be interpreted as outlier-recoded average donation times the probability of donating. The net money raised per mailer in control was \$13.37 and that in the regular matching condition was 12.59 (t(633)<1). However, adding the "giving-credit" framing to a 1:1 match reduced money raised significantly (3.71; t(610)=2.86, p=.004). The threshold matching mechanism was also marginally detrimental compared to full matching (6.62; t(592)=1.73, p=.084), and adding a "giving-credit" framing reduced net money raised further, though this reduction was not significant (5.74, t(553)<1). Overall, across different matching mechanisms, "giving-credit" framing raised significantly lower money per mailer compared to regular framing (4.71 vs 9.86, t(1165)=2.35, p=.019).

Using a series of outlier detection and handling strategies using the raw, untransformed donation data, there was a robust decrease in net money raised per mailing with "giving-credit" framing compared to regular framing although the results for average contribution among those donating was more ambiguous. Overall, the results substantively replicate the findings reported in the paper, suggesting that the reported findings are robust to alternative analysis strategies.

#### 5. Lasso Regressions

We used the Double-Lasso covariate selection method (Urminsky, Hansen, & Chernozhukov 2016<sup>1</sup>) to test whether there were covariates in the data which should be controlled for when estimating the effect of the various appeals on participation, average non-zero contribution, and net money. Controlling for empirically supported covariates can increase statistical power and correct for potential failures in randomizing participants to conditions. However, the analysis failed to find sufficient empirical support for including any additional covariates in any of the three models (i.e., participation, average non-zero contribution, and net money raised). This suggests that controlling for additional covariates is unlikely to make any of the regression estimates more accurate.

#### 6. Potential Moderators

We examined potential moderation of the experimental interventions by Last Donation Amount, Median Household Income, Lifetime Transaction Amount, and Lifetime Transaction Count of the relationship between each of the condition pairs and participation, contribution upon participation, net contribution. We also examined moderation by these covariates of the interaction between overall matching mechanism (threshold, standard) and overall framing ("giving-credit", regular). For brevity, we report significant interactions (p<.05), along with interpretations of the results.

#### Moderation by Last Donation Amount

**Online Table 2**: For high last donation amount (mean + 1SD), "giving-credit" framing decreased average net contribution, whereas for low last donation amount (mean - 1SD) there was a small increase with "giving-credit" framing.

DV: Log of Donation Amount (net)	β	SE	t	р
(Intercept)	-0.52	0.25	-2.05	.041
Condition = Standard +"GC" vs. Standard	0.60	0.34	1.76	.079
Last Donation Amount	0.17	0.06	2.67	.008
Condition x Last Donation Amt.	-0.17	0.08	-1.96	.050

<sup>&</sup>lt;sup>1</sup> Urminsky, O., C. Hansen & V. Chernozhukov, The Double-Lasso Method for Principled Variable Selection, *UChicago Working Paper*, 2016

#### Moderation by Lifetime Transaction Amount

**Online Table 3**: For high lifetime transaction amount (mean + 1SD), matching increased participation, more than it did for low lifetime transaction amount (mean - 1SD).

DV: Participation	β	SE	z	р
(Intercept)	-9.15	1.50	-6.11	<.001
Condition = Standard vs. Control	3.94	1.73	2.28	.023
Log Lifetime Transaction Amount	0.89	0.18	4.84	<.001
Condition x Log Lifetime Transaction Amt.	-0.44	0.22	-1.97	.049

**Online Table 4**: For high lifetime transaction amount (mean + 1SD), matching decreased average contribution upon participation, whereas for low lifetime transaction amount (mean - 1SD) matching increased average contribution upon participation.

DV: Log of Donation Amount (upon Participation)	β	SE	t	р
(Intercept)	-0.21	1.18	-0.18	.859
Condition = Standard vs. Control	3.97	1.34	2.97	.005
Log Lifetime Transaction Amount	0.66	0.14	4.68	<.001
Condition x Log Lifetime Transaction Amt.	-0.49	0.17	-2.94	.006

**Online Table 5**: For high lifetime transaction amount (mean + 1SD), threshold mechanism increased average contribution upon participation, whereas for low lifetime transaction amount (mean - 1SD) threshold mechanism decreased average contribution upon participation.

DV: Log of Donation Amount (upon Participation)	$\beta$	SE	t	p
(Intercept)	3.46	0.60	5.76	<.001
Threshold vs. Standard (combined)	-2.36	1.07	-2.20	.032
Log Lifetime Transaction Amount	0.19	0.09	2.16	.034
Threshold mech. x Log Lifetime Transaction Amt	0.33	0.16	2.02	.048

*Moderation by Lifetime Transaction Count* No significant interactions.

*Moderation by Median Household Income* No significant interactions.

Therefore, the moderation analysis found largely weak results, with the exception of results in table 3 above, which suggest that matching in general is more effective for those who have donated less in the past.

## Additional Analysis: Field Experiment (Study 4)



1. Distribution of actual non-zero donations in the two experimental conditions

2. Non-parametric Analysis

Average (non-zero) Contribution: Using Wilcoxon rank sum test to account for skewed data we found no difference in the average contribution between a "giving-credit" framed match and a regularly framed match (p=.754)

*Net Money Raised:* Non-parametric analysis using Wilcoxon test also found that "giving-credit" framing significantly reduced total money raised compared to regularly framed 1:1 match (p<.001). The results held with both log-transformed as well as raw donation amounts.

In sum, the conclusions drawn in the paper hold if we use non-parametric analysis to control for skew when analyzing statistical significance.

#### 3. Analysis of Raw Donation Amount after Handling Outliers

We attempted to flag outliers in the raw donation amounts using multiple techniques: Iterative Grubbs' test that assumes the univariate data set comes from a normal distribution, and Winsorizing that does impose any distributional assumptions on the data set. Both 90% and 95% Winsorizing were used. The results of all these three approaches are described below.

*3.1 Iterative Grubbs' test*: The test detected nine outliers all on the higher end of the data set i.e., Donations of \$130 or higher. These donations were replaced by the highest non-outlier donation amount, i.e., \$110.

3.1.1 Average (non-zero) Contribution: Among donors, the average amount raised in the regular 1:1 matching condition was \$54.78. The corresponding amount in the 1:1 matching condition with "giving-credit" framing was \$53.10. The difference was non-significant (t(91)=0.25, p=.799).

3.1.2 Net Money Raised: The net revenue here should be interpreted as outlier-recoded average donation times the probability of donating. The net money raised per mailer sent to prior donors was \$2.27 in the regular 1:1 matching condition. The corresponding amount in the 1:1 matching condition with "giving-credit" framing was \$1.03, significantly lower than the regular condition (t(3034)=3.20, p=.001).

*3.2 90% Winsorizing*: The test detected nine outliers – five in the lower end of the data set (\$3, \$5, \$6, \$10, \$22) and four on the upper end (\$505, \$1000, \$1000, \$2000). The outliers at the lower end were replaced by the lowest non-outlier donation amount, i.e., \$25. The outliers at the upper end were replaced by the highest non-outlier donation amount, i.e., \$500.

3.2.1 Average (non-zero) Contribution: Among donors, the average amount raised in the regular 1:1 matching condition was \$82.89. The corresponding amount in the 1:1 matching condition with "giving-credit" framing was \$84.23. However, this difference was non-significant (t(91)=0.07, p=.941).

3.2.2 Net Money Raised: The net revenue here should be interpreted as outlier-recoded average donation times the probability of donating. The net money raised per mailer sent to prior donors was \$3.43 in the regular 1:1 matching condition. The corresponding amount in the 1:1 matching condition with "giving-credit" framing was \$1.65, significantly lower than the regular condition (t(3034)=1.98, p=.047).

*3.3 95% Winsorizing*: The test detected six outliers – three in the lower end of the data set (\$3, \$5, \$6) and three on the upper end (\$1000, \$1000, \$2000). The outliers at the lower end were replaced by the lowest non-outlier donation amount, i.e., \$10. The outliers at the upper end were replaced by the highest non-outlier donation amount, i.e., \$505.

3.3.1 Average (non-zero) Contribution: Among donors, the average amount raised in the regular 1:1 matching condition was \$82.14. The corresponding amount in the 1:1 matching condition with "giving-credit" framing was \$85.00. However, this difference was non-significant (t(91)=0.11, p=.914).

3.3.2 Net Money Raised: The net revenue here should be interpreted as outlier-recoded average donation times the probability of donating. The net money raised per mailer sent to prior donors was \$3.40 in the regular 1:1 matching condition. The corresponding amount in the 1:1 matching condition with "giving-credit" framing was \$1.65, marginally lower than the regular condition (t(3034)=1.93, p=.053).

In sum, the conclusions presented in the paper are robust to various outlier detection and handling strategies.

#### 4. Lasso Regressions

As in Study 3, we used the Double-Lasso covariate selection method (Urminsky, Hansen, & Chernozhukov 2016) to test for covariates which should be included in regressions predicting participation, average non-zero contribution, and net money based on the experimental conditions. For net amount raised, the lasso did not identify any covariates with sufficient empirical support to include, and therefore no model has been included for that metric.

Below we include models for participation and average non-zero contribution controlling for the additional double-lasso-selected covariates. Overall, the original results reported in the main paper held controlling for covariates identified by the double-lasso procedure.

	Dependent variable:			
	Participation	Log of Non-zero Contribution		
	Logistic	OLS		
	(1)	(2)		
Constant	-2.39*** (0.23)	1.73*** (0.46)		
Condition= Standard + "GC"	-0.73** (0.24)	-0.09 (0.18)		
Lifetime Transaction Count	0.05*** (0.01)			
Days from Last Donation	-0.002*** (0.0003)			
Log Last Donation		$0.22^{**}(0.08)$		
Log Largest Donation		0.13 (0.13)		
Log Lifetime Donation		0.07 (0.09)		
Observations	2,983	88		
R <sup>2</sup>		0.27		
Adjusted R <sup>2</sup>		0.23		
Log Likelihood	-328.79			
F Statistic		7.55***		
Note:	*p<	0.05; ><.05 **p<0.01; ><.01 ***p<0.0		

#### 5. Potential Moderators

We examined potential moderation by Last Donation Amount, Largest Donation Amount, Lifetime Transaction Amount, and Lifetime Transaction Count, Median Household Income, Population Density, Days from Last Donation, Days from Largest Donation for participation, contribution upon participation, net contribution.

No moderating effect of these variables was found for participation and contribution upon participation. For net contribution, we only report the significant interactions (p<.05), along with interpretations of the results.

**Online Table 6**: For high largest donation amount (mean + 1SD), "giving-credit" framing decreased average net contribution much more than when largest transaction amount is low (mean - 1SD).

DV: Log of Donation Amount (net)	β	SE	t	р
(Intercept)	-0.210	0.094	-2.23	.026
Condition = Std. $+$ "GC" vs. Std.	0.179	0.132	1.36	.174
Log Largest Donation Amount	0.065	0.017	3.96	<.001
Condition x Log Largest Donation Amt.	-0.046	0.023	-1.99	.046

**Online Table 7**: For high total lifetime transaction amount (mean +1SD), "giving-credit" framing decreased average net contribution much more than when total lifetime transaction amount is low (mean - 1SD).

DV: Log of Donation Amount (net)	β	SE	t	р
(Intercept)	-0.353	0.078	-4.52	<.001
Condition = Std. $+$ "GC" vs. Std.	0.207	0.111	1.87	.062
Log Lifetime Transaction Amount	0.082	0.012	6.69	<.001
Condition x Log Lifetime Transaction Amt.	-0.046	0.017	-2.66	.008

**Online Table 8**: For high total lifetime transaction count (mean + 1SD), "giving-credit" framing decreased average net contribution, whereas for low total lifetime transaction count (mean - 1SD) there was a small increase with credit framing.

DV: Log of Donation Amount (net)	β	SE	t	р
(Intercept)	0.018	0.021	0.87	.384
Condition = Std. $+$ "GC" vs. Std.	-0.018	0.029	-0.60	.545
Lifetime Transaction Count	0.030	0.002	12.73	<.001
Condition x Lifetime Transaction Count	-0.013	0.003	-4.03	<.001

**Online Table 9**: When days from last donation is less (mean - 1SD), "giving-credit" framing decreased average net contribution much more than when days from last donation is more (mean + 1SD).

DV: Log of Donation Amount (net)	β	SE	t	р
(Intercept)	0.289	0.028	10.41	<.001
Condition = Std. $+$ "GC" vs. Std.	-0.146	0.039	-3.72	<.001
Days from Last Donation	-0.0001	0.00001	-6.20	<.001
Condition x Days from Last Donation	0.00006	0.00002	2.49	.013

The above results suggest that the "giving-credit" framing was more harmful for donors who were more engaged with the charity (e.g., those who had given more in the past or who had given more often or more recently). These donors potentially did not value acknowledgement for someone else's contribution.

#### Study A1: Incentive-compatible Experiment as Guidance to the Fundraiser

We consider a feasible (i.e., low-cost) internal "marketing research" study or survey experiment as an additional source of guidance that a charity might rely on in making decisions about how to formulate their matching offer. Some charities conduct internal research, particularly using low-cost methods, to learn about donors and better anticipate their reactions to the charity's activities. Typical research methods range from simply monitoring donor feedback to structured qualitative interviews with small numbers of donors to simple surveys of potential donors. We test one such research method, conducting an incentive-compatible survey experiment to measure the effect of each type of matching offer on intentions to donate. *Design* 

Online survey respondents (N=524) were recruited from Amazon's Mturk employment marketplace to participate in a decision-making study. This approach was chosen to enable best practices (e.g, incentive compatibility) under the constraint of using low-cost methods feasible for typical charities. The sample chosen was motivated by the widespread reluctance among charities to contact their donors more than necessary, particularly when doing so would reveal tactical considerations in fundraising that might leave their donors feeling manipulated.

Respondents were informed that they at the end of the survey, five people would be selected at random and be given a real \$20 lottery reward. The Mturk platform allows this claim to be made with reasonable credibility, as the funds would be paid as an Mturk bonus within two days of study completion, from a highly-rated requester account with a track record of paying bonus incentives.

A key challenge in this kind of survey experiment with a publicly-recruited sample is how to replicate the "warm donor" mindset of the prior donors to an organization who would be

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targeted in that organization's actual fundraising appeals. We asked respondents to select their favorite from a list of 20 well-known charities, to ensure that they had a baseline level of interest in the charity analogous to the motives of a charity's prior donors.

In thi chari	is survey, you will be making some decisions about a charity. Please choose which of the following ities you would be most interested in donating to.
OD	Direct Relief International
0 U	Jnited Way
OF	eeding America
0 C	Catholic Charities USA
O G	Soodwill
OF	Good for the Poor
0 A	American Cancer Society
ΟY	/MCA
0 1	Vorld Vision
O S	St. Jude Children's Research Hospital
ОВ	Boy's and Girl's Clubs of America
0 A	American Red Cross
ОН	labitat for Humanity
OF	eed the Children

Figure 1: Choice of favorite charity

We then randomly assigned respondents to one of five between-subject conditions, in which they were shown offers to pre-commit an amount (up to \$20) to be deducted from their bonus and donated to their selected charity, in case they later won the lottery.

The control condition involved no matching amounts. The four other conditions proposed a match from the experimenter's funds (e.g., "we will donate an extra \$1 for every \$1 you give"), with differing contingencies and framing matching the interventions in Study 3 (Standard; Standard + "giving-credit" framing; Threshold; Threshold + "giving-credit" framing). In the threshold matching conditions, respondents were told that the match would apply to amounts over \$3.00.

Respondents were then asked to choose how much of their \$20 bonus they would donate to their favorite charity, between \$0 and \$20, should they win. As described to the respondents,

five winners were selected at random, the amount they chose as their donation was deducted from their bonus payment, the remainder was paid via Mturk bonus and we sent their donation amount to the selected charity, along with any applicable matching amount.

If you are randomly selected to receive the \$20 surprise reward as part of this survey, you could choose to donate to \${q://QID80/ChoiceGroup/SelectedChoices}, if you wish.

A matching grant is available. <u>We will add an extra \$1 to your donation for EVERY \$1 you give.</u> So, for every dollar you give, \${q://QID80/ChoiceGroup/SelectedChoices} will receive two dollars on your behalf in support of their programs.

If you do choose to donate, we will deduct the amount you specify from your \$20 winnings if you win and donate it to \${q://QID80/ChoiceGroup/SelectedChoices}. You would then receive the remainder via Mturk as a bonus.

You need to make your decision about donating now. Please select below how much money, in dollars, if any, you would donate to \${q://QID80/ChoiceGroup/SelectedChoices}, in case you win.

Figure 2: Illustrative example of a question with piped choice (of favorite charity) soliciting donation in the standard matching with "giving-credit" framing condition

#### Results

The overall participation rate (i.e. survey respondents choosing to commit more than \$0) was 80% (see Fig. 1; left-panel), substantially higher than most actual fundraising campaings. There were no significant difference in participation rates between any of the pairs of conditions (all p's >.25).

The survey experiment also revealed similar levels of average contribution amount among participating donors (i.e., among those who committed some non-zero amount) across conditions. Most of the comparisons between pairs of conditions were not significant (all p's > .18) except: standard matching with "giving-credit" framing received significantly higher conditional contributions compared to the no-match control (p=.037) and received marginally higher conditional contributions compared to standard matching with regular framing (p=.062).



Figure 3: Results for survey experiment using Mturk participants as donors. The vertical bars are 95% CI.

Overall, the survey experiment was not very conclusive as to whether one version would perform significantly better. There was no significant difference in net contribution between any pairs of conditions. A fundraiser might either treat these non-significant results as irrelevant to their decision, or perhaps as evidence that the decision of which version to use would be of little consequence. Alternatively, a fundraiser who did not engage in significance testing might simply focus on directional differences (e.g., which version did the best in this test) and interpret these results as suggestive evidence that the "giving-credit" framing with a standard match has the highest likelihood of success, particularly in terms of average contribution, largely consistent with the model implications and expert opinions.