Will there be Blood? Incentives and Displacement Effects in Pro-Social Behavior

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Web Appendix

A1: Summary statistics on observations with non-missing data

	Dropping outliers & Complete Data		
	Mean	St.Dev.	Median
Number of donors presenting	35.9	20.2	31
Units of blood collected	30.4	17.3	26
Donors deferred (fraction of presenting)	0.15	0.09	0.14
Open drives	0.78	0.42	1.00
Drives in "flyer" counties	0.80	0.40	1.00
Open drives in "flyer" counties	0.62	0.49	1.00
Drive length (hours)	5.35	1.15	5.00
Incentives given (yes = 1)	0.36	0.48	0.00
Temperature (F)	55.10	18.05	59.00
Fraction <32F	0.14		
Rain	0.13	0.32	0.00
Rain intensity	0.03	0.08	0.00
Fraction days with rain	0.45		
Snow	0.23	0.96	0.00
Fraction days with snow	0.09		
Number of drives	13,529		

Notes: See the notes to Table 1 in the paper.

A2: Drive host types and incentives

Type of Drive Host	Frequency	Percent of all drives	Mean # of donors presenting	% of drives with any incentives
	(1)	(2)	(3)	(4)
General community	6,005	43.81	35.53	41.18
Manufacturing	1,504	10.97	30.37	22.01
Hospital	1,206	8.80	35.92	39.22
High school	929	6.78	60.46	54.14
Professional services	614	4.48	27.69	22.64
Catholic	426	3.11	37.20	22.77
College	392	2.86	40.06	33.67
Banking	239	1.74	32.93	30.96
Elementary school	230	1.68	35.98	2.61
Red Cross chapter	221	1.61	32.43	54.75
Clinic	153	1.12	29.47	50.98
Federal	144	1.05	37.85	30.56
Lutheran	139	1.01	31.13	23.74
Nursing homes	134	0.98	18.78	35.82
County	124	0.90	24.79	29.03
Utilities	115	0.84	31.50	26.09
Retail	112	0.82	25.97	30.36
State	107	0.78	24.18	23.36
Other	913	6.66	35.17	33.41
Total	13,707	100.0%	35.86	36.34

Notes: The drive host types are classified using the American Red Cross's classification.

A3: Effects of incentive costs regressions on sample with complete information on incentive cost

Dependent variable	Donors presenting	Units collected	Share deferred	Donors presenting	Units collected	Share deferred
	(1)	(2)	(3)	(4)	(5)	(6)
Incentive dummy	0.49	-0.01	0.014	1.03	0.48	0.013
	(1.237)	(1.107)	(0.009)	(1.232)	(1.101)	(0.009)
Cost of incentive to the ARC ($)	2.30***	2.21***	-0.007*	1.05*	1.08*	-0.004
	(0.583)	(0.520)	(0.004)	(0.628)	(0.564)	(0.004)
Cost of incentive squared	-0.11**	-0.11**	0.001	-0.05	-0.05	-0.000
	(0.055)	(0.049)	(0.000)	(0.072)	(0.067)	(0.001)
Cost*(Open Drive in "Flyer" County)				1.66***	1.49***	-0.003
				(0.327)	(0.299)	(0.002)
Cost squared*(Open Drive in "Flyer" County)				-0.09	-0.09	0.001
				(0.056)	(0.054)	(0.000)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Host-location FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12,183	12,183	12,183	12,183	12,183	12,183
R-squared	0.205	0.188	0.044	0.212	0.194	0.044
N. of host-locations	2,408	2,408	2,408	2,408	2,408	2,408

Notes: Same regressions as in Table 6, but where we excluded from the sample observations for which information on cost was unavailable or incomplete (i.e., when a drive offered host-provided promos and/or "miscellaneous items"). Controls include the length of the drive (in hours), weather conditions on the day of the drive (amount of rain in inches and its square, rain intensity [measured as rain per hour of precipitation] and its square, amount of snow fallen in the 48 hours before a drive and its square, and temperature dummy variables [0-36, 36-53, 53-68, 68-75, 75+]), and sets of fixed effects for: year, month, week-of-the-month, day-of-the-week, ARC representatives, representative-specific week-of-the-month effects, special attributes of the drive. The cost to the ARC of each specific promo is shown in Table 7. Robust standard errors corrected for clustering at the host-location level are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

A4: Effects of incentive costs regressions controlling for frequency

Dependent variable	Donors presenting	Units collected	Share deferred	Donors presenting	Units collected	Share deferred
	(1)	(2)	(3)	(4)	(5)	(6)
Incentive dummy	-0.99	-1.14	0.007	-0.14	-0.80	0.017*
	(0.960)	(0.870)	(0.007)	(1.345)	(1.219)	(0.009)
Cost of incentive to the ARC ($)	2.34***	2.10***	-0.003	2.33***	2.10***	-0.002
	(0.441)	(0.391)	(0.003)	(0.436)	(0.387)	(0.003)
Cost of incentive squared	-0.11**	-0.10**	0.000	-0.12***	-0.10***	0.000
	(0.044)	(0.039)	(0.000)	(0.044)	(0.039)	(0.000)
Absolute frequency of item	0.46***	0.45***	-0.001			
	(0.139)	(0.130)	(0.001)			
Absolute frequency squared	-0.01***	-0.01***	0.000			
	(0.003)	(0.003)	(0.000)			
Relative frequency of item				0.07*	0.08**	-0.000*
				(0.040)	(0.035)	(0.000)
Relative frequency squared				-0.00***	-0.00***	0.000
				(0.000)	(0.000)	(0.000)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Host-location FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	13,529	13,529	13,529	13,529	13,529	13,529
R-squared	0.218	0.200	0.042	0.218	0.199	0.042
N. of host-locations	2,582	2,582	2,582	2,582	2,582	2,582

Notes: Same regressions as in Table 6, with additional controls for absolute and relative frequency incentive items are offered. Specifically, "absolute frequency" is the total number of times a given item was offered as an incentive at the host-location of a drive in the entire period covered by the data, and "relative frequency" is the % of times an item was offered at that host-location (computed as [# times the item was offered / # of times any incentive was offered at that host-location]*100). Controls include the length of the drive (in hours), weather conditions on the day of the drive (amount of rain in inches and its square, rain intensity [measured as rain per hour of precipitation] and its square, amount of snow fallen in the 48 hours before a drive and its square, and temperature dummy variables [0-36, 36-53, 53-68, 68-75, 75+]), and sets of fixed effects for: year, month, week-of-the-month, day-of-the-week, ARC representatives, representative-specific week-of-the-month effects, special attributes of the drive. The cost to the ARC of each specific promo is shown in Table 7. Robust standard errors corrected for clustering at the host-location level are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

A5: Effect of incentives on drive length and open/closed status

Dependent variable	Drive length (hours)	Open drive
	(1)	(2)
Incentive dummy	0.021	-0.004
	(0.013)	(0.003)
Controls	Yes	Yes
Host-location FE	Yes	Yes
Observations	13,707	13,707
R-squared	0.056	0.043
N. of host-locations	2,427	2,427
Mean of the dependent variable when no incentives offered	5.4	0.75

Notes: The dependent variable in column (1) is the length of a drive (measured in hours), and in column (2) a dummy variable equal to 1 if a drive is "open" and equal to 0 if it is "closed." Controls include sets of fixed effects for: year, month, week-of-the-month, day-of-the-week, ARC representatives, representative-specific week-of-the-month effects, and special attributes of the drive. Robust standard errors corrected for clustering at the host-location level are reported in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. In the main analyses, for the small fraction (7 percent) of hosts who ran both open and closed drives, we include specific fixed effects for the open and for the closed drives. For the analyses presented here, however, we do not do that because "open" is one of our outcome variables of interest. Therefore, the number of host-location fixed effects is smaller in this table compared to the other regressions tables.

A6: The effect of incentives at "not engaged" hosts

Dependent variable	Donors presenting	Share deferred	Donors presenting	Share deferred	Donors presenting	Share deferred
	(1)	(2)	(3)	(4)	(5)	(6)
Incentive dummy	5.63***	-0.003	-0.29	0.016*	0.18	0.015*
	(0.37)	(0.002)	(1.17)	(0.009)	(1.16)	(0.009)
Cost of incentive to the ARC ($)			2.37***	-0.009**	1.19*	-0.006
			(0.563)	(0.004)	(0.608)	(0.004)
Cost of incentive squared			-0.11**	0.001	-0.03	0.000
			(0.05)	(0.000)	(0.067)	(0.001)
Cost*(Open Drive in "Flyer" County)					1.64***	-0.003
					(0.356)	(0.002)
Cost squared*(Open Drive in "Flyer" County)					-0.11**	0.000
					(0.058)	(0.000)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Host-location FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,812	9,812	9,812	9,812	9,812	9,812
R-squared	0.176	0.050	0.185	0.052	0.191	0.052
N. of host-locations	2,050	2,050	2,050	2,050	2,050	2,050

Notes: A host was classified as "engaged" if it directly provided an incentive item at least once in the period of observation. Thus, the group of "not engaged" hosts consists of hosts that never provided any incentive (beyond those offered by the ARC). Controls include the length of the drive (in hours), weather conditions on the day of the drive (amount of rain in inches and its square, rain intensity [measured as rain per hour of precipitation] and its square, amount of snow fallen in the 48 hours before a drive and its square, and temperature dummy variables [0-36, 36-53, 53-68, 68-75, 75+]), and sets of fixed effects for: year, month, week-of-the-month, day-of-the-week, ARC representatives, representative-specific week-of-the-month effects, special attributes of the drive. The cost to the ARC of each specific promo is shown in Table 7. The regressions in columns (3) through (6) include a dummy variable for the items for which information on cost was unavailable or incomplete (i.e., when a drive offered host-provided promos and/or "miscellaneous items"). Robust standard errors corrected for clustering at the host-location level are reported in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

A7: Effect of incentives at previous drive

Dependent variable	Donors presenting					
Sample	All drives			Open drives in "flyer" counties		
	(1)	(2)	(3)	(4)	(5)	(6)
Incentive at current drive	5.53***	5.58***	-0.28	6.81***	7.14***	0.41
	(0.355)	(0.403)	(0.988)	(0.486)	(0.533)	(1.267)
Incentive at previous drive	-0.29	-0.36	-0.27	-0.67*	-1.21*	-0.48
	(0.273)	(0.513)	(0.480)	(0.366)	(0.672)	(0.608)
Incentive at previous*No incentive at current drive		0.13			0.88	
		(0.579)			(0.723)	
Cost of current drive incentive to the ARC ($)			2.72***			2.99***
			(0.478)			(0.595)
Cost of current drive incentive squared			-0.15***			-0.15***
			(0.047)			(0.057)
Cost of previous drive incentive to the ARC ($)			0.08			-0.04
			(0.250)			(0.308)
Cost of previous drive incentive squared			0.00			0.02
			(0.031)			(0.037)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Host-location FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	10,973	10,973	10,973	6,883	6,883	6,883
R-squared	0.212	0.212	0.226	0.238	0.238	0.259
N. of host-locations	1,775	1,775	1,775	1,016	1,016	1,016

Notes: Controls include the length of the drive (in hours), weather conditions on the day of the drive (amount of rain in inches and its square, rain intensity [measured as rain per hour of precipitation] and its square, amount of snow fallen in the 48 hours before a drive and its square, and temperature dummy variables [0-36, 36-53, 53-68, 68-75, 75+]), and sets of fixed effects for: year, month, week-of-the-month, day-of-the-week, ARC representatives, representative-specific week-of-the-month effects, special attributes of the drive. Robust standard errors corrected for clustering at the host-location level are reported in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

A8: Displacement effects by type of drive

Sample	All drives		Closed drives		Open drives		Open drives in "flyer" counties	
Dependent variable	Donors presenting	Share deferred	Donors presenting	Share deferred	Donors presenting	Share deferred	Donors presenting	Share deferred
	(1)	(3)	(4)	(6)	(7)	(9)	(10)	(12)
Incentive dummy	-0.25	0.006	-1.42	0.010	0.42	0.006	0.03	-0.002
	(0.99)	(0.007)	(2.19)	(0.015)	(1.08)	(0.007)	(1.27)	(0.008)
Cost of incentive ($)	2.40***	-0.002	1.61	-0.002	2.49***	-0.003	2.64***	0.000
	(0.46)	(0.003)	(1.08)	(0.007)	(0.50)	(0.003)	(0.58)	(0.003)
Cost of incentive squared	-0.12***	0.000	-0.15	0.000	-0.13***	0.000	-0.12**	0.000
	(0.04)	(0.000)	(0.13)	(0.001)	(0.05)	(0.000)	(0.05)	(0.000)
Number of neighboring drives overall								
taking place within 0-2 miles	-0.10*	0.000	0.13	0.000	-0.14**	0.000	-0.27**	0.000
	(0.06)	(0.000)	(0.12)	(0.001)	(0.07)	(0.001)	(0.11)	(0.001)
x Incentive dummy	-0.05	0.000	-0.05	0.000	-0.05	0.000	0.11	0.001
	(0.06)	(0.001)	(0.09)	(0.001)	(0.07)	(0.001)	(0.12)	(0.001)
Number of neighboring drives with incentives								
taking place within 0-2 miles	-0.15**	-0.001	-0.05	0.000	-0.15*	-0.001**	-0.19*	-0.002***
	(0.07)	(0.001)	(0.15)	(0.002)	(0.08)	(0.001)	(0.11)	(0.001)
x Incentive dummy	-0.04	0.000	-0.21	0.002	-0.03	0.000	-0.08	0.001
	(0.11)	(0.001)	(0.18)	(0.002)	(0.13)	(0.001)	(0.17)	(0.002)
Highest $ value of incentive offered at neighboring drives, at drives:								
taking place within 0-2 miles	-0.18***	0.001***	-0.05	0.001	-0.21***	0.001**	-0.23***	0.002***
	(0.06)	(0.001)	(0.10)	(0.001)	(0.07)	(0.001)	(0.08)	(0.001)
x Incentive dummy	0.35***	-0.001	0.42**	-0.001	0.30***	-0.001	0.25**	-0.001*
	(0.09)	(0.001)	(0.20)	(0.002)	(0.10)	(0.001)	(0.12)	(0.001)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Host-location FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12,254	12,254	2,715	2,715	9,539	9,539	7,541	7,541
R-squared	0.22	0.05	0.27	0.09	0.25	0.05	0.26	0.06
N. of host-locations	2,469	2,469	765	765	1,704	1,704	1,393	1,393

Notes: The number of observations in these regressions differs from the previous tables because here we exclude the drives that occurred in the first 56 days and those that occurred in the last 30 days of the sample period (although these drives were excluded from the sample used to run the regressions, these were not excluded for the computation of the number of substitute drives). The number of potential substitute drives was computed as described in the notes to Table 4 and in the text. Controls include the length of the drive (in hours), weather conditions on the day of the drive (amount of rain in inches and its square, rain intensity [measured as rain per hour of precipitation] and its square, amount of snow fallen in the 48 hours before a drive and its square, and temperature dummy variables [0-36, 36-53, 53-68, 68-75, 75+]), and sets of fixed effects for: year, month, week-of-the-month, day-of-the-week, ARC representatives, representative-specific week-of-the-month effects, special attributes of the drive. Robust standard errors corrected for clustering at the host-location level are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.