The limits of generosity in children

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Introduction

- Generosity strengthens social relationships and has positive effects on givers[1]. However, the study of generosity in childhood contends with conflicting definitions of what it means to be 'generous' [2,3,4].
- This meta-analytic review[5] focuses on children's generosity in distribution tasks when they are encouraged to give by modeling or verbally encouraging a generous donation.
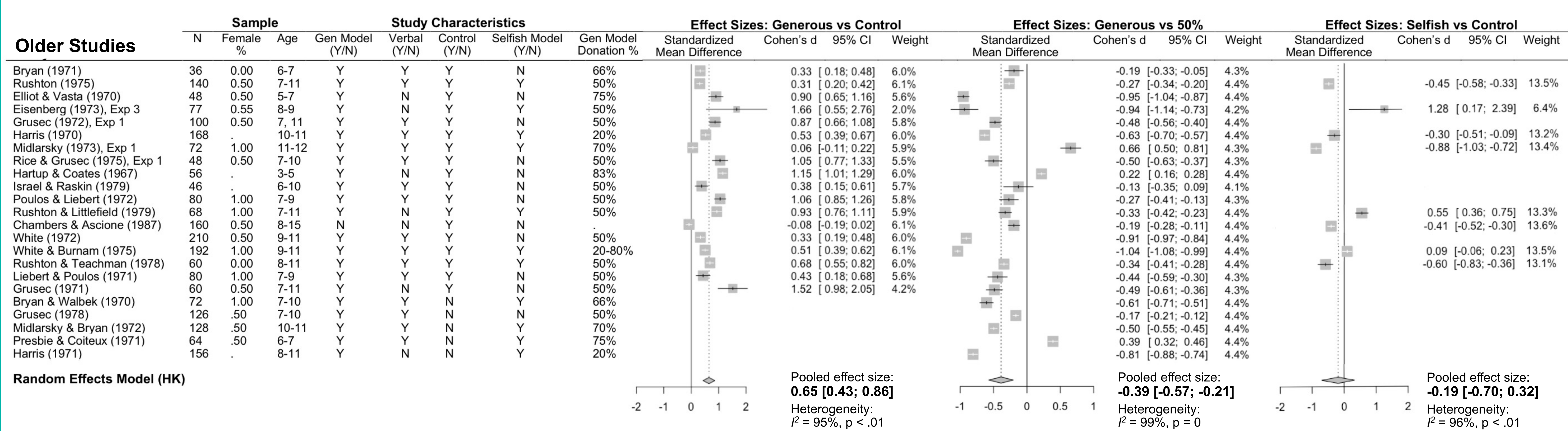
Research Question

1. **How do experimental manipulations that encourage generosity influence children's donation behavior in distribution tasks?**

2. **How do these compare to manipulations that encourage selfish behavior?**

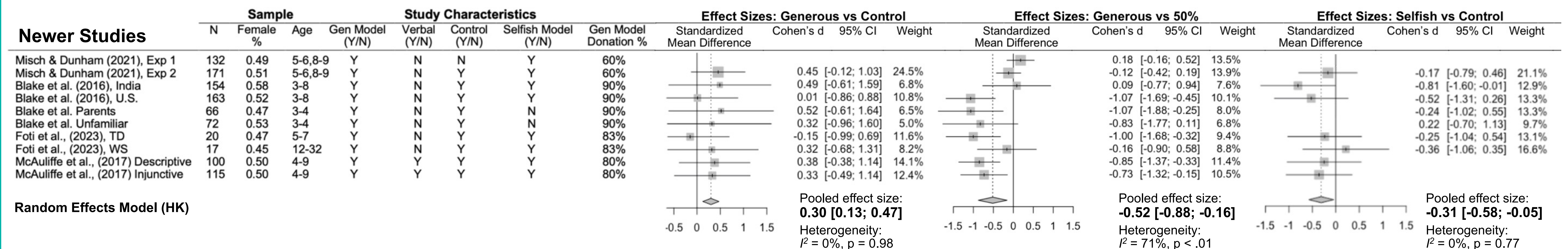3. **Across studies, do children tend to give more than half?**

Methods

- We reviewed 34 older papers (45 experiments, *N* = 4,179; age range: 3 to 12 years) on imitative altruism (1967–1990).

- In each study, an adult or a peer demonstrated generosity through modeling or verbal encouragement. Children observed an adult or peer model play a game to win prizes (coins, tokens, or marbles) and choose whether to donate, or they received information about a generous norm. Then, children played the game, won prizes, and were given the opportunity to donate to a peer or charity.

- We conducted a meta-analysis to integrate the results from 23 older studies that compared a generous model to a no-model control (18 experiments) and/or to a selfish model (11) to evaluate the overall impact of interventions on children's donation behavior.

- The definition of generosity varied across studies, ranging from 20% to 80%: it meant giving < 50% (2 experiments), exactly 50% (12), or > 50% (9).

- Effect sizes were calculated to compare mean donation amounts across generous versus control conditions, selfish versus control, and generous versus a benchmark of 50%.

- We also reviewed 12 recent studies published since 2016 (*N* = 5,611; age range: 3 to 12 years) that used experimental manipulations to encourage generosity, in all of which 'generous' meant giving > 50%. Out of these, we had full datasets for 5 papers (10 experiments).

Results

Older Studies	N	Female %	Age	Gen Model (Y/N)	Verbal (Y/N)	Control (Y/N)	Selfish Model (Y/N)	Gen Model Donation %	Generous vs Control Cohen's d	95% CI	Weight	Generous vs 50% Cohen's d	95% CI	Weight	Selfish vs Control Cohen's d	95% CI	Weight
Bryan (1971)	36	0.00	6-7	Y	Y	Y	N	66%	0.33	[0.18; 0.48]	6.0%	-0.19	[-0.33; -0.05]	4.3%			
Rushton (1975)	140	0.50	7-11	Y	Y	Y	N	50%	0.31	[0.20; 0.42]	6.1%	-0.27	[-0.34; -0.20]	4.4%			
Elliot & Vasta (1970)	48	0.50	5-7	Y	N	Y	Y	75%	0.90	[0.65; 1.16]	5.6%	-0.95	[-1.04; -0.87]	4.4%			
Eisenberg (1973), Exp 3	77	0.55	8-9	Y	Y	Y	Y	50%	1.66	[0.55; 2.76]	2.0%	-0.94	[-1.14; -0.73]	4.2%			
Grusec (1972), Exp 1	100	0.50	7, 11	Y	Y	Y	N	50%	0.87	[0.66; 1.08]	5.8%	-0.48	[-0.56; -0.40]	4.4%			
Harris (1970)	168	.	10-11	Y	Y	Y	Y	20%	0.53	[0.39; 0.67]	6.0%	-0.63	[-0.70; -0.57]	4.4%	-0.30	[-0.51; -0.09]	13.2%
Midlarsky (1973), Exp 1	72	1.00	11-12	Y	Y	Y	N	70%	0.06	[-0.11; 0.22]	5.9%	0.66	[0.50; 0.81]	4.3%			
Rice & Grusec (1975), Exp 1	48	0.50	7-10	Y	Y	Y	N	50%	1.05	[0.77; 1.33]	5.5%	-0.50	[-0.63; -0.37]	4.3%	-0.88	[-1.03; -0.72]	13.4%
Hartup & Coates (1967)	56	.	3-5	N	Y	Y	N	83%	1.15	[1.01; 1.29]	6.0%						
Israel & Raskin (1979)	46	.	6-10	Y	Y	Y	N	50%	0.38	[0.15; 0.61]	5.7%	-0.13	[-0.35; 0.09]	4.3%			
Poulos & Liebert (1972)	80	1.00	7-9	Y	N	Y	N	50%	1.06	[0.85; 1.26]	5.8%	-0.27	[-0.41; -0.13]	4.3%			
Rushton & Littlefield (1979)	68	1.00	7-11	Y	N	Y	Y	50%	0.93	[0.76; 1.11]	5.9%	-0.33	[-0.42; -0.23]	4.4%	0.55	[0.36; 0.75]	13.3%
Chambers & Ascione (1987)	160	0.50	8-15	N	Y	Y	N	.	-0.08	[-0.19; 0.02]	6.1%	-0.19	[-0.28; -0.11]	4.4%	-0.41	[-0.52; -0.30]	13.6%
White (1972)	210	0.50	9-11	Y	Y	Y	N	50%	0.33	[0.19; 0.48]	6.0%	-0.91	[-0.97; -0.84]	4.4%			
White & Burnam (1975)	192	1.00	9-11	Y	Y	Y	N	20-80%	0.51	[0.39; 0.62]	6.1%	-1.04	[-1.08; -0.99]	4.4%	0.09	[-0.06; 0.23]	13.5%
Rushton & Teachman (1978)	60	0.00	8-11	Y	Y	Y	Y	50%	-0.34	[-0.41; -0.28]	4.4%				-0.60	[-0.83; -0.36]	13.1%
Liebert & Poulos (1971)	80	1.00	7-9	Y	Y	Y	N	50%	0.43	[0.18; 0.68]	5.6%	-0.44	[-0.59; -0.30]	4.3%			
Grusec (1971)	60	0.50	7-11	Y	N	Y	N	50%	1.52	[0.98; 2.05]	4.2%	-0.49	[-0.61; -0.36]	4.3%			
Bryan & Walbek (1970)	72	1.00	7-10	Y	Y	Y	N	66%				-0.61	[-0.71; -0.51]	4.4%			
Grusec (1978)	126	.50	7-10	Y	Y	N	N	50%				-0.17	[-0.21; -0.12]	4.4%			
Midlarsky & Bryan (1972)	128	.50	10-11	Y	Y	N	N	70%				-0.50	[-0.55; -0.45]	4.4%			
Presbie & Coiteux (1971)	64	.50	6-7	Y	Y	N	Y	75%				0.39	[0.32; 0.46]	4.4%			
Harris (1971)	156	.	8-11	Y	N	N	Y	20%				-0.81	[-0.88; -0.74]	4.4%			
Random Effects Model (HK)									**Pooled effect size: 0.65 [0.43; 0.86]** Heterogeneity: $I^2 = 95\%$, p < .01			**Pooled effect size: -0.39 [-0.57; -0.21]** Heterogeneity: $I^2 = 99\%$, p = 0			**Pooled effect size: -0.19 [-0.70; 0.32]** Heterogeneity: $I^2 = 96\%$, p < .01		

Meta-Analysis Results [Older Studies]

- Generous conditions increased children's giving relative to Controls: pooled effect size of 0.65.
- However, giving > 50% was rare: a pooled effect size of -0.39 suggests that children gave less than half in most Generous conditions.
- Selfish conditions did not substantially decrease giving relative to Controls: pooled effect size of -0.19.

Newer Studies	N	Female %	Age	Gen Model (Y/N)	Verbal (Y/N)	Control (Y/N)	Selfish Model (Y/N)	Gen Model Donation %	Generous vs Control Cohen's d	95% CI	Weight	Generous vs 50% Cohen's d	95% CI	Weight	Selfish vs Control Cohen's d	95% CI	Weight
Misch & Dunham (2021), Exp 1	132	0.49	5-6,8-9	Y	N	N	Y	60%	0.45	[-0.12; 1.03]	24.5%	0.18	[-0.16; 0.52]	13.5%	-0.17	[-0.79; 0.46]	21.1%
Misch & Dunham (2021), Exp 2	171	0.51	5-6,8-9	Y	N	N	Y	60%	0.49	[-0.61; 1.59]	6.8%	-0.12	[-0.42; 0.19]	13.9%	-0.81	[-1.60; -0.01]	12.9%
Blake et al. (2016), India	154	0.58	3-8	Y	N	N	Y	90%	0.01	[-0.86; 0.88]	10.8%	0.09	[-0.77; 0.94]	7.6%	-0.52	[-1.31; 0.26]	13.3%
Blake et al. (2016), U.S.	163	0.52	3-8	Y	N	N	Y	90%	0.52	[-0.61; 1.64]	6.5%	-1.07	[-1.69; -0.45]	10.1%	-0.24	[-1.02; 0.55]	13.3%
Blake et al. Parents	66	0.47	3-4	Y	N	N	N	90%	0.52	[-0.61; 1.64]	6.5%	-1.07	[-1.88; -0.25]	8.0%	0.22	[-0.70; 1.13]	9.7%
Blake et al. Unfamiliar	72	0.53	3-4	Y	N	N	Y	90%	0.32	[-0.96; 1.60]	5.0%	-0.83	[-1.77; 0.11]	6.8%	-0.25	[-1.04; 0.55]	13.3%
Foti et al., (2023), TD	20	0.47	5-7	Y	N	Y	Y	83%	-0.15	[-0.99; 0.69]	11.6%	-1.00	[-1.68; -0.32]	9.4%	-0.36	[-1.06; 0.35]	16.6%
Foti et al., (2023), WS	17	0.45	12-32	Y	N	Y	Y	83%	0.32	[-0.68; 1.31]	8.2%	-0.16	[-0.90; 0.58]	8.8%			
McAuliffe et al., (2017) Descriptive	100	0.50	4-9	Y	Y	Y	Y	80%	0.38	[-0.38; 1.14]	14.1%	-0.85	[-1.37; -0.33]	11.4%			
McAuliffe et al., (2017) Injunctive	115	0.50	4-9	Y	Y	Y	Y	80%	0.33	[-0.49; 1.14]	12.4%	-0.73	[-1.32; -0.15]	10.5%			
Random Effects Model (HK)									**Pooled effect size: 0.30 [0.13; 0.47]** Heterogeneity: $I^2 = 0\%$, p = 0.98			**Pooled effect size: -0.52 [-0.88; -0.16]** Heterogeneity: $I^2 = 71\%$, p < .01			**Pooled effect size: -0.31 [-0.58; -0.05]** Heterogeneity: $I^2 = 0\%$, p = 0.77		

Meta-Analysis Results [Newer Studies]

- Generous conditions had similar effects in newer studies: pooled effect size of 0.30 for Generous v Control and -0.52 for Generous v 50%.
- However, Selfish conditions had a negative effect on giving, similar in strength to the Generous effect: pooled effect size of -0.31.

Note that these effects are preliminary, as more data sets will be added.

Discussion

- Interventions encouraging generosity consistently increase children's giving behavior.
- Newer studies also suggest that promoting selfish behavior can decrease giving.
- However, children resist giving more than half, even when a Generous model does.

Generosity in giving experiments may require overcoming a cognitive barrier of equality.

- Future analyses will examine the effects of age, intervention type and other factors.
- Including more recent data sets will also add data from more non-WEIRD societies.

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