



Becoming Prosocial:

Reliability of Individual Differences in Early Prosocial Behavior

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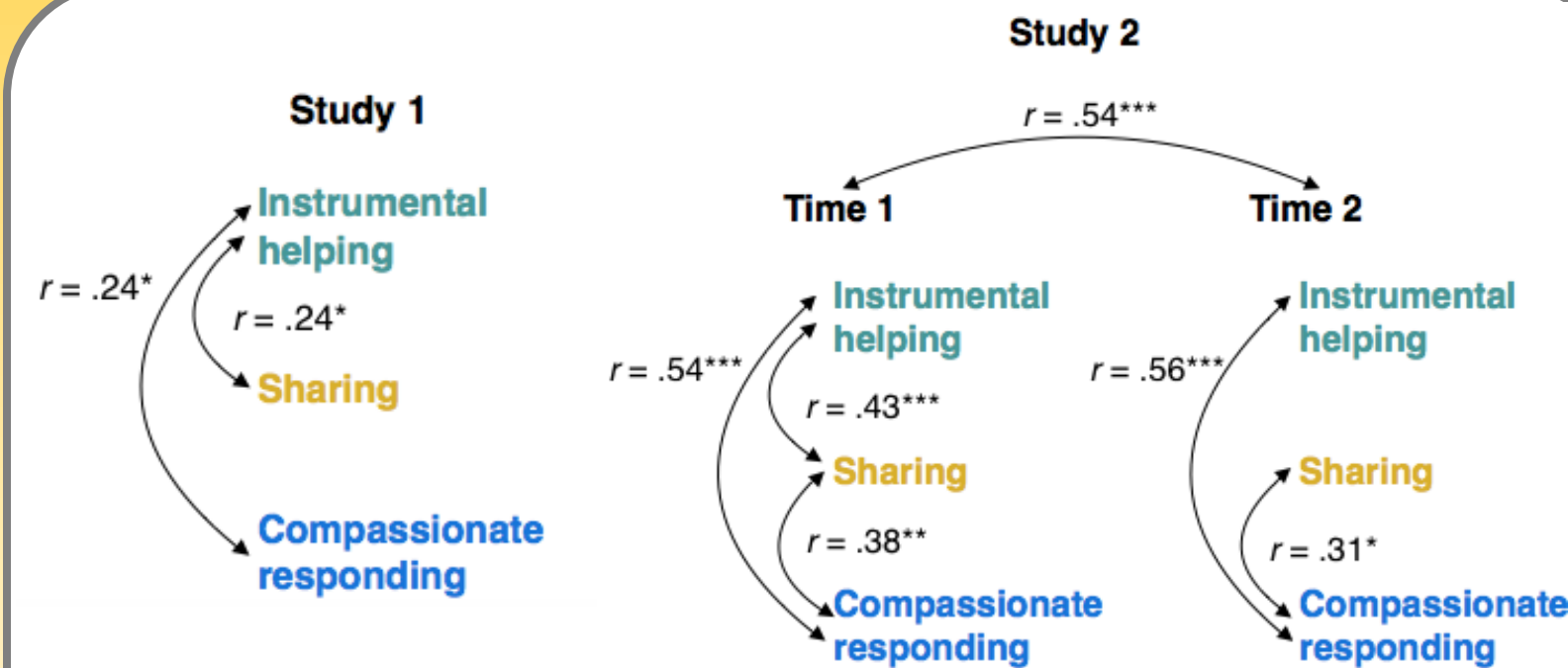


Introduction

- Recent research has shown that young children are far more capable of providing assistance, even to a stranger and in the absence of rewards, than was formerly believed (e.g., Dunfield & Kuhlmeier, 2013; Svetlova, Nichols, & Brownell, 2010; Warneken & Tomasello, 2006), but there is also considerable variability in responding.
- This has raised questions about the meaning of young children's helping, sharing, and empathic responding. Do early differences in prosocial behavior reflect reliable differences in prosocial motivation, or instead context-specific responses that may not be generalizable?

Methods

- Two samples of children with their mothers: one studied at 18 months ($n = 86$), the other with older children ($n = 51$) studied at 4.5 and 6 years.
- Children's responses to age-appropriate prosocial tasks were observed involving: (a) **instrumental assistance** (e.g., helping experimenter retrieve dropped objects); (b) **sharing** (e.g., sharing snack crackers with the experimenter who has few), and (c) **compassionate responding** (e.g., responding to accidental damage or injury eliciting the experimenter's sad affect).
- Responses were coded on 1-5 scale by blind observers using behavioral criteria focused on the target prosocial act.
- Both a variable-centered and person-centered approach, Latent Profile Analysis (LPA), were used to examine intraindividual consistency.



Figures 1 and 2. Correlations between prosocial behavior within and across time. (Note. * $p < .05$; ** $p < .01$; *** $p < .001$.)

Table 1. Fit indices for latent profile analysis, Study 1

Statistic	Number of Classes			
	1	2	3	4
Log Likelihood	-330.611	-320.223	-297.619	-294.819
AIC	673.222	660.446	623.237	625.638
BIC	688.017	685.105	657.760	670.024
ABIC	669.085	653.552	613.586	613.228
BLRT p value	N/A	0.00	0.00	0.50
Entropy	N/A	0.764	0.968	0.964

Note. AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; ABIC = Sample Adjusted BIC; BLRT = Bootstrap Likelihood Ratio Test.

Table 2. Means of prosocial behavior for three-class model, Study 1

Task	Low Prosocial	Moderately Prosocial	Frequent Helpers
	$n = 24$	$n = 43$	$n = 20$
Instrumental helping	2.07	3.52	4.81
Sharing	2.73	3.25	3.24
Compassionate responding	2.53	3.21	3.06

Table 3. Fit indices for latent profile analysis, Study 2 at T1

Statistic	Number of Classes				
	1	2	3	4	5
Log Likelihood	-298.25	-214.29	-181.83	-169.66	-178.82
AIC	608.50	448.57	391.66	375.31	401.64
BIC	621.55	470.31	422.10	414.45	449.48
ABIC	602.66	438.84	378.03	357.79	380.23
BLRT p value	N/A	0.00	0.00	0.00	0.00
Entropy	N/A	1.00	1.00	0.96	0.98

Note. AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; ABIC = Sample Adjusted BIC; BLRT = Bootstrap Likelihood Ratio Test.

Table 4. Means of prosocial behavior for four-class model, Study 2 at T1

Task	High Prosocial	Moderate Prosocial	Low Prosocial	Frequent Helpers
	$n = 41$	$n = 4$	$n = 7$	$n = 13$
Instrumental helping	5.00	3.50	2.00	5.00
Sharing	4.27	4.00	2.43	3.90
Compassionate responding	4.40	3.75	1.86	2.33

Table 5. Fit indices for latent profile analysis, Study 2 at T2

Statistic	Number of Classes				
	1	2	3	4	5
Log Likelihood	-338.56	-322.47	-313.17	-300.54	-297.95
AIC	689.12	664.94	654.34	637.07	639.90
BIC	700.59	684.06	681.11	671.49	681.96
ABIC	681.75	652.68	637.16	614.99	612.91
BLRT p value	N/A	0.00	0.00	0.13	1.00
Entropy	N/A	0.97	0.91	0.88	0.90

Note. AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; ABIC = Sample Adjusted BIC; BLRT = Bootstrap Likelihood Ratio Test.

Table 6. Means of prosocial behavior for four-class model, Study 2 at T2

Task	High Prosocial	Moderate Prosocial	Low Prosocial	Frequent Helpers
	$n = 27$	$n = 12$	$n = 4$	$n = 8$
Instrumental helping ^a	9.83	6.78	2.75	9.52
Sharing ^b	6.84	6.69	4.25	4.20
Compassionate responding ^c	8.23	7.23	4.75	4.29

Note. Mean values are out of a 10-point scale.
^aThe sum of the pencil box and lost keys tasks. ^bThe sum of the potato head and memory game tasks. ^cThe sum of the broken plane and hurt knee tasks.

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Results

- Variable-based analyses revealed generally significant associations between children's responses across tasks and, in the older children, over time (Figures 1 & 2).
- Person-based analyses revealed that children were distinguished into low prosocial, moderate prosocial, and "frequent helpers" groups with a high prosocial group in older children (Tables 1-6).
- Study 1 - At 18 months, the three-group solution fit best consisting of toddlers who scored low, moderately, and scored high on instrumental helping but moderately on the other tasks (Tables 1-2).
- Study 2 - At 4.5 and 6 years, a four-group solution fit best consisting of children who scored low, moderately, scored high on instrumental helping but moderately on the other tasks, those who received consistently high scores (Tables 3-6).

Discussion

- The results suggest that young children show somewhat reliable individual differences in prosocial motivation across different types of tasks with varying motivational characteristics.
- These findings indicate that task characteristics are important, but that young children also show reliable individual differences in their prosocial responding.
- Despite intraindividual consistency, there is also evidence of motivational distinctions between the tasks, particularly the relative ease of instrumental helping, and developmental changes in the organization of prosocial groups.