Supplemental Materials

Supplemental Analyses.

Delay and Reward decisions. Results from the Reward and Delay decisions, analyzed separately, suggested that while children made rational decisions overall, they were more likely to maximize reward than minimize delay, and more likely to minimize delay when earning rewards for others versus themselves. To test this interpretation directly, delay and reward decisions were combined, and then fit using two exploratory models including either an (1) additive or (2) interactive fixed effects of decision type (delay, reward) and recipient (other, self). Consistent with the results reported in the main text, the first model revealed that children were more likely to make reward-maximizing than delay-minimizing decisions, [0.436, 2.050], B=1.204, SE=0.408, p=.003, OR=3.334, but were no more likely to make rational decisions to benefit themselves versus others, [-1.503, 0.379], B=-0.526, SE=0.453, p=.245, OR=0.591. The second model, asking whether the effect of recipient differs across delay and reward decisions, revealed a marginal interaction, [-0.234, 3.074], B=1.373, SE=0.832, p=.099, OR=1.693, such that children were more likely to maximize reward than minimize delay in the *self* condition, [0.666, 3.041], B=1.854, SE=0.606, z=3.060, p=.002, OR=6.383, but performed no differently across thee two decision types in the *other* condition, [-0.643, 1.604], B=0.481, SE=0.573, p=.402, OR=1.617. This more complex model provided a marginally better fit than the additive model, $X^2(1)$=2.801, p=0.094. Children were just as likely to maximize rewards when making other-benefitting decisions as when making self-benefitting ones, and were somewhat more likely to minimize delay when making *reward* than *delay* decisions for themselves.

Discounting decisions. Children did not behave differently in the *self* versus *other* condition on the first Discounting decision, where they could choose 1 sticker or 2 stickers at no delay, [-102.213, 428.340], B=0.798, SE=6.939, p=0.908, OR=2.220.

Likert Ratings of Delays and Rewards. Did children value the delays and rewards differently across conditions? First, we analyzed whether children's ratings of the delays and rewards differed from each other and across test conditions. We found that children rated the stickers (*M*=2.53, *SD*=1.29) more

positively than waiting (*M*=0.31, *SD*=2.05), [0.108, 2.914], *B*=2.219, *SE*=0.344, *ß*=1.089, *t*(32)=6.442, *p*<.001, and gave higher ratings overall when earning stickers for themselves versus the next participant, [0.482, 1.953], *B*=1.344, *SE*=0.427, *ß*=0.659, *t*(32)=3.149, *p*=.004. An additional model with an interaction between target of rating (delay, reward) and condition (other, self) revealed that ratings did not strongly differ across tests and rewards depending on condition, [-1.982, -0.024], *B*=-1.063, *SE*=0.663, *ß*=-0.521, *t*(32)=-1.603, *p*=.119. This model provided a marginally better fit than the additive model, X^2(1)=2.472, *p*=.116, and revealed that while children rated the stickers equally positively across conditions, (M_{self} =2.94, *SD*=0.25; M_{other}=2.13, *SD*=1.75), [-2.642, -0.733], *B*=-0.875, *SE*=0.540, *ß*=0.065, *t*(60.3)=-1.50, *p*=.150, they rated waiting less positively when waiting for the next participant versus waiting for themselves[1] (M_{self} =1.25, *SD*=1.73; M_{other}=-0.63, *SD*=1.96), [-2.955, -0.794], *B*=-1.875, *SE*=0.540, *ß*=-0.969, *t*(60.3)=-3.563, *p*=.001. See Figure S5.

Adding the additional predictors of sex and age in months provided a marginally better fit by a likelihood ratio test, X^2(2)=4.295, *p*=.117, but revealed no strong difference in ratings between girls' ratings relative to boys' ratings [0.074, 1.261], *B*=0.643, *SE*=0.399, *ß*=0.316, *t*(32)=1.612, *p*=.117, nor a strong effect of age, [-0.003, 0.157], *B*=0.074, *SE*=0.054, *ß*=0.137, *t*(32)=1.375, *p*=.179.

Self-Reported Strategies. One further exploratory measure was whether children appealed directly to delay and reward to explain how they made their decisions. A null model first revealed that children were more likely mention neither delays nor rewards in their explanations than to mention either target, [-1.521, -0.274], *B*=-0.789, *SE*=0.270, *p*=.003, *OR*=0.455, suggesting an overall floor effect. To ask whether children were more likely to mention the delays or rewards in their explanations across test conditions, we first fit an additive model with target (delay, reward) and test condition (self, other) as fixed predictors. We found that children were not more likely to mention rewards over delays (25% versus 37.5%), [-0.474, 1.751], *B*=0.599, *SE*=0.553, *p*=0.279, *OR*=1.820, nor were they likely to mention either target across conditions (25% in the *other* condition, 37.5% in the *self* condition), [-0.499, 1.866],

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[1] One ad-hoc explanation for this finding is that children in the *self* condition (vs the *other* condition) believed that the stickers worth the wait, and thus updated their valuation of waiting accordingly.

B=0.599, SE=0.553, p=0.279, OR=1.820. A model with an interaction of target and condition revealed

that children's likelihood of mentioning delays versus rewards was not different across conditions, [-

3.970, 0.792], B=-1.435, SE=1.172, p=0.221, OR=0.238. Neither model provided a better fit than the null

model.

 Supplemental Figures.
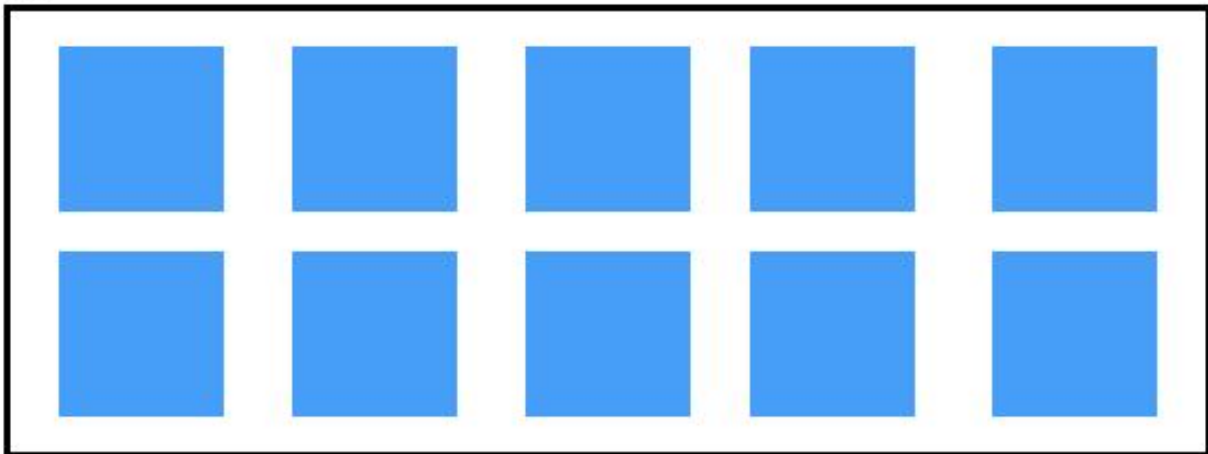

Figure S1. Example of (a) stickers and (b) cards displaying delays. Children chose between 1 sticker after no delay or 2 stickers after the delay as indicated on the card, with each square representing 5s.
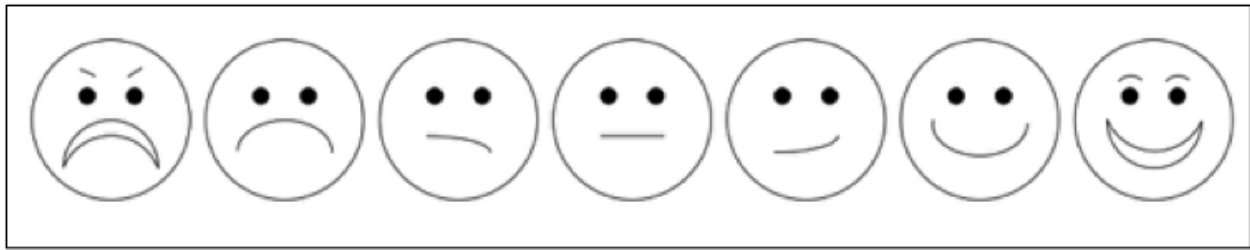
Figure S2. Likert Scale used to measure subjective valuation during the experiment. "Really don't like" (-3) on the farthest left to "really like" (+3) on the farthest right.
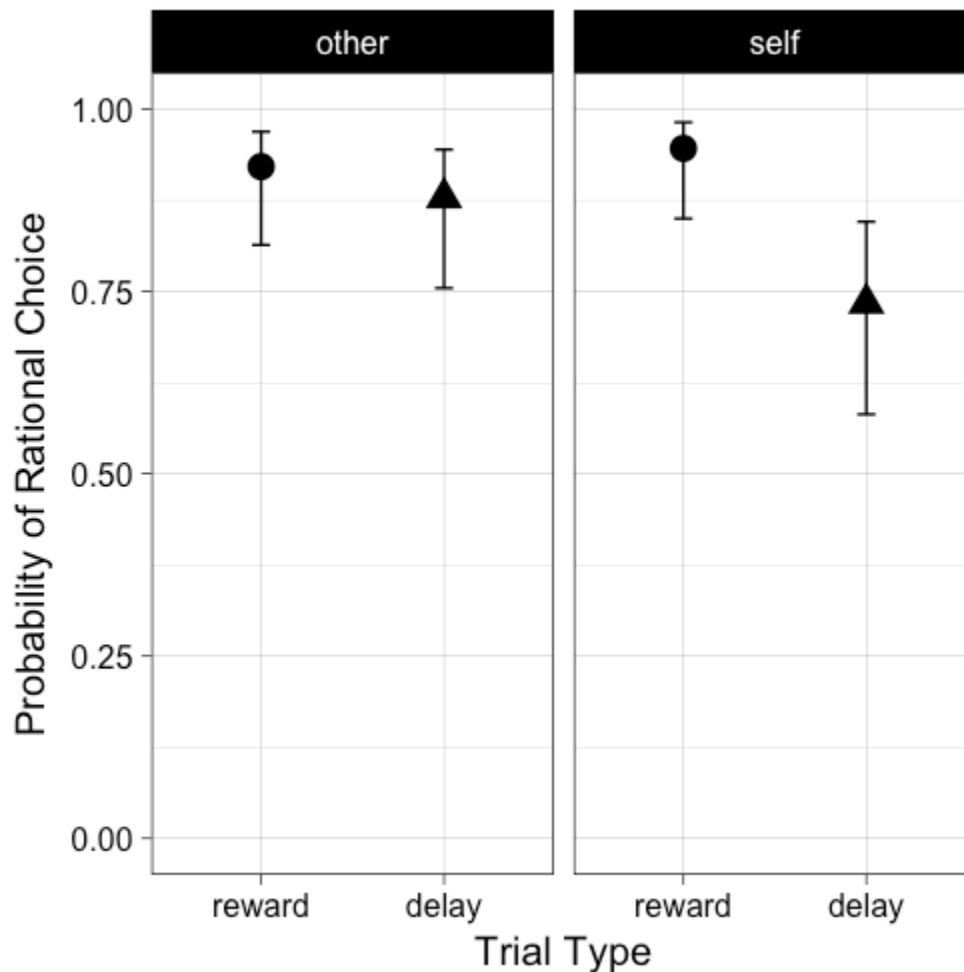

Figure S3. Probability of rational (i.e. delay-minimizing or reward-maximizing) decisions on the Delay and Reward decisions across the *other* and *self* conditions (total $N = 253$ decisions). Error bars indicate 95% confidence intervals around means.
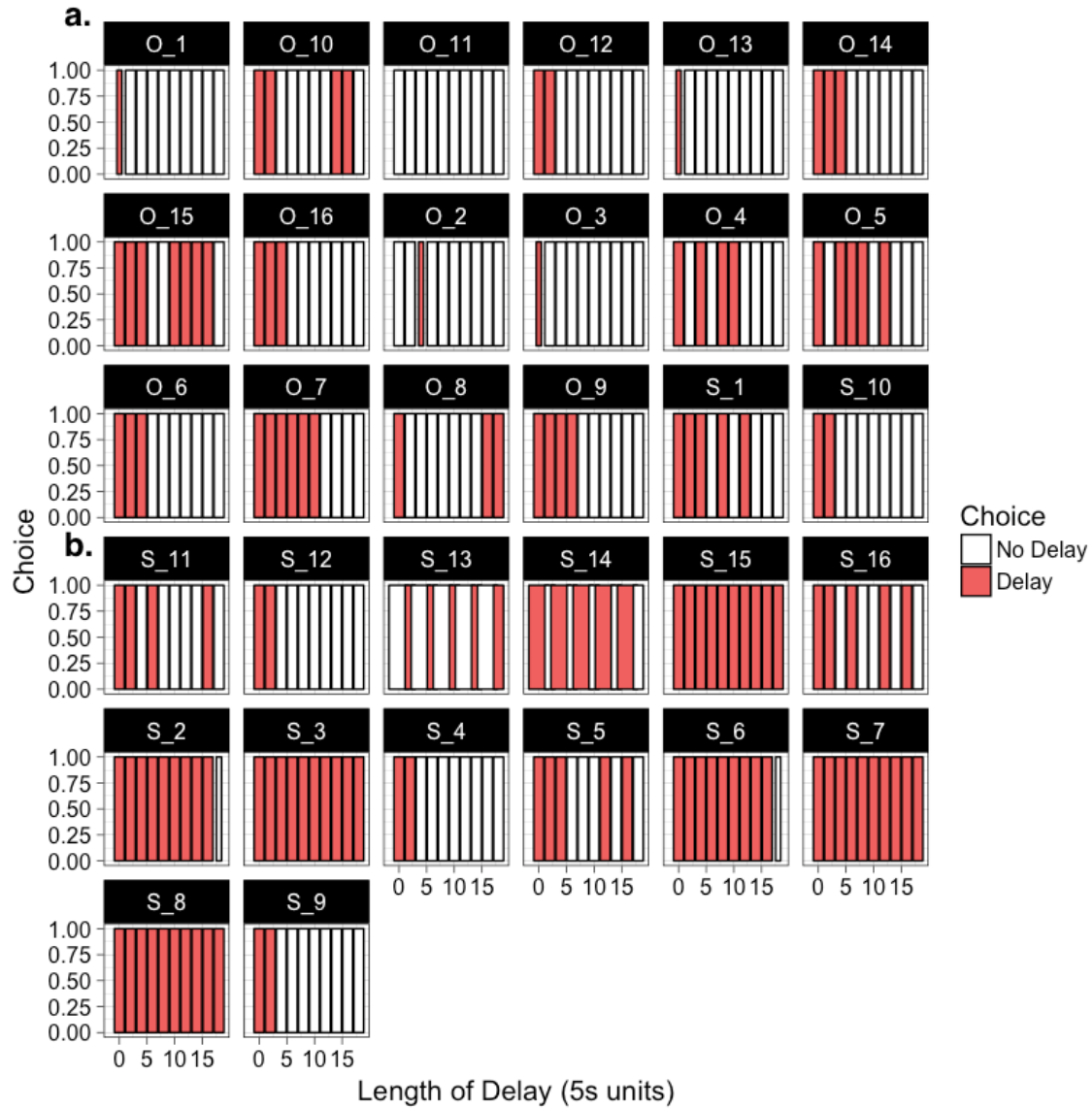
Figure S4. Individual decisions (*N* = 320) broken down by participant during Discounting decisions in the (A) *other* condition and (B) *self* condition.
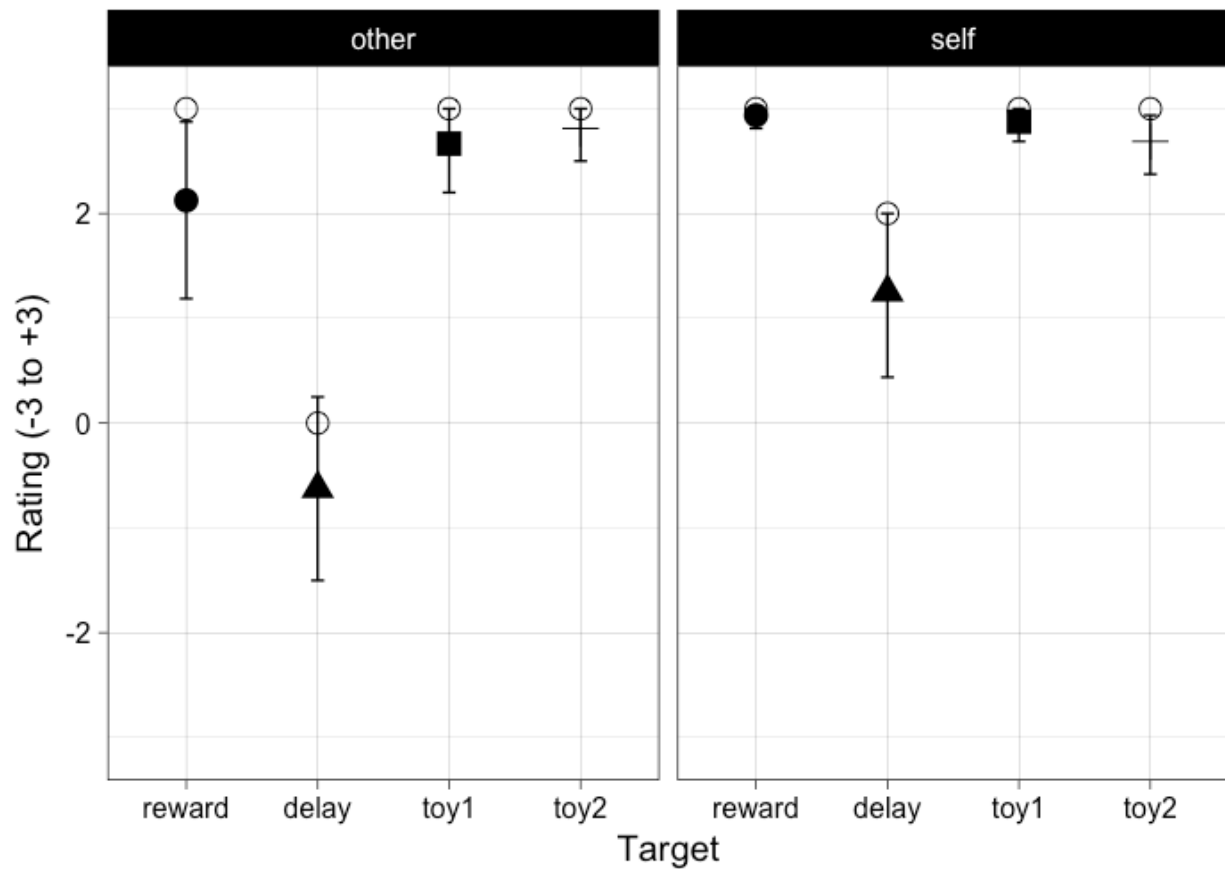
Figure S5. Children's Likert ratings of 4 aspects of the game: waiting (delay), stickers (reward), and the two opportunity cost toys (toy1 and toy2). Error bars indicate bootstrapped 95% confidence intervals around means. Empty circles indicate medians.