

Reading about people' feelings increases empathic concern and generosity in children

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Because we have very specific and clear *a-priori* hypotheses, we can use some simple statistical statistics (paired-t tests) within the groups rather than running omnibus ANOVAs.

The empathic intervention specifically raised children's generosity by nearly 100%, as well as increasing the amount of empathic concern they felt for another child. Importantly, the intervention did not affect what we call "emotional empathy" or sensitivity for pain. These changes were not present in the control group.

Altogether, these results show that the emotional reading intervention causes an increase in empathic concern for another as well as greater prosocial behavior (sharing here).

Results Amman Intervention:

Intervention Group: $n = 26$, $M_{age} = 8.12$, $sd = 1.53$, 14 female

Control Group: $n = 19$, $M_{age} = 8.89$, $sd = 1.023$, 10 female

Prior to random assignment to intervention or control group, children's generosity was assessed using a child-modified dictator game. Additionally, children's empathic concern and ratings of other's subjective pain were measured using a physical booklet with hands or feet in various states of physical harm (slammed in a door, etc..).

Pre-intervention: Children's generosity was marginally related to age in years ($r = .288$, $p = .06$), but there were not age-related changes in empathic concern ($r = -.005$, *n.s.*), nor ratings of others subjective

pain ($r = -.021, n.s.$). Gender-related differences in generosity, empathic concern, and sensitivity to others' pain were not significant. After controlling for age-related change, pre-intervention generosity was predicted by empathic concern ($r = .375, p < .05$), but not to sensitivity to others' pain ($r = .253, n.s.$). Finally, ratings of the pain another is experiencing and empathic concern were related ($r = .616, p < .001$).

Intervention:

Results from a 2 (pre/post) x 2 (intervention/control) repeated measures Analysis of Variance (ANOVA) on generosity reveal a trending interaction effect of time x group ($F(1, 42) = 3.69, p = .06$, partial $\eta^2 = .081$), characterized by a significant change in generosity for the intervention group ($t(24) = -2.89, p < .01$), but not control group ($t(18) = -.161, ns$). The intervention also significantly changed children's empathic concern, as evidenced from results from a paired-samples t-test (pre-post) on empathic concern in the intervention group ($t(25) = -2.825, p < .01$), but not in the control group ($t(18) = -.95, ns$).

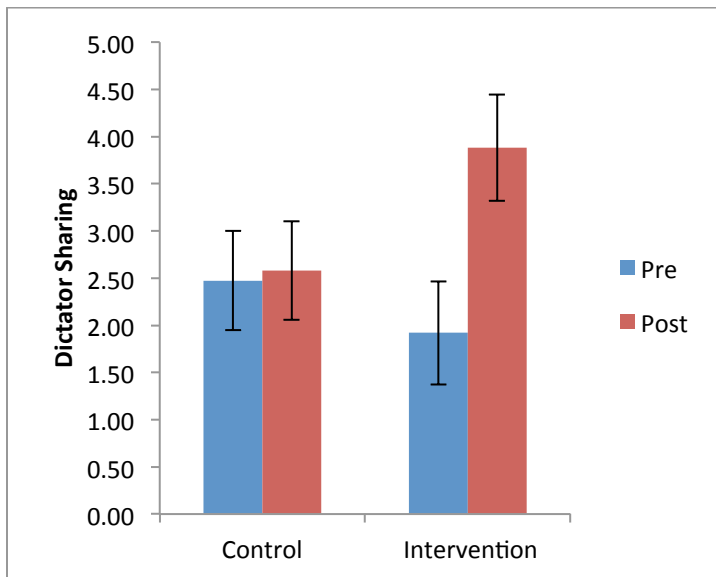


Figure 1: Generosity as assessed by the number of stickers shared in the Dictator game for the control and the intervention groups. Blue represents pre-intervention levels of sharing. Red represents post-intervention levels of sharing. Generosity was significantly increased in children who were read stories about people's interactions and feelings. Bars represent standard errors.

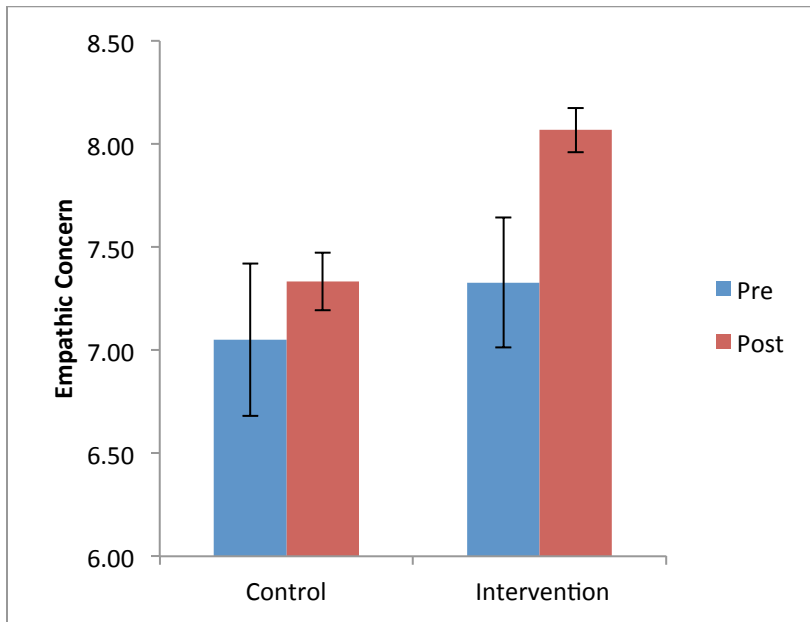


Figure 2: Empathic concern as measured in both the Control and Intervention groups with the Chicago empathy task. Blue represents pre-intervention levels of empathic concern. Red represents post-intervention levels of empathic concern. Empathic concern (feeling of tenderness and compassion for another child) was significantly increased in children who were read stories about people’s interactions and feelings. Bars represents standard errors.

Results from a 2 (pre/post) x 2 (intervention/control) repeated measures Analysis of Variance (ANOVA) on sensitivity to the pain of others, suggest no changes in pain sensitivity for the control or intervention groups.