The Effects of Guilt on Preschoolers’ Cognitive Flexibility and Inhibition

Candace Lapan, Janet J. Boseovski, Angela Dyson, and Vanessa Alvarado

The University of North Carolina at Greensboro

Introduction

- The experience of sadness impairs some of children’s cognitive skills (e.g., inhibition; Schmeichel & Inzlicht, 2013), but has no influence on others (e.g., cognitive flexibility; Qu & Zelazo, 2007). In contrast, social emotions (e.g., guilt) may cause broader cognitive impairment because such emotions are more intense and provoke greater arousal than sadness, creating additional regulatory demands (Baas, De Dreu, & Nijstad, 2008).
- Little is known about how children’s ability to control their emotions (i.e., emotion regulation) may interact with the effects of social emotions on cognition (Cole, 2014).
- The goal of the current study was to examine the effects of guilt on preschoolers’ cognitive flexibility (i.e., ability to switch between mental representations adaptively) and inhibition (i.e., ability to override a prepotent response).
- Due to the intense and arousing nature of guilt, we expected that guilt would impair children’s cognitive abilities. However, we predicted that older children’s advanced self-regulation skills would minimize the detrimental effects of guilt on children’s cognition.

Method

- 134 3- to 5-year-olds (M = 3.78 SD = .82, 68 male) and 2 (age: 3- to 4.5-year-olds and 4.5- to 5-year-olds) x 2 (mood: guilt vs. neutral) between-subjects design
- Participants underwent one of two mood manipulations:
  - Neutral: Participants played with a simple wooden block.
  - Guilt: Using a standard mishap paradigm (Kochanska & Aksan, 2006), participants were led to believe that they had broken the experimenter’s favorite toy.
- After the mood manipulation, participants completed the standard Dimensional Change Card Sort (DCCS; Zelazo, Müller, Frye, & Marcovitch, 2003) and a modified version of the Shape School task (Espy, 1997) in a counterbalanced order.

Results

- Linear regressions were conducted on inhibition and flexibility scores with age in months, condition, and the interaction between age and condition as predictors.
- Performance on all tasks increased with age, p’s < .01.
- The model for children’s inhibitory control performance was significant (F = 18.94, p < .001, R² = .31). Children in the guilt condition exhibited poorer inhibitory control than those in the neutral condition, β = 1.28, t(191) = 1.95, p < .05. However, this was qualified by an interaction between condition and age, β = 2.24, t(119) = 3.29, p < .01. Follow up t-tests indicated that guilt impaired younger children’s inhibitory control performance, t(79) = 2.72, p < .01, and had no effect on older children, t(30) = 1.32, p = .20.

Discussion

- The current findings suggest that, like sadness, guilt does not influence children’s cognitive flexibility, but is detrimental to cognitive inhibition.
- The effects of guilt on inhibition were only present for younger children. It is possible that older children experienced less guilt in reaction to the mood induction and this is why there was no effect on cognition.
- Due to the intense and arousing nature of guilt, we expected that guilt would impair children’s cognitive abilities. However, we predicted that older children’s advanced self-regulation skills would minimize the detrimental effects of guilt on children’s cognition.

References