Brief Report

Too proud to regulate: The differential effect of pride versus joy on children's ability to delay gratification

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ABSTRACT

We examined the effect of the distinct positive emotions pride and joy on children's self-regulation, focusing on their ability to delay gratification (i.e., resist a temptation in favor of a long-term goal). We hypothesized that because pride corresponds to the attainment of long-term goals and joy corresponds to the attainment of immediate desires, the experience of pride may signal sufficient progress toward a long-term goal, resulting in less delay of gratification than the experience of joy. To test this hypothesis, we induced an experience of pride or joy in 8-year-old children. At this age, the ability to self-regulate—and to experience pride and joy distinctively—is relatively mature. We then measured performance in a delay discounting task. We found that, compared with the joy condition and a control condition, children who experienced pride performed worse on the delay discounting task ($p = .045$), indicating poorer self-regulation. This result suggests that emotions may function as cues for sufficient goal pursuit, thereby influencing self-regulation from a very young age.

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Introduction

Children are frequently required to self-regulate throughout their day. They need to wait for their turn in a game, to finish dinner before having dessert, and so forth. Self-regulation involves

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modulating one's behavior, thoughts, and feelings to pursue goals, often overcoming prepotent coun-terproductive responses (Berger, 2011; Bronson, 2000). The development of self-regulation during childhood is critical for children's social and academic adjustment (Neuenschwander, Röthlisberger, Cimeli, & Roebers, 2012) and has long-term implications such as success in college, social competence, health, wealth, and low rates of criminal behavior (Mischel, Shoda, & Rodriguez, 1989).

An important factor influencing the ability to self-regulate is emotion (Carver & Scheier, 1990; Higgins, 1987). We explored the influence of positive emotions on a specific form of self-regulation—delay of gratification. When delaying gratification, a child is required to resist immediate temptation in favor of a long-term goal (e.g., Mischel et al., 1989). Research with adults shows that the distinct emotions pride and joy correspond to different types of goals (long-term vs. temptations, respectively), leading to differential influences on self-regulation (Eyal & Fishbach, 2010; Katzir, Eyal, Meiran, & Kessler, 2010). The role of distinct positive emotions in self-regulation at younger ages has not received much empirical or theoretical attention.

Development of self-regulation and ability to delay gratification

The ability to self-regulate develops during early childhood, mostly between 3 and 5 years of age (Carlson, 2005). Further development of self-regulation occurs during the early school years and depends on the maturation of cognitive mechanisms dealing with conflict (Berger, 2011). Some stud-ies show only subtle differences between the ability to deal with conflict during middle childhood (7 years of age) and adulthood (Rueda et al., 2004), whereas other research shows profound differ-ences, mainly in brain activation during conflict (Rueda, Checa, & Rothbart, 2010). Thus, in some respects the self-regulatory ability of children is similar to that of adults, but in other respects it requires further development.

A classic paradigm used to evaluate preschoolers' self-regulation is the *delay of gratification task* (Mischel et al., 1989), whereby children choose between a single marshmallow now (small immediate reward) and two marshmallows later (larger delayed reward). The time children wait is an indication of their ability to delay gratification. A task extensively used to measure self-regulation of 6- and 7-year-olds and above is the *delay discounting task* (Scheres, Tontsch, Thoeny, & Sumiya, 2014). This task presents repeated choices between small immediate rewards and larger delayed rewards. The delay durations and reward magnitudes vary. *Delay discounting* refers to the tendency to discount the subjective value of a reward as a function of the delay in receiving it. The ability to delay gratifi-cation is expressed by a single parameter (area under the discounting curve, AUC) that captures the trade-off between reward magnitude and delay, indicating how steeply one discounts. Choosing to wait for the delayed reward reflects better self-regulation (Critchfield & Kollins, 2001).

Positive emotions and delay of gratification

Even after self-regulation matures, it may still be affected by a range of factors, including emotions (Fry, 1975). Past research has mainly compared positive and negative affect, typically induced by ask-ing a child to recall experiences he or she likes or dislikes. This research showed that recalling positive experiences enhanced delay times more than recalling negative experiences in 3- to 5-year-olds (Moore, Clyburn, & Underwood, 1976), presumably because positive affect enhanced a sense of com-petence and expectancy for success. Importantly, whereas Moore and colleagues examined the influ-ence of general positive emotion on delay of gratification, we tested the influence of discrete positive emotions (pride vs. joy) on self-regulation.

A different view on the influence of positive emotion on self-regulation comes from literature on adults' self-regulation, in particular the cybernetic model (Carver & Scheier, 1990) and self-discrepancy theory (Higgins, 1987), according to which positive emotions signal that an individ-ual has made sufficient progress toward a goal. The cybernetic model proposes that when people have multiple goals, positive feelings inform them that they are doing better than needed on one of their goals and can reduce further effort on that goal and attend to other salient goals (Carver & Scheier, 1990). Similarly, the self-discrepancy theory proposes that positive feelings indicate no discrepancy between one's current behavior and progress toward desired goals (Higgins, 1987). Although this