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Children's awareness of the context-appropriate nature of emotion regulation strategies across emotions

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Abstract

Emotion regulation (ER) substantially develops during the childhood years. This growth includes an increasing awareness that certain ER strategies are more appropriate in some contexts than others, but few studies have explored how children tailor ER strategies across contexts (i.e., context sensitivity). Understanding this could help clarify why some children have difficulties effectively regulating their emotions even when they have a broad strategy repertoire. The current study explored differences in Hispanic children's ER strategy context sensitivity across three emotions and explored attentional control as a possible moderator of this sensitivity. Children (N = 78; M = 9.91; SD = 1.14; 50% girls; household income M = 31–40k) completed an attentional control task and were interviewed about their ER strategy preferences for sadness, fear, and anger. Context sensitivity was measured as the proportion of endorsed ER strategies that theoretically "fit" the given emotion. Children showed more sensitivity for anger and fear compared to sadness. Attentional control predicted context sensitivity for sadness only, but this was qualified by age. Older children showed more context sensitivity with increasing attentional control. Findings provide insight into emotional development in late childhood by highlighting children's awareness of the context-appropriate nature of ER strategies across emotions.

Keywords

Emotion regulation; context sensitivity; childhood; discrete emotions; attentional control

The childhood years are a vital time for the development of emotion regulation (ER; Cole, Martin, & Dennis, 2004; Eisenberg & Spinrad, 2004; Fox & Calkins, 2003). This development includes shifts from external sources (e.g., parents) to agentic ER, shifts from behavioral strategies (e.g., playing as a form of distraction) to cognitive strategies (e.g., reappraising the situation), and a general understanding that some strategies are more effective in some contexts than others. Research using adult samples suggests that the effectiveness of an ER strategy will depend on the emotional context in which it is used (e.g., sadness vs. anger; Webb et al., 2012). Similarly, children increasingly use contextual

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information like the emotion being experienced or who is around to inform decisions about regulatory choices in middle childhood (Zeman & Garber, 1996; Zeman & Shipman, 1997). Thus, the ability to tailor ER choices based on contextual demands originates in childhood and is a foundational skill underlying optimal regulatory choices. This has been previously referred to as context sensitivity, and is a core aspect of flexible, adaptive ER (Bonanno & Burton, 2013). A better understanding of children's ER context sensitivity, and its precursor, children's awareness of the context-appropriate nature of ER strategies, could help clarify why some children have problems effectively regulating their emotions even when they have a broad ER strategy repertoire from which to choose.

Awareness of how different ER strategies are more effective in some emotional contexts seems to emerge at least in a rudimentary form in early childhood (Davis et al., 2010; Dennis & Kelemen, 2009; Waters & Thompson, 2014). A study with 3- and 4-year-old children found discrete emotion differences in children's ER strategy preferences, with children preferring to distract themselves to manage sadness and fear, but to problem-solve to manage anger (Dennis & Kelemen, 2009), suggesting that even in early childhood children have some awareness that strategies ought to work differently across emotional contexts. A study with 5- to 6-year-old children also found ER strategy preferences, with children preferring changing goals (e.g., deciding they did not want a toy they did not get) when describing strategies to regulate sadness compared to fear and anger, and preferring changing thoughts (e.g., thinking about how things will get better) for fear compared to these other two emotions (Davis et al., 2010). When examining children's reported use of these strategies in past autobiographical events, 5- and 6-year-old children described using cognitive reappraisal more often to regulate fear and sadness than anger (Davis et al., 2010). The results from this study suggest that children even as young as 5–6-years-old understand that cognitive reappraisal, a complex cognitive strategy, is likely to be a more appropriate way of managing sadness and fear than anger.

In another study with 6–9-year-old children, children endorsed ER strategies to be overall more effective for regulating sadness than anger (Waters & Thompson, 2014). These children also reported using problem solving to regulate anger more than sadness, consistent with a functional view of anger as motivating action in response to a goal blockage. Taken together, findings from these studies suggest that children have some awareness and understanding that the effectiveness of ER strategies differs across emotional contexts, and that they tailor their ER use based on the emotional context, at least to some extent. Thus, although ER preferences seem to emerge in early childhood, they continue to develop and are refined in late childhood. The gains in ER understanding that continue to build during childhood and early adolescence result in effective and efficient ER in adulthood (Zimmermann & Iwanski, 2014).

The current study capitalizes on a growing body of theory and research on the dynamic and flexible nature of healthy ER (Bonanno & Burton, 2013; Parsafar, Fontanilla, & Davis, 2019; Sheppes et al., 2014) by exploring children's awareness of the context-appropriate nature of ER strategies across fear, sadness, and anger. Research with adults suggests that regulatory flexibility is linked with better mental health and other positive outcomes (Aldao, Sheppes, & Gross, 2015; Dixon-Gordon, Aldao, & De Los Reyes, 2015; Zhu & Bonanno,

2017), but less is known about the implications or foundations of regulatory flexibility in childhood. A study of 7- to 11-year-old children's context-appropriate ER strategy repertoires found that smaller repertoires for anger and fear (i.e., the number of emotion-specific adaptive strategies that children reported) were associated with externalizing and anxiety symptoms respectively (Quiñones-Camacho & Davis, 2018), suggesting that children's awareness of the demands of discrete emotional contexts can have significant implications for their mental health. Moreover, the link between ER strategy repertoire and anxiety symptoms was moderated by age, suggesting that even in late childhood, there are still age-related improvements in ER with important consequences for well-being. Exploring children's awareness of the context-appropriate nature of ER strategies through their ER strategy endorsement will provide developmental science with a more nuanced understanding of ER development during the late childhood years, a period when mental health problems associated with ER difficulties become more prevalent (Roberts et al., 1998).

Emotional context and attentional control

Individual differences in how children attend and process information from their environment emerge early in life and are important predictors of self-regulation (Rothbart & Bates, 1998). Differences in how people regulate their attention to emotion should influence their ability to use contextual information to guide their regulatory choices. Studies of individual differences in the control of attention to emotion in early childhood support this by showing that better attentional control aids in the regulation of negative emotions— at least in a basic way— by redirecting attention away from aversive stimuli (Rueda, Posner, & Rothbart, 2004). Moreover, dysregulated attention (e.g., strong attentional biases) to emotion has been found to relate to anxiety symptoms (Susa et al., 2012), suggesting that dysregulated attention might partially explain the link between the two. Lastly, a study exploring anxiety-related threat biases in adults found that being able to control attention to emotional stimuli moderated this link such that anxious people with less attentional control were slower to disengage from threat and had, therefore, a larger threat bias (Derryberry & Reed, 2002). Thus, there is support for the idea that children's ability to control their attention during situations in which emotional information is not necessarily relevant could help explain why some children are more responsive to contextual demands than others. Because this modulation of attention in the presence of irrelevant emotional information does not require an active (or explicit awareness of one's) attempt to control attention, it can be described as implicit attentional control. In the current study, we explored whether differences in children's implicit attentional control would predict their context-appropriate ER preferences, as this could help explain why some children are better able to deploy context-appropriate ER strategies.

Current study

The current study examined differences in the sensitivity with which children demonstrate awareness of ER strategies fitting specific emotional contexts. We focused on late childhood, as this period represents a developmental phase in which ER strategies have already been acquired but when ER repertoires are still being refined. Thus, ER strategy preferences in

late childhood may be particularly important predictors of healthy development during this period (Quiñones-Camacho & Davis, 2018; Reijntjes et al., 2007). Moreover, we focused on Hispanic children as this is a growing group in the USA that has often being ignored in research on children's emotional development. We operationalized two ways of thinking about context sensitivity: (1) the contextual "fit" of the strategies children endorsed for a given emotion and (2) the contextual "sensitivity" with which endorsed ER strategies varied across emotions. Children were given vignettes about a scary, a sad, and an angering event, and were then told 10 different strategies they could endorse using to change how they felt if the event happened to them. The number of strategies endorsed by the child was used to compute a context-appropriate strategy index for each emotion. We hypothesized that children's ER context sensitivity would differ across the discrete negative emotion contexts. Based on previous work (Davis et al., 2010; Dennis & Kelemen, 2009; Waters & Thompson, 2014) we hypothesized that children would show greater context-appropriate tailoring of their ER strategy endorsements to sadness compared to fear and anger. We also explored children's attentional control as a potential predictor of children's context sensitivity across emotional contexts and assessed age as a moderator of this effect. We hypothesized that attentional control would be more strongly associated with context-appropriate tailoring of strategies with increasing age, as older children would possess more sophisticated attentional control abilities.

Method

Participants

Seventy-eight Hispanic or part-Hispanic 8.00- to 11.92-year-old children (50% girls) were recruited for a study on Hispanic children's emotional development (M_{age} = 9.91; SD_{age} = 1.14). Parents reported 74% of children as Hispanic only, and 26% as Hispanic and another ethnic group. There were no differences between groups for any variable of interest. Families were primarily of low- to middle-SES, with 44% reporting an annual household income below $30,000, 19% reporting income between $30,000-$50,000, and 37% reporting an income that was higher than $50,000. Seventy mothers, six fathers, one grandfather, and one grandmother (both grandparents were legal guardians) participated in the study. A total of 24% of male caregivers did not finish high school, 24% earned a high school diploma, 37% completed some college, 11% earned a college degree or more; there was no data for 4% of male caregivers. For female caregivers, 22% did not finish high school, 12% earned a high school diploma, 31% completed some college, and 24% earned a college degree or more; no data were available for 11% of female caregivers.

Procedure

Study procedures were approved by the institutional review board. Written consent was obtained from the caregiver and assent (written and verbal) was obtained from the child before study procedures began. Children completed a battery of tasks, including an attentional dot-probe, and were interviewed about ER strategies using a procedure developed for this study. At the end, families were thanked and debriefed, given a modest honorarium, and children chose a small toy to take home.

Emotion Regulation Interview.—Three separate vignettes, designed to elicit fear, sadness, and anger were developed for this study and modeled after similar stimuli used in previous work (e.g., Dennis & Kelemen, 2009; Reijntjes, Stegge, Terwogt, & Hurkens, 2007; Waters & Thompson, 2014). The vignettes were read aloud to children and described common emotion-evoking experiences that were likely to be familiar to children. The fear vignette read: "*You are alone in your room at night in the middle of the night and it is VERY dark. You hear some weird noises coming from under your bed; you are VERY scared*." The sadness vignette read: "*You just found out that your most favorite pet, which you had since you were little, died; you are very sad*." Lastly, the anger vignette read: "*You got in trouble at school for something you did not do and you were sent to detention and did not get to play or talk to your friends during lunch; you are very angry*." Children were instructed to listen carefully to each vignette and to imagine that they were experiencing the events in the story. The interview took approximately 20–30 minutes to complete. All children were given the fear vignette first, followed by sadness, and then anger.

After the vignette, children were asked about 10 ER strategies they could potentially use to make themselves feel better if they were experiencing that situation. Specifically, the experimenter said, "*We will now go over different ways of changing how you feel and I want you to tell me if you think you would do that if you were in that situation*." The 10 strategies were always given in the same order and were: Problem Solving ("Find a way to fix it"), Cognitive Reappraisal ("Think about how it is not a big deal"), Cognitive Distraction ("Think about something else"), Rumination ("Continue to frequently think about the situation"), Thought Suppression ("Stopping yourself from thinking about it"), Behavioral Distraction ("Do something else"), Seeking Social Support ("Find someone to talk to and help you"), Avoidance ("Leave the situation so you don't have to deal with it"), Acceptance ("Let yourself feel that way"), and Breathing/Calming Down ("Try to breathe and calm down"). The children were asked about strategy examples rather than the conceptual labels. For instance, instead of asking children how likely they would be to "use cognitive distraction," we asked, "*How likely do you think you are to think about something else if you were in that situation?; On a scale from 1–5 (1 being definitely would not do it and 5 being definitely would do it) how likely are you to think about something else*?" This questioning was repeated for each of the 10 strategies and 3 emotion vignettes.

Context-Appropriate Strategy Endorsement.—Children's responses to questions about how likely they would be to use each strategy were first dichotomized into "likely" (i.e., ratings of 4s and 5s; corresponding to "probably would" or "definitely would" reports) and "unlikely" (ratings of 1s, 2s, and 3s for each strategy). The number of likely strategy endorsements was summed for each emotion vignette separately, with a possible range of 0 to 10.

Then, we derived a score indexing children's endorsement of context-appropriate ER strategies for each emotion. The theorized set of appropriate strategies for each emotion context was grounded in prior work as well as a functionalist view of discrete emotions and the strategies that ought to be most effective for managing sadness, fear, and anger (Davis et al., 2010; Dennis & Kelemen, 2009; Quiñones-Camacho & Davis, 2018; Waters & Thompson, 2014). Specifically, the set for fear included problem-solving, cognitive

reappraisal, social support, and breathing/calming down. The set for sadness included cognitive reappraisal, behavioral distraction, social support, and acceptance. The set for anger included cognitive distraction, problem-solving, behavioral distraction, and breathing/calming down. Some strategy overlap was allowed in the sets (e.g., cognitive reappraisal was included in the context-appropriate set for both sadness and fear), to account for the fact that some strategies are likely to work well in multiple emotional contexts. For example, reappraisal could be used effectively both when a goal is lost and a person feels sad, and when a goal has been threatened (but not yet lost) and a person feels afraid (Davis et al., 2010). The number of context-appropriate strategies children endorsed being likely to use was computed for sadness, fear, and anger separately (scores could range from 0 to 4 for each emotion).

To create an index of contextual "fit," three sets of proportion scores were created. The total number of context-appropriate strategies for each emotion was divided by the total number of strategies endorsed for that emotion. Proportion scores closer to 1 indicate that children's strategy endorsement was calibrated more specifically to context-appropriate strategies. In other words, higher proportion scores can be interpreted as greater context-appropriate strategy endorsement. Three context-appropriate strategy scores were computed: sadness (M = .374; SD = .157; *Range* = .000 - .750), fear (M = .479; SD = .148; *Range* = .000 – 1.000), and anger (M = .488; SD = .188; *Range* = .000 – 1.000). We use the term contextual 'fit' for analyses exploring each measure of context-appropriate strategy endorsement separately, and use 'sensitivity' to refer to the pattern that emerges from examining cross-emotion differences in context-appropriate strategy endorsement.

Dot Probe.—Children's attentional control was assessed with a 10-minute computerized dot-probe task consisting of 8 practice trials followed by 160 experimental trials. Each trial began with a fixation cross for 500ms followed by a pair of faces presented side-by-side for another 500ms. Then, one of the two faces was replaced with a target (a "<" or ">" symbol) that stayed on screen for another 1,000ms. Children were asked to indicate, as quickly and accurately as possible, if the target was pointing left or right. This was followed by a varying inter-trial interval of 300–750ms. Each trial was one of three combinations of faces: angry-neutral (40 trials), angry-angry (40 trials), and neutral-neutral (40 trials). The remaining 40 trials displayed only a fixation cross and no faces. Images from 10 different actors (5 men; 5 women) were selected from the NimStim face stimulus set (Tottenham et al., 2009). In congruent trials, the target replaced the angry face; in incongruent trials, it replaced the neutral face. Accuracy and reaction time were recorded for the task. We used accuracy scores in analyses because these captured children's ability to control attentional focus in the presence of emotional information (van Rooijen et al., 2017). Because children's accuracy on congruent (M = 68.610%, SD = 27.690%) and incongruent (M = 69.440%, SD = 28.100%) trials did not differ, ($t_{(77)} = -.835$, p = .406), we averaged accuracy across trial types for use in analyses.

Results

Ten children were missing some data; all were missing income, and one was also missing educational data for both caregivers, Little's MCAR test $\chi^2_{(11)} = 10.316$, $p = .502$. We

imputed the missing data to retain all participants for analyses (Royston, 2005) using SPSS 25.0. Ten imputations were computed, and pooled estimates are reported below.

Means, standard deviations, and inter-correlations are given in Table 1. One marginal gender difference emerged, such that boys' context-appropriate strategy endorsement for fear (M = .512; SD = .173) was marginally higher than girls' (M = .446; SD = .110), $t_{(76)}$ = 1.987, p = .051, d = .419. One correlation of note emerged, such that greater context-appropriate strategy endorsement for sadness was associated with better attentional control: $r_{(78)}$ = .359, p = .001.

Context sensitivity: Discrete emotion differences in context-appropriate strategy endorsement

To test our hypothesis that children would differ in their context sensitivity based on the discrete emotion being considered, a repeated measures ANOVA with emotion context as a within-person factor was conducted on the three context-appropriate strategy endorsement scores. Child gender and age group (Younger: 8- and 9-year-old children, n = 41; Older: 10- and 11-year-old children, n = 37) were entered as between-subject factors. We found evidence of the hypothesized context sensitivity (a main effect of emotion context), F(2, 148) = 10.471, p < .001, η^2 = .124, indicating that the proportion of context-appropriate strategies used by the children in our study differed depending on the emotion. Follow-up paired-sample t-tests to probe the pattern of context sensitivity revealed that children showed greater context-appropriate strategy endorsement for fear (M = .479; SD = .148) than sadness (M = .374; SD = .157), $t_{(77)}$ = 3.894, p < .001. They also showed greater context-appropriate strategy endorsement for anger (M = .488; SD = .187) than sadness (M = .374; SD = .157), $t_{(77)}$ = 4.026, p < .001. But children did not differ in terms of context-appropriate strategy endorsement for anger (M = .488; SD = .187) and fear (M = .479; SD = .148), $t_{(77)}$ = .303, p = .763. Thus, the contextual "fit" of endorsed strategies was *lower* for sadness than anger or fear, in contrast to our hypothesis. No significant effects for gender (F(1, 74) = .847, p = .360, η^2 = .011), age group (F(1, 74) = .027, p = .870, η^2 = .000), or their interactions with emotion context were found.

Attentional control and endorsement of context-appropriate strategies

We next tested the link between attentional control and context-appropriate endorsement of strategies for each emotion. To parcel out the role of attentional control, we entered income, parental education, gender, and age as covariates in step 1. On step 2, we entered attentional control. On step 3, we entered the interaction of attentional control and age to explore whether age would qualify the link between attentional control and context-appropriate strategy endorsements.

Sadness.—The first step of this model was significant F(4, 73) = 2.910, p = .040, R^2 = .137. Family income was a significant covariate (b = .026, *seb* = .009, t = 2.834, p = .005, *95% CI* [.008, .046]). The second step resulted in a significant change to the model $F\Delta$ (1, 72) = 9.100, p = .003, $R^2\Delta$ = .097. Attentional control predicted greater sadness-appropriate strategy endorsement (b = .002, *seb* = .001, t = 3.003, p = .003, *95% CI* [.001, .003]). The third step also improved the model, $F\Delta$ (1, 71) = 7.813, p = .007, $R^2\Delta$ = .076. The interaction

of attentional control and age was significant (b = .001, seb = .001, t = 2.776, p = .006, 95% CI [.000, .002]; Figure 1). Greater attentional control was positively associated with greater sadness-appropriate strategy endorsement for older children (b = .003, t = 4.287, p < .001), but not younger children (b = .001, t = 1.139, p = .259).

Fear.—The first step of the model was not significant $F(4, 73) = 1.247$, $p = .299$, $R^2 = .064$. The second ($F\Delta$ (1, 72) = .219, p = .643, $R^2\Delta$ = .003) and third ($F\Delta$ (1, 71) = 1.938, p = .168, $R^2\Delta$ = .025) steps did not significantly change the model.

Anger.—The first step of the model was not significant $F(4, 73) = .346$, $p = .845$, $R^2 = .019$. Neither the second ($F\Delta$ (1, 72) = .715, p = .799, $R^2\Delta$ = .010) nor third steps changed the model $F\Delta$ (1, 71) = .063, p = .801, $R^2\Delta$ = .001. Thus, attention control was an important predictor of context-appropriate strategies for sadness only.

Discussion

This investigation provides insight into emotional development by establishing a new approach to conceptualizing children's developing regulatory abilities (i.e., awareness of the context-appropriate nature of ER strategies). Based on previous work on children's ER strategy preferences, we expected children to show greater context sensitivity to sadness compared to fear and anger. Contrary to our expectations, however, children showed better context sensitivity to anger and fear compared to sadness. When looking at attentional control, we found that better attentional control predicted better context-appropriate ER strategy endorsement for sadness in older children. Our findings on children's context sensitivity offer preliminary information about how children become flexible regulators. This is a significant contribution as there is growing evidence that regulatory flexibility has meaningful consequences for well-being across the lifespan (Quiñones-Camacho & Davis, 2018; Quiñones-Camacho & Davis, 2019; Zhu & Bonanno, 2017).

A tenet of the Functionalist Theory of Emotion is the idea that emotions promote behaviors that enable effective coping with environmental demands (Campos, Campos, & Barrett, 1989). Under this view, different emotions will likely require different ER strategies. Past research on the regulation of emotion in childhood has shown that 3- and 4-year-old children already prefer different ER strategies across emotions (e.g., Dennis & Kelemen, 2009; Waters & Thompson 2014). Our study builds on these findings by focusing on children's preferences for putatively adaptive context-specific strategies. This is a meaningful contribution to our understanding of children's developing ER repertoires, as children's understanding of the effectiveness of ER strategies might not fully correspond with children's actual endorsement of these more effective strategies. Although these studies leveraged different measures of ER, it is likely that context sensitivity is a related yet independent process from what has previously been measured (i.e., children's understanding of the effectiveness of strategies). Taken together, this work suggests that while children show some rudimentary forms of context sensitivity early in childhood – at least in their reported ER strategy preferences for hypothetical scenarios – it is not until late childhood that children are able to effectively use contextual information to select strategies. A crucial direction for future research, however, will be to investigate children's autobiographical

experiences as a complement to the hypothetical scenarios we examined, as this would allow researchers to better determine how children use contextual information during real-life instances of emotional experiences.

Our finding that children showed less context sensitivity to sadness compared to fear and anger was unexpected, as previous work has shown that children consider strategies to be most effective for sadness (Waters & Thompson, 2014). It is possible that this result is a consequence of the types of strategies required to effectively regulate sadness. From within a Functionalist perspective, sadness is experienced when a goal is lost and cannot be changed, making strategies focused on taking action ineffective. The effective regulation of sadness requires a greater focus on changing thoughts rather than behaviors. This was inherent to the strategies included in the sadness score, which mainly centered on the way children thought about the event. Because these cognitive strategies require abilities that are still developing during childhood, context sensitivity for sadness might be more difficult during this time. It is also possible that these differences are due to our methodological choice of creating proportion scores for the context-appropriate measures rather than summing all strategies endorsed by the child. Doing this allowed us to explore children's calibration of ER strategy endorsements rather than general preferences as have been reported in previous studies (e.g., Waters & Thompson, 2014), but more research is needed.

Individual differences in the way people modulate their attention to emotion have been linked to behavioral problems and other negative outcomes (e.g., Susa, 2012). Our findings suggest that individual differences in attentional control inform our understanding of children's developing ER context sensitivity. It is noteworthy that the effect of attentional control was specific to sadness, as this was the emotion for which children showed the least context sensitivity. Moreover, this effect was moderated by age, such that higher attentional control was a predictor of greater context-appropriate endorsement for older children. This suggests that older children are better at engaging their attentional resources to attune to contextual demands and use this information to choose the ER strategies they will be implementing when experiencing sadness.

This study offers unique knowledge on children's ER by taking a novel approach to ER development, but some limitations should be noted. First, all children were at least part Hispanic. Although having a Hispanic sample is a strength, as most ER studies are conducted with primarily European American samples, cultural factors could result in a different pattern of findings than those from non-Hispanic samples. For example, display rules across cultures could influence the kind of strategies people prefer, choose, and use to change how they feel. However, given that Hispanic children already comprise 25% of school-aged children in the USA (as of 2016; retrieved from childtrends.org), and that this number is expected to continue to increase, examination of socioemotional development in these children is necessary (though surprisingly sparse). Another limitation of the study is the fact that our dot probe task included only adult angry faces, which makes it particularly noteworthy that we found effects only for sadness and not for anger or fear. It is possible that a task variant that included children's facial expressions of sadness and fear would have yielded a different pattern of findings. Regardless, the effects detected here extend our understanding of children's ER development by showing that there is a protracted

development of context sensitivity for sadness in this age group that is contextualized by other aspects of children's developing self-regulation. Lastly, given the novelty of this investigation, considerations and recommendations for future work necessarily arise. We included only one vignette per emotion and the presentation of the vignettes and strategies was not counterbalanced, but future research in this area could incorporate multiple vignettes, to fully probe children's tailoring of strategies across emotions and counterbalance them to strengthen confidence in the findings. This would not only provide different contexts in which the same emotion can be experienced but would also serve as confirmation that these patterns are emotion- rather than vignette-specific. There are also other strategies to regulate fear, sadness, and anger that could be context-appropriate, in addition to the ones we theorized should be included. Future studies should aim to more thoroughly test children's strategy preferences across emotions (considering multiple vignettes and/or real-life events) to better assess this possibility. Lastly, our measure of ER relied on hypothetical scenarios, thus, we cannot say definitively whether the reported differences in context sensitivity would translate to observed differences in children's selection and deployment of strategies in their own lives.

The present study enhances our understanding of socioemotional development in late childhood by providing evidence of children's awareness of contextual demands in their endorsement of ER strategies. The novel findings from this investigation contribute to a growing body of work designed to elucidate the factors that potentiate healthy development during the transition from childhood to adolescence.

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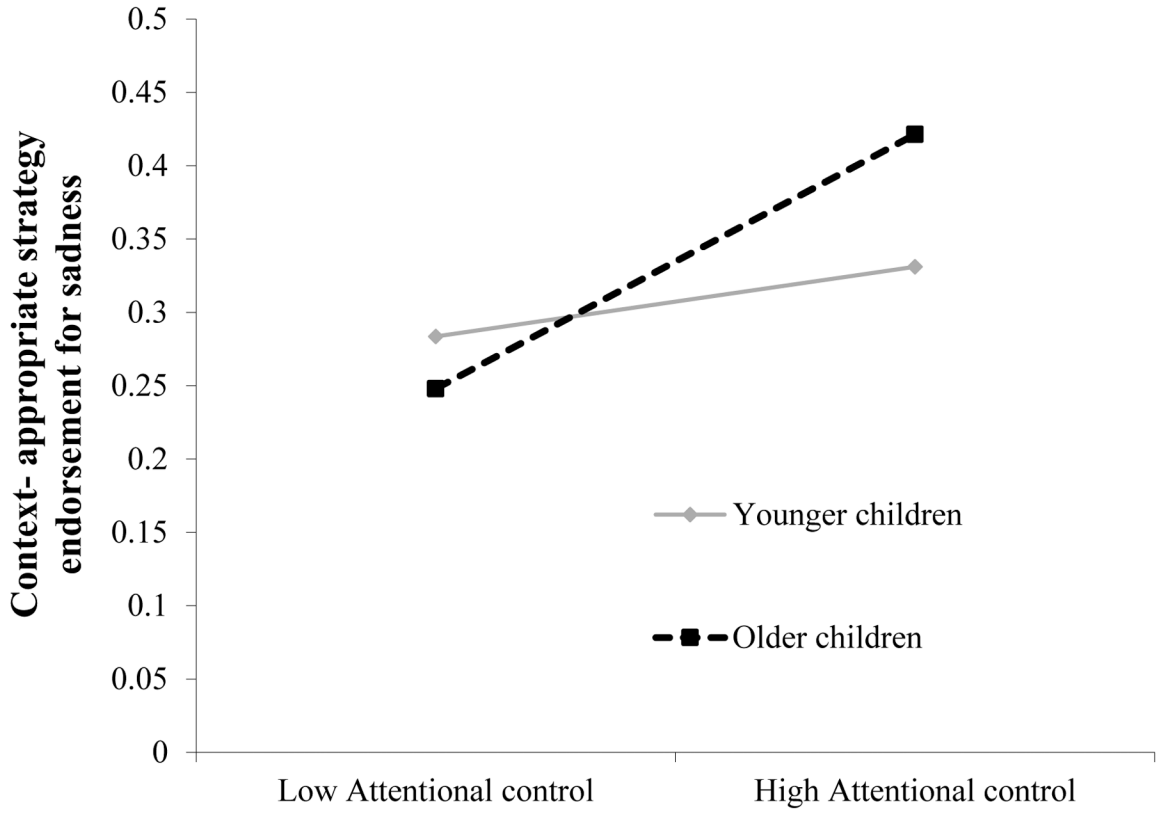

Figure 1.

Two-way interaction of attentional control and age predicting context-appropriate strategy endorsement for sadness. Simple slope lines are plotted at +/−1SD from the mean age of the sample.

Simple slope for younger children: $b = .001$, $t = 1.139$, $p = .259$

Simple slope for older children: $b = .003$, $t = 4.287$, $p < .001$

Table 1.

Means, SDs, and correlations among variables of interest

	Mean	SD	1	2	3	4	5	6	7	8
1. Sadness context-appropriate endorsement	.374	.157	-							
2. Fear context-appropriate endorsement	.479	.148	−.239*	-						
3. Anger context-appropriate endorsement	.488	.188	−.048	−.011	-					
4. Attentional control	69.081	27.622	.359**	−.064	.103	-				
5. Age	9.907	1.139	.127	−.032	−.074	.113	-			
6. Income	4.471	2.465	.298*	.097	−.057	.036	.065	-		
7. Parental education	12.857	2.818	.043	.123	−.116	−.111	.092	.619**	-	
8. Sex			.050	−.222+	−.001	−.002	.084	−.073	−.072	-

Note. Correlations represent the pooled results with the 10 imputed data sets;

+ $p = .05$;

* $p < .05$;

** $p < .01$;

An income of 4 corresponds to $31–40k a year;

Parental education = years of schooling (12 indicates finishing high school); boys = 0.