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This is the author's manuscript

Original Citation:

Availability:

This version is available <http://hdl.handle.net/2318/154416> since

Published version:

DOI:10.1111/bjdp.12055

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This is an author version of the contribution published on:

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Emotion regulation strategies in preschool children
BRITISH JOURNAL OF DEVELOPMENTAL PSYCHOLOGY (2014) 32
DOI: 10.1111/bjdp.12055

The definitive version is available at:
<http://doi.wiley.com/10.1111/bjdp.12055>

Emotion Regulation Strategies in Preschool Children

Abstract

This study investigated the development of emotion regulation strategies as reflected in the narratives of children between the ages of 3 and 6 years. An experimental procedure based on story completion tasks was devised to elicit the emotion-related narratives of 69 preschool children. Coding of the narratives led to the observation of different emotion regulation strategies: behavioural strategies, social support and cognitive reappraisal. Several significant gender and age differences were identified in the use of these strategies. In addition, verbal skills, non-verbal intelligence and emotion comprehension were found to be associated with use of the observed emotion regulation strategies, although only at specific ages.

Keywords

Preschool years, Emotion Regulation Strategies, Story Completion Task, Cognitive Reappraisal

******We are grateful to the parents and children who participated in this study and to the teachers and the directors of schools where children were recruited. We also thank Riccardo Secchi and Benedetta Frezzotti, for their contributions in the realization of the experimental procedure.

Emotion Regulation Strategies in Preschool Children

Emotion regulation consists of all the processes, intrinsic and extrinsic, through which individuals manage their emotions in order to accomplish their goals (Thompson, 1994). Emotion regulation processes may be conscious or unconscious, automatic or controlled (Cole, Michel, & Teti, 1994; Gross & Thompson, 2007), and include skills and strategies for monitoring, evaluating and modifying emotional reactions. Emotion regulation is not solely focused on negative emotions but also includes the application of regulatory processes to positive emotion (Gross & Thompson, 2007). Furthermore, emotion regulation involves not only reducing the intensity or frequency of emotional states but also developing the capacity to generate and sustain emotions (Calkins & Hill, 2007; Cole et al., 1994). Emotion regulation processes have largely been described in terms of strategies (e.g., Gross, 1998). The model proposed by Gross (1998; Gross & John, 2003) has received much attention within emotion regulation research. In this perspective, emotion regulation is described as a family of emotion regulation strategies that may be differentiated into *antecedent-focused*, when the strategy intervenes before emotional responses are displayed, or *response-focused*, when the strategy intervenes after emotional response patterns have appeared. Antecedent focused strategies may be directed at selecting or modifying situations, or attentional or cognitive processes.

Developmental psychology has largely investigated emotion regulation development as it relates to other aspects of affective, cognitive and social development. The study of emotion regulation development has shown the preschool years to be of critical importance because during this period children acquire an appreciation of emotion regulation strategies and learn to use them to manage their emotions (Cole, Dennis, Smith-Simon, & Cohen, 2009). Indeed, kindergarten and school are often the first contexts in which emotion regulation abilities are related to socialization with peers and to the development of other key aspects of emotional cognition (Carlson, 1993).

Children's social experiences at preschool allow them to internalize rules and regularities, and therefore to build up an understanding of their own emotional experience. Over the preschool period, they become more autonomous in their regulation of emotion, acquiring a range of new skills such as theory of mind (Wellman, Cross, & Watson, 2001) and the capacity to inhibit a dominant response (Carlson, 2005) that allow them to spontaneously attempt to regulate emotion without adult support (Cole & Hall, 2008; Cole, 1986). Emotion comprehension plays a key role in the development of emotion regulation, given that the ability to understand how emotion may be regulated enhances children's own self-regulation (Izard, Fine, Schultz, Mostow, Ackerman, &

Youngstrom, 2008; Lieberman, Eisenberger, Crockett, Tom, Pfeifer, & Way, 2007). Furthermore, research has shown that during this period children begin to differentiate between different ways of managing emotions. This may be due to gains in their comprehension of the functioning of emotional events; such knowledge enables them to draw on strategies aimed at changing situational antecedents in order to create more desirable conditions (Harris & Lipian, 1989). During the preschool years, the development of cognitive skills strongly influences progress in emotion regulation. Children's new abilities initially take very simple forms such as covering their eyes with their hands or physically removing from view the stimulus generating the emotion; this area of competence continues to develop throughout the preschool period, coming to include abilities involving complex mental processes such as more advanced forms of attention regulation (Thompson, 1994; Altshuler & Ruble, 1989).

Also during the preschool stage, children begin to use cognitive reappraisal as a means of regulating their emotions. This is a powerful and flexible regulation strategy that involves changing their way of thinking about an emotional stimulus so as to modify their emotional response to it. It has been reported in the literature that 3-year-old children can use cognitive reappraisal to modulate their emotions when an experimenter instructs them to do so (Mischel & Baker, 1975); other evidence suggests that individuals become more frequent and effective reappraisers over the course of child and adolescent development (Silvers, McRae, Gabrieli, Gross, Remy, & Ochsner 2012).

In sum, many studies point to the emergence during the preschool years of different emotion regulation strategies, which may be presumed to reflect the sets of antecedent-focused and response-focused strategies described by Gross (1998); however, little research has systematically investigated these different strategies in conjunction with one another, while also linking their development to other pertinent variables. Accordingly, the first aim of the present work was to explore a set of different emotion regulation strategies that emerge over the preschool years in relation to both age and gender. The second aim was to explore the influence on emotion regulation development of other aspects of cognitive development such as verbal skills, non-verbal intelligence and the ability to understand emotions. In order to observe children's emotion regulation strategies, we analysed narratives elicited from a sample of preschoolers using a novel experimental procedure.

A critical aspect of conducting research on emotion regulation during the early developmental period is defining how to measure the construct (Shields & Cicchetti, 1997; Walden, Harris, & Catron, 2003).

Emotion regulation may be observed and assessed using different kinds of instrument. During the preschool years, story stem tools offer a promising method for the study of emotion regulation. These instruments elicit children's narratives, allowing researchers to identify their representations, on the basis of both content and narrative style. Doll play instruments have also been used to detect emotion regulation (Bretherton, Ridgeway, & Cassidy, 1990; Oppenheim, Emde, & Warren, 1997). The ability to construct emotionally well-organized and regulated narratives is associated with the regulation of behaviour and emotion regulation in everyday contexts as assessed via the Child Behavior Checklist scale (CBCL: Achenbach & Rescorla, 2001; Althoff, Ayer, Rettew, & Hudziak, 2010; Oppenheim et al., 1997).

In this study, we chose to observe the different emotion regulation strategies described in narratives produced by preschoolers as part of a story completion task, in order to examine how these strategies were related to other variables such as age, gender, verbal skills, non-verbal intelligence and emotion comprehension. To this end, we devised an ad hoc experimental procedure based on classical story stem tools and aimed at eliciting emotion-related narratives from the children.

In brief, we expected the preschoolers' narratives to feature different types of emotion regulation strategy: behavioural, social support and cognitive reappraisal, in line with the literature on the emotion regulation strategies that appear during the preschool years (e.g.: Harris & Lipian, 1989; Silvers et al. 2012; Mischel & Baker, 1975). We hypothesized that between three and six years of age, the number of strategies for autonomous emotion regulation referred to in individual narratives would increase as a function of age (Miller, Kliewer, Hepworth, & Sandler, 1994; Altshuler & Ruble, 1989). We further predicted that the use of more complex strategies, such as cognitive reappraisal and attention deployment, would be influenced by general cognitive development and emotion comprehension ability, in line with the findings of past research (e.g.: Cole & Hall, 2008; Wellman et al., 2001).

Method

Participants and procedure

Data were collected from a sample of 69 preschool children aged between 3 and 6 years ($M=4.46$; $SD=0.83$), of whom 49.3 % were female.

Participants were pupils at two kindergartens in a Northern Italian city. The majority of the mothers held a high school diploma and this also represented the median value for mother's level of education¹. The instruments were administered individually over several sessions, and were

¹ Middle school diploma = 17.6%; High school diploma= 66.7%; university degree= 15.7%.

completed in the same order by all children. Participants' parents were fully informed of the research methods and procedure and their consent was obtained by letter. The study fulfilled the ethical standards for research and was approved by the Italian Psychology Association.

Instruments

Emotion Regulation Story Stems (Storie Interrotte per la Regolazione Emotiva: SIRE; Sala & Molina, 2013) is an experimental procedure developed to assess emotion regulation in children aged between 3 and 7 years. The procedure is based on story stem tools used in research on attachment (Bretherton et al., 1990) and emotion regulation (Oppenheim, et al., 1997). The instrument consists of five stories narrated with the use of puppets and set in the school context: see Table 1. Each of the stories is on a theme involving the occurrence of a single discrete emotion. The interviewer labels the emotion in the story, and asks to the child to continue the story.

The full procedure was videotaped and transcribed verbatim. Subsequently, two independent judges coded both the contents of children's narratives and the type of emotion regulation strategy featured in them. Interrater reliabilities, based on 20% of the tapes, were evaluated via Cohen's K. Results ranged from .64 to 1.0. The coding system assessed the different emotion regulation strategies contained in the children's responses, but also included scores for narrative coherence and attitude towards the task. Four different types of strategy were coded: Behavioural Strategy (the protagonist engages in action in order to manage the emotion), Social Support (the intervention of another character helps the protagonist to overcome the negative emotion), Attentional Deployment (the protagonist does or thinks of something else in order to regulate the emotion) and Cognitive Reappraisal² (the protagonist is able to regulate the emotion because he/she modifies the meaning of the situation). The number of different strategies reported by each child was also assessed, yielding a "variety of strategies" variable. The coding was mutually exclusive, so only one strategy code was assigned to the response of each child for each item. The score for each type of strategy consisted of the number of times that it had been coded in the child's narratives, yielding a score of between 0 and 5 for each kind of emotion regulation strategy.

[please insert Table 1 about here]

² All these strategies match the *antecedent strategies* in Gross's model. Behavioural and Social Support Strategies belong to the category of Situation Modification Strategies, while Attentional Deployment and Cognitive Reappraisal correspond to the strategies described by Gross (1998) as Attentional Deployment and Cognitive Change.

Test of Emotion Comprehension (TEC; Albanese & Molina, 2008; Pons, Harris, & De Rosnay, 2004). This instrument assesses understanding of emotion in children aged 3 to 11 years, evaluating nine components of emotion comprehension using picture vignettes. Each picture story is displayed while the experimenter reads a story and/or asks a question about the drawing without providing verbal or nonverbal emotional cues. The child is required to indicate the appropriate emotion (e.g., “How is this boy/girl feeling? Happy, just all right, angry, or scared?”) by pointing to one of four different facial expressions.

For each item, corresponding to one of the nine components assessed, a score between 0 and 1 is assigned. The overall score for emotional competence is the sum of the nine subtest scores (range 0 – 9). The test items are organised hierarchically, from easier (Recognition) to more difficult (Mixed Emotions). The test was initially validated on 100 children aged between 3 and 11 years, divided into five different age groups (3-5-7-9-11), with 20 children (10 males and 10 females) in each subgroup (Pons et al., 2004). The Index of Consistency (0.676) and Coefficient of Reproducibility (0.904) confirmed that the nine items were scalable and that the scale was valid. In the present study, we used the Italian version, previously validated in the Italian context (Molina & Di Chiacchio, 2008) with 967 participants aged between 3 and 11 years ($M=7$ years, $sd=31$ months, females=49%). The Italian validation study found significant age differences (ANOVA: $F_{(9,66)}=249.58$; $p<.001$), and showed the scale to have good reliability as assessed via the Kuder-Richardson alpha coefficient (.79).

Peabody Picture Vocabulary Test-Revised. The PPVT-R (Dunn & Dunn, 1981; Stella, Pizzoli, & Tressoldi, 2000) is a widely used measure of receptive vocabulary skills that has been normed for children of 3 years and older. The Italian standardization involved 2400 children and adolescents aged between 3 and 16 years, to whom the PPVT-R was administered by trained research assistants in one-on-one interviews (Stella, et al., 2000). To administer the assessment, an examiner reads a series of words aloud, asking the child to select from four pictures the one that most accurately represents each target word. PPVT-R standard scores were included in this study as an indicator of children's verbal abilities.

Leiter International Performance Scale- Revised. The Leiter-R test (Roid & Miller, 1997), is a non-verbal measure of intelligence. It consists of 20 subtests divided into two batteries, a Visualization and Reasoning Battery and an Attention and Memory Battery (Roid & Miller, 1997). The Leiter-R was normed on 1719 children and adolescents. Its internal-consistency reliability ranges from .88 to .93. Test items are presented in an easel format, and children are

asked to respond by arranging foam shapes at the earlier levels, placing a card in the appropriate slot below the easel images at most levels, or pointing. The Leiter-R is normed for individuals between 2 years, 0 months and 20 years, 11 months of age. Standard scores were included in this study as an indicator of children's nonverbal intelligence.

Data analysis

The statistical analyses were conducted using SPSS 18.0³ for Windows. Having completed the descriptive analysis and examined the reliability of each of the instruments, the age distributions of the two gender groups were compared as a preliminary control measure. Given that the data on attentional deployment was limited, this variable was excluded from the analyses. We then tested for gender and age differences in the use of the other three strategies as assessed by SIRE. The Mann-Whitney Exact Test and Kruskal-Wallis Exact Test (Monte Carlo Method) were conducted to investigate gender and age differences in the number of strategies used. Next, the relationships between the SIRE variables and Leiter, PPVT and TEC scores were analysed by calculating Pearson's correlation coefficients. Finally, a linear regression was carried out to verify the influence of non-verbal intelligence and emotion comprehension on the use of emotion regulation strategies in the SIRE narratives.

Results

Gender and age differences.

The Kruskal-Wallis Exact Test showed the level of appeal to cognitive reappraisal strategies to vary significantly as a function of age ($\chi^2_{(3)}=10.747$ $p=.012$); specifically, these strategies were mentioned more frequently in the narratives of older children. Similarly, the variety of strategies contained in children's narratives ($\chi^2_{(3)}=12.521$ $p=.004$) was found to increase with age. Older children were also found to provide a significantly higher number of valid answers ($\chi^2_{(3)}=13.629$ $p=.003$). The boxplots reported in Figure 1 indicate the age pattern found for each of the SIRE variables.

[Please insert Table 2 about here]

[Please insert Figure 1 about here]

³ SPSS Inc. Released 2009. PASW Statistics for Windows, Version 18.0. Chicago: SPSS Inc.

Median values and Mann-Whitney results for each age group are reported in Table 2. The results show that significant differences were not found between the 3- and 4-year-old subgroups nor between the 5- and 6 year-old subgroups. On the basis of this outcome, participants were then grouped into two age ranges: children aged 3 and 4, and children aged 5 and 6. As Table 3 shows, Mann-Whitney results showed significant differences between these two groups, for all variables except Social Support.

[Please insert Table 3 about here]

Relations with gender and other variables

Mann-Whitney Exact Test results did not show any differences in age distribution between the male and female subsamples ($U=584.000$; $p=.461$). The Mann-Whitney Exact Test was therefore used to test for gender differences with regard to the type of emotion regulation strategy drawn on in the SIRE narratives. As reported in Table 4, there were significant differences ($U=439.500$; $p=.048$) with regard to behavioural strategies; specifically, they appeared more frequently in the narratives of boys. On the contrary, social support strategies were referred to more frequently by girls ($U=452.500$; $p=.080$)⁴. With regard to appeal to cognitive appraisal strategy, number of strategies called on and number of valid answers, no significant gender differences were found.

[Please insert Table 4 about here]

All correlations between the SIRE variables and the other study measures are reported in Table 5⁵. The Leiter non-verbal intelligence scores were significantly correlated with appeal to cognitive reappraisal strategies in the group of 5-6 year old children. No other variables were found to be significantly correlated with non-verbal intelligence.

The PPVT verbal ability scores were significantly correlated with appeal to Behavioural Strategy in the 5-6 year old group, and with appeal to Social Support strategies in the 3-4 year old group.

[Please insert Table 5 about here]

⁴ Given the sample size, a significance level of $p<0.10$ was adopted.

⁵ T test results showed no differences between boys and girls in relation to the variables under study. Age did not influence these variables because age-standardized scores were used.

Furthermore, the Peabody verbal ability scores were significantly correlated with the TEC emotion understanding scores for the whole sample as well as for both sub-samples. As reported in Table 5, a low correlation⁶ was found between TEC scores and appeal to cognitive reappraisal strategies in the 5-6 year old group only.

Finally, the extent to which Leiter and TEC scores predicted appeal to cognitive reappraisal strategies was evaluated via regression analyses. As shown in Table 6, when controlling for the influence of gender and age, non-verbal intelligence explained some of the variance in cognitive reappraisal, while emotion understanding did not.

[Please insert Table 6 about here]

Discussion and Conclusions

The aim of this study was to investigate the development of the emotion regulation strategies described by children in their narratives. Theorists (Laible, Carlo, Torquati, & Ontai, 2004; Oppenheim, et al., 1997) have argued that narrating and storytelling enable children to access their scripts, defined as mental representations organizing expectations about behaviours and roles in real life experience (Hudson, 1993). Furthermore, previous empirical studies (Cole et al., 2009) have identified a relationship between the child's understanding – and use in the narratives – of a variety of emotion regulation strategies on the one hand, and the ability to manage emotions in real life contexts on the other.

With regard to differences occurring as a function of age, appeal to behavioural strategies, cognitive reappraisal, number of valid answers and number of different strategies described in the children's narratives (variety of strategies) were all found to increase with age. These findings confirm the literature reporting that during the preschool years, children develop autonomous strategies of emotion regulation (Harris & Lipian, 1989). The data also showed that, in our sample, cognitive reappraisal began to feature in children's narratives at age 5. Again, this is in line with recent research reporting that children initially display the ability to use cognitive reappraisal during the preschool years, although this ability becomes stable over later developmental phases (Silvers et al., 2012; Harris & Lipian, 1989). The variety of strategies contained in individual narratives was also found to be significantly influenced by age, confirming the hypothesis that children extend their repertoire of strategies in the course of the preschool years (Altshuler & Ruble, 1989).

Furthermore, on comparing the 3-4 year-old with the 5-6 year- old children, key development was found to take place in all the emotion regulation variables except appeal to social support

⁶ Considering the sample size, a significance level of $p < 0.10$ was adopted.

strategies. Indeed, children's use of social support did not appear to vary as a function of age. In other words, even the narratives of 3-year-old children contain references to forms of emotion regulation that involve eliciting the intervention of others. Additional ways of managing emotions autonomously appear and go on developing throughout the preschool period and are used alongside the social support strategies that continue to feature in the narratives of 5- and 6-year-old children. Further research is required to analyse how seeking social support may be related to other variables, such as attachment security. In this regard, the representation of other story characters as available to comfort and help the protagonist, may be related to the tendency to trust in the availability of social partners, which is a component of attachment security (Bretherton et al., 1990). In general, the results of this study showed that 6-years-old children, compared to younger ones, make more frequent reference to autonomous strategies of emotion regulation within their narratives (Miller, et al., 1994; Altshuler & Ruble, 1989).

However, our results made clear that in the answers of 5- and 6-year-old children these strategies do not replace recourse to external means of regulating emotion. Indeed, a key characteristic of the responses of 5- and 6-year-olds, as compared to younger children of 3 and 4 years, is the wider repertoire of strategies featured in their answers, which now include more complex strategies such as cognitive reappraisal. This finding is particularly important because it illustrates that development in the use of emotion regulation strategies does not exclusively concern quality, but also the broadness of the repertoire of strategies reported. This result suggests that the development of emotion regulation yields a range of different strategies that may be flexibly deployed.

It is clear from the literature that key developments in a number of different areas take place during the preschool years, some of which have a bearing on the development of emotion regulation (Cole & Hall, 2008). For this reason, the second aim of the present study was to investigate the influence of other related variables on the development of emotion regulation strategies.

First, gender differences were analysed. The results showed that males referred to behavioural strategies more often than females. In contrast, girls made more frequent mention of social support strategies. These findings are in line with other evidence reported in the literature (Eschenbeck, Kohlmann, & Lohaus, 2007), which showed boys to score higher than girls for problem solving and girls to score higher for seeking social support to cope with stressful situations. This result could be due to differential socialization practices fostering autonomy in males and sociality in females. However this hypothesis should be confirmed by studies examining the long term effects of the socialization of gender differences (Zimmermann & Iwanski, 2014; Fivush, Brotman, Buckner, &

Goodman, 2000). No gender differences were found in relation to the other measures of emotion regulation.

The correlational analyses showed that non-verbal intelligence was associated with the more complex forms of emotion regulation described in the children's narratives, such as cognitive reappraisal in children aged 5 and 6. Furthermore, the regression analysis showed intelligence to predict level of appeal to cognitive reappraisal. This implies that the more complex forms of emotion regulation in children's narratives may be facilitated by high levels of non-verbal intelligence. In sum, this result points up the fact that the age difference in the use of cognitive reappraisal in children's answers is related to the development of cognitive abilities.

PPVT receptive vocabulary scores were correlated with "appeal to social support" strategies in children aged 3 and 4, but with behavioural strategies in older children. This suggests that verbal ability may be associated with different aspects of completing the SIRE vignettes, depending on children's ages. Two different aspects of children's responses vary with age: the number of valid responses, and the use of different types of response, from the simplest (social support) to the more complex (such as behavioural strategies or cognitive reappraisal). Thus language competence manifests itself in different ways according to the level of development reflected in responses: among younger children, the more linguistically competent subjects produce a higher number of responses referring to social support. Older children, on the other hand, have a mastery of language that enables them to draw on behavioural strategies in their responses. In their responses they display the ability to narrate stories made up of sequences of actions, a skill associated with language development (Fiorentino & Howe, 2004). Only the more cognitively competent of the 5- and 6-year-old children deploy cognitive reappraisal in their responses: the discriminating competence here appears to be IQ, given that all the children in this age group had sufficient language ability to support use of any of the potential emotion regulation strategies.

This hypothesis highlights the influence of the cognitive development that takes place during the preschool years and requires further investigation, for example, by analysing the mediating role of verbal skills in the relationship between age and emotion regulation strategies (Holmbeck, 2002; Baron & Kenny, 1986). Finally, this finding suggests the importance of taking into account that the data gathered from children's narratives may be influenced by children's verbal abilities.

Emotion comprehension (TEC) scores were correlated, though weakly, with children's tendency to refer to cognitive reappraisal strategies: Cognitive reappraisal was reported by children with high scores for IQ and Emotion Comprehension. Nevertheless, regression analysis did not find any influence of emotion comprehension on the emotion regulation strategies coded in children's

narratives when the IQ effect was controlled for, indicating that the use of cognitive reappraisal is not influenced by level of emotion comprehension, but by individual differences in IQ.

The literature reports evidence that more advanced emotion comprehension contributes to greater ability to modulate and regulate emotional states (Izard, et al., 2008; Lieberman, et al., 2007) and that throughout the preschool years the development of children's emotion regulation skills is influenced by their increasing comprehension of emotion, although they are not consciously aware of this process (Denham, Blair, DeMulder, Levitas, Sawyer, Auerbach-Major, & Queenan, 2003). Our results suggest that the contribution of emotion comprehension to children's increasing capacity to regulate emotion does not concern the complexity of the mechanisms put in place. In contrast, emotion understanding appears to influence other aspects of emotion regulation development. Future effort could be directed at exploring this finding in greater depth, for example, by repeating the analyses with bigger samples. Moreover, in order to further advance understanding of the data, follow-up studies should explore the influence of the variables under scrutiny here on other aspects of reporting emotion regulation strategies in addition to strategy complexity.

In summary, the present work analysed children's narratives for evidence of different emotion regulation strategies, relating these strategies to some of the other variables associated with cognitive development. Our results revealed complex relationships among emotion regulation responses and individual variables such as language or cognitive competence, suggesting that there is a need for further investigation that also takes into account the non-linear development of the relationship between a specific competence and the emotion regulation response: for instance, a type of response such as cognitive reappraisal may be more complex than a behavioural strategy from a cognitive point of view, but easier from the point of view of complexity of language constraints. Furthermore, future research should study the emotion regulation strategies described in children's narratives, with a particular focus on individual differences in their use and in relation to the nature of the different emotions presented, as recommended in the literature (Thompson, 1994).

The study provided a general picture of the development of emotion regulation strategies in children by examining narratives produced in the context of a story completion task devised as an ad hoc measure of emotion regulation. Our most significant finding was that the type and variety of emotion regulation strategies narrated are factors that undergo changes between the ages of 3 and 6 years. Moreover, our study demonstrates that children aged 5 and 6 refer to cognitive reappraisal in responding to the SIRE items and that this type of answer is related to IQ. This represents a key finding within the study of emotion regulation development.

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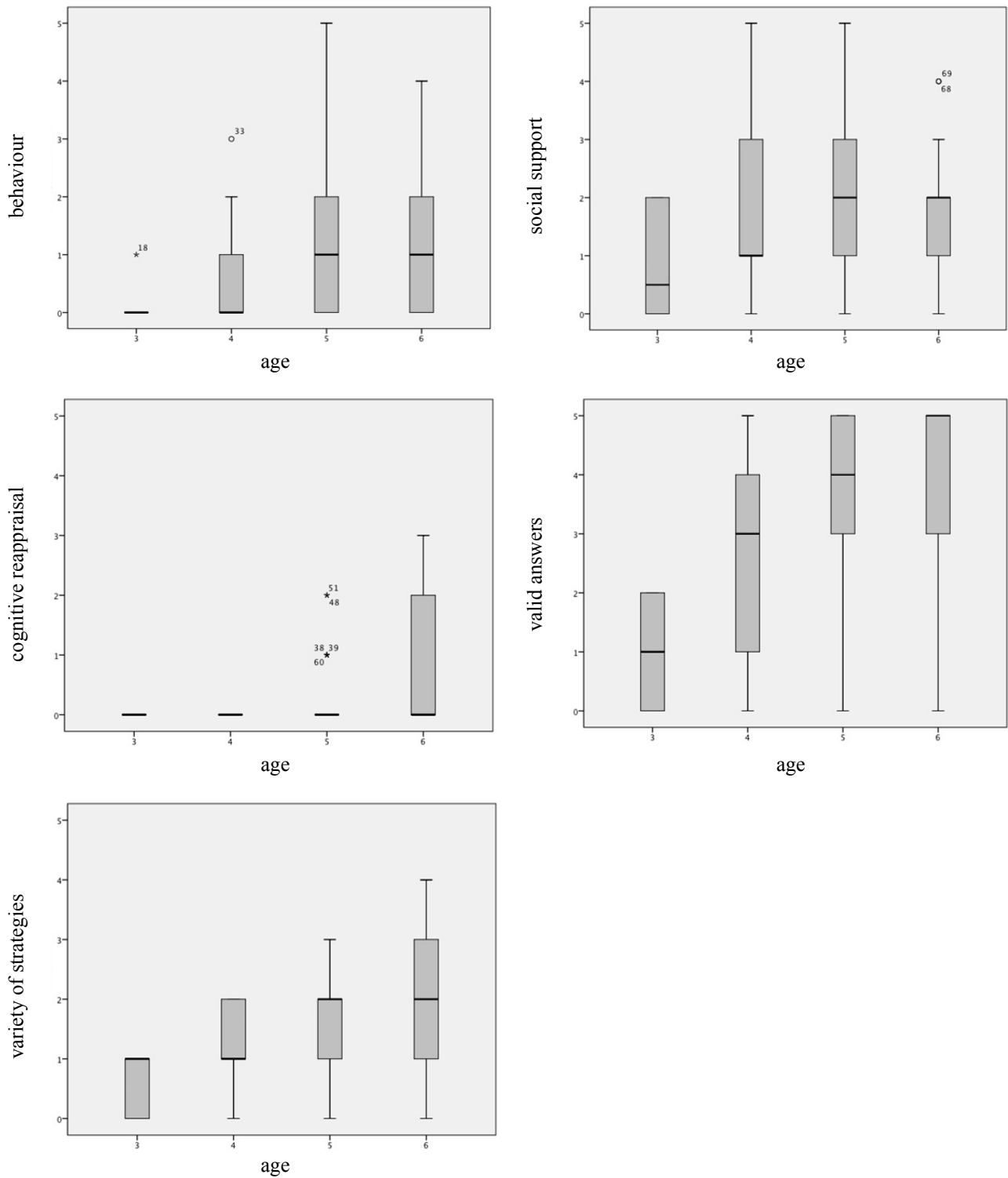
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Figure 1. Age trends for SIRE variables*.



- behavior=number of answers coded as behavioral strategies; social support= number of answers coded as social support strategies; cognitive reappraisal= number of answers coded as cognitive reappraisal; valid answers= number of valid answers; variety of strategies= number of different type of strategies coded in the child's answers.
 ○=middle outlier: scores more than 1.5 * interquartile range from the rest of the scores
 *=extreme outlier: scores more than 3 * interquartile range from the rest of the scores

Table 1. SIRE stories.

Emotion	Story content
<i>Warm up</i>	The children and the teacher are in the class when the bell rings. The teacher says: "Today is a sunny day, you can go play in the yard!"
Fear	The teacher and the children are visiting a new place on a school trip. Unexpectedly, the protagonist gets lost and he cannot see or hear anybody and he feels afraid. So, now can you show me what happens next?
Anger	Today, the children are having their lunch at school. The protagonist has brought a cake that his mother made. His classmates make the cake fall on the floor and the protagonist gets angry. So, now can you show me what happens next?
Sadness	The protagonist's best friend is moving to another city and to a new school and that makes the protagonist feels sad. So, now can you show me what happens next?
Shame	One day, all the class are playing football with their teacher. The protagonist falls and the other children make fun of him. That makes him feel ashamed. And now can you show me what happens next?
Guilt	The protagonist's best friend comes back to school. He brings his favourite toy, but he does not want anybody to touch it. The protagonist takes it on the sly and suddenly the toy falls and ...gets broken This makes the protagonist feel guilty. And now can you show me what happens next?

Table 2. Age differences in the strategies mentioned in children's narratives.

Age	Behavioural Strategy Median (ID)	Social Support Median (ID)	Cognitive Reappraisal Median (ID)	Valid Answers Median (ID)	Variety of Strategies Median (ID)
3 (n=6)	0.00 (0.25)	0.50 (2.00)	--	2.00 (1.00) ^{b, c}	1.00 (1.00) ^{e, f}
4 (n=16)	0.00 (1.00)	1.50 (2.00)	-- ^a	2.00 (1.00) ^d	1.00 (1.00)
5 (n=29)	1.00 (2.00)	2.00 (2.50)	0.00 (0.00)	3.00 (1.00) ^b	2.00 (1.00) ^e
6 (n=18)	1.00 (2.25)	2.00 (1.25)	0.00 (2.00) ^a	3.00 (2.00) ^{c, d}	2.00 (2.00) ^f

Corresponding superscripts refer to significantly different groups (Mann-Whitney Exact Test, Monte Carlo Method, $p < .05$).

Table 3. Differences between the two age groups

Age levels	Behavioural Strategy Median (ID)	Social Support Median (ID)	Cognitive Reappraisal Median (ID)	Valid Answers Median (ID)	Variety of Strategies Median (ID)
3-4 (n=22)	0.00 (1.00)**	1.00 (2.50)	--**	2.00 (1.00)**	1.00 (1.00)**
5-6 (n=47)	1.00 (2.00)**	2.00 (2.00)	0.00 (1.00)**	3.00 (1.00)**	2.00 (1.00)**

**= $p < .05$ (Mann-Whitney Exact Test, Monte Carlo Method)

Table 4. Gender differences in the strategies mentioned in the children's narratives.

Gender	Behavioural Strategy** Median (ID)	Social Support* Median (ID)	Cognitive Reappraisal Median (ID)	Valid Answers Median (ID)	Variety of Strategies Median (ID)
Males (n=35)	1.00 (2.00)	1.00 (1.00)	0.00 (0.00)	3.00 (1.00)	2.00 (1.00)
Females (n=34)	0.00 (1.00)	2.00 (2.00)	0.00 (0.00)	3.00 (1.00)	2.00 (1.00)

*=p<.10; **=p<.05 (Mann-Whitney Exact Test, Monte Carlo Method)

Table 5. Pearson's bivariate correlations (3-4 years; 5-6 years).

	1. Leiter IQ	2. PPVT	3. TEC ⁷
1. Leiter IQ			
2. PPVT	.16 (.02; .19)		
3. TEC	.15 (-.12; .21)	.33** (.42**; .30*)	
4. Behaviour	-.11 (-.05; -.14)	.20 (-.06; .31*)	.02 (-.08; .09)
5. Social Support	-.05 (.09; -.10)	.17 (.47*; .06)	.08 (.15; .09)
6. Cognitive Reappraisal	.27* (-- ; .39**)	.13 (-- ; .24)	.14 (-- ; .24 ^(*))
7. Valid answers	.06 (-.07; .20)	.09 (.24; .16)	.03 (-.09; .15)
8. Variety	.10 (-.07; .19)	.12 (.24; .20)	.02 (-.09; .16)

*p<.05; **p<.01; (*)p=.07

The first value reported in brackets refers to the correlations found for the 3-4 year old subsample (n=22); the second value reported in brackets refers to the correlations found for the 5-6 year old subsample (n=47).

⁷ Gamma values for the correlations between TEC scores and SIRE variables were .14 n.s. (behaviour); .17 n.s. (social support); .60** (cognitive reappraisal); .33* (valid answers); .30* (variety).

*p<.05; ** p<.005

Table 6. Regression analysis.Second Step $R=.550$; $R^2=.236$; $\Delta R^2=.198^{***}$

	Predictor		β	F
Cognitive Reappraisal	Age ⁸	First step	.289*	
	Gender	First step	-.170	
	TEC	Second step	.204	
	IQ	Second step	.360**	4.549***

*= $p<.05$; **= $p<.01$; ***= $p<.005$

The analyses presented regard the group of the 5-6 year old children only.

⁸ We treated age as a continuous variable, using a decimal approximation of age expressed in days.