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Children's self-regulation and coping strategies in a frustrated context in early education

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Background: A large body of earlier research has focused on studying children's self-regulation (SR) skills and frustration with different methods. However, considerably less attention has been given to hearing children's own voice. The current study sought to demonstrate children's own comprehension and highlight it as a valuable and unique tendency to fill the scientific gap in the research area.

Aim: This research aimed to contribute the empirical understanding of how SR, as mental ability, supported children's coping strategies and comprehensions which they will possibly use in a hypothetical frustrated context in the Finnish early childhood education and care (ECEC) environment.

Setting: Self-regulation and strategies in a frustrating context were studied with mixed methods in a sample (n = 383) of 48–87-month-old children in Finland. Self-regulation was assessed by their own teachers with an evaluation form. The coping strategies of frustration were studied by interview where the children's open-ended descriptions provided the strategies told by themselves.

Methods: The study's was conducted by using mixed methods. Two independent instruments to measure SR and strategies for frustration were used. Self-regulation was assessed by teacher with an evaluation form. The coping strategies of frustration were studied via child interview.

Results: Good SR skills were related to persistent coping strategies and not giving up in a simulated situation. Weak SR skills related more with uncertain or withdrawal coping strategies, like giving up, or abandoning the situation.

Conclusion: Self-regulation skills have an important role in guiding children with their use and narration of suitable coping strategies on overcoming the frustration effectively. The concrete strategies would allow teachers to work concretely with children in enhancing their SR skills and coping strategies further.

Keywords: self-regulation skills; frustration; conflict; coping strategies; early childhood; interview.

Introduction

The purpose of the study is to investigate children's concrete coping strategies of frustration described by children themselves and their relation to independent teacher-rated self-regulation (SR) skills in the Finnish early childhood education and care (ECEC) environment. Previous research has assessed children's SR and frustration with observational or evaluation-based methods (Degnan et al. 2008; Finlon et al. 2015; Graziano et al. 2007). Consequently, there is lack of empirical research on how children's SR skills are related to their own comprehensions of frustration and the coping strategies they will possibly use. The current study sought to bring out children's own voices, highlighting it as a valuable and unique tendency to fill the scientific gap in the research area. On that account, the children's strategies in confronting the frustrated situation were studied via interviews (Reunamo 2007). Children's open-ended answers presented their own point of view in a potential situation of frustration. By comparing the two datasets, we can study the relation between children's views of frustration and their teacher-rated SR skills. We hypothesise that teacher-rated SR skills are related to children's coping strategies described in the interview.

Earlier studies have advocated that children's early experiences of frustration may constrain the development of appropriate regulatory skills (Calkins 1994; Calkins et al. 2002; Stifter, Spinrad & Braungart-Rieker 1999). The tolerance of frustration and persistence during challenges are one of

the key elements of successful development of SR in early childhood (Chang, Shaw & Cheong 2015; Eisenberg et al. 2001; Kochanska 1993). Early difficulties in regulatory skills and frustration tolerance alter the children to maladaptive behaviour in everyday social relations and later in studying, health and success in work (Degnan et al. 2008; Eisenberg et al. 2003; Hernández et al. 2018; Moffitt et al. 2011; NICHD Early Child Care Research Network 2003). Clear consensus on the definitions of coping with frustration and SR is needed in identifying the boundaries of what is and is not included within each of these constructs (Compas et al. 2017).

The concept of self-regulation

The concept of SR is a multifaceted and complex construct (Blair & Raver 2012; Montroy et al. 2016). Self-regulation operates across several levels of human function (e.g. motor, physiological, social–emotional, cognitive, behavioural and motivational), which represent the ability to voluntarily modulate and plan one's behaviour towards an adaptive end (Barkley 2011; Eisenberg, Smith & Spinrad 2011:276; Gross & Thompson 2007). Self-regulation refers to efforts on the part of the individual to manage, modulate, inhibit and enhance emotions (Cicchetti, Ganiban & Barnett 1991; Kopp 1989; Thompson 1994). In its entirety, SR depends on the coordination of many processes across levels of function, with children's ability to utilise, integrate and manage these multiple processes increasingly across developmental time (McClelland & Cameron 2012; McClelland et al. 2014)

The child's SR skills work as an ability to recognise and handle emotions. The work builds a foundation for both social and cognitive skills. Self-regulation skills are a resource in understanding the feelings and intentions of others. The earlier the child has support and the possibilities to improve SR, the better capacity the child has in facing and tolerating the later experiences of stress and frustration (Eisenberg et al. 2001:263–283). A child's failure to acquire adaptive SR skills leads to numerous difficulties in social competence and school adjustment (Eisenberg & Fabes 2006; Graziano et al. 2007). We define the concept of SR as a child's ability to adjust his/her own emotions, behaviour, cognitive functions and as a strength, whereby a child can regulate frustrated situations and his/her attention properly (Aro 2011:10; Ayduk et al. 2000).

The development of self-regulation

Self-regulation should be perceived both as a developmental and especially as a learned concept. Children's ability to regulate themselves is influenced by their age. Children under the age of 3 years have difficulties simultaneously utilising and coordinating multiple regulatory skills to create a behavioural reaction that also requires a verbal or motor achievement (Carlson, Moses & Breton 2002; Diamond 2002; Zelazo et al. 2003). Self-regulation is also learned via teachers' co-regulation (Suhonen et al. 2018). Teachers need to take children's age into account when they set their expectations about lengths of attention and following instructions in ECEC (Ivrendi 2011; Skibbe et al. 2011). Teachers should recognise children's individual characteristics in supporting children's development of SR skills (Suhonen et al. 2018). Self-regulation may also include other regulation, which means that children simultaneously act both as the subject of another person's regulatory behaviour and as actors regulating another person's behaviour (Bodrova & Leong 2007).

In this article, we focus on SR in relation to children's intentions to act in frustrating situations in ECEC. Effective SR in the case of frustration requires that the child seamlessly coordinates their attention, emotions, working memory and inhibitory control, along with motor or verbal functions to produce adaptive and flexible behaviour.

Children's frustration and its relation to self-regulation

In ECEC, children's tolerance of frustration, persistent view of challenges and compliance with caregiver demands are the main characteristics of successful SR (Eisenberg et al. 2001; Kochanska 1993). Self-regulation skills help the children to cope with peer groups and adults more adequately when they are frustrated, upset or embarrassed (Kolestelnik et al. 2009:45–47). Frustration reactivity can be considered from a temperamental perspective as unchanging, but it is also influenced by regulatory systems (Rothbart, Ahadi & Evans 2000; Rothbart & Bates 2006). The interaction between frustration and emotion regulation is based on a notion that frustration is the emotional excitation of individual, whereas the emotion regulation is the behavioural process that modifies that reactivity (Rothbart et al. 2000). For example, the use of strategies such as self-comforting, help seeking and distraction may assist the child in managing early frustration and fear responses. Approach behaviours and gaze aversion may assist in the modulation of joy and pleasure. These kinds of behavioural strategies begin to develop early in the first year of life and affect both the continued development of regulation and the subsequent social skills and behaviour (Calkins & Fox 2002).

Children's coping strategies in a frustrated and stressful context

Children's verbalised intentions represent a variety of strategies with which the children are already familiar when they feel anger or frustration. The strategies can be adaptive or maladaptive, depending on children's self-regulative abilities and their social environment (Crittenden 2006; Finlon et al. 2015). The children's coping strategies in stressful conditions involve mental and/or physical action and can take the form of denial, regression, withdrawal, impulsive acting out or suppression, as well as problem-solving, negotiation, conciliation or humour. The strategies vary according to the environmental stressors, and they depend on temperament, age and SR skills, and a variety of learned responses and social interaction (Curry & Russ 1985; Honig 2009).

The developing strategies in stress-related situations can include elements of help- or comfort-seeking, goal-directed strategies, distraction and physical forms of venting or tension-release in attempt to overcome problems (e.g. Diener & Manglesdorf 1999). Children begin to develop certain coping patterns with specific stressors through habituation and adaptation. Some coping strategies are more effective and more socially acceptable than others. For instance, an aggressive strategy as a coping reaction to rejection by peers is less acceptable than if the child uses a problem-solving approach (Essa 2012:492–493). The frustrated situations might be stressful for children (Lazarus & Folkman 1984) and therefore it is important for teachers to know and recognise what kind of strategies children use to cope with stress in educational settings.

Methods

This study is part of an orientation research project (blogs.helsinki.fi/orientate). Even though the project's data collection was carried out in Finland and in Taiwan, the choice was made to investigate only children from Finland. The reason for that is that the possible cultural differences would have changed the research setting. In that case, the study should have required a comparative study design. The data were collected in January–May 2015. The data are based on the teacher-rated skill evaluation conducted by children's own teachers and the child interview. The evaluation form included Likert-scale statements which were related to children's motor development, language skills, play, peer relations, attachment and emotions. The research questions are as follows:

- How do children describe their coping strategies in a frustrated situation in ECEC?
- How are children's descriptions of their coping strategies in a frustrated situation related to their teacher-rated SR skills?

Participants

The participants were 383 children from Finnish day-care centres and pre-schools. Altogether there were 36 different day-care units and pre-schools from four municipalities in southern Finland. There were 192 (50.1%) boys and 190 (49.6%) girls in the sample with one (0.3%) missing data on gender. The age range of the sample was 48–87 months, with the mean of M = 67.54 (standard deviation [SD] = 11.22).

The data collection and assessment of the self-regulation skills

The instrument of SR was originally developed in 1997 (cf. Reunamo 2007) and further enhanced in 2009 and 2014. The teachers were trained to use the instrument in February 2015. The children's SR skills data were collected by asking the teachers to evaluate the skills of the children in their own groups. The teachers were considered to have the most comprehensive knowledge of the children in their own groups (see Kamphaus & Frick 2010:143–144). The SR evaluation took place in March 2015. A Likert-scale from 1 to 5 was used. The form also included demographic information: age, gender, special needs, social skills, motor skills, adaptivity, attachment to ECEC personnel, peer relations, and language and metacognitive skills. In total, there were 20 items in the evaluation form, of which six statements focused on SR skills (see Table 1).

The reliability of the instrument was reported in Veijalainen, Reunamo and Alijoki (2017). The internal consistency of SR skills was found to be high with the Cronbach's alpha (α = 0.860) test. The evaluation form as an instrument has been shown to work well with other independent research measures (cf. Reunamo et al. 2013; Rintakorpi & Reunamo 2017). The child evaluation instrument can be retrieved from http://www.helsinki.fi/~reunamo/apu/ch_eval15.pdf.

The interview

The frustration tolerance and behavioural regulation have previously been studied with observation-based instruments (e.g. Curry & Russ 1985; Diener & Mangelsdorf 1999; Eisenberg et al. 2001). In this research, we focused on children's coping strategies in a frustrating context explained by children themselves. We can relate children's own voice, personal description of their strategies and personal experiences with the frustrating situation with the SR evaluations. Children's narrations regarding frustration are explored. The interview (Reunamo 2007) consisted of 17 different pictures and questions about what the children would likely do in certain kinds of conflict-related situations. The teachers were trained to interview children. The children's narration describes children's views of the conflicting and frustrated situation.

Children's different points of view are related to different experiential and developmental features (see Kortesluoma, Hentinen & Nikkonen 2003). Even though children's descriptions of strategies will not necessarily match their actual responses in a frustrating situation, the description may reveal interesting connections with children's views and teacher-rated SR. In this article, the focus is on children's description of the following imagined frustrating situation: 'Think of a situation that your work is ruined and you fail. What do you do then?' The interview outline (see, for example, Reunamo et al. 2012, 2016) can be retrieved from http://www.helsinki.fi/~reunamo/apu/interview_instrument_with_pictures.pdf.

Analysis

Children's SR skills and a hypothetical frustrated context were conducted by using mixed methods. The inter-rater reliability in coding the children's response in the hypothetical frustrating situation was used. Two researchers coded the responses independently and the agreement was tested with Cohen's kappa (0.858). The result was statistically significant (p < 0.001), and according to Landis and Koch (1977), the agreement was excellent. The data were analysed by using

IBM SPSS (Statistical Package for the Social Sciences) statistics software. A summary variable of SR skills was created from the six items. To increase clarity, the summary variable was transformed into three different categories: weak, moderate and good (cf. Fabes et al. 1999), using cut-off scores for determining the percentages. In the sample, the weak SR skills category included 64 (16.7%) children. The moderate category, representing the majority of the sample, included 195 (50.9%) children, while the good category comprised 79 (20.6%) children.

A qualitative content analysis was used in the children's interview. The data were systematically coded using emergent design where analysis procedure evolves over the course of the research. This flexibly approach allows the research goals to change in response to new information and change the research design (Given 2008:245). Subsequently, the data were categorised step by step, arranging the material into content analytical units (Saldaña 2009). Children's descriptions were transcribed and classified in seven different categories in two stages. Firstly, seven initial categories were found. Secondly, a new classification was conducted by using the found categories. During classification, no information concerning children's SR scores was available, which means that the two instruments are independent. The seven types of coping strategies were (1) persistence, (2) adult contact, (3) withdrawal, (4) uncertainty, (5) unclear strategy, (6) description of sadness and (7) outburst. *Persistence* is defined as resources which keep the child oriented towards tenaciously accomplishing the work without giving up. *Adult contact* contains all the descriptions where children tend to ask for help from adults ECEC personnel. *Withdrawal* is the child's inability to tolerate failing and accomplish the work by giving up and abandoning it. *Uncertainty* contains all the descriptions where a child does not know what to do in a frustrated situation. The *unclear strategy* represents descriptions where children's responses were irrationally out of context or they did not understand the question properly. *Description of sadness* is defined as a child's disappointment or grief. An *outburst* represents child's aggressive behaviour. In the quantitative analysis, means, standard deviations and chi-square tests were used. To check the statistical significance of the results, the statistical differences were compared also with the *Z*-test for statistical significance between categories.

Ethics

The parents and guardians gave written permission for their children to participate in the research. The research permission form can be retrieved from http://blogs.helsinki.fi/orientate/research-permits/. The children's names, birthdays, social security numbers or any other identification data were not collected, and neither the personal information of the parents nor that of the teachers. Each child and child group received a number that was used in the analyses. The data collection was conducted as part of everyday activities. Children's physical integrity was not violated.

Ethical considerations

The children were not exposed to strong stimuli or their physical integrity was not violated. There was no register collection, and neither the personal information of parents nor that of the teachers. The interviews were conducted in a familiar day-care environment, without any sensory distractions. The children were told that they could stop the interview when they wanted.

Results

The descriptive statistics of the SR instrument are presented in Table 1. The means of the evaluations ranged from 2.59 to 3.77 and the standard deviations varied between 1.000 and 1.397. The item 'Easily becomes emotionally upset in frustrating situations' had the lowest mean, but the standard deviation for this item was the largest, indicating that the variable may have a slightly greater impact in the summary variable of SR.

The differences in children's SR skills categories (Table 2) were statistically significant χ^2 (12, N = 337) = 39.981, p = 0.000, Cramer's V = 0.244. Children's *persistence* strategy was the most common one. It was defined as resources which keep the child oriented towards tenaciously accomplishing the work without giving up. The percentage increased considerably with children's increase in SR skills. The *Z*-test revealed statistically significant differences between weak SR skills and the two other categories. Children's typical persistence-related answers in a frustrated situation were for example:

I will make a new one.
I just keep going.
I will rub it and make a new one.

TABLE 1: Descriptive statistics of the self-regulation instrument.

Self-regulation	*N*	Mean	SD
Can maintain a level of arousal that is necessary for the activity	370	3.77	1.000
Regulates his/her attention appropriately	382	3.69	1.122
Can inhibit his/her responses appropriately	370	3.65	1.105
Copes sensitively with his/her own feelings	383	3.28	1.063
Has no difficulty to challenge and deal with frustrating situations interactively	383	3.10	1.188
Easily becomes emotionally upset in frustrated situations	381	2.59	1.397

Note: In Table 2, the SR skills' relation to children's described strategies is presented.
SD, standard deviation.

TABLE 2: The teacher-rated self-regulation skills and their relationship to the coping strategies of frustration.

Coping strategies for frustration	Self-regulation			Total (%)
	Weak (%)	Moderate (%)	Good (%)	
Persistence	40.6_a	67.0_b	81.0_b	65.3
Adult contact	14.1_a	11.9_a	10.1_a	11.9
Withdrawal	20.3_a	8.2_b	5.1_b	9.8
Uncertainty	6.3_a	6.7_a	-	5.0
Unclear	14.1_a	3.1_b	2.5_b	5.0
Sadness	3.1_a	2.6_a	-	2.1
Outburst	1.6_a	0.5_a	1.3_a	0.9
Total	**100.0**	**100.0**	**100.0**	**100.0**

Note: Each subscript letter denotes a subset of SR categories whose column proportions do not differ significantly from each other at the 0.05 level (chi-square test).

I will try to make it differently.
I would start all over.
Well, then you just have to try it all over again. You have to use an eraser.

Adult contact was the second most common strategy for children and it contains all the descriptions where children tend to ask for help from adult ECEC personnel. The percentage of the strategy decreased slightly in the weaker SR categories, but the relation was so weak that the relation was not statistically significant. The typical adult-related descriptions were:

I'll ask an adult to help me.
I will ask for help.
Well, then I will ask an adult if I could make another one.
I would tell the teacher that I made a little mistake.
I will tell you.
I'll tell the teacher about it and I would make another one then.

By *withdrawal*, we mean a child's inability to tolerate failing and accomplish the work by giving up and abandoning it. They replied that they would give up with the work and seek some other activity. The child can also seek a pleasant and more pleasing activity to engage him/her. The withdrawal strategy in a frustrated situation was distinctly the feature of the children with weak SR skills; the children with moderate or good SR had a statistically significant percentage of fewer withdrawal strategies. Only 5.1% of the children with good SR skills would use a withdrawal strategy. Typical withdrawal-related children's descriptions were:

I would take it away and I'll go somewhere else.
I'm going to bed.
I will do something else.
I would rather take a game.
I'll throw it into a waste basket.
I will take something else. I will do something else. I will take a friend along and if we don't succeed, we'll go playing.

In the *uncertainty* category, the child does not know what to do in a frustrated situation. As can be seen in Table 2, there was a statistically significant difference between children with good SR skills and other children. Children with good SR skills were not uncertain about their strategies at all. Typical uncertainty-related descriptions in a frustrated situation were:

I don't know.
I will do nothing.
I can't figure it out.
Nothing.
I really don't know.
I don't remember.

Unclear represents the descriptions in which children's strategies were problematic to categorise. An uncertain description signifies a form of ignorance or confusion. The unclear category represents descriptions where children's responses were irrationally out of context or they did not understand the question properly. In total, 6.1% of the children were classified into the unclear category. The percentage of unclear strategies diminished radically as children's SR skills increased. The percentage of unclear answers was statistically significant between children with weak SR skills and other children. The unclear category included, for example, the following descriptions:

I'm a friend of Hattifattener [cartoon figure].
The picture doesn't appear.
I'm not working yet.
Someone is interfering with me.
I don't have any friend then.
Yeah.

Sadness was rare for children ($n = 7$) and it was the second least uncommon strategy of the sample. In the sadness category, the child's emotional description includes disappointment or grief. The strategies describing sadness also diminished as children's SR skills increased. Despite this, the differences between sadness and SR skills were not statistically significant. Children's descriptions in the sadness category included:

I'm sad.
I'll start to cry and go home then.
I will cry. There's a teardrop.
I'm having a bad mood then.
I will cry there.
Alone, drawn. Crying.

The most uncommon strategy of the total sample in a frustrated situation was *outburst*. The outburst strategy has features in common with the sadness category, but outburst includes aggressive behaviour. The outburst strategy was non-existent with good SR skills; the sample size was too small ($n = 3$) for statistical differences. Children's outburst-related descriptions were:

If the drawing gets ruined, it needs to get angry.
I will start to yell.
I will smash it off.

Discussion

The main purpose of this study was to investigate the connections between children's teacher-rated SR skills and the coping strategies they chose to employ in a frustrating hypothetical context. Mainly, the analysis supported the earlier findings that the children with good SR skills had greater capacity to face and tolerate the frustrated and stressful event (Eisenberg et al. 2011:263–283). Moreover, the analysis confirmed (Eisenberg et al. 2001; Kochanska 1993) that especially children with good SR skills regularly described persistent strategies, which was not so common for children with moderate or weak SR skills. The children with good SR skills seemed to flexibly respond to the frustrating situation. They did not give up so often and they had a tenacious and clear strategy to complete their imagined work. In contrast, the children with moderate or weak SR skills had more withdrawal strategies than children with good SR skills. The descriptions of withdrawal strategies emphasised the feelings of disappointment and an attitude of quitting. It is possible that the lack of self-esteem and self-efficacy are the main reasons for those children who tend to withdraw and give up. Self-esteem is one of the central

aspects of SR. In a process of SR, we constantly monitor and compare ourselves with some standard or a goal in the surrounding environment (Rhodewalt & Tragakis 2003).

Surprisingly, there were no statistical differences between SR skills and the 'contact an adult' strategy. Its share of the total sample was also unexpectedly low; we presumed that children would frequently request the assistance of the ECEC employees and that they would dare to ask for it. Likewise, it could have been expected that the children with weak SR skills would ask for the help of employees because weak SR skills tend to have a strong correlation for weak motor skills (Veijalainen et al. 2017). However, it could be possible that children's realistic outcome differs from their imagined ones.

The SR skills related to children's ability to envision the frustrating situation. The children with good SR skills did not have any uncertain descriptions; it is possible that those children had a better understanding of what to do in frustrated situations, or their language development was simply more advanced. Children's language skills are related to SR and it can jointly enhance their social interactions in ECEC (Aro 2003:244–245; Cantwell & Baker1992; Veijalainen et al. 2017). It is also possible that some children in the study were too nervous or shy to consider the situation properly. The unclear descriptions were more common with children exhibiting weak SR skills; the children with good SR skills did not exhibit any unclear strategy. This finding indicates that children with good SR skills can reflect and think more clearly when they are frustrated. Presumably the relation of SR and unclear descriptions are associated with problems in expressive language and language delays. However, the children with weak SR skills did have more unclear answers. It means that children with weak SR skills seemed to exhibit more irrational thinking and answers which were given out of context. It is also possible that children with weak SR skills tended to misinterpret the question more often and they answered whatever they felt like.

The sample sizes of the sadness and outburst categories were too small for statistical differences with SR skills. Nonetheless, the descriptions of sadness and outburst appeared more often for children with weak SR skills. It would have been interesting to explore more specifically how those categories are entwined with children's SR skills. For that reason, the researchers might highlight in the next study how children's emotions are linked with their SR skills. The new observation-based instrument with a larger sample size could possibly expose the relations of SR and the emotions of sadness and outbursts.

Conclusion

The current study is an exclusive and multidimensional research in ECEC. As far, as the researchers are aware, previous research has not studied young children's coping strategies as comprehensively via child interviews. Therefore, this study aims to fill the knowledge gap to improve the knowledge of regulatory processes and its relation to children's coping strategies for frustration. Frustration can be a very unpleasant feeling for everyone, but especially for young children. Children's ability to regulate themselves is influenced by their temperament and age, but it is also learned via teachers' co-regulation (Rothbart, Ellis & Posner 2011:442; Suhonen et al. 2018). The findings of this study suggest that teachers in ECEC should pay attention and offer sufficient support for children in situations of frustration. According to the results, it should be considered that some of the children do not have the comprehension of their own possibilities and options when they confront the frustration. Even though the simulated situations are not comparable with the actual responses, they reflect the children's ability in imagining and mentally processing it. The first stage is to mentally comprehend the possibilities and options before children will start using them. It is not enough to develop children's intelligence or knowledge if the children are not able to use them as tools of regulation.

Children's persistent coping strategies should be encouraged via engagement in play activities and enriched materials through providing adult support. The results have promising indications for pedagogy. Self-regulation is not something abstract and theoretical, and these concrete coping strategies would allow teachers to work concretely with children in enhancing their SR skills further. For example, teachers and children themselves can talk about their coping strategies and compare them with each other. In addition, children and teachers can work together using coping strategies in play, such as drama play, and any other activities, which they both understand.

Limitations

Interviewing as a method can be problematic with young children. The situation can be new and frightening for some children and it can increase their inability to produce ample and reliable narration. In some cases, there is also the risk that the child tries to produce an answer that he/she assumes the teacher wants to hear. Säljö (2001:116) describes this situation as 'communicative agreement'. However, the descriptions express the children's ability or inability for mental processing, narrating and interpreting the desirable and suitable strategy in the situations of frustration. In addition, it should be noted that the age range of the study was wide, and SR is partly influenced by age. The researchers in this study did not find statistically significant differences between children's age and their descriptions. Nevertheless, in future studies, children's SR and coping strategies for frustration need to be studied comprehensively with age as a control variable. In addition, additional interview questions need to be drawn up, which will hopefully give a broad view on teacher-rated SR skills and their relation to children's descriptions. Still, it should be noted that the instruments of SR and coping strategies of frustration were independent of each other. Therefore, the classifier of the coping strategies

did not have any knowledge about the children's SR ratings. As a consequence, it is presumable that the statistically significant results may describe causal relations. The researchers are not, however, able to state the cause or direction of the results, only that a relationship exists.

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Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

J.V. conducted the statistical analyses and qualitative content analysis. He also wrote the literature review, discussion, conclusion and limitations. J.R. was the project leader of the orientation project. He was responsible for the data collection and also wrote a part of the literature review, discussion and conclusion. Both N.S. and E.S. contributed to writing the literature review. They also helped to conceptualise and structure this article.

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Data availability statement

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

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