RUNNING HEAD: INTERPERSONAL EMOTION REGULATION

"You Shouldn't Feel This Way!" Children's and Adolescents' Interpersonal Emotion

Regulation of Victims' and Violators' Feelings After Social Exclusion

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Abstract

Emotion regulation is a key developmental skill, but very few studies have investigated developmental differences in how children and adolescents regulate the emotions of others (interpersonal emotion regulation). This study examined developmental differences in interpersonal emotion regulation in the context of social exclusion. Ninety-one 5- and 9-year-old children and 13-year-old adolescents were presented with two straightforward social exclusion scenarios, where a victim was excluded because of an irrelevant characteristic, and one multi-faceted scenario, where exclusion can be justified by social-conventional reasons. Participants' judged social exclusion as more acceptable in the multifaceted scenario based on social-conventional and personal-choice reasons. Nine- and 13-year-olds were more likely to change the emotions of victims and excluders and most commonly used behavioural interpersonal emotion regulation strategies. Overall, children and adolescents engage in efforts to improve victims' and worsen excluders' emotions in social exclusion situations.

Keywords: Interpersonal emotion regulation; social exclusion; emotion attribution; moral judgment

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Emotion regulation (ER), that is, processes aimed at initiating, inhibiting, or changing

a person's emotional experience or its expression (Gross, 2013), has been recognized as an

important developmental skill and milestone (Eisenberg, 2000; Holodynski, 2009). For

example, in the United Kingdom, the Department for Education (2013) includes managing

one's feelings and behaviour as a key early-years outcome that informs children's school

readiness. Indeed, good ER skills in childhood correlate positively with academic

achievement, developing good social relationships, and other positive life outcomes (e.g.,

Eisenberg, Sadovsky, & Spinrad, 2005).

While such intrapersonal/intrinsic ER has received much attention from research and

practice, much less is known about developmental differences in interpersonal/extrinsic ER,

that is how people regulate the emotions of others (Gross, 2013; López-Pérez, Wilson,

Dellaria, & Gummerum, 2016; Niven, Holman, & Totterdell, 2012; Nozaki & Mikolajczak,

2019; Zaki & Williams, 2013). Examples of how people might change others' affective state

through interpersonal ER are engaging directly with the target's feelings through listening,

talking about the target's situation, or changing the way the target thinks about the situation

(Niven, Totterdell, & Holman, 2009). The limited research on the development of

interpersonal ER is particularly surprising, as interpersonal ER is distinct from intrapersonal

ER and likely draws on different developmental abilities (López-Pérez et al., 2016).

Furthermore, interpersonal ER can be aimed at both improving or worsening another's

affective state (i.e., affect-improving v. affect-worsening interpersonal ER; Niven et al.,

2012). Thus, investigating developmental differences in interpersonal ER can give insights

into typical and atypical emotion developmental processes (López-Pérez, Ambrona, &

Gummerum, 2017) and social interactions (Butler & Randall, 2013).

Interpersonal Emotion Regulation across Development

Several models conceptualize interpersonal/extrinsic ER as a multi-stage process, both in adults (Nozaki & Mikolajczak, 2019) and children (Pons, Harris, & de Rosnay, 2004). The effectiveness of interpersonal ER likely depends on the successful implementation of these stages. In the *identification* or *external* stage, the regulator notices the current emotion of another person and its causes. By 4-5 years of age children can successfully recognise facial expressions and understand the impact of different situations on emotional reactions (Pons & Harris, 2005). Furthermore, during, the identification stage, the regulator assesses whether another's emotion needs changing. If so, this evaluation triggers an emotion goal the regulator would like the target to achieve. This ER goal initiates the *selection* or *mental* stage during which the regulator activates, evaluates the costs and benefits of different ER strategies in light of the target's beliefs and desires, and consequently chooses a specific strategy. Children can understand the impact of beliefs and desires on another's emotional response by around 6 years of age (Pons & Harris, 2005).

During the next, *implementation* or *reflective* stage, the regulator takes steps to implement the chosen strategy and monitors the costs and benefits associated with implementation. Acting upon one's chosen strategy to change the course of another's emotion is one of the core features that differentiates intrapersonal from interpersonal ER. The Interpersonal Affect Classification (Niven et al., 2009) differentiates between affect-improving and -worsening interpersonal ER strategies. For example, when aiming to improve others' feelings people may use *affective engagement* (i.e., talking to the target about their feelings), *cognitive engagement* (i.e., making the target view the situation from a positive perspective), *humour* (i.e., making the target laugh), and *attention* (i.e., diverting the target's attention). While children between the ages of 7 and 12 years can understand the effect of different ER strategies on others (Sprung, Münch, Harris, Ebesutani, & Hofmann, 2015),

research so far has only investigated the development of affect-improving interpersonal ER strategies. López-Pérez et al. (2016) found that from 3 years of age children try to make another feel better (at least when prompted) and show meaningful developmental patterns in their affect-improving interpersonal ER strategies. Specifically, affective and cognitive engagement strategies were more frequently used by older children, whereas early elementary-school children were more likely to use attention strategies (see also McCoy & Masters, 1985; Rose & Asher, 2004). One goal of the current research is to investigate developmental differences in both affect-improving and -worsening strategies.

Interpersonal Emotion Regulation in Social Exclusion

People are motivated to improve and worsen others' mood (Niven et al., 2009), especially when others feel upset (López-Pérez, 2018) or when their emotion may not fit the context (Netzer, Tamir, & Van Kleef, 2015). This could be the case in social exclusion contexts. Getting excluded from others' activities is a phenomenon that has been reported from early childhood and that is associated with strong negative emotional reactions in victims of exclusion (Killen, Rutland, & Jampol, 2009; Williams, 2011). Even young children condemn social exclusion on moral grounds in "straightforward" contexts where a person was excluded because of an irrelevant characteristic. For example, 3-year-old children state that is unfair to exclude a person because of their gender when gender is irrelevant for the group's activity (Killen, Mulvey, & Hitti, 2013; Killen & Stangor, 2001).

However, social exclusion can be justified in "multifaceted" contexts, where a victim's characteristics could negatively influence a group's functioning. For instance, children reasoned that it was more acceptable to exclude a boy than a girl from a ballet club, because females are seen as being better at ballet and therefore would make the ballet group work together better (Theimer, Killen, & Stangor, 2001; Killen & Stangor, 2001). Indeed, such social-conventional reasons referring to group functioning, group cohesion, or

stereotypes are increasingly used by older children and adolescents to justify social exclusion in multifaceted contexts (Killen, Sinno, & Margie, 2007; Killen & Stangor, 2001).

Malti, Gasser, and colleagues (Gasser, Malti, & Buholzer, 2013; Malti, Killen & Gasser, 2012; Nguyen & Malti, 2014) combined research from these social exclusion studies with the "happy victimizer" paradigm (e.g., Krettenauer, Malti, & Sokol, 2008) and investigated children's and adolescents' emotion attributions to victims and perpetrators of social exclusion. Similar to findings from the happy-victimizer tradition (see Keller, Lourenço, Malti, & Saalbach, 2003), 9- and 13-year-olds generally attributed negative emotions to victims who were excluded from an athletic (running races), an academic (participating in a science project), or a social event (being invited to a birthday party) because they were overweight (Nguyen & Malti, 2014). However, children and adolescents believed that excluders might not experience negative (e.g., remorse or regret) but mixed or positive emotions. Participants were more likely to use social-conventional reasons to justify the overweight victim's exclusion in the athletic than the academic and social contexts. Accordingly, we might expect that during the *identification stage* of interpersonal ER (Nozaki & Mikolajczak, 2019) children and adolescents understand that the victim of social exclusion experiences negative emotions both in straightforward and multifaceted contexts. Children and adolescents are expected to attribute mixed or slightly positive emotions to the excluder, particularly in multifaceted contexts where exclusion could be justified by social-conventional reasons. Compared to younger children, this context effect in the attribution of (positive) emotions to the excluder should be more pronounced in older children and adolescents, who increasingly use social-conventional reasons to justify social exclusion (Killen et al., 2007).

Emotion attribution is important in shifting people's ER efforts as it allows for interpreting how the victim and the perpetrator presently feel (current emotion goal) and how

they should feel (desired emotion goal). Emotion goals (i.e., what a person wants another to feel) are key in interpersonal ER, as they bring the current, actual emotional experience closer to the desired emotion (Mauss & Tamir, 2014). It is often assumed that emotion goals are hedonically-driven, that is, that people want (others) to feel positive rather than negative emotions to maximize pleasure and minimize pain (Zaki & Williams, 2013). As such, hedonic emotion goals are related to affect-improving interpersonal ER strategies (López-Pérez et al., 2016; Niven et al., 2009). However, Tamir (2016; Tamir, Mitchell, & Gross, 2008) demonstrated that people's emotion goals can be instrumentally-driven: People sometimes want to feel an unpleasant emotion, if they think that this emotion is useful. For example, a person may want to feel angry before a fight, because anger increases their confidence (Tamir & Ford, 2012). Such instrumental emotion goals are interesting, because they can prompt a person to engage in affect-worsening strategies (Niven et al., 2009). Indeed, López-Pérez, Howells, and Gummerum (2017) showed that adults engaged in instrumental interpersonal affect worsening and were more likely to make another feel anger or fear, when they believed that these emotions were instrumental in achieving a goal (i.e., getting a high score in a video game).

Whether children and adolescents would use affect-worsening strategies to change the emotions of perpetrators of social exclusion is an open question. By three years of age, third-party observers use behavioural strategies (e.g., punishment, protest, seeking sanctions from adults) to intervene after a violator harmed a victim (e.g., Kenward & Östh, 2012; Vaish, Missana, & Tomasello, 2011). However, this research has not directly investigated whether children (want to) directly change a violator's emotions. Yuill, Perner, Pearson, Peerbhoy, and van den Ende (1996) showed that children's attribution of emotions to a violator depended on their understanding of the violator's desires (i.e., goals s/he wanted to achieve with the violation). Three-year-olds viewed desirability as objective, namely as a property of

the situation. These children attributed negative emotions to an actor, if the action had objectively bad outcomes (e.g., caused harm to another person), independent of whether an actor wanted to achieve this goal. Five-year-olds have a subjective understanding of desire: They attribute positive emotions, if an actor achieves a goal, and negative emotions, if s/he fails to achieve a goal, independent on whether the outcome is objectively bad or good. We would expect that such a subjective understanding of desires is necessary for children to engage in interpersonal ER. That is, children need to understand that actors' emotions depend on goal fulfilment and that emotions can be altered by changing the goal the actors want or should achieve. Thus, from 5 years of age, the majority of children should engage in efforts to change violators' emotions.

Yuill et al. (1996) also showed that once a subjective understanding of desires is established children can flexibly integrate moral and selfish goals into their emotion attributions to others, depending on the saliency of these goals. Consequently, there might be context effects in older children's and adolescents' efforts when changing excluders' emotions: Older children and adolescents might be less likely to change excluders' emotions in multifaceted contexts where social-conventional goals are more salient than in straightforward contexts where moral, fairness, or empathic goals dominate.

The Present Research

To our knowledge, no study has investigated whether children and adolescents engage in interpersonal ER processes to improve or worsen the emotions of victims and perpetrators of social exclusion. We presented 5- and 9-year-old children and 13-year-old adolescents with three social exclusion scenarios: In a multifaceted scenario, an overweight child was excluded from an athletic event; in a straightforward scenario, an overweight child was excluded from a birthday party (Nguyen & Malti, 2014). In another straightforward scenario, participants watched a clip of a cartoon manikin being excluded from a ball-throwing game

(i.e., Cyberball; Williams, Cheung, & Choi, 2000). Thus, this study combines two of the most prominent approaches to examining children's understanding of social exclusion (Abrams, Weick, Thomas, Colbe, Franklin, 2011; Killen & Stangor, 2001). Story-based social exclusion scenarios have been used extensively to assess the role of children's (moral) understanding and their consideration of the emotional consequences of social exclusion (see Malti et al., 2012). In these scenarios, key information (e.g., about the motivations of the excluder) is explicitly controlled. The video-based cyberball scenario has been shown to induce strong feelings of ostracism and low mood in excluded adults and children (Abrams et al., 2011). Unlike for the story-based scenarios, gives very little information as to why the victim might be excluded (e.g., characteristics of the victim, motivations of the violator), thus making the cyberball task a particularly straightforward social exclusion scenario.

We decided to investigate 5-, 9-, and 13-year-olds because previous research suggests clear developmental differences for these age groups in the identification and implementation stage of interpersonal ER (Nozaki & Mikolajczak, 2019), namely in how children and adolescents recognize the emotional reactions of victims and excluders and the interpersonal ER strategies they might use (López-Pérez et al., 2016; Pons & Harris, 2005).

We expected participants to judge social exclusion as more acceptable in the multifaceted than the straightforward contexts for social-conventional reasons (Hypothesis 1). This context effect should be stronger in adolescents and older than in younger children (Hypothesis 2). Participants across ages and contexts should attribute negative emotions to victims of exclusion (Hypothesis 3). Participants should attribute more positive emotions to excluders than victims, particularly in the multifaceted context (Hypothesis 4). We also expected that older children and adolescents would attribute significantly less positive emotions to excluders than younger children especially in the straightforward contexts (Hypothesis 5). Participants across ages and contexts should want to change the emotions of

victims (Hypothesis 6). We expected that participants would also want to change the emotions of excluders, but that older children and adolescents would be more likely to change the emotions of excluders in straightforward than multifaceted contexts (Hypothesis 7). Concerning affect-improving strategies, younger children should be more likely to draw on attention and behavioural strategies, whereas older children should be more likely to use cognitive and affective engagement strategies (Hypothesis 8). While no study has investigated developmental differences in the use of affect-worsening strategies, we believe that the affect-improving strategies identified by López-Pérez et al (2016) and Niven et al. (2009) can also be used to worsen excluders' emotions (except for "humour"). As such, we expected similar age effects in the use of affect-worsening and affect-improving strategies (Hypothesis 9).

Previous research on (the development of) interpersonal ER did not report gender differences (López-Pérez et al., 2016; Niven et al., 2012), while studies on social exclusion found gender effects particularly for gender-based social exclusion (e.g., Killen & Stangor, 2001). We therefore investigated the effect of gender exploratively.

Method

Participants

Thirty 5-year-olds (M_{Age} = 5.50 years, SD = .51; 14 females), 31 9-year-olds (M_{Age} = 9.29 years, SD = .46; 20 females), and 30 13-year-olds (M_{Age} = 13.30 years, SD = .47; 19 females) took part in the study. An a-priori power analysis using G*Power (Faul, Erdfelder, Lang, Buchner, 2007) indicated that a sample size of 23 participants per age group was needed to detect an effect of f = .82 with a power of .90 at α = .05. Participants were recruited from two primary and one secondary school in southern England, which serve working- and middle-class communities. Ninety-five percent of the sample were White-British with the remaining participants having an Eastern European, Middle Eastern, or South Asian

background. All parents/guardians gave informed consent; participants themselves gave verbal assent.

Materials

Social exclusion scenarios. All participants were presented with three social exclusion scenarios. All scenarios were read aloud to participants and were explained either with the help of cartoon pictures presented on paper (weight-based exclusion scenarios) or as a 30-second animation on a 13-inch laptop computer (cyberball).

Two weight-based social exclusion scenarios were adapted from Nguyen and Malti (2014). The gender of the characters in the scenarios were matched to the gender of the participant. In the athletic event scenario, the excluding character is organizing a team to run races against another team. There is only space for one more person on the excluder's team, but two more people who are interested: An overweight child and a normal-weight child. The excluder chooses the normal-weight over the overweight character (victim) for his/her team. In the party scenario, the excluder is organizing his/her birthday party. S/he has one more invitation left, but there are two friends who s/he could give the remaining invitation to: An overweight child and a normal-weight child. The excluder chooses to invite the normal-weight character to his/her birthday party.

The Cyberball scenario was adapted from the Cyberball task (Williams et al., 2000). Rather than being excluded themselves, participants watched a 30-second clip depicting the interactions between three players represented by three black-and-white human manikins. For the first 10 seconds, a ball was tossed from Player A to Player B to Player C and back to Player A, thus giving each player equal access to the ball. Afterwards, participants watched, for 20 seconds, Players A and B tossing the ball towards each other, but not to Player C thereby excluding Player C from the game. After 30 second, the clip was stopped automatically.

After each social exclusion scenario, participants were asked the following questions, in fixed order. Experimenters pointed to the respective characters in the pictures or video clips to ease participants' understanding.

Moral judgment: Is it okay or not okay what the excluder did? How much is it okay/not okay? Participants responded on a 5-point scale from 1 = very much not okay to 5 = very much okay.

Moral judgment reasons: Why is it okay/not okay? Participants' responses were transcribed verbatim by the experimenter.

Emotion attribution victim: How does the victim feel? Participants responded on a five-point scale from 1 = very bad/sad (depicted by a deep frowny face) to 5 = very happy (depicted by a wide smiley face).

Reasons for emotion attribution to victim: Why does the victim feel this way? Participants' responses were written down verbatim by the experimenter.

Emotion regulation victim: Would you change the way the victim feels? Answer options were 0 = no, 1 = don't know, 2 = yes

Strategies emotion regulation victim: What can you do to change the way the victim feels? This question was only asked, if participants answered "yes" to the Emotion regulation victim question. Participants' answers were transcribed verbatim.

Emotion attribution excluder: How does the excluder feel? Participants responded on a five-point scale from 1 = very bad/sad (deep frowny face) to 5 = very happy (wide smiley face).

Reasons for emotion attribution to excluder: Why does the excluder feel this way? Participants' responses were written down verbatim by the experimenter.

Emotion regulation excluder: Would you change the way the excluder feels? Answer options were 0 = no, 1 = don't know, 2 = yes

Strategies emotion regulation excluder: What can you do to change the way excluder feels? This question was only asked, if participants answered "yes" to the Emotion regulation excluder question. Participants' answers were transcribed verbatim.

Procedure

The study received full ethical approval from the XXXXX University's Human Ethics Committee. Parents/guardians needed to provide informed consent for participants to take part in the study. Participants were tested individually in a quiet room of their school by a female experimenter. Each session lasted between 20 to 30 minutes.

At the beginning of the session, participants were briefed about the study in an age-appropriate way and provided verbal assent. They were then presented, in counterbalanced order, with the three social exclusion scenarios. After each scenario, participants were asked the scenario-related questions before moving to the next scenario. At the end of the session, participants were debriefed and provided with a certificate for their participation.

Coding of open-ended responses

Reasons for moral judgments were coded according to a coding scheme developed by Nguyen and Malti (2014) which is based on the Social Domain approach to study children's moral and social judgments (see Smetana, Jambon, & Ball, 2014, for an overview). The coding system consisted of four categories: (1) Moral/fairness/inclusion reasons referred to fairness or equality of access and promotion of inclusion (e.g., "everybody should be able to compete"; "it's unfair to exclude her"); (2) Emotions, such as empathy and guilt (e.g., "he will feel really sad about not going to the party"); (3) Social conventions referred to group functioning, traditions, or stereotypes (e.g., "Those two play better together"; "She cannot run as fast"); (4) Personal choice (e.g., "he can decide who can come to his party").

Interpersonal emotion regulation strategies to improve victims' or worsen excluders' emotions were coded using a modified coding system based on López-Pérez et al.

(2016) and Niven et al. (2009). It encompassed five affect-improving strategies for the victim and four affect worsening strategies for the excluder, respectively. Four categories were used to code both affect-improving and affect-worsening strategies: (1) Affective engagement (e.g., affect-improving: "I would talk to them so they feel better"; affect-worsening: "tell her she is mean to Suzy"); (2) Cognitive engagement (e.g., affect-improving: "I would say that everything will be fine in the end"; affect-worsening: "I would tell her to imagine Ben's situation"); (3) Attention (e.g., affect-improving: "I would tell them about a film I really liked"; affect-worsening: "I would tell her that she is not great at running either"); (4) Behavioural engagement (e.g., affect-improving: "I would invite her to my party"; affect-worsening: "Ask them to apologize"). One category was only used to code affect-improving strategies: (5) Humour (e.g., "I would tell him a joke").

For all categories (reasons for moral judgments, interpersonal ER strategies), category use was coded as 1, non-use as 0. If participants gave two reason from two different categories, they received a score of 0.5 on the respective categories. No participant used reasons from more than two different categories. Two independent raters coded 21 of the interviews (7 per age group). Inter-rater reliability ranged between $\kappa = .80 - .89$. Disagreements were discussed among raters, and the agreed-upon category was coded.

<div align="center">Results</div>

Preliminary analyses did not show any significant effects for gender. Therefore, analyses were collapsed across genders.

Moral judgments of social exclusion

Table 1 shows mean moral judgments by context and age group. A mixed ANOVA with the within-subject factor Context (athletic, social, cyberball) and the between-subject factor Age Group (5 years, 9 years, 13 years) showed a significant effect of Context, $F(2, 176) = 37.13$, $p < .01$, $\eta^2 = .30$, and a marginally significant interaction of Context $\times$ Age

group, $F(4, 176) = 2.35$, $p = .06$, $\eta^2 = .05$. Post-hoc tests (with Bonferroni corrections) indicated that participants judged social exclusion to be significantly more acceptable in the athletic than the social or cyberball contexts ($ps < .02$). This context effect tended to be stronger among the 9- and 13-year-olds.

Concerning justifications, a mixed ANOVA with the within-subject factors Context (athletic, social, cyberball) and Justification (moral/fairness, emotions, social conventions, personal choice) and the between-subject factor Age Group (5 years, 9 years, 13 years) revealed a significant three-way interaction of Context × Justification × Age Group, $F(12, 91) = 2.43$, $p = .004$, $\eta^2 = .05$. Social-conventional justifications were mainly used by 13-year-olds in the multifaceted athletic context ($p < .01$; Figure 1). Five- and 9-year-olds referred to moral/fairness reasons significantly more often than 13-year-olds in the athletic context ($ps < .01$). Across ages, the majority of participants employed moral/fairness and emotions reasons in the straightforward social and cyberball contexts, and there was no age difference in the use of these reasons (all $ps > .06$). The ANOVA also revealed significant two-way interactions of Context × Age Group, $F(4, 91) = 7.55$, $p < .01$, $\eta^2 = .15$, Justification × Age Group, $F(6, 91) = 3.81$, $p = .001$, $\eta^2 = .08$, and Context × Justification, $F(6, 91) = 13.49$, $p < .01$, $\eta^2 = .13$. Thirteen-year-olds tended to use social-conventional reasons more than 5- and 9-year-olds ($ps < .01$). Social-conventional reasons were employed more in the athletic than the social and cyberball contexts ($p < .02$; Figure 1). The main effects of Context, $F(2, 91) = 5.03$, $p = .007$, $\eta^2 = .05$, and Justification, $F(3, 91) = 36.64$, $p < .01$, $\eta^2 = .29$, indicated that the use of reasons differed across the three contexts.

Emotion attributions to victims and excluders

As displayed in Table 1, participants stated that the victim of social exclusion would feel very sad to sad. A mixed ANOVA showed a main effect of Context, $F(2, 91) = 11.36$, $p < .01$, $\eta^2 = .11$: Emotions attributed to the victim were significantly more negative in the

Table 1.

Mean (and SDs) Moral Judgments and Mean (and SDs) Emotion Attributions to Victims and Excluders by Context and Age Group
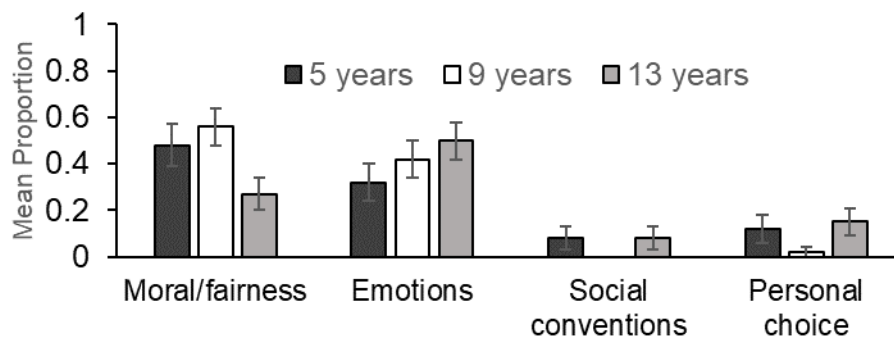
	Age group					
	5 years		9 years		13 years	
	M	*SD*	*M*	*SD*	*M*	*SD*
Moral judgment						
Athletic context	2.67	1.18	2.55	.96	3.03	.72
Social context	2.00	1.11	1.71	.78	1.97	.81
Cyberball	2.00	.95	1.90	.30	1.63	.56
Emotion attribution to victim						
Athletic context	1.47	.68	1.77	.50	1.73	.64
Social context	1.37	.56	1.32	.48	1.23	.43
Cyberball	1.80	.92	1.77	.62	1.47	.57
Emotion attribution to excluder						
Athletic context	4.07	1.07	3.26	.93	3.43	.82
Social context	3.83	.97	2.97	.98	2.73	.67
Cyberball	3.62	1.21	3.39	.92	3.43	.57

social compared to the athletic and cyberball contexts ($ps < .05$). Concerning emotion attributions to the excluder, a mixed ANOVA revealed significant effects of Age Group, $F(2, 90) = 10.14$, $p < .001$, $\eta^2 = .19$, Context, $F(2, 90) = 5.97$, $p = .003$, $\eta^2 = .06$, and Context ×Age Group, $F(4, 90) = 2.67$, $p = .03$, $\eta^2 = .06$. Across contexts, 5-year-olds attributed significantly more positive emotions than 9- and 13-year-olds ($ps < .02$). This age effect was more
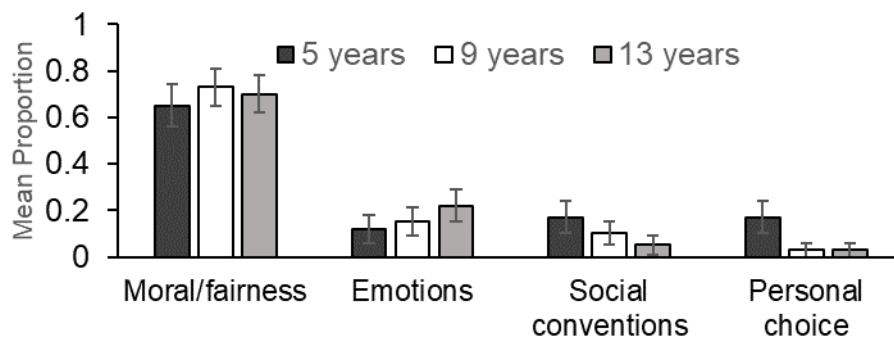
(a)

(b)

(c)

Figure 1. Mean proportion of moral justifications in the (a) athletic, (b) social, and (c) cyberball contexts by age group. Error bars represent Standard Errors

Pronounced in the athletic and social than the cyberball context ($ps < .03$). Overall, children attributed significantly more negative emotions to the excluder in the social than the athletic and cyberball contexts ($ps < .02$; Table 1).

Interpersonal Emotion Regulation of Victims and Excluders

Table 2 shows that the majority of participants wanted to change the emotions of the victims. Generalized Estimating Equations (GEE) with a multinomial distribution and cumulative logit function revealed a main effect of Age Group, Wald χ^2 (2) = 6.03, $p = .049$. Five-year-olds were significantly less likely than 9-year-olds, $B = 1.88$, $SE = .94$, 95% *CI* [.04, 3.73], to wanting to change victims' emotions. Concerning interpersonal ER strategies to change victims' emotions, a mixed ANOVA with the within-subject factors Context (athletic, social, cyberball) and ER strategy (affective engagement, cognitive engagement, attention, humour, behavioural engagement) and the between-subject factor Age Group (5 years, 9 years, 13 years) revealed a significant interaction of Strategy × Age Group, $F(8, 91)$ = 4.46, $p < .01$, $\eta^2 = .09$, and the significant main effects of Strategy, $F(4, 91) = 213.19$, $p <$ .01, $\eta^2 = .71$, and Age Group, $F(2, 91) = 5.86$, $p = .004$, $\eta^2 = .12$. Behavioural engagement was the most commonly used interpersonal ER strategy, particularly among the 9- compared to 5- and 13-year-olds (Figure 2a). Attention and humour were barely employed in either age group. Affective and cognitive engagement were used significantly more often by 13- than 9- and 5-year-olds. No main or interaction effects with context emerged.

Concerning excluders, GEE revealed a significant main effect of Context, Wald χ^2 (2) = 7.00, $p = .03$ and marginally significant main effect of Age Group, Wald χ^2 (2) = 5.55, $p =$ .06 (Table 2). Participants wanted to change excluders' emotions more in the social than the athletic context, $B = .86$, $SE = .33$, 95% *CI* [.22, 1.50]. Nine-year-olds wanted to change excluders' emotions more than 5-year-olds, $B = -1.13$, $SE = .57$, 95% *CI* [-2.24, -.02].

Table 2.

Frequencies (Percent) of Participants Willing to Change the Emotions of Victims and

Exluders by Context and Age Group

	Age group		
	5 years	9 years	13 years
Willingness to change victims' emotions			
Athletic context			
No	5 (17%)	0	3 (10%)
Don't know	3 (10%)	2 (7%)	0
Yes	22 (73%)	29 (94%)	27 (90%)
Social context			
No	4 (13%)	0	2 (7%)
Don't know	3 (10%)	2 (7%)	1 (3%)
Yes	23 (77%)	29 (94%)	27 (90%)
Cyberball			
No	2 (7%)	0	1 (3%)
Don't know	2 (7%)	2 (7%)	2 (7%)
Yes	26 (87%)	29 (94%)	27 (90%)
Willingness to change excluders' emotions			
Athletic context			
No	12 (40%)	8 (26%)	5 (17%)
Don't know	3 (10%)	2 (12%)	12 (40%)
Yes	15 (50%)	21 (68%)	13 (43%)
Social context			

|			
No	9 (30%)	4 (13%)	4 (13%)
Don't know	3 (10%)	2 (7%)	6 (20%)
Yes	18 (60%)	25 (81%)	20 (67%)
Cyberball			
No	10 (35%)	5 (16%)	7 (23%)
Don't know	2 (7%)	2 (7%)	8 (27%)
Yes	17 (59%)	24 (77%)	15 (50%)

Concerning interpersonal ER strategies to change excluders' emotions, a mixed ANOVA with the within-subject factors Context (athletic, social, cyberball) and ER strategy (affective engagement, cognitive engagement, attention, behavioural engagement) and the between-subject factor Age Group (5 years, 9 years, 13 years) showed a significant interaction of Strategy × Age Group, $F(6, 91) = 6.83$, $p < .01$, $\eta^2 = .13$, and the significant main effects of Strategy, $F(3, 91) = 24.85$, $p < .01$, $\eta^2 = .22$, and Age Group, $F(2, 91) = 9.18$, $p < .01$, $\eta^2 = .17$. Figure 2b shows that behavioural strategies were most commonly used, especially among 9-year-olds. Affective and cognitive engagement strategies were employed more frequently by 9- and 13-year-olds than by 5-year-olds. Nine-year-olds used significantly more interpersonal ER strategies than 13- and 5-year-olds. No effects of context emerged.

Discussion

This study investigated developmental differences in children's and adolescents' interpersonal ER processes. We were interested in the identification and selection stages of interpersonal ER, namely whether children and adolescents identify others' emotions, whether they want to change these emotions, and the strategies used for this. Focusing on the context of social exclusion allowed us to examine whether participants would use affect-

improving and affect-worsening interpersonal ER strategies to change the emotions of victims and excluders. To our knowledge, this is the first study that investigated affect-worsening interpersonal ER in a developmental context.
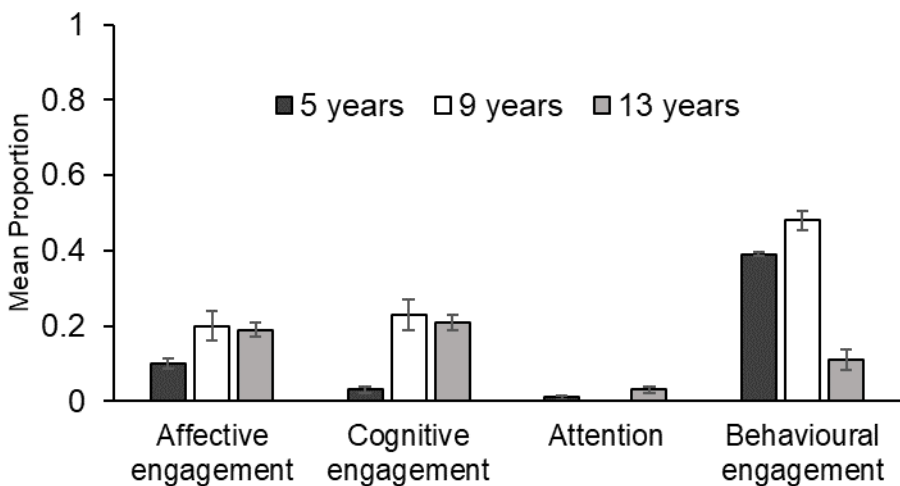
(a)
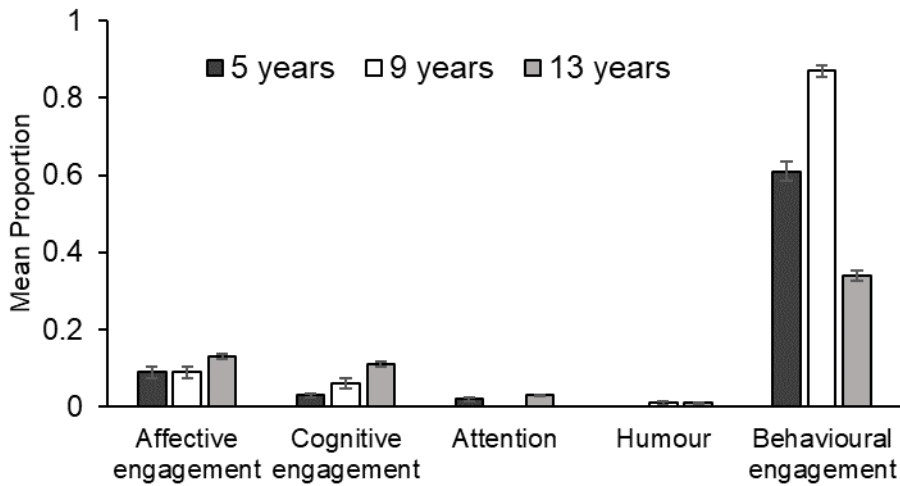
(b)

Figure 2. Mean proportion of interpersonal emotion attribution strategies used to change (a) victims' and (b) excluders' emotions by age group. Error bars represent Standard Errors.

Concerning the identification stage of interpersonal ER, our findings are largely in line with previous research (e.g., Killen & Stangor, 2001; Nguyen & Malti, 2014) and our hypotheses. Participants, and particularly older children and adolescents, judged social exclusion to be more acceptable in the multifaceted (athletic) context than in the two straightforward contexts. While participants of all age groups justified the (in)acceptability of social exclusion in the two straightforward contexts by referring to moral and fairness reasons, particularly adolescents used social-conventional and personal-choice reasons to rationalize exclusion in the multifaceted context (see Killen et al., 2007). Across age groups, participants attributed negative emotions to the victim of social exclusion, particularly in the straightforward party context. While children and adolescents attributed, on average, mixed to slightly positive emotions to the excluder, the emotions attributed in the straightforward social context were the most negative. This might be due to the fact that in the party context, the victimizer excluded a friend who was overweight, thus making the social exclusion even more morally reprehensible (Nguyen & Malti, 2014). Overall, we found a quite pronounced "happy victimizer" effect (Keller et al., 2003), even among the oldest age group. Researchers in the happy victimizer paradigm have long debated the developmental patterns of this effect (Arsenio, Gold, & Adams, 2006). Based on our findings and those of others (Krettenauer et al., 2008; Nguyen & Malti, 2014) it is possible that the happy victimizer phenomenon persists well into adolescence for social-conventional and multifaceted violations, whereas by the mid-elementary school years children might understand violators' negative emotions for transgressions of negative moral duties.

Concerning the selection stage of interpersonal ER, 5-year-olds were less likely to wanting to change victims' emotions than 9-year-olds. According to the Emotion Understanding Model (Pons et al., 2004), 5-year-olds might still struggle to understand the impact of beliefs and/or desires on others' emotional response (Pons & Harris, 2005), which

might explain why they may be less prone to change victims' emotions. It is important to acknowledge that while children and adolescents wanted to change victims' emotions equally across contexts, participants were more likely to change excluders' emotions in the straightforward social context. This suggests a possible disassociation between emotion attribution and interpersonal affect improvement. In fact, previous research with typically developing children did not find a link between children's perception of emotions and adaptive efforts to improve others' emotions (López-Pérez & Pacella, 2019). In contrast, participants' affect-worsening interpersonal ER corresponded with their emotion attributions to excluders, which were similarly most negative in the straightforward social context. Hence, emotion attribution (which happens during the identification stage) may play a bigger role in affect-worsening than affect-improving interpersonal ER. In fact, previous research showed that when people were induced to put themselves in the others' shoes and understand how others may be feeling, they tended to worsen others' mood if this was appropriate for the context (López-Pérez et al., 2017).

Regarding the use of affect-improving and -worsening strategies, behavioural engagement was the one most used across the different age groups. This is not surprising considering that behavioural strategies are the ones first acquired and used by young children to deal with others' distress (Farver & Branstetter, 1994; Persson, 2005) and moral violations (Kenward & Östh, 2012; Vaish et al., 2011. Furthermore, results showed that affective and cognitive engagement were mainly used by 13- and 9-year-olds. This result is in line with previous research, which found that cognitive strategies were mainly used by older children (López-Pérez et al., 2016). Affective and cognitive engagement strategies might particularly draw on advanced theory-of-mind abilities that become embedded in children's social functioning in the mid-elementary school years (Carpendale & Lewis, 2006). Although our study was cross-sectional, the obtained results indicate that there are strategies that are more

consistently used depending on the age of the regulation agent. This corresponds to previous research investigating developmental differences in the upregulation of sadness (López-Pérez et al., 2016; McCoy & Masters, 1985; Rose & Asher, 2004) and anger and fear (López-Pérez & Pacella, 2019).

Although this study is the first, up to our knowledge, that has explored whether and how children and adolescents would like to change the emotions of victimizers and victims of social exclusion, it is not without limitations. First, children and adolescents were not asked to indicate which emotions they would like victimizers and victims to feel nor why they would or would not try to change the emotions of victims and excluders. Adding these questions could have provided further information about children's and adolescents' efforts to engage in interpersonal ER and potential underlying developmental processes. Second, although open-ended questions were used to facilitate children's responses and capture their spontaneous use of regulation strategies, future research may consider providing children with full range of possible strategies and ask them to indicate to what extent they may use them to standardize the assessment of possible regulation strategies. Third, future research may consider other procedures relying on observations (Saarni, 1999) or virtual interactions (López-Pérez & Pacella, 2019) rather than presenting participants with hypothetical scenarios. Finally, future studies might also want to further investigate the link between interpersonal affect-worsening ER strategies and adaptive and maladaptive social development, especially since research with adults (e.g., Niven et al., 2009) has shown that participants use affect-worsening strategies, such as hurting or insulting others, that could be seen as maladaptive in social relationships.

Overall, the obtained results showed that children and adolescents are sensitive to others' feelings in social exclusion situations and engage in efforts to improve victims' and worsen excluders' emotions. Given the importance of interpersonal ER skills for children's

and adolescents' academic, social, and moral functioning, future research should continue to examine under what conditions people can effectively engage in interpersonal ER and how to successfully support interpersonal ER across development.

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