Attachment and depressive symptoms in middle childhood and early adolescence: Testing the validity of the emotion regulation model of attachment

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Abstract
This research examines differential associations between attachment dimensions (anxiety and avoidance) and emotion regulation (ER) strategies (dysregulation and suppression) in middle childhood and early adolescence. Furthermore, the study investigates how attachment and ER relate to depressive symptoms and perceived parenting. Two cross-sectional studies (N = 339 and N = 746) supported the hypothesized associations between attachment anxiety and avoidance and emotional dysregulation and suppression, respectively. Mixed evidence was found for ER as a mediator in associations between attachment and depressive symptoms. Study 2 found that parental responsiveness and autonomy-support are related differentially to the attachment dimensions. The Discussion focuses on the dynamics involved in associations between parenting, attachment, ER, and depression and on directions for future research.

A central tenet in Bowlby’s attachment theory (1980) is that early interactions with attachment figures form a critical context for later emotion regulation (ER) processes and subsequent adjustment. Building on this global formulation, several models were developed to detail the specific dynamics involved in associations between specific attachment dimensions and ER strategies. Cassidy (1994), for instance, argued that children with different types of insecure attachment engage in different predominant modes of regulating emotions. Specifically, she argued that insecure/ambivalent and insecure/avoidant attachment styles would be differentially related to two broad classes of ER strategies, that is, heightening and suppression of emotions, respectively. Paralleling Cassidy’s model, Shaver and Mikulincer (2002) proposed an ER model of attachment for late adolescents and adults. According to this model, anxious and avoidant attachment (which are conceptually similar to insecure/ambivalent and insecure/avoidant attachment, respectively) would relate differentially to hyperactivation and deactivation, respectively, with the latter strategies being conceptually similar to heightening and suppression of emotions. Furthermore, the ER strategies associated with the fundamental dimensions of attachment would, in turn, explain how attachment relates to psychopathology and to depressive symptoms in particular (Cassidy, 1994; Shaver & Mikulincer, 2002).
The main goal of this study was to examine the validity of the ER model of attachment and its associations with depressive symptoms in a sample of middle childhood children and early adolescents. Furthermore, we aimed to add to the limited literature on the role of parenting in the development of attachment representations in middle childhood and early adolescence (e.g., Karavasilis, Doyle, & Markiewicz, 2003) by examining associations between two fundamental dimensions of perceived parenting (i.e., responsiveness and autonomy-support) and attachment dimensions. The overarching aim of this research was to propose and test an integrated model of associations between perceived parenting, attachment representations, ER strategies, and depressive symptoms in middle childhood and early adolescence (Figure 1).

Attachment representations, ER, and psychopathology

Attachment theory defines an attachment style as a pattern of relational expectations, emotions, and behaviors. Each person develops an attachment style on the basis of attachment experiences with caregivers. On the basis of recent research in both children and adults, individual differences in attachment are typically represented along two fundamental dimensions (e.g., Brennan, Clark, & Shaver, 1998), that is, attachment anxiety and attachment avoidance. Individuals high on attachment anxiety worry intensely about availability of the attachment figure and their own value to the caregiver. People who score high on the avoidance dimension have a strong preference for emotional distance and feel uncomfortable with dependence on others. Bowlby (1980) argued that a lack of secure attachment during infancy, childhood, or adolescence would contribute to psychopathology and to depressive symptoms in particular. Empirical findings in research with children (e.g., Brumariu & Kerns, 2010; Finnegan, Hodges, & Perry, 1996) as well as adults (Mikulincer & Shaver, 2007) indeed support a relationship between both attachment anxiety and avoidance and depressive symptoms, although associations with avoidant attachment are typically less pronounced.

To explain how individual differences in attachment anxiety and avoidance are related to psychopathology and to depressive symptoms in particular, scholars have described the attachment system as an ER device (Cassidy, 1994; Shaver & Mikulincer, 2002). Dependent on the quality of attachment, people would adopt different and predominant strategies to regulate emotional distress, which would, in turn, affect their emotional and social adjustment. Because ambivalent or

![Figure 1. Hypothesized model of associations between perceived parenting, attachment representations, emotion regulation strategies, and depressive symptoms in middle childhood and early adolescence.](image-url)
anxiously attached individuals fear being abandoned, they would predominantly use hyperactivating strategies (e.g., rumination or excessive complaining) to elicit increased attention from others and to ensure others’ availability. Instead, people who are avoidantly attached would regard proximity seeking as a less viable option. Because they learned that attachment behavior leads to rejection or anger instead of closeness or love, they would predominantly use deactivating strategies (e.g., denial), where stress is resolved by eliminating and suppressing negative emotions. The idea that attachment dimensions are associated with different ER strategies has been supported by empirical research in both infants (e.g., Spangler & Grossmann, 1993) and adults (e.g., Mikulincer & Shaver, 2007).

Hyperactivation and deactivation may, in the long run, render individuals vulnerable to pervasive emotional problems (Mikulincer, Shaver, & Pereg, 2003). Hyperactivation may be harmful because it involves a very selective and narrow focus on specific emotions (e.g., sad emotions) that would dominate all communication channels (Cicchetti, Ackerman, & Izard, 1995). Deactivation may seem to have more short-term adaptive value compared to hyperactivation. However, it may still be disabling because a frequent reliance on deactivation would undermine the capacity to generate consistent processes for regulating emotions when deactivation is not an option (Cicchetti et al., 1995). Silk, Steinberg, and Morris (2003) note that disengagement or deactivation from a negative experience may interrupt exposure and extinction processes that help the individual habituate to an experience and its associated affect. This hypothesized association between maladaptive ER strategies and depressive symptoms has received empirical support in research with children and adolescents (e.g., Garber, Braafsladt, & Zeman, 1991; Silk et al., 2003).

In summary, the model of attachment and ER is in essence a model of differential mediation, where associations between attachment anxiety and emotional problems would be at least partially mediated by hyperactivation and where associations between attachment avoidance and emotional problems would be at least partially mediated by deactivation. Although the two main parts of this model, that is, the part specifying relations between attachment dimensions and ER strategies (see Cassidy, 1994; Mikulincer & Shaver, 2007) and the part specifying relations between ER strategies and emotional problems (see Silk et al., 2003, for an overview), received separate empirical support in research with adults and children, few studies have empirically examined the model of differential mediation as a whole. In one of the few cross-sectional studies testing the full model of differential mediation, Wei, Vogel, Ku, and Zakalik (2005) found that the association between attachment anxiety and negative mood (depression and anxiety) was specifically mediated by emotional reactivity (i.e., an indicator of hyperactivation), whereas the association between attachment avoidance and negative mood was specifically mediated by emotional cutoff (i.e., an indicator of deactivation). Some indirect evidence for the model tested in this study has also been obtained in research on the association between attachment, ER, and anxiety. Bosquet and Egeland (2006), for instance, found that general ER strategies played a mediating role in the association between insecure versus secure attachment and childhood anxiety. Like many other studies, however, this study did not distinguish between the two dimensions of attachment (i.e., anxiety and avoidance) and between specific ER strategies.

Given that associations between attachment, ER, and depressive symptoms have rarely been examined longitudinally, one could also consider alternative causal mechanisms. For example, insecure attachment styles could lead to increased depressive feelings, which, in turn, may lead to increased use of hyperactivating and deactivating ER strategies. Although these alternative views are not mutually exclusive, as insecure attachment, ER strategies, and depressive symptoms may mutually reinforce each other across time, we focused in this study on the sequence that is theoretically most plausible, that is, the sequence proposed by Cassidy (1994) in

In this study, the concepts of heightening/hyperactivation and suppression/deactivation were studied and operationalized from the perspective of self-determination theory (SDT; Deci & Ryan, 2000). In SDT, a distinction has been made between emotional dysregulation and emotional suppression. Dysregulation involves experiencing emotions but not having the capacity to regulate those emotions, whereas suppression involves children’s attempts to avoid or minimize the experience of negative emotions. The differentiation between emotional dysregulation and suppression is strikingly similar to the distinction between heightening and suppression in the work of Cassidy (1994) as well as to the distinction between hyperactivation and deactivation in the work of Shaver and Mikulincer (2002).

**Perceived parenting and attachment representations**

Apart from outlining the dynamics involved in attachment representations and ER, attachment theory also provides a strong basis to make predictions about the role of parenting in children’s attachment style, ER processes, and depressive symptoms. To promote a secure attachment relationship, parents need to comfort, soothe, and protect their children in times of stress (i.e., function as a safe haven by being responsive; Bowlby, 1988) but also permit and support autonomous action and exploration (i.e., function as a secure base from which the child can explore by supporting the child’s autonomy; Ainsworth, 1969). This distinction between the safe haven and secure base function of attachment figures is analogous to the distinction between two fundamental parenting dimensions that are central in recent parenting research, that is, responsiveness (e.g., Davdov & Grusce, 2006) and autonomy-support (e.g., Grolnick, Deci, & Ryan, 1997; Whipple, Bernier, & Mageau, 2009). The inclusion of autonomy-support is important because attachment theory has tended to focus rather exclusively on parental sensitivity. Although autonomy-support shows some common features with parental sensitivity (i.e., empathy), it also has unique features that relate to the encouragement to behave on the basis of self-endorsed motives and preferences (through the provision of choices and the provision of a meaningful rational).

On the basis of attachment theory (Bowlby, 1988), a unique pattern of parenting correlates can be expected for each of the two attachment dimensions (i.e., anxiety and avoidance). Avoidant attachment representations would develop when children experience their parents as both unresponsive (i.e., low responsiveness) and intrusive (i.e., low autonomy-support). Owing to such caregiving, they may have difficulty trusting that others will be available for them and they may therefore learn to be self-reliant and to avoid depending on others (Crowell & Treboux, 1995). Anxious attachment representations would instead develop in a caregiving environment where children do not necessarily experience their parents as totally unresponsive. They may, however, experience inconsistent responsiveness and may become fearful of abandonment due to the unpredictability in their parents’ display of love and support (e.g., Finnegn et al., 1996; Hill, Fonagy, Safier, & Sargent, 2003). Furthermore, much like avoidant attachment, anxious attachment is thought to arise when care is intrusive. Parents may, for instance, pressure the child to remain within close physical and emotional proximity and such autonomy-suppressing experiences may leave the child uncertain of other people’s support and of his or her own lovability (Bartholomew & Horowitz, 1991). In line with this theorizing, research in middle childhood and adolescence has shown that a lack of responsiveness is more strongly related to attachment avoidance than to attachment anxiety (e.g., Karavasilis et al., 2003; Kerns, Tomich, Aspelmeier, & Contreras, 2000). Also as expected, autonomy-inhibiting and controlling parenting have been shown to relate to both attachment anxiety and attachment avoidance (e.g., Karavasilis et al., 2003).

The current research aimed to add to this limited body of literature on associations.
between perceived parenting dimensions and attachment representations in middle childhood and early adolescence. Furthermore, this study also addressed the possible mediating role of attachment and attachment-related ER strategies in the association between parenting and depressive symptoms. This is important because both low responsiveness and low autonomy-support are assumed to create a vulnerability to impaired ER capacities (e.g., Eisenberg et al., 2001) and to subsequent depressive symptoms (e.g., Barber, Stolz, & Olsen, 2005).

The present studies

In this set of studies, we examined associations between attachment representations and ER strategies, thereby tapping into relationship-specific attachment representations rather than into global or personality-like attachment representations. Specifically, we focused on children’s representations of attachment to parents (a) because the parent–child relationship is still one of the most influential and visible relationships during the life period examined in this study (i.e., middle childhood and early adolescence) and (b) because we were interested in examining associations between the perceived quality of parenting and attachment representations. On the basis of attachment theory (Bowlby, 1980; Cassidy, 1994; Shaver & Mikulincer, 2002), we expected children’s insecure attachment representations to parents and depressive symptoms to be related through different and primarily distinct ER strategies. Specifically, we hypothesized that the relationship between anxious attachment representations and depressive symptoms is partially explained by dysregulation of emotions, whereas the association between avoidant attachment representations and depressive symptoms is partially explained by suppression of emotions. We also considered the possibility of an interaction between anxious and avoidant attachment, such that children who score high on both insecure attachment dimensions might show particularly elevated scores on maladaptive ER strategies and depressive symptoms (see e.g., Bartholomew & Horowitz, 1991).

The second aim of this study was to investigate the relationship between perceived parental responsiveness and autonomy-support, and the two dimensions of attachment. Specifically, we expected (a) that low responsiveness is particularly strongly associated with avoidant attachment representations, whereas low autonomy-support is related to both anxious and avoidant attachment representations, (b) that both low responsiveness and autonomy-support are related to depressive symptoms, and (c) that the attachment dimensions and their associated ER strategies will mediate between perceived parenting and depressive symptoms. The full hypothesized model of this study is depicted in Figure 1.

We examined our hypotheses in a sample of middle childhood children and early adolescents. To the best of our knowledge, the mediating role of ER in the association between insecure attachment representations and depressive symptoms has not been investigated yet in this age period. It was deemed important to examine the validity of this model in this age period for several reasons. First, adolescence is a transitional period for the attachment system. Although parents continue to figure as a secure base in times of stress, there is a changing balance between attachment and exploratory behavior (Allen, 2008). Second, in middle childhood and early adolescence, important developments take place in processes of ER. During the transition through adolescence physical, psychological, and social transformations elicit novel experiences of emotional arousal, and the maturation of many of the hormonal, neural, and cognitive systems thought to underlie the regulation of emotions takes place (Silk et al., 2003). Third, research has shown that the transition from middle childhood and preadolescence to early adolescence is marked by a steep increase in the prevalence of depressive symptoms and it has been argued that processes of attachment and ER may be involved (Petersen et al., 1993). In summary, all the systems involved in our hypothesized model (i.e., parent–child relationships, attachment, and ER) are assumed to undergo dynamic and
important changes during middle childhood and early adolescence. As these processes have been identified as important precursors of vulnerability to depression, middle childhood and early adolescence were considered highly relevant age periods to examine associations between these processes and depressive symptoms.

Two cross-sectional studies based on separate samples of Caucasian participants were conducted. Study 1 examined (a) the specificity of associations between children’s representations of attachment to mother and children’s ER strategies and (b) the mediating role of ER strategies in associations between attachment representations and depressive symptoms in children. Study 2 aimed to replicate these findings and to study the relationship between perceived parenting and attachment representations.

Study 1

Method

Participants and procedure
Participants were 339 students (125 boys and 214 girls) aged between 12 and 14 years ($M = 12.6$ years, $SD = 0.67$), from two secondary schools in Flanders (Belgium). Concerning family status, 274 participants (80.8%) were from intact families whereas the remaining participants were from divorced families or families where one of the parents had deceased. Prior to the data collection, a letter was sent to the parents with information about the purpose and method of the study. Passive informed consent was obtained from the parents and active informed consent was obtained from the children. The overall response rate was 80%. Child and adolescent questionnaires were administered during a class period. Students had 45 min to complete the survey.

Measures

Attachment representations
Participants completed a child version of the Experiences in Close Relationships Scale–Revised (ECR–R; Fraley, Waller & Brennan, 2000), further referred to as the ECR–RC (Brenning, Soenens, Braet, & Bosmans, in press). The ECR–RC assesses the two dimensions central in the ER model of attachment, that is, attachment anxiety and avoidance. The anxiety scale (18 items) taps into feelings of fear of abandonment and strong desires for interpersonal merger (e.g., “I worry about being abandoned”). The avoidance scale (18 items) taps into discomfort with closeness, dependence, and intimate self-disclosure (e.g., “I prefer not to show how I feel deep down”). Items are rated on a 7-point scale ranging from not at all to very much. The children were asked to rate the 18 anxiety and 18 avoidance statements about their mother. Both subscales have strong internal consistency and validity (Brenning et al., in press). Cronbach’s $\alpha$s of the ECR–RC in this study were .86 and .83 for anxious and avoidant attachment, respectively.

Depressive symptoms

The Children’s Depression Inventory (CDI; Kovacs, 1985; Dutch translation by Timbremont & Braet, 2002) is an adaptation of the Beck Depression Inventory for use with children 7–17 years of age. The scale has 27 items dealing with sadness, self-blame, loss of appetite, insomnia, interpersonal relationships, and school adjustment. For each item, respondents choose one of three responses that best describes them (e.g., “I feel like crying every day”). Acceptable levels of internal consistency, test–retest reliability, and validity have been established (e.g., Saylor, Finch, Spirito, & Bennett, 1984). Cronbach’s $\alpha$ in this study was .85.

Emotion regulation

ER strategies were assessed using the Emotion Regulation Inventory developed by Roth, Assor, Niemic, Ryan, and Deci (2009), which contains scales measuring the dysregulative, suppressive, and integrative modes of ER. For this study, we only used the scales for dysregulation (six items, e.g., “It is hard for me to control my negative emotions”) and suppression (six items, e.g., “I almost always
try not to express my negative emotions”). Items are rated on a scale ranging from 1 (completely disagree) to 5 (completely agree). Research has provided evidence for the internal structure and validity of these scales (e.g., Assor, Eilot, Roth, & Deci, 2009). Cronbach’s αs were .69 for dysregulation and .72 for suppression.

Results

Descriptive statistics and preliminary analyses

Table 1 shows means, standard deviations, and correlations among the study variables. The two attachment dimensions (i.e., anxiety and avoidance) as well as the two ER strategies (i.e., dysregulation and suppression) are positively related to depressive symptoms. Furthermore, significant positive correlations are found between both insecure attachment dimensions and both ER strategies.

Primary analyses

To test the ER model of attachment, Structural Equation Modeling (SEM) with latent variables was conducted using LISREL 8.7 (Jöreskog & Sörbom, 1996). SEM with latent variables has two important advantages, namely (a) that it allows to control for error variance and (b) that it allows to determine the quality of the measurement model prior to the testing of structural models. The primary analyses followed the two-step procedure recommended by Anderson and Gerbing (1988). First, a confirmatory factor analysis (CFA) was used to test the quality of the measurement model of the study constructs. Second, different sets of structural models were tested. As suggested by Hu and Bentler (1999), we used the comparative fit index (CFI) and the root mean square error of approximation (RMSEA) as goodness-of-fit indices. Combined cutoff values of 0.95 for CFI and 0.06 for RMSEA indicate good fit. Furthermore, we used the corrected scaled chi-square difference test to compare nested models. Data screening indicated partial non-normality of a number of indicators and, therefore, we used the asymptotic covariance matrix as input and inspected the Satorra–Bentler scaled chi-square ($SBS–\chi^2$; Satorra & Bentler, 1994). Finally, we controlled for the effects of gender, age, and family structure by including them as additional variables in all the subsequent analyses.

Measurement model

To model the five latent variables in the model (attachment anxiety, attachment avoidance, dysregulation, suppression, and depressive symptoms), three parcels were created for each construct, each consisting of a set of randomly selected items. No cross-loadings were allowed. Estimation of the measurement model with 15 indicators and 5 latent variables indicated excellent fit (Table 2). All indicators had significant ($p < .001$) and moderate to strong loadings on the latent factors, ranging from .45 to .90 (mean $\lambda = .76$).

### Table 1. Means, standard deviations, and correlations among study variables (Study 1)

<table>
<thead>
<tr>
<th>Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>—</td>
<td>.46***</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Avoidance</td>
<td>2</td>
<td></td>
<td>.26***</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Dysregulation</td>
<td>3</td>
<td>.40***</td>
<td></td>
<td>.11*</td>
<td>—</td>
</tr>
<tr>
<td>Suppression</td>
<td>4</td>
<td>.15**</td>
<td>.19***</td>
<td></td>
<td>.15**</td>
</tr>
<tr>
<td>Depression</td>
<td>5</td>
<td>.45***</td>
<td>.38***</td>
<td>.30***</td>
<td></td>
</tr>
<tr>
<td>$M$</td>
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<td>3.09</td>
<td>2.84</td>
<td>3.03</td>
<td>36.92</td>
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<tr>
<td>$SD$</td>
<td>0.92</td>
<td>1.02</td>
<td>0.78</td>
<td>0.79</td>
<td>6.47</td>
</tr>
</tbody>
</table>

*p < .05. **p < .01. ***p < .001.
Table 2. Overview of the fit indices of the estimated models (Study 1)

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>df</th>
<th>SBS−χ²</th>
<th>RMSEA</th>
<th>CFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>Measurement model</td>
<td>110</td>
<td>162.79</td>
<td>0.04</td>
<td>0.98</td>
</tr>
<tr>
<td>Model 1a</td>
<td>Attachment and emotion regulation</td>
<td>74</td>
<td>106.16</td>
<td>0.04</td>
<td>0.98</td>
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<tr>
<td>Model 1b</td>
<td>Attachment and emotion regulation</td>
<td>72</td>
<td>103.91</td>
<td>0.04</td>
<td>0.98</td>
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<tr>
<td></td>
<td>(cross-paths)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 2a</td>
<td>Attachment and depressive symptoms</td>
<td>42</td>
<td>14.16</td>
<td>0.00</td>
<td>1.00</td>
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<tr>
<td>Model 2b</td>
<td>Emotion regulation as mediator</td>
<td>114</td>
<td>194.37</td>
<td>0.05</td>
<td>0.97</td>
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<tr>
<td></td>
<td>(full mediation)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Model 2c</td>
<td>Emotion regulation as mediator</td>
<td>112</td>
<td>164.71</td>
<td>0.04</td>
<td>0.98</td>
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<td></td>
<td>(partial mediation)</td>
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</table>

Note. SBS−χ² = Satorra–Bentler scaled chi-square; RMSEA = root mean square error of approximation; CFI = comparative fit index.

Structural models

A first structural model included associations between children’s anxious and avoidant attachment representations and dysregulating and suppressing ER strategies, respectively. To control for the variance shared by the two ER strategies, the error variances of both latent variables were allowed to correlate. Estimation of this model (Model 1a) showed that anxious (β = .49, p < .001) and avoidant attachment representations (β = .25, p < .01) were significantly related to dysregulation and suppression, respectively. Next, cross-paths were allowed to test whether addition of the association between anxious attachment and suppression and between avoidant attachment and dysregulation would improve the fit (Model 1b). The cross-paths from anxious attachment to suppression (β = .19, p > .05) and from avoidant attachment to dysregulation (β = −0.04, p > .05) were nonsignificant and the fit of the model did not improve significantly by adding them, Δ SBS−χ²(2) = 2.23, p > .05. These findings suggest that the theoretically expected and specific associations of anxiety and avoidance with dysregulation and suppression, respectively, predominate over the nonspecific and theoretically unanticipated pathways (i.e., from anxiety to suppression and from avoidance to dysregulation), at least when the variance shared among the attachment dimensions and among the ER strategies were controlled for.

In line with Holmbeck’s (1997) recommendations to test for mediation, a second structural model included associations between attachment anxiety and avoidance and depressive symptoms. Estimation of this model (Model 2a) showed that both anxious attachment (β = .42, p < .001) and avoidant attachment (β = .26, p < .01) were significantly related to depressive symptoms. Next, a full mediation model was tested in which attachment anxiety and attachment avoidance were only indirectly related to children’s depressive symptoms through dysregulation and suppression, respectively (i.e., a full mediation model; Model 2b). Estimation of the full mediation model yielded acceptable fit, and each coefficient was significant (ps < .01). However, adding direct paths from attachment anxiety and avoidance to children’s depressive symptoms (i.e., partial mediation model; Model 2c) improved model fit. The initial path from attachment anxiety (β = .42, p < .001) and attachment avoidance (β = .26, p < .01) to depressive symptoms remained significant after entering ER as a mediator for anxious (β = .31, p < .01) and avoidant attachment (β = .22, p < .05). In contrast, the paths from dysregulation (β = .16, p > .05) and suppression (β = .13, p > .05) to depressive symptoms were no longer significant, suggesting that the
Figure 2. Structural model of the link between emotion regulation model of attachment and depressive symptoms in children and early adolescents (Model 3c).

Note. Coefficients shown are standardized path coefficients.

* p < .05. ** p < .01. *** p < .001.

ER strategies did not mediate the associations between the attachment representations and depressive symptoms. The results of the final model are depicted in Figure 2.1

To test possible interactive effects of attachment anxiety and avoidance, we added interaction components to the models (following the procedures of Schumacker & Lomax, 2004). No significant interaction effects were found in the prediction of any of the study variables. Finally, we examined whether the final model is similar for boys and girls. A multigroup analysis was conducted comparing a constrained model (in which the modeled pathways were set to be invariant across boys and girls) with an unconstrained model (in which these parameters were freely estimated across gender). No significant differences were found between the model for boys and the model for girls, \( \Delta SBS - \chi^2(6) = 4.40, p > .05 \).

Discussion

Study 1 aimed to investigate the role of ER strategies (dysregulation and suppression) as mediators in the relationship between insecure attachment representations to mother and
depressive symptoms in children. In line with the ER model of attachment (Cassidy, 1994; Shaver & Mikulincer, 2002), results showed that anxious attachment was uniquely related to dysregulation, whereas avoidant attachment was uniquely related to suppression, at least after controlling for the variance shared between the two attachment dimensions. Furthermore, as expected, both anxious and avoidant maternal attachment representations were positively associated with depressive symptoms in children. However, findings did not support the mediation model because the associations between the ER strategies and depressive symptoms were not significant after taking into account direct associations between the attachment representations and depressive symptoms.

Study 2

One possible explanation for the lack of mediation by ER in Study 1 is that we measured ER strategies about negative emotions in general rather than about sad and depression-relevant emotions in particular. It has been noted in the ER literature that the effects of ER strategies may differ depending on the type of negative emotions involved (Feng et al., 2009). Accordingly, it has been argued that it is important to identify specific and discrete emotions in order to increase theoretical precision and explanatory power (Cicchetti et al., 1995). In line with this recommendation, in Study 2, we focused on the regulation of sadness because ER of sad emotions is expected to be a more proximal factor for depressive symptoms. Similar to Study 1, we examined the mediating role of ER strategies in the associations between attachment representations and depressive symptoms. However, in Study 2, we examined children’s representations of attachment to both parents, rather than to mother alone. Furthermore, Study 2 examined the associations between children’s perceived parenting and the ER model of attachment. Finally, the sample in Study 2 covered a broader age range compared to Study 1, which provided us with the opportunity to investigate possible moderating effects of age.

Method

Participants and procedure

The participants of Study 2 were 746 children (292 boys, 438 girls, 16 missings), aged 8 to 14 years ($M = 12$ years, $SD = 1.23$) from three elementary and three secondary schools in Flanders (Belgium). Concerning family status, 569 participants (76.3%) were from intact families whereas the remaining participants were from divorced families or families where one of the parents had deceased. As in Study 1, a letter with information about the study was sent to the parents before the assessment. Passive informed consent was obtained from the parents and active informed consent was obtained from children. The participation rate was 67%.

Measures

Attachment representations, depressive symptoms, and ER strategies

As in Study 1, participants filled out the ECR–RC to assess the attachment dimensions. The children in Study 1 rated the statements about their mother, whereas the children participating in Study 2 rated the items for both mothers and fathers. Cronbach’s $\alpha$ for attachment anxiety and avoidance were .87 and .92 for mother ratings and were .88 and .92 for father ratings. The correlations between attachment scores for mothers and fathers were .62 ($p < .001$) and .56 ($p < .001$) for attachment anxiety and avoidance, respectively. To obtain an aggregated child attachment score for parental attachment ratings, we averaged the maternal and paternal scores. Depressive symptoms were again assessed using the CDI (see Study 1 for a description). Cronbach’s $\alpha$ was .88. Participants also completed the Emotion Regulation Inventory that we used in Study 1. Contrary to Study 1, however, the items were adjusted so as to specifically refer to sad emotions instead of to general negative emotions. For instance, the item “It’s hard for me to control my negative emotions” was changed to “It is hard for me to control my sadness.” Cronbach’s $\alpha$ were .70 for dysregulation and .75 for suppression.
Parental responsiveness and autonomy support

To assess responsiveness, participants were administered a seven-item version of the Acceptance/Rejection subscale from the revised Child Report on Parenting Behavior Inventory (CRPBI; Schaefer, 1965). Example items are “My mother is able to make me feel better when I am upset” and “My mother smiles at me very often.” The acceptance/rejection scale from the CRPBI has been used as a valid and reliable measure of responsiveness in past research (Barber et al., 2005). In this study, Cronbach’s $\alpha$ was .87 for maternal ratings and .89 for paternal ratings. The correlation between responsiveness scores for mothers and fathers was .41 ($p < .001$). To obtain an aggregated child perceived responsiveness score, maternal and paternal responsiveness ratings were averaged.

To assess autonomy-support in an encompassing fashion, we administered both a scale tapping into autonomy-support as well as a scale tapping into autonomy-inhibiting (i.e., controlling) parenting. It has indeed been argued and empirically confirmed that, although autonomy-supportive and controlling parenting are not perfectly opposite, both dimensions can be situated on a single underlying continuum and represent theoretically opposing parenting orientations (e.g., Soenens, Vansteenkiste, & Sierens, 2009). Autonomy-support was assessed with seven items from the Autonomy-Support scale of the Perceptions of Parents Scale (POPS; Grolnick, Ryan, & Deci, 1991). A sample item reads: “My mother, whenever possible, allows me to choose what to do.” Controlling parenting was assessed with the 8-item Psychological Control Scale—Youth Self Report (PCS-YSR; Barber, 1996). A sample item of the PCS-YSR reads: “My mother is always trying to change how I feel or think about things.” The psychometric quality and validity of both scales is well established (Barber et al., 2005; Grolnick et al., 1991). Participants rated the items for both parenting scales on a scale ranging from 1 (strongly disagree) to 5 (strongly agree) and rated the items separately for their mother and father. As in previous studies (e.g., Soenens & Vansteenkiste, 2005), a single composite score for autonomy-support versus control was computed by reverse scoring the psychological control items and by averaging the scores of the autonomy-support and (reverse scored) psychological control items. This approach was justified by the finding that both dimensions were strongly negatively correlated (i.e., $r = -0.56$ and $r = -0.53$ for maternal and paternal ratings, respectively). Cronbach’s $\alpha$ of this scale were .85 for maternal ratings and .84 for paternal ratings. The correlation between autonomy-support scores for mothers and fathers was .58 ($p < .001$). To obtain an aggregated child perceived autonomy-support score, maternal and paternal parenting ratings were averaged.

Results

Descriptive statistics and preliminary analyses

Table 3 shows means, standard deviations, and correlations among the study variables. The results show that the two attachment dimensions and the two ER strategies were positively related to depressive symptoms. Significant positive correlations were also found between the two attachment dimensions and both ER strategies. With regard to perceived parenting, responsiveness and autonomy-support were negatively related to anxious and avoidant attachment, and to depressive symptoms. Finally, responsiveness showed a unique negative association with emotional dysregulation, whereas autonomy-support showed systematic negative associations with both ER strategies.

Primary analyses

Measurement model. A CFA including the seven study variables (responsiveness, autonomy-support, attachment anxiety, attachment avoidance, dysregulation, suppression, and depressive symptoms), each represented by three randomly created parcels, yielded acceptable fit (Table 4). All indicators had significant ($p < .001$) and moderate to strong
Table 3. Means, standard deviations, and correlations among study variables (Study 2)

<table>
<thead>
<tr>
<th>Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Responsiveness</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Autonomy-support</td>
<td>.63**</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Anxiety</td>
<td>—.50**</td>
<td>—.66**</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Avoidance</td>
<td>—.78**</td>
<td>—.66**</td>
<td>.61**</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Dysregulation</td>
<td>—.10*</td>
<td>—.36**</td>
<td>.35**</td>
<td>.23**</td>
<td>—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Suppression</td>
<td>—.06</td>
<td>—.23**</td>
<td>.19**</td>
<td>.19**</td>
<td>.24**</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>7. Depression</td>
<td>—.44**</td>
<td>—.54**</td>
<td>.53**</td>
<td>.54**</td>
<td>.41**</td>
<td>.29**</td>
<td>—</td>
</tr>
</tbody>
</table>

| M                        | 4.09 | 3.97 | 2.02 | 2.64 | 2.71 | 3.07 | 36.53 |
| SD                       | 0.68 | 0.56 | 0.78 | 1.01 | 0.81 | 0.85 | 6.78  |

* \( p < .05 \). ** \( p < .01 \).

Estimation of this first model (Model 1a) showed that both anxious (\( \beta = .46, p < .001 \)) and avoidant attachment representations (\( \beta = .22, p < .001 \)) were significantly related to dysregulation and suppression, respectively. Next, cross-paths were allowed to test whether addition of the association between anxious attachment and suppression and between avoidant attachment and dysregulation would improve model fit (Model 1b). The cross-path from anxious attachment to suppression was

Structural models. Analogous to Study 1, a first structural model included associations between children’s anxious and avoidant attachment representations and dysregulating and suppressing ER strategies, respectively. Again, we controlled for the effects of gender, age, and family structure by adding them as additional predictors in all analyses.

Table 4. Overview of the fit indices of the estimated models (Study 2)

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>df</th>
<th>SBS–( \chi^2 )</th>
<th>RMSEA</th>
<th>CFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1a</td>
<td>Attachment and emotion regulation</td>
<td>75</td>
<td>187.46</td>
<td>0.05</td>
<td>0.98</td>
</tr>
<tr>
<td>Model 1b</td>
<td>Attachment and emotion regulation (cross-paths)</td>
<td>73</td>
<td>184.38</td>
<td>0.05</td>
<td>0.98</td>
</tr>
<tr>
<td>Model 2a</td>
<td>Attachment and depressive symptoms</td>
<td>43</td>
<td>147.51</td>
<td>0.06</td>
<td>0.99</td>
</tr>
<tr>
<td>Model 2b</td>
<td>Emotion regulation as mediator (full mediation)</td>
<td>115</td>
<td>315.61</td>
<td>0.06</td>
<td>0.98</td>
</tr>
<tr>
<td>Model 2c</td>
<td>Emotion regulation as mediator (partial mediation)</td>
<td>113</td>
<td>246.44</td>
<td>0.05</td>
<td>0.99</td>
</tr>
<tr>
<td>Model 3a</td>
<td>Parenting and depressive symptoms</td>
<td>43</td>
<td>126.07</td>
<td>0.06</td>
<td>0.99</td>
</tr>
<tr>
<td>Model 3b</td>
<td>Attachment and emotion regulation as mediators (full mediation)</td>
<td>221</td>
<td>474.40</td>
<td>0.05</td>
<td>0.99</td>
</tr>
<tr>
<td>Model 3c</td>
<td>Attachment and emotion regulation as mediators (partial mediation)</td>
<td>217</td>
<td>403.73</td>
<td>0.04</td>
<td>0.99</td>
</tr>
</tbody>
</table>

Note. SBS–\( \chi^2 \) = Satorra–Bentler scaled chi-square; RMSEA = root mean square error of approximation; CFI = comparative fit index.
significant (β = .15, p < .05), whereas the cross-path from avoidant attachment to dysregulation was nonsignificant (β = −.09, p > .05). Adding these cross-paths did not significantly improve model fit, ΔSBS−χ²(2) = 2.97, p > .05, thus providing general support for the hypothesized specificity of associations between the attachment dimensions and the ER strategies. Accordingly, these cross-paths were not allowed in subsequent models.

A second series of structural models was tested to examine the mediational role of ER strategies in associations between attachment anxiety and avoidance and depressive symptoms. Estimation of an initial effects model (Model 2a) showed that both anxious (β = .37, p < .001) and avoidant attachment (β = .39, p < .001) were significantly related to depressive symptoms. Next, a mediation model was tested in which attachment anxiety and attachment avoidance were only indirectly related to children’s depressive symptoms through dysregulation and suppression, respectively (i.e., a full mediation model; Model 2b). Estimation of the full mediation model yielded acceptable fit and all coefficients were significant (ps < .001). Adding a path from attachment anxiety and avoidance to children’s depressive symptoms (i.e., partial mediation model; Model 2c) improved the model fit, ΔSBS−χ²(2) = 39.51, p < .001. The initial path from attachment anxiety (β = .37, p < .001) and attachment avoidance (β = .39, p < .001) to depressive symptoms was reduced yet remained significant after entering ER strategies as mediators (β = .22, p < .001 for attachment anxiety; β = .34, p < .001 for attachment avoidance). Dysregulation (β = .24, p < .001) and suppression (β = .22, p < .001) were both significantly related to depressive symptoms. These findings are consistent with a pattern of partial mediation, where the attachment dimensions are related to depressive symptoms both directly and indirectly (through ER strategies).

In a third set of structural models, we tested whether perceived parenting is related to the variables involved in the ER model of attachment and to subsequent depressive symptoms. First, we tested a model in which perceived responsiveness and autonomy-support were related to children’s depressive symptoms. Estimation of this model (Model 3a) showed that both responsiveness (β = −.12, p < .05) and autonomy-support (β = −.62, p < .001) were related to depressive symptoms in children. Next, we examined the mediational role of the attachment dimensions and their associated ER strategies in the association between the perceived parenting dimensions and depressive symptoms. Estimation of a full mediation model (Model 3b) showed that responsiveness and autonomy-support negatively predicted both anxious and avoidant attachment representations.

The addition of direct paths from perceived parenting to depressive symptoms (i.e., a partial mediation model; Model 3c), showed that the former significant relationship between responsiveness and depressive symptoms dropped below significance (β = −.11, p > .05) after taking into account attachment dimensions and ER strategies as mediators. The former significant relationship between autonomy-support and depressive symptoms was reduced yet remained significant (β = −.18, p < .05). Also, contrary to the models estimated without perceived parenting, anxious attachment (β = .11, p > .05) and avoidant attachment (β = .14, p > .05) are no longer directly associated with depressive symptoms, after incorporating the parenting dimensions and ER processes in the model. Together, the findings suggest that direct associations between perceived parenting and depressive symptoms are partially to fully mediated by the attachment dimensions and their associated ER strategies. The results of this final model are depicted in Figure 3.2 To test possible interactive effects of attachment anxiety and avoidance, we added interaction components to the models.

2. All main analyses were repeated using mother and father scores separately. Overall, results were strikingly similar for maternal and paternal ratings. Moreover, a multigroup analysis examining whether parents’ gender moderated the final structural model (including parenting, attachment, ER, and depressive symptoms) showed no significant differences between the model for mother–child and father–child relationships, ΔSBS−χ²(8) = 3.03, p > .05. Detailed findings of these analyses can be obtained from the authors upon request.
No significant interaction effects were found in the prediction of any of the study variables.

Finally, two multigroup analyses were conducted to examine whether children’s gender and age moderated the final structural model (Figure 3). The first multigroup analysis showed no significant differences between the model for boys and the model for girls, $\Delta SBS - \chi^2(9) = 3.54, p > 0.05$. The second multigroup analysis compared the model for younger (8–12 years) and older children (12–14 years). Because the median age was 12 years, we used a cutoff of 12 years to split the sample into two groups. In addition, these groups correspond roughly with the distinction between pre- and early adolescence. The multigroup analysis showed no significant differences between the model for younger children and the model for older adolescents, $\Delta SBS - \chi^2(9) = 9.45, p > .05$.

**Discussion**

First, as expected and consistent with the results of Study 1, both anxious and avoidant attachment representations were associated positively with depressive symptoms in children. This association was found to be differentially mediated by two maladaptive ER strategies (i.e., dysregulation and suppression). In line with the ER model of attachment (Cassidy, 1994; Shaver & Mikulincer, 2002), dysregulation was found to specifically
mediate the relationship between anxious attachment representations and depressive symptoms, whereas suppression was found to specifically mediate the association between avoidant attachment representations and depressive symptoms, at least when controlling for the variance shared between anxiety and avoidance. Second, the testing of models in which perceived parenting was included showed that low responsiveness and low autonomy-support were related to both anxious and avoidant attachment. However, it should be noted that the relationship between low responsiveness and attachment avoidance was remarkably stronger than the association between low responsiveness and attachment anxiety. The direct relationships between both parenting dimensions and depressive symptoms were partially to fully mediated by the attachment dimensions and their related ER strategies.

General Discussion

Although numerous studies examined the mediating role of ER in the association between attachment and depressive symptoms, to the best of our knowledge, only one study to date has examined whether the distinct ER strategies differentially mediate associations between insecure attachment dimensions and distress (Wei et al., 2005). This study was the first to examine this model of differential mediation in middle childhood and early adolescence, a life period characterized by important and substantial changes in both the attachment system and ER development. In addition, we examined associations with two perceived parenting dimensions (responsiveness and autonomy-support) that are theorized to play a key role in attachment processes. Several interesting findings emerged.

First, we examined the association between insecure attachment representations (anxiety and avoidance) and ER strategies (dysregulation and suppression). According to the ER model of attachment (Cassidy, 1994; Mikulincer & Shaver, 2007), anxiously attached individuals often use hypervigilant screening of the environment to detect possible threats and to assure availability of the attachment figure. As a consequence of this hypervigilance, anxiously attached individuals would likely be overwhelmed by their emotions and feel unable to effectively regulate their emotions (i.e., dysregulation). Avoidantly attached individuals would be relatively more likely to deactivate and suppress their emotions to avoid reactions of anger and rejection by the attachment figure. This hypothesis was supported in both Study 1 and Study 2, as anxious attachment was associated primarily with dysregulation and as avoidant attachment was associated primarily with suppression, at least when controlling for the variance shared between anxiety and avoidance. Although attachment anxiety and avoidance showed relatively unique associations with the ER strategies after controlling for their shared variance, anxious and avoidant attachment were related to both ER strategies at the level of the raw correlations. One possible explanation for the association between anxious attachment and suppression may be that anxiously attached individuals use suppression when their attachment figure appears to be absent after hypervigilant screening of the environment. One reason for the association between avoidant attachment and dysregulation may be that their suppressive strategies may fail when one is confronted with very strong emotions (Mikulincer & Shaver, 2007).

Furthermore, this study examined whether ER strategies would mediate between attachment and depressive symptoms. Study 1 included an assessment of strategies to regulate overall negative emotions. ER strategies to regulate general negative emotions did not mediate associations between attachment representations and depressive symptoms because ER strategies were no longer related to depressive symptoms after taking into account direct relations between the attachment dimensions and depressive symptoms. In Study 2, ER strategies measured with specific reference to the regulation of sad emotions did mediate the direct relations between the attachment dimensions and depressive symptoms. These findings are in line with the idea that processes of ER may
differ depending on the type of emotion involved (Feng et al., 2009) and suggest, specifically, that ER in the domain of sad emotions is a more proximal predictor of depressive symptoms than ER of general negative emotions. Moreover, in Study 2, the ER model of attachment did receive support, as both the associations of attachment anxiety and attachment avoidance with depressive symptoms were partially mediated by dysregulation and suppression of sad emotions, respectively. Note that we did not necessarily expect full mediation of the links between attachment dimensions and depressive symptoms. Feelings of worry about the availability of important others and their own value to others (anxious attachment) or feelings of discomfort with closeness or dependence on others (avoidant attachment) may in themselves lead to a sense of (actual or potential) abandonment or loneliness and accompanying depressive feelings. In addition, other mediators are likely to additionally account for the association between the attachment dimensions and children’s depressive symptoms.

Next, this study aimed to contribute to the limited literature on parenting and attachment in middle childhood and early adolescence by examining the associations between two theoretically relevant parenting dimensions (responsiveness and autonomy-support) and the variables involved in the ER model of attachment. Research in the attachment tradition has tended to focus rather exclusively on parental sensitivity as a precursor to quality of attachment. Recently, it has been argued that whereas sensitivity (which is analogous to responsiveness) primarily plays a role in the safe haven function of attachment (providing comfort and relieving distress), autonomy-support primarily plays a role in the secure base function of attachment (encouraging exploration by the provision of opportunities for initiative and choice; Whipple et al., 2009). Few studies, however, have considered both parenting dimensions simultaneously in relation to child attachment. The findings of this study attest to the importance of considering both sensitivity (responsiveness) and autonomy-support.

On the basis of theory and previous research findings (e.g., Karavasilis et al., 2003), we expected that low perceived parental responsiveness would primarily relate to avoidant attachment, whereas perceived parental inhibition of autonomy would relate to both anxious and avoidant attachment representations. This differential pattern of associations was largely confirmed in Study 2. Parents of avoidantly attached children are perceived as very low on responsiveness, whereas parents of anxiously attached children are comparatively less likely to be perceived as cold or unresponsive. We speculate that parents of anxiously attached children may sometimes be supportive (i.e., as long as children remain in close proximity) but may sometimes also be cold and rejecting (i.e., when children display signs of separation or independence). As a consequence of this inconsistent display of love, children might become anxious about losing their parents’ affection. Future research should include a direct assessment of inconsistency of parental love to actually test this hypothesis.

In addition, our findings are in line with the notion that autonomy-inhibiting and intrusive perceived parenting may contribute to both anxious and avoidant attachment representations. Future research may attempt to unravel the differential dynamics involved in the relationship between autonomy-suppressing (controlling) parenting and the two types of insecure attachment representations. On the basis of recent research on parental psychological control (Soenens, Vansteenkiste, & Luyten, 2010), we speculate that anxious attachment would be particularly likely to develop when parents pressure their children to remain within close physical and emotional proximity. In contrast, avoidant attachment may be particularly likely to develop when parents pressure their children to display independent behavior and to strive for individual achievement.

Apart from demonstrating that perceived parenting dimensions are significantly but differentially related to attachment representations, this study demonstrates the expected direct link between parenting (responsiveness and autonomy-support) and depressive
Attachment and depressive symptoms (e.g., Barber et al., 2005). Furthermore, the attachment dimensions and their associated ER strategies were found to, at least partially, mediate the relationship between perceived parenting dimensions and depressive symptoms. This is an important finding because much research on parenting and children’s psychosocial development is main-effects research that fails to examine intervening processes in the relationship between parenting and psychological problems. The current findings suggest that one reason why nonresponsive and autonomy-inhibiting parenting creates a vulnerability to depressive symptoms is that such parenting sets the stage for dynamics of insecure attachment and subsequent unhealthy ER processes. The final model of associations between parenting, attachment, ER, and depressive symptoms was not moderated by gender or child age. Given that the model was essentially similar for boys and girls and for younger and older children, it seems as if we tapped into relatively fundamental processes that may generalize across gender and age.

Limitations and implications for future research

Although the current research yielded some unique findings, some limitations must be mentioned. First, because all the variables included in this study deal with children’s internal representations of others and of their own feelings and because children are thought to be the most accurate reporters of such internal experiences all measures were child self-reports. However, common method variance may have led to an overestimation of associations in the model. Also, it remains unclear whether the strategies and regulatory processes endorsed by children and early adolescents on self-report measures adequately reflect their actual behaviors and feelings. For example, self-report measures may be affected by self-presentational bias. For these reasons, future research may complement child self-reports with alternative sources of information such as observational measures of parenting and parent reports of parenting and depressive symptoms.

Furthermore, the current research did not investigate disorganized attachment, which may be the insecure attachment pattern most consistently linked to childhood psychopathology (e.g., Green & Goldwyn, 2002). Children with disorganized attachments lack a coherent attachment strategy and instead show contradictory, bizarre, and incoherent attachment behaviors, or, at older ages, exhibit role reversal with caregivers (Lyons-Ruth & Jacobvitz, 2008). Despite the relative lack of validated assessments of disorganization for middle childhood and early teen years, future research may investigate (a) the relative contribution of attachment anxiety and avoidance and disorganized attachment to the prediction of adolescent psychopathology and (b) the potential mediating role of specific ER strategies in associations between attachment disorganization and depressive symptoms.

Another limitation is the cross-sectional design of the study. As such, our findings do not provide a sufficient base for inferring direction of effects, let alone for causality. The possibility exists, for instance, that parents respond in a less autonomy-supportive fashion to children with insecure attachment representations and to children with depressive symptoms. Cross-lagged longitudinal research is needed to determine the direction of effects in relations between parenting, attachment, ER, and children’s depressive symptoms. Also, because mediation is by its very nature a dynamic phenomenon, longitudinal research is also important to more accurately test the mediational sequence involved in the ER model of attachment.

In addition to longitudinal research, we would like to note a couple of other directions for future research. A first direction is to clarify the meaning and nature of dysregulation and hyperactivation. Both Cassidy (1994) and Mikulincer and Shaver (2007) seem to present hyperactivation as a rather active and motivated strategy to call for attention and care. However, hyperactivation or dysregulation could also be understood as a relatively more passive and uncontrollable reaction to stress. According to Block (2002), under-control (an ER style similar to dysregulation) is a product of poor self-regulatory capacities originating
in a chaotic or inconsistent parenting environment. The measure used in this study does not clearly differentiate between these two conceptualizations of hyperactivation or dysregulation. Future research could attempt to disentangle both types of hyperactivation and their association with attachment anxiety.

A second direction for further research is to consider the role of other ER strategies in addition to dysregulation and suppression. An interesting framework in this regard is Gross and Thompson’s (2007) model of ER. One strategy, for example, that has received particular attention is the adaptive ER strategy of “reappraisal.” Gross and Thompson argue that caregiving is pivotal in the development of this adaptive ER strategy. In line with this, secure attachment representations may be related to more adaptive ER strategies such as reappraisal which, in turn, may be associated with positive adjustment. Other possible candidates for mediation besides ER that have been suggested in the literature are dimensions of depressogenic personality (e.g., dependency and self-criticism; Luyten et al., 2007) and processes of maladaptive perfectionism (e.g., Wei, Heppner, Russell, & Young, 2006). Future research may also address the possibility that different ER strategies relate to different manifestations of depressive symptomatology. For instance, hyperactivation may be primarily related to irritable mood, whereas suppression may be primarily related to sadness.

Finally, it should be noted that we used nonclinical samples of Caucasian participants, the majority of whom live in intact families. This sets limitations on the generalizability of the findings. Future research relying on more heterogeneous samples (in terms of ethnicity, socioeconomic status, and family structure) is needed to further test the validity of the model.

Conclusion

The current cross-sectional studies yielded some support for the ER model of attachment and for its association with perceived parenting in middle childhood and early adolescence. Both avoidant and anxious attachment representations were associated with perceptions of parents as low in responsiveness and autonomy-support. Next, anxious and avoidant attachment showed relatively specific associations with dysregulation and suppression of emotions, respectively. These maladaptive ER strategies were, in turn, found to account at least partially for associations between parental attachment representations and depressive symptoms.

References


