


QUARTET

Maternal socialization of children's positive affect regulation: Associations with children's savoring, dampening, and depressive symptoms

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Abstract

Maternal socialization of positive affect (PA) is linked to children's regulation of positive and negative emotions and the development of psychopathology. However, few studies have examined multiple types of emotion socialization as related to children's PA regulation and depressive symptoms. The current study examined how mothers' socialization of children's PA regulation was related to children's PA regulation, and if children's PA regulation mediated the association between maternal socialization and children's depressive symptoms. Ninety-six mother-child dyads (children aged 7–12) completed questionnaires and a five-minute discussion about a positive event the child previously experienced; 76 dyads completed surveys again five months later. Partial correlations, controlling for child age and gender, indicated associations between maternal PA socialization and child PA regulation. Moderated mediation models suggested that maternal modeling of savoring predicted Time 2 child depressive symptoms via children's own savoring, which was moderated by Time 1 depressive symptoms. The moderated path indicated that only for children who reported higher depressive symptoms at Time 1, higher levels of savoring predicted lower depressive symptoms at Time 2. These results underscore the

importance of examining multiple types of PA socialization and child PA regulation to predict children's depressive symptoms longitudinally.

KEYWORDS

affect, depression, emotion regulation, mother-child relations, socialization

1 | INTRODUCTION

Emotion socialization is the process by which individuals learn about the regulation, expression, and meaning of emotions (Eisenberg, Cumberland, & Spinrad, 1998). Theoretical models emphasize the role of emotion socialization in the development of children's emotional skills and overall adjustment (Denham, Mitchell-Copeland, Strandberg, Auerbach, & Blair, 1997; Eisenberg et al., 1998; Morris, Silk, Steinberg, & Robinson, 2007). The majority of research has focused on the socialization of negative affect (NA); however, increased consideration of positive affect (PA) socialization has emerged as it has been linked to children's development of depression and well-being (Dougherty, Klein, Durbin, Hayden, & Olino, 2010; Sheeber et al., 2009). The processes that encompass NA socialization also comprise PA socialization, namely: modeling (parents' own emotional expressions), coaching (discussing emotions and emotional experiences), contingent responses (reinforcement or discouragement of emotional expressions), and niche selection (choosing environments that elicit specific emotions; Denham et al., 1997; Eisenberg et al., 1998; Morris et al., 2007). Although each of these socialization methods may be integral to the socialization of PA, previous research has mainly focused on a single method, rather than multiple methods within in a single study, as it relates to children's development. Thus, in the present study, we examined multiple PA socialization methods (modeling PA regulation, coaching children's PA regulation, and contingent responses to children's PA) as they relate to children's PA regulation and depressive symptoms during late childhood.

Our investigation focused on late childhood given both children's autonomy and parent-child co-regulation increase as children near adolescence (Collins, Madsen, & Susman-Stillman, 2002). Additionally, children are better equipped to use cognitive emotion regulation strategies by middle childhood (e.g., positive reflection; Altshuler & Ruble, 1989). Moreover, we focused on links between PA and depressive symptoms because low PA is common among depressed youth (Sheeber et al., 2009), and is a risk factor for elevated depressive symptoms in children (Dougherty et al., 2010). Because depressive symptoms rise substantially during adolescence (e.g., Hankin et al., 2015) investigating socio-emotional risks during late childhood is critical for preventative efforts.

1.1 | Parental socialization of children's PA regulation

Individuals regulate PA in a variety of ways, including engaging in strategies that up-regulate (i.e., savoring; Bryant, 2003) and down-regulate PA (i.e., dampening; Feldman, Joormann, & Johnson, 2008). Savoring has been associated with adaptive outcomes, while dampening has been associated with unfavorable outcomes, including depression (Bijttebier, Raes, Vasey, & Feldman, 2012; Gentzler, Morey, Palmer, & Yi, 2012). Thus, a better understanding of how youth's PA regulation develops is important. Researchers have posited that parents socialize children's PA regulation in various ways, including encouraging children's in-the-moment savoring and engaging in conversations about upcoming or previous experiences that promote anticipatory or reminiscent savoring (Bryant & Veroff, 2007; Bryant, Chadwick, & Kluwe, 2011). These processes were the focus of the current study because previous work has not integrated savoring and dampening into a comprehensive socialization model including modeling PA, coaching PA regulation, and contingent responses to children's PA (Denham et al., 1997; Morris et al., 2007).

Modeling has long been recognized as a mechanism of socialization (Denham et al., 1997). In support of this notion, family expressiveness of PA has been linked to children's PA expression (Halberstadt & Eaton, 2002). However, few studies have focused on parents' modeling of PA regulation (see Fredrick, Mancini, & Luebbe, 2018 for an exception). Better understanding associations between parents' PA regulation (i.e., their own savoring and dampening) and children's PA regulation could have important implications for areas to target with intervention.

Socialization of PA also occurs via coaching, which includes discussions of and teaching about emotions (e.g., Gottman, Katz, & Hooven, 1996). Studies on parental coaching of children's PA suggest that less encouragement of dampening is associated with secure attachment in children (Gentzler, Ramsey, & Black, 2015). Although there is little existing work explicitly examining the relations between parental coaching of PA and child PA regulation, there is literature linking emotion coaching to adaptive physiological regulation (e.g., Gottman et al., 1996); thus, it is likely that focusing on PA coaching will help explain how and why children develop different savoring and dampening responses.

Parents also socialize PA via contingent responses to children's PA. Parents can engage in supportive responses, such as validating and reinforcing children's PA (Ladouceur, Reid, & Jacques, 2002) or unsupportive responses such as invalidating or punishing PA expressions (Katz et al., 2014). Unsupportive responses are related to youth's depressive symptoms and ineffective emotion regulation (Yap, Allen, & Ladouceur, 2008). Parents' supportive contingent responses to children's NA are important for children's developing attachment (Bowlby, 1973), and research suggests parents' contingent responses to children's PA may similarly relate to parents' and children's attachment (e.g., mothers' anxious attachment was indirectly related to less child attachment security through mothers' unsupportive responses to children's PA; Gentzler et al., 2015). Overall, research suggests that contingent responses to children's PA are associated with a variety of child outcomes. Our study can investigate how additional methods of PA socialization (modeling and coaching) relate to children's own PA regulation and depressive symptoms.

1.2 | Parental socialization, children's PA regulation, and depression

Because low levels of PA are linked to depression (Sheeber et al., 2009) and children's PA regulation (more dampening and less savoring) is related to depressive symptoms (Bijttebier et al., 2012), it is critical to understand how parents socialize children's PA. Limited research has linked parents' discouragement or dampening of their children's PA, to depressive and internalizing symptoms (Katz et al., 2014; Yi, Gentzler, Ramsey, & Root, 2016). Conversely, parental socialization strategies that encourage savoring (e.g., matching PA, reflecting on happiness) have been associated with more positive social outcomes in young children (e.g., Denham et al., 1997).

Conceptual models of parental socialization of children's emotion regulation include mediated pathways from parents' socialization practices to children's emotion regulation, which then predicts children's outcomes (Eisenberg et al., 1998; Morris et al., 2007). These paths have been tested with NA (e.g., Crespo, Trentacosta, Aikins, & Wargo-Aikins, 2017), but are also applicable to PA. Although Yap and colleagues (2008) reported that mothers' dampening of adolescent females' PA predicted more depressive symptoms, their mediator was adolescents' NA regulation. Isley, O'Neil, Clatfelter, and Parke (1999) examined how children's expressed PA mediated the association between parents' expressed PA and children's social competence. However, no published studies (except for Fredrick et al., 2018; Nelis, Bastin, Raes, & Bijttebier, 2018; Raval, Luebbe, & Sathiyaseelan, 2018) have examined if PA regulation mediates the association between parent PA socialization and child depressive symptoms.

1.3 | The current study

The current study had two primary aims: (1) examine associations between mothers' PA socialization and children's PA regulation and depressive symptoms; and (2) test if children's PA regulation mediates the links between mothers' PA socialization and children's depressive symptoms. Little research has examined all multiple socialization methods within a single study, and the exceptions (e.g., Denham et al., 1997) have focused on NA. We included self- and informant-report surveys as well as a parent-child discussion task to assess mothers' modeling, coaching, and contingent responding, and children's PA regulation.

First, we examined concurrent associations between mothers' PA socialization, children's PA regulation, and children's depressive symptoms. Generally, we expected that mothers who up-regulated their own or their children's PA (via savoring, supportive responses, or encouraging savoring) would have children who report greater savoring and lower depressive symptoms. In contrast, mothers who report more down-regulating (via dampening, unsupportive responses, or encouraging dampening) would have children who report more dampening and higher depressive symptoms. However, given these are concurrent associations and children's behaviors and traits can influence parents' responses (Bell, 1968), it is possible that mothers who have children with elevated depressive symptoms or who dampen may also socialize greater savoring in an attempt to bolster their children's emotional health.

Second, we examined children's PA regulation as a mediator of the link between maternal PA socialization and children's depressive symptoms. We have maternal PA socialization and children's PA regulation and depressive symptoms at Time 1, and a follow-up assessment of children's depressive symptoms five months later (Time 2). We conducted moderated mediation models with children's PA regulation as the mediator and children's Time 1 depressive symptoms as a moderator because the mediation may vary depending on children's initial symptom level (see Figure 1). It is important to consider baseline symptom level as a moderator because positive factors (e.g., positive psychology interventions) are more impactful for individuals with higher initial symptoms (Sin & Lyubomirsky, 2009). For example, children's savoring may predict lower Time 2 depression for children with higher Time 1 depressive symptoms, but if children are already low at Time 1, high savoring may not predict further reductions in symptoms.

2 | METHOD

2.1 | Participants

Participants were 96 children aged 7–12 years ($M = 9.27$, $SD = 1.38$; 52% male) and their mothers. Mothers ranged in age from 28 to 63 years old ($M = 38.67$, $SD = 6.53$), self-identified as predominantly White (91%), highly educated (74% completed a four-year college degree or higher), and reported moderate income (73% reported annual household income of \$50,000/year or greater). Four dyads were excluded at Time 1 because children did not pay

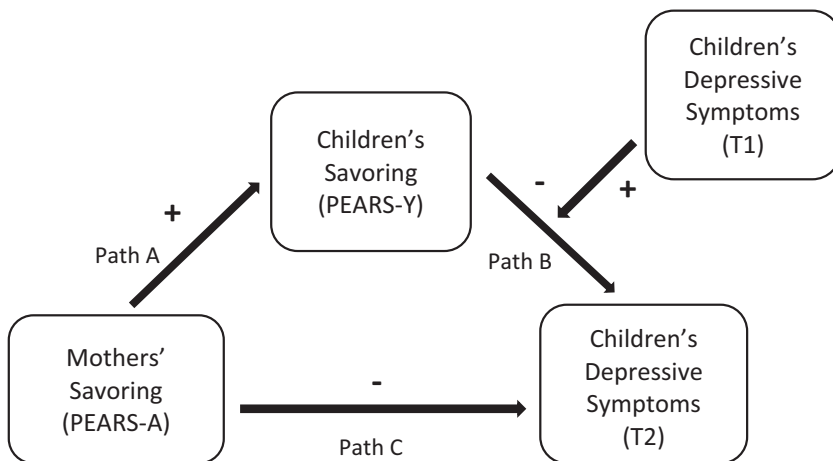


FIGURE 1 Conceptual Model of Moderated Mediation *Note.* PEARS-A = Positive Events and Responses Survey Adult report. PEARS-Y = Positive Events and Responses Survey Youth report. T1 = Time 1. T2 = Time 2

attention or there were difficulties understanding English. All participants were invited to complete a follow-up survey. Out of the initial families, 79 completed the follow-up, but two families were excluded for missing data at Time 1, and for one family, only the mother completed the follow-up survey. Thus, 76 children's data were used for the longitudinal analyses. Comparing those who did not complete the follow-up to those who did, children did not differ on any variable of interest. However, mothers who completed the follow-up reported higher household income, $t(93) = -2.35, p = 0.02$, and higher education levels, $t(94) = -2.33, p = 0.02$, than mothers who did not.

2.2 | Procedure

Participants were recruited from a town in the Mid-Atlantic region of the United States. Recruitment methods included: recruitment at community events, flyers posted in public areas, emails sent through listservs, and letters sent through local pediatricians' offices. During the initial in-person session, mothers and children completed a battery of questionnaires in the laboratory or at their home. Mothers and children generally completed these surveys in separate rooms with a trained researcher reading questions to the children. Mother-child dyads also completed two discussion tasks about a positive event and gratitude. Families were compensated \$30. Approximately five months later, mothers and children were mailed follow-up questionnaires. Families received a \$10 gift card as compensation. Only the positive event discussion and surveys relevant to the current paper are described below.

2.3 | Measures

2.3.1 | Mother's modeling PA regulation

Positive Events and Responses Survey for Adults (PEARS-A). At Time 1, mothers reported their responses to hypothetical positive events using the PEARS-A (Ramsey & Gentzler, 2014). Mothers read six vignettes involving positive events that happen to themselves. An example event is: "You just reached your exercise goal that you have been working toward for a long time. It was hard work, but it was a goal that you really wanted to reach." Mothers indicated their likelihood of responding in various ways to their own positive events using a 5-point scale (0 = *not at all*, 4 = *very likely*). Scales for savoring responses (14 subscales: share PA, mark, congratulations, celebrate, express PA, be happy, mass share, absorb PA, reminisce on PA, be thankful, reward, reflect on self, reflect on feelings, anticipate PA; $\alpha = 0.95$) and dampening responses (three subscales: think about how things could go wrong, think PA is not important, not think about PA; $\alpha = 0.80$) were created by averaging the corresponding subscales. Ramsey & Gentzler (2014) showed construct validity of the PEARS-A with moderate correlations between the savoring subscale and adults' savoring strategies used in response to a real-life event (Ways of Savoring Checklist; Bryant & Veroff, 2007) and their perceived savoring ability (Savoring Beliefs Inventory; Bryant, 2003).

Mothers' PA regulation during discussion task. At Time 1, mothers and children participated in a five-minute semi-structured discussion about a positive event that the child had experienced that the mother knew about and took place within the past year. Dyads were instructed to describe the experience in detail, including how the child felt, why the child felt each emotion, and what the dyad did before and after as a result of the positive event. Discussions were video-recorded and transcribed.

Mothers' use of PA regulation strategies was coded by three trained coders (the fourth author and two undergraduate research assistants). Strategies could be mentioned by the mother or the child (e.g., the child could state that the mother used a PA regulation strategy), but it had to be explicit that the mother was the person engaging in the strategy in response to her own emotions. PA regulation strategies needed to have occurred before, during, or after the event, but not during the discussion task. For example, if the participant reflected on their PA or the event, evidence of reflection was needed around the time of the event (e.g., "I kept thinking about how great it was") rather than during the discussion. Coders recorded PA regulation strategies that savored and dampened PA. Specifically, strategies such as sharing with a friend or family member, celebrating, marking (e.g., saving something

to remember from the event), reflecting on feelings or self, expressing PA, being thankful, reward, showing affection, thinking positively, and absorbing PA were aggregated into an overall savoring scale ($ICC = 0.51$). Mothers' mention of focusing on the negative aspects of the event, other negative thinking, downplaying the significance of the positive event, or not thinking about the event were aggregated into an overall dampening scale. However, because dampening statements occurred infrequently, and the coding team was unable to reliably code these statements, the dampening code was not analyzed.¹

2.3.2 | Mothers' coaching PA regulation

Parents' Responses to Children's Positive Events (PRCPE). At Time 1, mothers reported on their coaching responses to their children's experience of hypothetical positive events using the PRCPE (Gentzler et al., 2015). Mothers read five scenarios and imagined each event happening to their child. An example scenario is: "Your child comes home from school and just found out that he/she received an A in his/her most difficult class in school. Your child has been working hard for weeks." Following each vignette, mothers rated how likely they would be to respond by rating responses on a 5-point scale (0 = *not at all*, 4 = *very likely*). Scales indexing mothers' coaching the child to savor (nine subscales: share PA, express PA, celebrate, mark, reflect on PA, reflect on self, reward, show affection, be thankful, $\alpha = 0.93$), and mothers' coaching the child to dampen (three subscales: minimize PA, discourage child from talking about PA, focus on the negative; $\alpha = 0.77$) were created by averaging specific strategies across all vignettes. Gentzler and colleagues (2015) reported how mothers' coaching of children's savoring and dampening using the PRCPE was correlated in expected ways with mothers' reports of their responses to children's PA displays (Ladouceur et al., 2002).

Parents' Responses to Children's Positive Events for Youth (PRCPE-Y). At Time 1, children were asked to report on their mothers' coaching reactions to their (the child's) positive events on the PRCPE-Y (Gentzler et al., 2015), which mirrors the mother-reported PRCPE. However, the PRCPE-Y asks children to rate their mother's responses when the child experiences a positive event in general. For instance, children rated how likely their mother would be to: "encourage them to think about how good or proud they feel" or "discourage them from continuing to talk about a good event." This questionnaire yields two aggregated subscales: mothers' coaching child to savor (nine items; share PA, express PA, celebrate, mark, reflect on PA, reflect on self, reward, show affection, be thankful, $\alpha = 0.88$) and mothers' coaching child to dampen (three items; minimize PA, discourage child from talking about PA, focus on the negative; $\alpha = 0.75$). The PRCPE-Y savoring scale is positively correlated with the mother-reported PRCPE savoring scale though their reports of mothers' dampening were not correlated (Gentzler et al., 2015).

2.3.3 | Mothers' contingent responses to children's PA

Parents' Responses to Children's Positive Emotions Scale (PRCPS). At Time 1, mothers reported their contingent responses to their children's PA using the PRCPS (Ladouceur et al., 2002). For each of 12 vignettes, mothers rated their likelihood of reacting in four ways on a 7-point scale (1 = *very unlikely*, 7 = *very likely*) to children's expressions of PA. An example vignette is: "If we are in a store and my child curiously touches some of the objects, I would:" The four subscales derived from the PRCPS are: encouragement ("let my child explore."), explanation ("explain to my child that he/she must not touch the objects because he/she might break them and then I would have to pay for them."), discomfort ("feel annoyed with my child's behavior."), and reprimand ("firmly tell my child to stop touching the objects."). Subscales were created by averaging corresponding items across the 12 vignettes. Consistent with previous research (e.g., Yap et al., 2008), we analyzed the encouragement subscale individually ($\alpha = 0.67$) and aggregated the other three subscales to create a discouragement scale ($\alpha = 0.87$).

Mothers' encouraging or discouraging responses to children's PA. During the discussion task, each PA word spoken by the child and the mother's immediate response was recorded from transcripts of the discussion. Children's PA words could be indicative of PA experienced during the event itself (e.g., "I had fun") or during the discussion task

(e.g., "I am having fun"). The same three research assistants who completed the above coding coded mothers' responses to children's PA words (adapted from Laible, 2010 and Sales, Fivush, & Peterson, 2003). Four types of responses were analyzed: *validation* (ICC = 0.69), mother agrees with or reflects on the child's PA (e.g., "Yes, I remember that day was fun"); *elaboration* (ICC = 0.55), mother expands or explains in more detail (e.g., child states they had fun, mother responds "We had fun relaxing on the beach and being with family"); *questioning* (ICC = 0.67), mother asks a question about the emotion word or phrase (e.g., "Why were you happy?"); and *ignore* (ICC = 0.71), mother ignores the expressed emotion (e.g., child states they had fun, mother responds, "A lot of people came to your party"). *Disagree* (mother dismisses or argues about the child's PA experience) was not analyzed due to low frequency. The percentage of mothers' responses were examined rather than raw count values, which depended on the number of PA words the child said.

To determine the children's use of PA words, transcripts were entered into the Linguistic Inquiry and Word Count (LIWC) program (Tausczik & Pennebaker, 2010), which initially identified PA words and phrases. However, PA words detected by LIWC, were not exclusively used to reflect a positive-valence term (e.g., "well" as a transition or "okay" as a confirmation). As a result, the same three coders manually coded PA words to determine what should be counted (ICC = 0.92). Although most children stated at least one PA word during the discussion task, six children did not say any PA words. Therefore, the sample used in analyses with mothers' responses to children's PA words is reduced.

2.3.4 | Children's PA regulation

Positive Events and Responses Survey for Youth (PEARS-Y). At Time 1, children reported their responses to hypothetical positive events using the PEARS-Y (Palmer & Gentzler, 2014). The PEARS-Y was developed based on the PEARS (Gentzler et al., 2015) to assess children's PA regulation. Similar to the PEARS-A, children read five vignettes involving positive events that happen to themselves (e.g., "You just found out that you received an A on your report card in your hardest class at school. You had studied a lot and really hoped you would do well."). Children indicated the likelihood that they would respond in various ways using a 5-point scale (0 = *not at all*, 4 = *very likely*). For each vignette, there were nine savoring items that were aggregated to create an overall savoring scale: share with friend or family, celebrate, mark the event, reflect on PA or self, express PA, be thankful, and reward ($\alpha = 0.93$). Three dampening responses (focus on negative, minimize the event or PA, not think about the event or PA) were aggregated across vignettes for an overall dampening scale ($\alpha = 0.85$). Although the PEARS-Y has not been previously published, an earlier version included four of the same savoring responses and three of the same dampening responses (reworded to be event-specific). Savoring predicted 10- to 14-year old's subsequent PA about the event one week later, even when controlling for initial PA reactions and dampening was associated with children's internalizing and externalizing symptoms (Gentzler et al., 2012).

Children's PA regulation during discussion task. During the discussion at Time 1, we coded for children's use of PA regulation strategies in the same way as for mothers. Savoring strategies were summed to create a children's savoring subscale (ICC = 0.54), but dampening could not be reliably coded or analyzed due to its infrequent occurrence.

2.3.5 | Children's outcomes

Depressive symptoms (Center for Epidemiological Studies Depression Scale for Children (CES-DC)). At Time 1 and Time 2, children completed the CES-DC (Fendrich, Weisman, & Warner, 1990) to indicate their level of depressive symptoms. The CES-DC is a 20-item measure that assesses different feelings and behaviors children may have experienced over the past week (e.g., "I felt lonely"). Children rated how often they experienced these feelings or behaviors on a scale ranging from 0 = *not at all* to 3 = *a lot*. Items were summed where higher scores indicate more depressive symptoms (Time 1 $\alpha = 0.81$; Time 2 $\alpha = 0.91$).

2.4 | Data analysis plan

SPSS version 24 was used for data analysis. Partial correlations, controlling for age and gender, were conducted between three constructs (mother PA socialization variables, child PA regulation variables, and child depressive symptoms). The PROCESS macro (Hayes, 2012) was used to conduct moderated mediation analyses using 5,000 bootstrapped samples and provided bias corrected bootstrap confidence intervals. Specifically, Model 59 examined all three paths (Path A, B, and C) in the mediation model for moderation by children's Time 1 depressive symptoms, and Model 1 was used for a posthoc moderation model.

3 | RESULTS

Descriptive statistics for key variables are reported in Tables 1 and 2. Inter-correlations among maternal PA socialization variables are in Table 1. In general, significant within-reporter correlations were in the expected direction and although there were fewer cross-reporter associations, these were likewise in expected directions. We also investigated if children's age and gender were related to key variables. One gender difference was found: on the PRCPS, mothers of boys reported more encouraging responses to their child's PA ($M = 4.29$, $SD = 0.83$) than mothers of girls ($M = 3.85$, $SD = 0.77$), $t(93) = 2.64$, $p = 0.01$. Children's age was positively correlated with mothers being more likely to respond with elaboration to the children's PA words, $r(88) = 0.32$, $p = 0.002$, and negatively correlated with child-reported savoring, $r(95) = -0.26$, $p = 0.01$, child-reported dampening, $r(95) = -0.39$, $p < 0.001$, child-report of mothers' coaching their child to dampen, $r(95) = -0.42$, $p < 0.001$, and Time 1 depressive symptoms, $r(94) = -0.24$, $p = 0.02$.

To determine what variables to further examine, we conducted partial correlations (controlling for child age and gender) examining how mothers' PA socialization, children's PA regulation, and children's depressive symptoms were associated. Regarding modeling, mothers who reported more savoring had children who reported more savoring (PEARS-A and PEARS-Y; see Table 2). The analogous correlation also emerged in the discussion task, where mothers who savored more had children who savored more. Unexpectedly, mothers' coaching their children to savor (PRCPE) was positively correlated with children's reports of their dampening and Time 1 depressive symptoms. Within-reporter effects showed that children's report of how much mothers coached them to savor (PRCPE-Y) was related to their report of how much they savor (PEARS-Y), and children's report of how much mothers coached them to dampen (PRCPE-Y) was related to their reports of how much they dampen (PEARS-Y). Mothers' contingent responses (PRCPS) were not related to children's PA regulation, but mothers who engaged in more questioning responses to their children's PA words in the discussion task had children who reported more concurrent depressive symptoms.

Partial correlations examining how children's PA regulation was related to their depressive symptoms revealed one significant finding, children who self-reported more dampening (PEARS-Y) also concurrently reported more depressive symptoms. Savoring was unrelated to Time 1 depressive symptoms and no variables were linked to children's Time 2 depressive symptoms.

3.1 | Moderated mediation

We used conditional process modeling to test moderated mediation as outlined by Hayes (2012) using the PROCESS macro (Model 59; see Figure 1). To limit the number of models conducted, we focused on models where mothers' socialization predicted children's PA regulation (Path A). No mother socialization variables predicted Time 2 depressive symptoms (Path C; see Table 2) but given that the outcome variable for our mediation models is Time 2 depressive symptoms while covarying Time 1 symptoms, the partial correlations do not directly correspond to the regression models. Following these criteria, there were five possible moderated mediation models

TABLE 1 Correlations among maternal socialization variables

	Modeling			Coaching				Contingent responses					Mean (SD)	
	1	2	3	4	5	6	7	8	9	10	11	12		13
<i>Mother modeling</i>														
1. Own savor (PEARS-A)		.05	.17	.64***	.34**	-.01	-.04	.22*	-.07	.05	.05	-.13	.11	3.54 (.50)
2. Discuss own savor (OBS)			-.15	.03	.003	.03	.07	.08	-.07	-.10	-.13	-.10	.12	.55 (.87)
3. Own dampen (PEARS-A)				-.19*	-.10	.42***	-.06	-.06	.27**	-.12	-.04	.05	.09	1.91 (.53)
<i>Mother coaching</i>														
4. Coach savor (PRCPE)					.33**	-.10	.01	.30**	.02	-.09	-.01	.09	.01	3.84 (.61)
5. Coach savor (PRCPE-Y)						-.20*	.13	.21*	-.07	-.12	-.07	.11	.07	3.20 (.80)
6. Coach dampen (PRCPE)							-.01	-.10	.22*	-.21*	.17	.08	-.04	1.41 (.41)
7. Coach dampen (PRCPE-Y)								-.04	.05	.05	-.11	.01	.01	.93 (1.16)
<i>Mother contingent responses</i>														
8. Encourage PA (PRCPS)									-.53***	-.03	-.08	-.03	.13	4.09 (.83)
9. Discourage PA (PRCPS)										-.13	.08	.02	.09	3.67 (.75)
10. Mother validate % (OBS)											-.19	-.53***	-.26*	.26 (.30)
11. Mother elaborate % (OBS)												-.37***	-.09	.13 (.21)
12. Mother question % (OBS)													-.43***	.41 (.37)
13. Mother ignore % (OBS)														.19 (.26)

Note. Please note that several values have already been published in a large correlation matrix in Gentzler et al. (2015). Many of the values are not identical because our sample size is one person fewer in this paper (96 vs. 97) compared to Gentzler et al. (2015).

* $p < .06$, ** $p < .05$, *** $p < .01$, **** $p < .001$.

TABLE 2 Partial correlations among maternal socialization, children's PA regulation, and children's depressive symptoms, controlling for child gender and age

	Savor (PEARS-Y)	Savor (OBS)	Dampen (PEARS-Y)	Depressive symptoms Time 1	Depressive symptoms Time 2
<i>Mother modeling</i>					
-Own savor (PEARS-A)	.26 [*]	-.10	.20	.17	.17
-Own savor (OBS)	.02	.50 ^{***}	-.02	-.04	.02
-Own dampen (PEARS-A)	.03	-.04	-.04	.04	-.10
<i>Mother coaching</i>					
-Coach savor (PRCPE)	.18	.02	.25 [*]	.28 ^{**}	.15
-Coach savor (PRCPE-Y)	.69 ^{***}	-.07	.11	.17	-.07
-Coach dampen (PRCPE)	-.10	-.08	.06	-.01	-.11
-Coach dampen (PRCPE-Y)	.14	.02	.64 ^{***}	.35 ^{**}	-.10
<i>Mother contingent responses</i>					
-Encourage PA (PRCPS)	.14	.01	.02	.03	-.06
-Discourage PA (PRCPS)	.02	.06	.13	.14	.21
-Mother validate % (OBS)	-.09	-.06	-.03	-.15	-.03
-Mother elaborate % (OBS)	-.02	.06	-.11	-.02	.08
-Mother question % (OBS)	.08	-.06	-.10	.25 [*]	-.02
-Mother ignore % (OBS)	.05	.10	-.01	-.13	-.05
<i>Child emotion regulation</i>					
-Savor (PEARS-Y)	-	-.02	.05	.12	-.11
-Savor (OBS)		-	-.08	-.11	.09
-Dampen (PEARS-Y)			-	.42 ^{***}	.01
Mean (SD)	3.06 (.58)	.57 (.82)	1.36 (.82)	11.24 (8.00)	13.57 (1.82)

Note. PEARS = Positive Events and Responses Survey; PEARS-A is adult-report and PEARS-Y is child-report. PRCPE = Parent Responses to Child Positive Events; PRCPE is parent-report and PRCPE-Y is youth-report. OBS = observational data from discussion task. $N = 92$ to 95 for Time 1 variables; $N = 74$ – 75 for correlations with Time 2 depressive symptoms. Correlations with mothers' OBS responses' N was slightly reduced; $N = 87$ – 88 with Time 1 data; and $N = 70$ with Time 2 data.

* $p < .05$, ** $p < .01$, *** $p < .001$.

with mothers' PA socialization linked to children's PA regulation predicting Time 2 depressive symptoms, moderated by Time 1 symptoms: (1) mothers' modeling savoring (PEARS-A) and children's own savoring (PEARS-Y), (2) mothers' modeling savoring and children's own savoring both during the discussion task, (3) child-report of mothers' coaching savoring (PRCPE-Y) and children's own savoring (PEARS-Y), (4) child-report of mothers' coaching dampening (PRCPE-Y) and children's own dampening (PEARS-Y), and (5) mother-report of coaching savoring (PRCPE) and children's own dampening (PEARS-Y). Moderated mediation occurs when Path A, Path B, and/or Path C are moderated (Hayes, 2012).

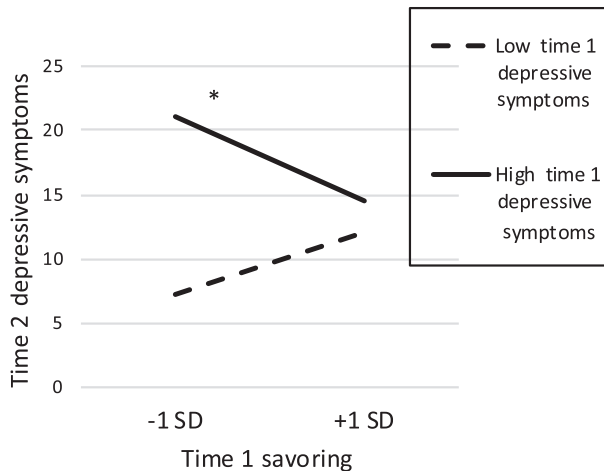


FIGURE 2 Interaction between Time 1 Depressive Symptoms and Children's Savoring to Predict Time 2 Depressive Symptoms

Note. * $p = 0.014$

One out of the five models showed significant moderated mediation: Mothers' modeling savoring (PEARS-A) as the predictor, children's own savoring (PEARS-Y) as the mediator, Time 2 depressive symptoms as the outcome, and Time 1 depressive symptoms as the moderator. Controlling for child age and gender, the model predicting children's own savoring (Path A) was marginally significant, $F(5, 70) = 2.23$, $p = 0.06$, $R^2 = 0.14$. Specifically, children's age ($B = -0.12$, $SE = 0.04$, $p = 0.008$, 95% CI [-0.21, -0.03]) significantly predicted, and mothers' own savoring marginally predicted ($B = 0.26$, $SE = 0.13$, $p = 0.05$, 95% CI [.00, 0.52]), children's own savoring. Children's gender, Time 1 depressive symptoms, and the interaction between mothers' own savoring and children's Time 1 depressive symptoms were non-significant.

Controlling for child age and gender, the overall model predicting Time 2 child depressive symptoms was significant, $F(7, 68) = 3.57$, $p = 0.003$, $R^2 = 0.27$. Specifically, Time 1 child depressive symptoms significantly moderated the link between children's own savoring and Time 2 depressive symptoms (Path B), $B = -0.77$, $SE = 0.25$, $p = 0.003$, 95% CI [-1.27, -0.26], but did not moderate the link between mothers' modeling savoring and children's Time 2 depressive symptoms (Path C; see Figure 1). Analysis of the conditional indirect effect indicated that the association between children's own savoring and Time 2 depressive symptoms was not significant for participants one SD below the mean in Time 1 depressive symptoms, $B = 0.65$, $SE = 0.95$, 95% CI [-0.25, 4.80], while the association was significant for participants one SD above the mean in Time 1 depressive symptoms, $B = -2.83$, $SE = 1.63$, 95% CI [-7.29, -0.56]. Thus, children's own savoring mediated the link between mothers' modeling of savoring and children's lower Time 2 depressive symptoms, but only for children who had higher symptoms at Time 1.

For descriptive purposes, we conducted a posthoc moderation model in PROCESS examining Path B (children's own savoring predicting Time 2 depressive symptoms moderated by Time 1 depressive symptoms, controlling for children's age and gender). The overall model was significant, $F(5, 70) = 4.63$, $p = 0.001$, $R^2 = 0.25$. Time 1 depressive symptoms predicted Time 2 symptoms ($B = 0.62$, $SE = 0.015$, $t = 4.01$, $p < 0.001$) and the children's own Savoring X Time 1 Depressive Symptoms interaction was significant ($B = -0.76$, $SE = 0.25$, $t = -3.03$, $p = 0.003$). See Figure 2. Specifically, for youth with low depressive symptoms at Time 1, savoring at Time 1 was unrelated to Time 2 symptoms ($B = 4.50$, $SE = 3.16$, $t = 1.42$, $p = 0.16$), but for those with higher depressive symptoms at Time 1, higher levels of savoring at Time 1 predicted lower depressive symptoms at Time 2 ($B = -6.10$, $SE = 2.42$, $t = -2.52$, $p = 0.01$).

4 | DISCUSSION

We assessed multiple PA socialization methods in relation to children's PA regulation and depressive symptoms. Few studies have examined multiple methods of PA socialization, and none with older children or directly focusing on the socialization of children's PA regulation. Our findings indicate that specific emotion socialization practices (modeling, coaching, and contingent responding) are linked to children's concurrent PA regulation and depressive symptoms. Moreover, the mediation model held for mothers' modeling of their own savoring as it predicted children's own savoring, and for youth initially higher in depressive symptoms, children's savoring predicted lower depressive symptoms over time.

4.1 | Mothers' PA socialization and children's PA regulation

As hypothesized, mothers' self-reported and observed modeling of savoring was related to children's self-reported and observed use of savoring strategies, respectively. These complementary findings suggest that mothers' modeling may be particularly relevant to PA socialization during late childhood. Modeling can be a conscious, deliberate process or an unconscious, automatic process. Importantly, although some savoring responses used by mothers may be internal (e.g., positive thoughts) and would need to be expressed to be modeled, others may directly involve the child (e.g., celebrations). Overall, our results linking mothers' savoring to children's savoring supports the notion that mothers' modeling of their own PA regulation may occur in everyday interactions and are powerful socialization processes (Denham, Bassett, & Wyatt, 2015).

Mothers' coaching of children's savoring was related to children's own savoring. However, this association held for child-reported, but not mother-reported, coaching responses. Children's perceptions of their parents' behaviors are important to consider when examining the contribution of parenting to child outcomes. Specifically, research suggests that children's perceptions may be more reliable (Sessa, Avenevoli, Steinberg, & Morris, 2001) and multiple informants of parenting provide more comprehensive understanding of the parenting process (Tein, Roosa, & Michaels, 1994).

Mother-report of coaching children's dampening was not related to child-reported use of dampening. However, within-reporter effects indicated that children who reported their mothers coached them to dampen more often also reported more dampening themselves. This result echoes the findings with savoring, and further emphasizes the importance of examining child-report of parenting behaviors. Contrary to expectations, mother-report of coaching their children's savoring was related to greater levels of child-reported dampening. Given the correlational data, it is not possible to disentangle the direction of this association. However, it may be that mothers are aware that their children dampen PA and therefore engage in more coaching of savoring in an attempt to up-regulate their child's PA.

Mothers' contingent responses that encourage dampening (self-reported using the PRCPS and observed) were unrelated to child-reported use of dampening. These socialization behaviors were reported and observed at low levels, which may have resulted in the null findings. The low occurrence of unsupportive responses, especially during the discussion task, could be due in part to social desirability bias as mothers were aware they were being observed. Additionally, mothers' own dampening (i.e., modeling) was unrelated to children's dampening. Unlike savoring, which may be more socially acceptable and directly involve the child, dampening may be more private (doubts and negative thoughts not expressed). This may be especially true in our predominantly European American sample given that European Americans engage in higher levels of encouragement of PA when compared to other ethnicities (Lozada, Halberstadt, Craig, Dennis, & Dunsmore, 2016) and cultures (Kartner, Holodynski, & Wormann, 2013). Overall, savoring and dampening may be socialized through unique paths.

4.2 | Mothers' PA socialization and children's depressive symptoms

As expected, child-report of mothers' coaching of dampening was positively related to children's depressive symptoms at Time 1. This finding extends research linking mothers' low positivity during interaction tasks to their children's risk for depression (Olinio et al., 2016; Schwartz et al., 2017). However, mothers' report of coaching savoring was also positively associated with child-reported depressive symptoms at Time 1. It may be that mothers are aware of their children's low PA and engage in coaching behaviors to ameliorate children's depressive symptoms. However, it may also be that high levels of parents' encouragement of children's savoring is developmentally inappropriate during the late childhood period. For instance, previous research suggests that mother-reported supportive responses to children's NA were of value initially (with 3–4-year olds) but were related to greater socio-emotional difficulties for older children (5–6 years old; Mirabile, Oertwig, & Halberstadt, 2016). Thus, it may also be that mothers' attempts at coaching savoring may undermine older children's emotional development because they are essentially attempting to savor for the child.

Mothers' questioning responses to children's PA during the discussion task were concurrently related to children's depressive symptoms, potentially suggesting that mothers' questioning children's PA is maladaptive. Conversely, mothers may question children who show depressive symptoms to help them savor (e.g., "And why was the event awesome?") or mothers may be surprised when their child mentions feeling PA. Thus, it is likely that questioning responses are diverse, and parents' tone and context may be important to consider in future studies.

Importantly, maternal modeling of PA regulation (savoring and dampening) was not directly related to children's depressive symptoms, but our mediation model indicated that mothers' modeling PA regulation influences children's own PA regulation, and in turn, children's own PA regulation may affect depressive symptoms. Specifically, moderated mediation analyses and posthoc moderated effects provided evidence that mothers' modeling savoring was related to children's depressive symptoms longitudinally through children's own savoring, but only for those children with high levels of depressive symptoms at Time 1. Though confirmation of this pattern is needed, our findings suggest that it may be important for mothers of children who are depressed to model savoring, which encourages children to savor themselves and thereby decreases depressive symptoms. Importantly, our results suggest that parents' own savoring, rather than other PA socialization practices, may be critical when examining links between PA and depression. If this pattern is confirmed, it may aide in the development of interventions targeting child depression by focusing on helping parents learn to promote savoring in their children. Although we did not find mediation through children's dampening, there were associations between children's own dampening and concurrent ratings of depression. This finding is consistent with other research (e.g., Bijttebier et al., 2012) and suggests dampening is also an important class of behaviors to target in intervention work.

4.3 | Strengths, limitations, and future directions

In sum, our findings indicate that different socialization processes are important for specific aspects of PA regulation, with different patterns emerging for associations with savoring and dampening. Moreover, moderated mediation indicated that children's own savoring is particularly important for youth with elevated depressive symptoms. Lastly, prior research has focused exclusively on how parent socialization relates to children's outcomes, or how children's emotion regulation impacts their own outcomes. However, our study emphasized how children's PA regulation is a critical piece in explaining how parent socialization relates to children's outcomes. Specifically, our findings suggest that mothers' modeling may teach children to savor themselves thereby reducing elevated depressive symptoms over time. However, the current study had several limitations. Although child gender and age were covariates, these variables may directly influence parents' PA socialization, or moderate its effects (Mirabile et al., 2016; Root & Denham, 2010). Moreover, our sample consisted entirely of mothers. Previous work has shown that fathers' expressions of PA are uniquely related to psychopathology during childhood (Thomassin & Suveg, 2014). Furthermore, the links between PA and depression should be interpreted in

light of our predominantly European American sample. Prior research shows experiencing PA varies by culture (Leu, Wang, & Koo, 2011), as do the links between PA and adjustment (Morelen, Jacob, Suveg, Jones, & Thomassin, 2013).

Future research should more fully capture the range of potential socialization methods. Niche selection (or situation selection or modification; Gross, 1998) should be examined. It is likely a common way that parents promote PA in their children (Rothenberg et al., 2017), which would allow children to build further socio-emotional skills and resources, consistent with broaden and build theory (Fredrickson, 2001). Future work should also consider PA and NA socialization together, as they likely co-occur, with recent work indicating that family expressiveness of PA and NA influence adolescent psychopathology (Luebbe & Bell, 2014). Further, our survey data did not assess anticipatory savoring, which may be a common way parents up-regulate children's PA about upcoming events (Bryant & Veroff, 2007). Finally, our study investigated general PA, and less is known about how parents foster particular types of PA (Gentzler, Palmer, Yi, Root, & Moran, 2018) or emotions (e.g., gratitude; Bryant & Veroff, 2007).

There were also some methodological shortcomings, including a cross-sectional design, relatively short follow-up, and small sample size resulting in underpowered models. The small sample size may also explain the moderate inter-rater reliabilities (ICCs < 0.75; Koo & Li, 2016). Future work should be conducted with larger samples over a longer follow-up period and use structural equation modeling with latent constructs to better account for measurement error (Little, 2013). Further, because youth's depressive symptoms are often moderately stable across short intervals (Tram & Cole, 2006), greater symptom variability is likely with longer durations between assessments. Larger samples would also allow for examining multiple types of socialization within a single model with moderated effects (e.g., are coaching effects stronger if parents also model the same responses?). Additionally, because the literature on power to detect effects in more complex models has focused on mediation or moderation (e.g., Fritz & Mackinnon, 2007), future work should pursue Monte Carlo simulation studies to determine adequate sample size needed to detect conditional indirect effects in moderated mediation models.

Taken together, our results indicated that PA socialization encompasses multiple processes that inform children's PA regulation. Specifically, mothers' modeling, coaching, and contingent responses were associated with children's concurrent PA regulation and depressive symptoms in unique ways. The findings suggest that children's savoring may be affected by mothers' modeling of savoring, whereas mothers' coaching of PA (both of savoring and dampening) was associated with children's dampening PA. Thus, it appears that the process of PA socialization encompasses a range of behaviors, and our findings underscore the significance of the daily interactions between parents and children as important contexts for socialization. Furthermore, our findings suggest that PA socialization is likely bidirectional given we found evidence for congruent associations (mothers' savoring may promote children's savoring) but also incongruent associations pointing to potential compensatory efforts by the parent (children reporting higher depressive symptoms have mothers who report they encourage their children to savor more often). In sum, our work provides evidence that maternal savoring can have an important role for children's development of savoring and may in turn offset increases in their depressive symptoms.

ENDNOTES

¹ Situation-selection and modification (Gross, 1998) were also coded. Similar to niche-picking, these codes in mothers measured how often they directly created or facilitated children's experiences of PA (e.g., by either creating a positive experience or by modifying aspects of a situation to make it more enjoyable). For this code to be applied, individuals had to explicitly state the intent of the behavior or plan was for PA because there are many reasons people's behaviors are not hedonically-driven. However, because parents and children did not often state the intent of various behaviors (e.g., "we went to a waterpark," not "we went to a waterpark because we thought it would be fun"), these codes did not appear to be valid measures of how often parents and youth created or modified situations to increase PA. As a result, we did not include them in this paper. Instead, we discuss future directions for measuring these important socialization and regulatory behaviors.

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