Interactive imagination supports toddlers' emotion regulation: A cultural-historical case study in a Chinese-American family

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Abstract

Emotion regulation—as a vital part of children's development, school readiness, and academic success—begins to develop in infancy and toddler time. Much of the research on toddler emotion regulation are correlational studies in laboratory settings. Little attention has been directed to toddlers' emotion regulation in everyday naturalistic contexts. Drawing upon Vygotsky's cultural-historical approach, the current case study sought to examine how everyday parent–toddler interactions assist the toddler's emotion regulation in emotionally charged situations in a Chinese-American family home. Findings showed that the strategy of interactive imagination supported the toddler's emotion regulation in emotionally charged situations. However, parents did not often apply this method. It is argued that interactive imagination is an essential tool to be used in everyday parent–toddler interactions for emotion regulation. Recommendations for practice are discussed.

Keywords

Toddlers, emotion regulation, imagination, play, cultural-historical, family

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Introduction

Emotion regulation is "the ability to modify emotions in terms of their quality, intensity, frequency, course, and expression" (Holodynski, 2009, p. 145). A growing body of literature has shown the essential role of emotion regulation in children's development, school readiness, and academic success (Cole, Martin, & Dennis, 2004; Davis & Levine, 2013; Graziano, Reavis, Keane & Calkins, 2007; Jeon, Peterson, & DeCoster, 2013; McClelland et al., 2007). However, emotion dysregulation may predict aggressive behavior (Röll, Koglin, & Petermann, 2012).

The toddlerhood aged between around 1 to 3 years of age is called "the watershed period" (Brownell & Kopp, 2007, p. 3) in development, when children are transitioning from infancy to childhood, and their emotional development is undergoing a drastic change (Brownell & Kopp, 2007). The self-regulation of emotions and behaviors emerges and is the key developmental task for toddlers (Holodynski & Friedlmeier, 2006). Toddlers navigate between interpersonal and intrapersonal emotion regulation and have to develop competency in regulating their emotions independently (Holodynski & Friedlmeier, 2006; Premo & Kiel, 2014). However, this self-regulation of emotions still falls in "the zone of proximal development" (Vygotksy, 1998, p. 201), meaning the regulation can be achieved in collaboration with a more capable partner instead of independently (Holodynski & Friedlmeier, 2006). In other words, very young children, such as toddlers, find it challenging to have higher levels of self-regulation and require adults' support in emotion regulation (Holodynski, Seeger, Kortas-Hartmann, & Wörmann, 2013).

Behaviors that are employed to regulate emotional experiences are emotion regulation strategies (Grolnick, Bridges, & Connell, 1996). Some studies have investigated the relation between parents' use of emotion regulation strategies in reacting to toddlers' expression of emotions and their emotion regulation (Friedlmeier, Corapci, Susa-Erdogan, Benga, & Kurman, 2019; Ornaghi, Pepe, Agliati, & Grazzani, 2019). Other research has explored the link between the maternal use of emotion regulation strategies and toddlers' later development, such as emotion self-regulation (Grolnick, Kurowski, McMenamy, Rivkin, & Bridges, 1998; Spinrad, Stifter, Donelan-McCall, & Turner, 2004). It is important to note that, among the comparatively limited number of studies on toddlers' emotion regulation, most are correlational studies conducted in laboratory settings (e.g., Bariola, Hughes, & Gullone, 2012; Graziano, Calkins, & Keane, 2011; Jeon et al., 2013). Little is known about toddlers' emotion regulation in everyday naturalistic contexts. The daily naturalistic context provides dynamic and diverse emotionally charged situations, as in Chen's (2015) research, while the reviewed studies conducted in laboratories were limited in the variety of settings: for example, the delay of gratification situation was dominant in many studies (e.g., Friedlmeier et al., 2019; Grolnick et al., 1996; Putnam, Spritz, & Stifter, 2002).

As discussed above, toddlers' emotion regulation requires adult collaboration (Holodynski & Friedlmeier, 2006; Holodynski et al., 2013). Vygotsky's cultural-historical perspective emphasizes the social relation as the origin of development (Vygotsky, 1997) and inspired the current study's focus on parent–toddler interactions. Therefore, drawing upon Vygotsky's cultural-historical perspective, the current case study sought to investigate the following research question: how do everyday parent–toddler interactions support the toddler's emotion regulation in the family home?

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This paper begins with a literature review on emotion regulation strategies and toddlers' emotion regulation and is followed by a cultural-historical view on emotion regulation. After that, the study design, findings, and discussion are reported. It concludes with practical recommendations and future research directions.

Parental emotion regulation strategies and toddlers' emotion regulation

Parental behavior is one of the major factors influencing toddlers' emotion regulation (Kiel, Price, & Premo, 2019). Correlational studies have examined the links between parents' emotion regulation strategies and toddlers' emotion regulation in laboratory settings. Some studies have found that supportive parental responses/strategies (e.g., emotion-focused reactions and problem-focused reactions; see Fabes, Eisenberg, & Bernzweig, 1990) benefited toddlers' competence in emotion regulation (Bocknek, Brophy-Herb, & Banerjee, 2009; Diener & Mangelsdorf, 1999; Kopp, 1989; Mirabile, Oertwig, & Halberstadt, 2018). Denham (1993) has also pointed out that maternal responsiveness contributes to toddlers' regulation of negative emotions while mothers were not present.

Responsiveness is part of supportiveness. This is because one of the goals of responsiveness is to support children to reduce negative emotions (Kopp, 1989). However, some studies have indicated that supportive parental responses/strategies may not be associated with toddlers' emotion regulation (Erickson et al., 2013; Grolnick et al., 1998; Shewark & Blandon, 2015; Spinrad et al., 2004). Grolnick et al. (1998) have argued that mothers' ongoing active engagement (e.g., redirection of attention, active game-like engagement, and reassurance, as means of supportiveness) predicted higher distress levels in children in situations requiring independent regulation, while maternal non-strategy behaviors (i.e., being passive in reactions) was connected with lower levels of distress. In other words, active engagement, as a means of supportiveness, did not contribute to toddlers' emotion self-regulation. Similarly, Shewark and Blandon's (2015) research with children aged between 2 and 5 years found that mothers' responses to children's negative emotions was not linked to their emotion regulation, although fathers' use of unsupportive strategies was related to older but not younger children's reduced capability for emotion regulation (Shewark & Blandon, 2015). Another study has also pointed that maternal verbal scaffolding, as a supportive strategy, has no significant links with the emotion regulation of toddlers born full term but has links with toddlers born preterm (Erickson et al., 2013). Spinrad et al. (2004) found that maternal emotion regulation strategies used at 18 months, but not at 30 months of age, did not predict children's later self-regulation of emotions (Spinrad et al., 2004).

It appears that, whether supportive parental responses/strategies are positively related to toddlers' emotion regulation depends on parents' genders, as well as toddlers' ages and birth situations. The current study focused on the emotion regulation between parents and the toddler, instead of toddlers' emotion self-regulation.

Among various parental emotion regulation strategies, the strategy of distraction seemed to be comparatively more frequently studied and has mixed findings in relation to toddlers' emotion regulation. For example, in a study conducted by Friedlmeier et al. (2019), mother–toddler dyads from four different countries were observed during delay of

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gratification situations in which these 2-year-olds were experiencing negative emotions such as anger, sadness, and frustration in research laboratories. Findings showed four profiles of maternal emotion regulatory responses including the task-appropriate profile (i.e., distraction, physical warmth, not allowing the child to touch the reward), the pure distraction profile (i.e., distraction-centered, together with verbal reassurance and positive control, such as explanations and describing the rules), the control/verbal comforting profile, and the mixed profile with negative control (Friedlmeier et al., 2019). These profiles impacted upon toddlers' emotion regulation strategies. Except for cultural distinctions, the commonality across the four countries in terms of the relation between a mother's regulatory strategies and a toddler's emotion regulation was that the pure distraction profile was related to a decrease in toddlers' negative emotional expressions (such as anger) and increase in the use of independent strategies.

Nevertheless, some research has disagreed with the above finding regarding the effectiveness of distraction in supporting toddlers' emotion regulation (Diener & Mangelsdorf, 1999; Spinrad et al., 2004). It was confirmed in Diener and Mangelsdorf's (1999) study that distraction was not helpful in decreasing the level of anger. The authors suggested that distraction may be used at lower levels of arousal because it may need greater cognitive resources (Diener & Mangelsdorf, 1999). In the study conducted by Spinrad et al. (2004), mothers' verbal distraction for toddlers at 18 months of age was negatively associated with preschoolers' use of distraction and was not related to toddlers' regulation of disappointment. It can be observed that same emotion regulation strategies used by parents in responding to toddlers' emotions have different impacts on toddlers' emotion regulation.

Play and emotion regulation

Besides the emotion regulation strategies discussed above, various types of play were found to be effective for emotion regulation (Chen & Fleer, 2016; Fantuzzo, Sekino, & Cohen, 2004; Galyer & Evans, 2001; Kuczaj & Horback, 2012; LaFreniere, 2011). In Chen and Fleer's (2016) research, parents used manipulative play as a tool to regulate preschoolers' emotions. Rough-and-tumble play was also found to be vital in enhancing emotion regulation skills such as the regulation of anger or aggression (LaFreniere, 2011). Moreover, some other studies have highlighted that pretend play (Galyer & Evans, 2001; Kuczaj & Horback, 2012) and higher levels of peer play interaction (Fantuzzo et al., 2004) have a positive relation to the enhancement of emotion regulation.

Play, imagination, and emotion regulation: A cultural-historical view

Similar to the aforementioned perspective, Vygotsky's cultural-historical view also supports the claim that play contributes to the development of emotion regulation (Vygotsky, 1966). However, the type of play in the cultural-historical framework is called make-believe play, or dramatic play, and is different from simple body movement or object manipulation (Bodrova, Germeroth, & Leong, 2013). This kind of play has three basic components: the imaginary situation, roles, and the role-related rules (Bodrova et al., 2013; Vygotsky, 1966). The imaginary situation is the essence of play, or a criterion of play (Kravtsova, 2014; Kravtsov, & Kravtsova, 2010; Vygotsky, 1966). Imaginary situations in play indicate that there are already rules in those imaginary situations (Vygotsky, 1966). These rules demand that the child regulate their immediate impulses, such as negative

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emotions when the child's needs are not met (Vygotsky, 1966). Elkonin's (2005) example of eating porridge showed how the imaginary situation of preschool, the role as preschoolers, and the rules from the setting supported the children's behavior and emotion regulation. In the example, after his daughters refused to eat the porridge, he suggested that they play school. The girls, as preschoolers, ate the porridge within the imaginary play situation (Elkonin, 2005). As Vygotsky (1966) explained, "play is the source of development and creates the zone of proximal development" (p. 16). Since play is related to pleasure, children tend to follow rules in imaginary situations to gain greater pleasure in play (Vygotsky, 1966). Imagination is a form of thinking and links to emotions (Vygotsky, 1987), and emotions drive imagination (Vygotsky, 1987).

A limited number of recent cultural-historical studies have investigated play, imagination, and emotion regulation. For example, some studies have shown that fairytales support emotion regulation (Fleer & Hammer, 2013a, 2013b; March, 2018). Fleer (2017) found that emotional imagination in everyday preschool practices benefited emotion regulation. March and Fleer (2017) explored the role of imagination and anticipation in children's emotional development. Their research suggested that imagination and emotional anticipation played an essential role in supporting children's emotion regulation (March & Fleer, 2017). However, these studies focused on preschoolers rather than toddlers. The present study sought to examine adult–child interactions that help support emotion regulation in toddlers.

Study design

The research is part of a larger study on young children's emotional development that involved three focus children and their parents from different cultural backgrounds. The data presented in this paper is based on the Chinese family living in the US. Ethics approval for the study was granted by the Institutional Review Board of the author's institution. Pseudonyms are used in this paper to protect the privacy of the participants.

Participants

The participants in this study were a 2-year-old toddler girl named Audrey and her parents. Audrey was born in a middle-class family in the US. Her parents were first-generation immigrants from China. Audrey started to attend childcare around three mornings a week when she turned 2 years old. She spent two afternoons with her nanny and the rest of the week with her parents, mainly with the mother during weekdays.

Data collection

The data used for this study comprised digital video observations over 9 months and the mother's baby diary. The mother volunteered to take roles as both a participant and a co-researcher. As part of professional development, the mother also studied Vygotsky's cultural-historical literature before and during data collection.

Digital video observations

A total of about 60 hours of digital video observations were gathered by Audrey's parents over 9 months. Parents filmed their everyday interactions with Audrey including play, meal times, bath times, preparing for bed, and everyday routine transitions. They videotaped

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whenever they remembered or were able to do it. Otherwise, the mother wrote down the interactions that focused on dramatic collisions and emotionally charged situations in the diary if they were not videotaped.

The diary

There were 115 pages (11 pt font, single line spacing) of a Google Docs diary written by Audrey's mother from the beginning of October to the end of June in the following year. This 9-month diary was part of a baby diary started before Audrey was born. Her father contributed to the diary by sharing with the mother his interactions with Audrey, which was then documented in the diary by the mother. Different from the regular diary, this one included field notes, as the mother was collecting research data for the study. She wrote field notes as part of the diary. She was asked to focus on parent–child interactions in their everyday conflicts with Audrey in writing the field notes, such as how they reacted to Audrey's negative emotions and how Audrey responded to parents' responses. The field notes also encompassed the mother's thoughts and emotional experiences in the moment of interactions, as well as her reflections on the event afterwards. This information was not visible in digital video observation.

Data analysis

Guided by Hedegaard and Fleer's (2008) three levels of analysis, first, all raw data on parent–toddler interactions from video observations and the diary were reviewed, understood, and commented on. Second, theoretical concepts from cultural-historical theory—including dramatic collision, motives, and demands, as well as *perezhivanie*—were used as analytical tools for the second level of analysis (see discussions of these concepts in the following section). The data on dramatic events in parent–child interactions in emotionally charged situations were extracted from the complete data set and gathered in a Google Docs document. After that, all dramatic events were analyzed further by using the concepts of motives, demands, and *perezhivanie*. The child's motives and parents' demands, as well as their reactions to each other, were summarized in a table (see Table 1 for an example). Finally, on the third level of analysis, the data materials, theoretical concepts, and the research question were gathered together to uncover patterns that address the research question.

Analytical concepts

Dramatic collision refers to a conflict or contradiction "between the natural and the historical, the primitive and the cultural, the organic and the social" (Vygotsky, 1997, p. 221). For example, in the study, the dramatic collisions happened between what the child wanted to do (i.e., the motive of the child) and what the parents required the child to do (i.e., demands). The concept of *motive* or motive orientation indicates the child's perspective, while the *demands* are from the activity setting of the child (Hedegaard, 2012).

Perezhivanie is a Russian word loosely translated as emotional experiences (Vygotsky, 1994) but has complicated meanings including *perezhivanie* as *phenomena* and *perezhivanie* as a *concept* (Veresov, 2017). Vygotsky (1994) explained that *perezhivanie* is how a person "becomes aware of, interprets and emotionally relates to a certain event" (p. 341)—that is, a unity of cognition and emotion. This unity is one layer of the meanings of *perezhivanie* as a concept, which was used in the study to interpret dramatic collisions in parent–toddler interactions.

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In the unity of cognition and emotion, the relation between cognition and emotion, was elaborated by Vygotsky (1993) as "a dual dependence" (p. 232), meaning that cognition is dependent on emotion and vice versa.

Findings and discussion

Findings showed that the parents used various methods to support their child's emotion regulation in emotionally charged situations. These methods were categorized into the strategies of *interactive imagination* and *non-imaginary strategies*. The strategies of interactive imagination were found to be effective in supporting the toddler's emotion regulation but were rarely used in comparison to the employment of non-imaginary strategies. This section reports and discusses the findings of the study. It begins with the findings and discussion of two types of interactive imagination that supported the toddler's emotion regulation, followed by the finding that interactive imagination was less used in everyday toddler emotion regulation.

Interactive imagination supported toddlers' emotion regulation

The strategies of interactive imagination in the study refer to the strategies used for emotion regulation that are imaginary, interactive, and improvisational. In using the strategy of interactive imagination, the adult and child co-construct imaginary events together. There were two types of interactive imagination found in the study, named *emergent-dramatic play* (see examples in Table 1) and *improvised-imaginary stories* (see Vignette 1). The terms "emergent" and "improvised" are used as synonyms here, meaning spontaneous creation in the moment of the event.

Emergent-dramatic play and emotion regulation. Emergent-dramatic play is play that has the components of imagination, improvisation, and interaction. Table 1 summarizes examples of emergent-dramatic play from the data set. The parents *improvised-imaginary situations* to assist Audrey to regulate her negative emotions when there were dramatic collisions between the parents' demands and the child's motives. Take the dramatic event of January 10 as an example: when Audrey asked for breast milk, the mother acknowledged Audrey's need and *created the imaginary role* of a "big sister" for her. The mother documented in the diary that Audrey always wanted to grow up to become a big sister. She further explained to Audrey that a big sister did not drink breast milk anymore. This is the role-related rule for the "big sister." When Audrey was in the role of the big sister, the role itself required her to follow the rule of not drinking breast milk. As stated by Vygotsky (1966), play generates "demands on the child to act against immediate impulse" (p. 14). In this situation, Audrey is experiencing a contradiction within herself. On one hand, she has a strong desire to be a big sister who should not drink breast milk. On the other hand, she wants to drink the breast milk. In the contradiction, Audrey experiences two emotions: the pleasure from being a big sister and negative emotions, such as being upset, when not drinking the breast milk. These emotional experiences are described as "the double nature of the effective flow" (Vygotsky, 2005, p. 91) in imaginary play, and a "dual affective plan" by Nohl (Vygotsky, 1966, p. 14). Audrey ended up not drinking the breast milk and regulated her negative emotions. Why did she follow the rule? Vygotsky (1966) elaborated that children follow the rules because "the rules of the play structure promises much greater pleasure from the game than the gratification of an immediate impulse" (p. 14). The pleasure from the satisfaction of being a big sister drove Audrey to regulate herself not to drink the breast milk and to regulate her emotions.

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The other two examples, on October 18 and April 28, in Table 1 are similar to the above example. That is, the imaginary situations had roles and rules that supported Audrey's emotion regulation.

The finding that emergent-dramatic play assisted the toddler to regulate her emotions reflects what was pointed out by Vygotsky (1966) that "in play a child is always above his average age, above his daily behavior; in play it is as though he were a head taller than himself...play contains all developmental tendencies in a condensed form" (p. 16). It also echoes findings from other cultural-historical studies (e.g., Fleer, 2017; Fleer & Hammer, 2013a, 2013b; March, 2018; March & Fleer, 2017). These studies have found that dramatic play supports preschoolers' emotion regulation despite children being in age groups different from the present study. The findings of this study, however disagree with Vygotsky's statement (1966) that children under 3 years of age are unable to play with an imaginary situation. The data showed that the toddler was not only able to play with an imaginary situation but also used play to regulate her negative emotions.

Additionally, the data showed that emergent-dramatic play functioned as a method of distracting or redirecting the child's attention to play. In the dramatic events of June 11 and 16 (see Table 1), answering Minnie's phone call distracted Audrey's attention from dramatic collisions and redirected her attention to talking to Minnie. She regulated her negative emotions. Similarly, the case on January 15 showed the use of emergent-dramatic play as a distraction to regulate Audrey's negative emotions. This finding is consistent with the results of Friedlmeier et al.'s (2019) study, which showed distraction was an effective way to regulate emotions.

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Table 1
Examples of emergent-dramatic play used in everyday parent–child dramatic collisions

	Dramatic collisions			
Date	**Child's motives**	**Parent's demands**	**The parent's reactions in dramatic events, using emergent-dramatic play with the child's negative emotion expressions**	**The child's reactions**
Oct. 18	Want to watch Mickey Mouse song on YouTube, (frowning and almost crying)	No videos	Instead of saying "no," the mother said, "Mickey Mouse is still asleep. Look, it is dark. Too early in the morning."	She then asked for the songs called "five little ducks" and "the little star," to which the mother responded the same way. She then left without any frustration or resistance.
Jan. 10	Cried and asked for breast milk	Weaning	Mother said, "I understand that, but Audrey is a big sister now. A big sister does not drink breast milk. Only little babies do."	She stopped crying, calmed down, and fell asleep.
Apr. 28	Did not want to pick up a watermelon skin after throwing it on the floor	Put it in the trash bin	After using a serious tone to ask Audrey to pick up the skin that did not work, the mother said, "Oh, the watermelon skin is sad on the floor because his home is here [pointing to the trash bin]. He misses his home. Can you help him go home?"	After saying "no" to the mother and showing a grumpy face, she quickly picked up the watermelon skin and put it in the bin.
Jan. 15	Did not want to wait for pizza when she was sleepy, hungry, and grumpy	Wait for the pizza to be baked	The mother took out a toy phone from her pocket and improvised to call Mickey to ask if he had a pizza ready to eat.	When the answer was "no" from Mickey, she asked to call someone else, like Minnie and Mama Pig. She was very engaged in making phone calls and was happy.
Jun. 11	Crying and asking for another type of yogurt unavailable at home	Eat the yogurt they had	Mother said, "Daddy, check your phone. Minnie is calling. She said she delivered some yogurt made by her mother yesterday. They are in our fridge for Audrey." Father gave the phone to Audrey and asked if she wanted to talk to Minnie.	She suddenly stopped crying and started to talk to Minnie on the phone.
Jun. 16	Tried to pull the mother out of bed to play with her, crying slightly	Play with dad while mom is not well	After the father failed to convince her to leave the room, the mother said to the father, "Hurry up daddy, answer the phone. Minnie is calling. Audrey, do you want to answer the phone?"	She quickly paid attention to the phone and said "yes." She walked out of the room to answer Minnie's phone and calmed down.

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Improvised-imaginary stories and emotion regulation. Improvised-imaginary stories in this study are spoken narratives with an element of imagination and are improvised before or during the moments of dramatic collisions. The story line is codeveloped in the process of adult–child interactions, in which the child is an active co-contributor to story-making rather than a passive listener. Different from emergent-dramatic play, where children may take roles and act in the imaginary situation, the focus of improvised-imaginary stories is to co-construct an imaginary story line, and children do not necessarily act out the story.

Below is Vignette 1, which shows an example of an improvised-imaginary story the mother used in a dramatic collision.

Vignette 1. An improvised bedtime story

Audrey was grumpy and did not want to go to bed. Her mother was holding her and saw the big Minnie Mouse sticker on the wall. She started to improvise a story about Minnie Mouse.

Mother: Look Audrey, the Minnie Mouse met Mickey mouse in a park and asked him if he wanted to play together. They then went to eat something together. Mickey asked Minnie, "would you like some cake?" Minnie said, "no, thank you. It's too sweet. Not good for my teeth." Mickey asked, "would you like some ice cream?" Minnie refused it again because it was too sweet and not healthy either.

Audrey: [Stopped being grumpy, is listening to the story, focused, and calm.]

Mother: Audrey, would you like to help them think about what kind of food is healthy?

Audrey: [Thinking] ... Vegetables.

Mother: Yes, vegetables. Lots of vitamins. Anything else?

Audrey: Fruits.

Mother: Right! What about milk?

Audrey nodded her head. The mother noted in the diary that she intentionally added milk into the conversation to set up a context for her to drink milk. Drinking milk before sleep was a routine, but she refused to drink it that day.

Mother: Mickey drank some milk; Minnie did it as well. After that, they both fell asleep. Here is your milk.

Audrey did not refuse the milk anymore and drank it straight away. She looked content and went to bed.

In Vignette 1, there was a dramatic collision between the bedtime demand of going to bed and Audrey's motive of not wanting to sleep. The mother made up an imaginary story about Mickey and Minnie, who were two cartoon characters Audrey liked (as mentioned in the diary). The beginning of the imaginary story caught Audrey's *attention*. This redirection of her attention helped her calm down. Her grumpy emotion was regulated.

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The mother then used a question—"would you like to help them think about what kind of food is healthy"—to engage Audrey.

As documented by the mother, she intentionally used questions to maintain Audrey's attention on the story-making. According to her previous experience, Audrey's negative emotions sometimes came back after she was distracted (see Vignette 2 as an example) so she thought it was necessary to keep her attention by using questions to involve her in the story-making. This question invited Audrey to *think*. She came up with the answer "vegetables." This mother–toddler interaction involved Audrey in the *cognitive process* of meaning making. Vygotsky (1994) stated that cognition and emotion are an inseparable unity. Audrey's cognitive shift from initially refusing to go to bed to her later attention on and thinking about the Mickey and Minnie story impacted upon her emotional experiences (i.e., *perezhivanie*; Vygotsky, 1994) as a whole, changing from being grumpy to pleasant. Audrey's attention was successfully redirected by and maintained in the improvised-imaginary story. Her negative emotions were also regulated.

Interactive imagination and emotion regulation. Due to the shared component of imagination in both emergent-dramatic play and improvised-imaginary story, these two strategies together are called *interactive imagination*. Vignette 2 shows a complicated example using improvised-imaginary stories, followed by emergent-dramatic play. Sometimes, Audrey's parents had to use both strategies to regulate her emotions.

Vignette 2. Peppa Pig video

In the playroom, Audrey started to cry after the father did not let her keep watching the video. The parents invited Audrey to feed the fish. She calmed down when she focused on doing it. After that, she cried again.

Mother: What about Audrey and Daddy make a story about fish?

Father: Fish, fish, her name is…? [The father started to create the story.]

Mother: Would you like to name the fish, Audrey?

Audrey: Audrey. [She used her own name to name the fish and smiled.]

The father asked her to name another fish.

Audrey: George. [She used her brother's name for the fish and smiled.]

Audrey walked to her mother and started to frown (looked grumpy) and asked for the video again.

Father: Audrey and George, they saw a … falling down from the sky.

Mother: What?

Audrey: What? [Stopped crying and asked.]

Mother: Pancake?

Father: Yes, a big pancake.

Audrey: [listening quietly]

Father: Oh, why is her mouth so red? [The father saw a red area near Audrey's mouth and asked spontaneously.]

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Audrey: No! [Screamed and was suddenly irritated again and moved away from her father.]

Mother: Don't interrupt. It's ok. [The mother told the father when he was interrupting the imaginary situation just created.]

Father: Oh, the big pancake.

Mother: Can you think, Audrey? What is fish-Audrey going to do when the pancake dropped from the sky?

Audrey: [Quiet and looked like she was thinking.]

Father: Audrey said, "George, George come out, don't sleep, don't sleep." [The father chanted and clapped his hands.]

Mother: Hurry up, go and eat. Then George said, "I don't want any pancakes." [The mother continued to make the story after the father. Audrey was quiet and listening to the story.]

Father: And then, you said, "I want to cook food by myself. I don't want to eat something dropped from the sky. I want to eat something grown up from the land …" [Audrey looked at her father and listened carefully.]

Mother: After that, both Audrey and George went back to the pig pancake, very big that they can sleep on it. And then—you continue Audrey—what kind of topper does it have?

Audrey: Wu … [Started to frown and cry; grumpy again.]

Father: It has pepperoni, sweet pepper.

Audrey stopped crying and listened quietly to the story again.

Mother: And mushroom. How to say mushroom in Spanish?

Audrey got grumpy again and refused to say it.

Father: George asked Audrey, "where is the sweet pepper from?"

Audrey's attention quickly went back to the story and she calmed down again.

Father: And Audrey answered, "pepper was falling down from the sky."

…

Mother: Audrey, why are you here? [Pretending to be the pepper.] What are you going to answer?

Audrey: Enhe, enhe. [Smiled and looked engaged. She made this sound when she was listening but did not offer a direct answer.]

Mother: I am here to eat you. And then? What is the sweet pepper gonna say? Would you like to be the sweet pepper, or you want mommy to be the sweet pepper?

Audrey: Mommy be the sweet pepper. [Smiling and happy.]

Mother: Ok, turn around and talk to me, "Hi Audrey, what are you doing here?"

Audrey: I am here to eat you.

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> *They continued to make up the story while taking roles. Audrey smiled the entire time and was very engaged in the play. Her mood was stable and did not come back to the previous mood again.*

In Vignette 2, the ellipses break the vignette into two parts. The first part uses the improvised-imaginary story. The second part employs the emergent-dramatic play, when the mother and Audrey took roles and acted them out. In the first part, although the parents successfully used the strategy of an improvised-imaginary story to regulate Audrey's negative emotions in the dramatic collision between Audrey's motive of keeping watching Peppa Pig and the father's demand to stop watching the video, Audrey's negative emotions reemerged multiple times. When the imaginary story line was interrupted, Audrey's attention to the story discontinued. Her attention moved in and out of the imaginary content of the story. When she was paying attention to and thinking about the imaginary content, she became calm. Otherwise, when she was out of the imaginary world, she began to cry again. As stated by Vygotsky (1993), cognition and emotion depend on each other. The regulation of the cognitive process influenced the regulation of negative emotions. The parents' continuous effort to involve Audrey in the imaginary events (both improvised-imaginary story and the emergent-dramatic play) were ways to regulate her cognitive process because, as Vygotsky (1987) has stated, imagination is a form of thinking that links to emotions. Therefore, in Vignette 2, interactive imagination functioned to keep Audrey's focus on the imaginary events and not move back to the negative emotions.

Both Vignettes 1 and 2 demonstrate the need to maintain Audrey's calm emotional status after the redirection of her attention resulted in the regulation of her negative emotions. As shown in the data set, interactive imagination was a strategy not only for regulating her negative emotions but also maintaining the positive emotional status that prevented her from returning to the negative emotions. Thompson (1994) considered the maintenance of emotions as part of emotion regulation. The maintenance of emotions is what distinguishes the distraction by interactive imagination from distraction by objects or reading activities. The former is more likely to keep toddlers in a positive emotional status by engaging them in imagination, because it is an interactive process of co-construction. The latter can distract toddlers' attention but does not necessarily maintain their emotions.

Taken together, Vignette 2 demonstrates how interactive imagination functioned as a distraction and an emotion maintainer in supporting the toddler's emotion regulation. The next section discusses another finding from the study.

Interactive imagination: A less used emotion regulation strategy

There were approximately 84 documented (either video or diary) everyday dramatic events over the period of 9 months starting from when the child turned 2 years old. Parents used the strategy of interactive imagination in 14 events. Therefore, interactive imagination was used in 16.7% of documented emotionally charged situations (see Figure 1). In the majority of dramatic collisions, parents regulated the child's emotions using non-imaginary strategies such as explanation, distraction by objects or reading activities, and behaviorism-oriented strategies such as "if you do not eat, you will have no candy later." This finding is consistent with what was reported in Chen and Fleer's (2016) study: that parents predominantly used manipulative play (i.e., a non-imaginary strategy) instead of imaginary events, such as dramatic play, to regulate preschoolers' emotions.

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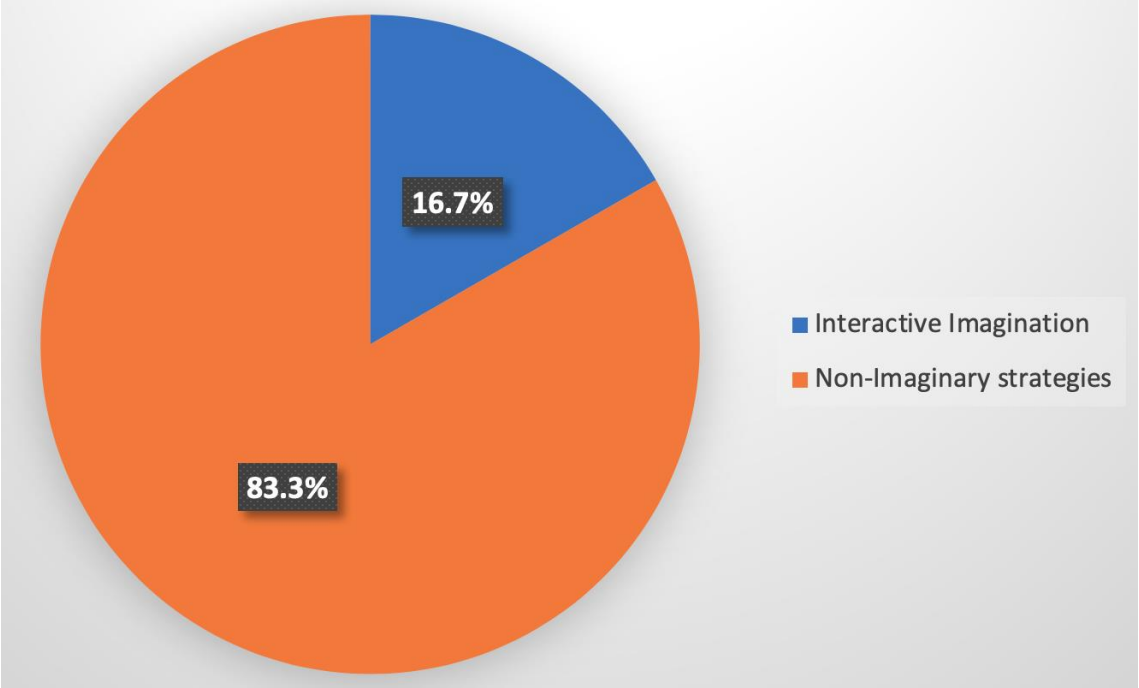


Figure 1. The use of emotion regulation strategies in everyday dramatic events.

In searching for why interactive imagination was less employed as a strategy for emotion regulation, the mother reflected that she did not naturally use the strategy of interactive imagination in everyday dramatic events. She did not know the power of imagination until she learned it studying Vygotsky's work and her experiences. Even after she learned it, she often forgot to use it in moments of dramatic collision. The mother explained that the reason for forgetting was that she was emotionally engaged in the collision and focused on her own demands or needs instead of supporting the child's emotion regulation.

The data demonstrated that the use of interactive imagination as a strategy to regulate toddlers' emotions was a result of professional development in the current research project. Since this finding in the case study should not be generalized, it would be interesting for future studies to explore how interactive imagination or imaginary events are employed in everyday adult–toddler conflicts for emotion regulation, as well as whether this method will be an unknown or forgotten tool for toddlers' emotion regulation.

Conclusion

This study explored how everyday parent–toddler interactions supported a toddler's emotion regulation in a Chinese-American family. Results indicated that the strategy of interactive imagination supported the toddler's emotion regulation in everyday parent–toddler dramatic collisions. However, the parents used this strategy much less than non-imaginary strategies. The strategy of interactive imagination included emergent-dramatic play and improvised-imaginary stories. In emergent-dramatic play, similar to that described by Vygotsky (1966), "play continually creates demands on the child to act against immediate impulse" (p. 14) and therefore helped the toddler's emotion regulation. Additionally, redirecting toddlers' attention and the maintenance of emotions were two other functions of emergent-dramatic play and improvised-imaginary stories in assisting the toddler's emotion regulation.

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It is argued that the strategy of interactive imagination is an essential tool to be used in parent–toddler interactions to regulate toddlers' negative emotions. The study added a cultural-historical perspective to the limited literature in the field. In practice, adults should be more aware of the importance of imagination in toddlers' emotion regulation and apply the method of interactive imagination as an alternative to other emotion regulation strategies in everyday emotionally charged situations to support toddlers' emotion regulation. Future research might use larger scale data in diverse cultural contexts to validate the findings of this study. Furthermore, interactive imagination is an active engagement strategy for emotion regulation: Grolnick et al. (1998) found that mothers' use of active engagement strategies was positively linked to toddlers' self-regulation of distress. It might be interesting for future studies to examine how the strategy of interactive imagination used by parents may impact on toddlers' emotion self-regulation and how this strategy is used in family homes with different cultural backgrounds.

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