

Maternal Mentalization and Behavior Under Stressful Contexts: The Moderating Roles of Prematurity and Household Chaos

Tal Yatziv

*Department of Psychology and Zlotowski Center for Neuroscience
Ben-Gurion University of the Negev*

Noa Gueron-Sela

*Department of Psychology
Ben-Gurion University of the Negev*

Gal Meiri and Kayla Marks

*Soroka University Medical Center and the Faculty of Health Sciences
Ben-Gurion University of the Negev*

Naama Atzaba-Poria

*Department of Psychology
Ben-Gurion University of the Negev*

This study examines the links between online maternal mentalization during mother–infant interaction, maternal sensitivity, and family triadic interaction while considering the cumulative role of two stressful contexts (cumulative stressful contexts): premature birth (a child-driven stressful context) and household chaos (an environment-driven stressful context). Two moderation models were tested on a sample of 134 families with 6-month-old infants (77 low-risk preterm, 57 full-term). Cumulative stressful contexts mitigated the relations between maternal mentalization and behavior, such that online maternal mentalization during mother–infant interaction was related to both maternal sensitivity and the quality of family triadic interaction under low cumulative stressful contexts, but not under high cumulative stressful contexts. Implications for understanding the influence of online maternal mentalization on maternal sensitivity and the family triad are discussed.

One of the most discussed and studied aspects of mother–infant relationship is maternal sensitivity. In her seminal work, Ainsworth defined maternal sensitivity as a mother’s ability to accurately perceive and interpret her infant’s signals and to respond

in a timely and appropriate manner (Ainsworth, Bell, & Stayton, 1974). Inherent in the definition of sensitivity is the mother's ability to understand her child's mind (Ainsworth et al., 1974; Koren-Karie, Oppenheim, Dolev, Sher, & Etzion-Carasso, 2002; Meins, 2013; Oppenheim & Koren-Karie, 2013). A sensitive mother is aware of how her baby is feeling and of how her own mental states and behaviors affect the baby (Ainsworth et al., 1974). Given an understanding of the baby's mind, as well as the mother's ability to empathize with her baby, she can respond appropriately (Ainsworth et al., 1974). In other words, sensitivity requires moving from cognition to behavior, translating representations to responses. Because measures of maternal sensitivity focus on the responding aspects of sensitivity in overt behavior, while neglecting its representational side (Mesman & Emmen, 2013), it has been suggested that *maternal mentalization*, a mother's proclivity to represent her child's mental states and consider her child as a psychological agent, should be viewed as the representational aspect of maternal sensitive behavior (Meins, 2013; Oppenheim & Koren-Karie, 2013).

Maternal sensitivity and mentalization are considered core components of early mother–infant relationships (e.g., Meins, 2013; Sharp & Fonagy, 2008; Slade, 2005; Zeegers, Colonnese, Stams, & Meins, 2017), acting as precursors of social and cognitive development (e.g., Belsky & Fearon, 2002; Bernier, McMahon, & Perrier, 2017; Fonagy, Gergely, Jurist, & Target, 2002; Meins et al., 2003). The aim of this study was to empirically investigate the relations between maternal mentalization during mother–infant interaction, and two behavioral parent–infant constructs associated with infants' development—maternal sensitivity and family triadic interaction—under stressful conditions, namely premature birth and high levels of household chaos.

Maternal mentalization and behaviors during observed dyadic and triadic interactions

In the last couple of decades, a growing body of research has been devoted to studying maternal mentalization, a term that encompasses several corresponding constructs and operationalizations (Katznelson, 2014; Schiborr, Lotzin, Romer, Schulte-Markwort, & Ramsauer, 2013; Sharp & Fonagy, 2008; Zeegers et al., 2017), such as reflective functioning (Fonagy, Steele, Steele, Moran, & Higgitt, 1991; Slade, 2005), mind-mindedness (Meins, Fernyhough, Fradley, & Tuckey, 2001), and insightfulness (Oppenheim & Koren-Karie, 2013). Maternal mentalization addresses a mother's capacity to understand mental states in herself and in her children (Sharp & Fonagy, 2008). Mothers who are high in mentalization, first and foremost, regard their children as psychological agents, acknowledging that their children have minds of their own (Koren-Karie et al., 2002; Meins, 2013; Slade, Bernbach, Grienberger, Levy, & Locker, 2001). Such mothers actively attempt to identify the possible mental states their children are experiencing to account for their children's behaviors (Meins, 2013; Oppenheim & Koren-Karie, 2002; Slade et al., 2001).

The study of maternal mentalization is based on two main approaches for measuring parents' ability to mentalize (Schiborr et al., 2013; Sharp & Fonagy, 2008; Zeegers et al., 2017). One approach is to measure parents' representations of their child's mind through their discourse in offline methods of interviewing parents regarding their relationships with their children (e.g., parental reflective functioning and insightfulness). A different approach is to measure parents' spontaneous references to their child's mind *online*, by observing parent–child interactions, typically using the interactional mind-

mindfulness scale (MM; Meins & Fernyhough, 2010). As emphasized by Meins (2013), MM can be considered “at the interface between behavioral and representational measures” (p. 541) because it taps parents’ voicing of their representations of their infants’ minds. To be clear, in this study, we focus on *online* maternal mentalization during real-time mother–infant interaction.

Maternal mentalization is considered an important precursor of various aspects of infants’ cognitive and social development. Online maternal mentalization during infancy has been positively associated with children’s language acquisition in toddlerhood (Laranjo & Bernier, 2013), executive functioning (Bernier, Carlson, Deschênes, & Matte-Gagné, 2012), school readiness in preschool (Bernier et al., 2017), and theory of mind development (e.g., Devine & Hughes, 2016; Kirk et al., 2015; Meins et al., 2003). Furthermore, high prenatal (offline) as well as postnatal (online) maternal mentalization predicts lower levels of internalizing and externalizing behaviors in toddlerhood (Meins, Centifanti, Fernyhough, & Fishburn, 2013; Smaling, Huijbregts, van der Heijden, van Goozen, & Swaab, 2016), suggesting that maternal mentalization can buffer against the development of conduct problems (e.g., Hughes, Aldercotte, & Foley, 2016). Thus, understanding the processes by which online maternal mentalization relates to other positive aspects of mother–infant and mother–father–infant interactions, namely maternal sensitivity and family triadic interaction (e.g., Feldman & Masalha, 2010; McHale & Rasmussen, 1998), can help illuminate important precursor of early development.

Maternal mentalization and sensitivity in the mother–infant dyad

Mentalization theoreticians emphasize that accurate representations of a child’s mind enable sensitive behavior and characterize mentalization as the internal aspect of maternal sensitivity (Koren-Karie et al., 2002; Oppenheim & Koren-Karie, 2013; Slade, 2005). For a mother to adjust her behavior toward meeting her infant’s needs, she is first required to infer her infant’s mental states from the infant’s cue, in other words, what the infant is thinking or feeling (e.g., Meins, 2013; Zeegers et al., 2017). Sensitive mothers translate their representations of their child’s mental states to sensitive, attuned behavior. In support of this theoretical stance, research indicates a well-established positive association between maternal mentalization and maternal sensitivity, using both offline and online measures (Ensink, Normandin, Plamondon, Berthelot, & Fonagy, 2016; Koren-Karie et al., 2002; Meins et al., 2001; Rosenblum, McDonough, Sameroff, & Muzik, 2008; Stacks et al., 2014; Zeegers et al., 2017). Moreover, online maternal mentalization and offline maternal mentalization were found to predict mother–infant attachment (Kelly, Slade, & Grienenberger, 2005; Laranjo, Bernier, & Meins, 2008; Lundy, 2003; Oppenheim, Koren-Karie, Dolev, & Yirmiya, 2012; Stacks et al., 2014; Zeegers et al., 2017). Further support for the notion that a mother’s mentalization about her child’s mind leads to sensitive behavior comes from findings indicating that maternal sensitivity mediates the link between online and offline maternal mentalization and mother–child attachment (e.g., Kelly et al., 2005; Laranjo et al., 2008; Zeegers et al., 2017; but see Ensink et al., 2016), meaning that infants of mothers who are high in mentalization behave sensitively toward their infants, which leads to secure attachment.

Maternal mentalization and the family triad

Maternal behavior does not only affect the mother–child relationship, but also the interaction of the family as a whole: mother, father and child. Family-system theories (e.g., Cox & Paley, 2003; Minuchin, 1985; Sameroff, 1997) emphasize the importance of studying the family triadic level (mother–father–child) and not just the dyadic levels (mother–child, father–child). Family dynamics have a unique contribution to children’s development, beyond dyadic relationships (e.g., Feldman & Masalha, 2010; Jacobvitz, Hazen, Curran, & Hitchens, 2004; Karreman, Van Tuijl, Van Aken, & Deković, 2008; McHale & Rasmussen, 1998).

Although maternal mentalization is assessed and conceptualized in the context of a specific mother–child relationship, it is highly related to mentalization in other meaningful relationships, such as mothers and their spouses (Illingworth, MacLean, & Wiggs, 2016; Meins, Fernyhough, & Harris-Waller, 2014), mothers and their younger or older children (Illingworth et al., 2016), and mothers and their own parents (Arnott & Meins, 2007; Slade, Grienenberger, Bernbach, Levy, & Locker, 2005). This suggests that maternal mentalization may be a trait-like quality across close relationships (Illingworth et al., 2016; Meins et al., 2014). Therefore, one would expect that maternal mentalization in the mother–infant dyad would also be associated with the quality of family triadic interaction. Support for this idea comes from a recent study examining the contribution of maternal insightfulness to the quality of the family triadic interaction (Marcu, Oppenheim, & Koren-Karie, 2016). Specifically, it was found that families in which both parents were high in insightfulness also had higher levels of cooperation and coparenting, compared to families in which at least one of the parents was classified as low in insightfulness. Furthermore, another recent study found an association between mothers’ prenatal reflective functioning and subsequent mother–father coparenting during family play interactions (Jessee et al., 2018).

The effect of stressful context on the link between mentalization and behavior

Past research has focused on how mentalization promotes sensitive behavior (e.g., Camoirano, 2017), leaving out the question of whether (and why) mentalization may not guide behavior under certain conditions. Deater-Deckard (2005) proposed that stress acts as an obstacle to parents’ attempts to respond appropriately to their children’s needs by promoting less under-controlled, more reactive parenting. This idea is supported by the dual-systems model of social cognition and mentalization (Lieberman, 2003; Luyten & Fonagy, 2015). According to Luyten and Fonagy (2015), mentalization (in general, not necessarily in the context of parenting) can be conceptualized on a dimension of automatic vs. controlled modes of mentalizing (see also Lieberman, 2003). This notion is rooted in the widely supported dual-system models of social cognition (also termed dual-process; e.g., Lieberman, 2003; Mayes, 2000; Shiffrin & Schneider, 1977), according to which cognitive processing takes place in controlled or automatic modes. Controlled processing is explicit and based on higher cognitive abilities, whereas automatic processing is implicit, based on biases, and prompts the use of automatic response tendencies. Controlled mentalization seems to be important for accurate understanding of mental states in oneself and in others, especially in demanding, real-time situations (Luyten & Fonagy, 2015). In this sense, it may be suggested

that interactional (online) measures of maternal mentalization tap the more controlled, or explicit, end of maternal mentalization.

According to dual-system models, the controlled system is in charge of overcoming habits (which are automatic) and with dealing with new situations (e.g., Hofmann, Gschwendner, Friese, Wiers, & Schmitt, 2008; Strack & Deutsch, 2004; Wirz, Bogdanov, & Schwabe, 2018). Studies examining links between explicit and implicit attitudes and behavioral outcomes under high vs. low cognitive or emotional load demonstrated that load modulates the association between processing and behavioral outcomes (e.g., Hofmann et al., 2008; Wirz et al., 2018). These studies found that behavioral outcomes are associated with controlled-explicit indices of processing under low load on the one hand, but with automatic-implicit indices under high load on the other (e.g., Friese, Hofmann, & Wänke, 2008; Hofmann et al., 2008; Payne, 2005).

One of the main factors that affects transitions between the two modes is stress (e.g., Mayes, 2000; Schneider & Chein, 2003; Wirz et al., 2018), which triggers the operation of automatic modes of processing at the expense of controlled processes, leading to habitual rather than goal-directed behavior (Wirz et al., 2018). Furthermore, it was found that executive functioning (an index of controlled processing) modulated the link between challenging child behavior and harsh maternal negativity (Deater-Deckard, Wang, Chen, & Bell, 2012), but only when environmental contextual stress was low (as indicated by household chaos, on which we elaborate later in this section). This finding supports the notion that maternal behavior is less influenced by controlled processes in highly stressful contexts (Deater-Deckard, Wang, et al., 2012).

To the best of our knowledge, the modulating effect of stress on the links between maternal mentalization and behaviors has yet to be studied. Applying the dual-system reasoning outlined above, it is expected that the association between online mentalization and sensitive behavior may be disrupted under contextual stress.

Cumulative stressful context (CSC) risk

It is well accepted that risk has a cumulative effect, such that the presence of several risk factors amplifies their negative effect on child development (e.g., Atzaba-Poria, Pike, & Deater-Deckard, 2004; Evans, Li, & Whipple, 2013) as well as on the family system (Browne, Leckie, Prime, Perlman, & Jenkins, 2016; Browne, Plamondon, Prime, Puente-Duran, & Wade, 2015). Importantly, cumulative risk has been found to be negatively associated with maternal sensitivity, involving distal environment and child-driven stress risk factors (Browne et al., 2016; Neuhauser, 2016; Smaling, Huijbregts, Suurland, et al., 2016). Furthermore, previous research has shown that environmental-familial risk among mothers of preterm infants predicted continuation of maternal emotional distress from birth to 24 months, suggesting that the combination of prematurity together with other environment-driven stressors may be associated with chronic stress (Poehlmann, Schwichtenberg, Bolt, & Dilworth-Bart, 2009).

In this study, we aimed to examine the cumulative effect of two stressful contexts in early parenting that could mitigate the links between maternal mentalization and maternal behavior in the mother–infant dyad and family triadic interaction: premature birth (a child-driven stressful context) and household chaos (an environment-driven stress context).

Prematurity as a child-driven stressful context. Premature birth (i.e., <37 weeks of gestation) is considered to be a biological risk factor for the child's cognitive and social development (e.g., De Schuymer, De Groote, Desoete, & Roeyers, 2012; Zmyj, Witt, Weitkämper, Neumann, & Lücke, 2017). Parents of infants born preterm are at risk as well. These parents are in a state of "premature parenting" in which the transition to parenthood takes place ahead of its time (Stern, 1999). Furthermore, prematurely born infants are less engaged and responsive in dyadic interactions compared to full-term infants (e.g., De Schuymer et al., 2012; Johnson et al., 2015), suggesting that preterm infants can be more challenging interaction companions for parents. Extensive research indicates that parents of preterm infants are more prone to distress compared to parents of full-term infants: They often experience a sense of loss of the parental role as well as a decrease in confidence as parents during the hospitalization of their newborn, and they suffer more from anxiety, parental stress, posttraumatic stress symptoms, and depression, especially in the first months postpartum (e.g., Al Maghaireh, Abdullah, Chan, Piaw, & Al Kawafha, 2016; Miles & Holditch-Davis, 1997; Olshtain-Mann & Auslander, 2008; Poehlmann et al., 2009; Suttora, Spinelli, & Monzani, 2014). In addition, prematurity is associated with an increase in parents' concerns regarding their infant's health and development (e.g., Al Maghaireh et al., 2016). Parenting stress and posttraumatic symptoms among mothers of prematurely born children appear to continue from infancy (e.g., Borghini et al., 2014; Holditch-Davis, Bartlett, Blickman, & Miles, 2003) through middle-childhood (Polic et al., 2016), and unresolved maternal grief following premature birth has been associated with a risk for insecure attachment (Shah, Clements, & Poehlmann, 2011). These findings highlight the importance of research on prematurity as a stressful context. It is proposed that premature birth is a child-related context that poses a risk factor for stress in early parenting.

Household chaos as an environment-driven stressful context. Household chaos refers to the spatial aspects of the physical environment in family homes, namely to background-surrounding factors that may elicit stress, such as crowding, noise, lack of routine and schedule, as well as the number of people walking around the house (Evans, 2006; Matheny, Wachs, Ludwig, & Phillips, 1995; Wachs, 1989). Household chaos is associated with poorer parenting behaviors, such as harsh parenting and differential treatment of siblings, and to lower quality of parent-child relationships (e.g., Atzaba-Poria & Pike, 2008; Coldwell, Pike, & Dunn, 2006; Dumas et al., 2005). Chaotic homes are overstimulating and therefore lead to higher levels of chronic stress (e.g., Evans, Hygge, & Bullinger, 1995), as well as to lower levels of self-regulation and cognitive control among mothers, probably due to high cognitive load (e.g., Bridgett, Burt, Laake, & Oddi, 2013; Deater-Deckard, Chen, Wang, & Bell, 2012; Evans, 2006; Mokrova, O'Brien, Calkins, & Keane, 2010; Valiente, Lemery-Chalfant, & Reiser, 2007). Support for the dominance of automatic (rather than controlled) processes among parents under the stressful context of high household chaos comes from the finding that their behavior is more influenced by attributional biases (e.g., interpreting child misbehavior as intentional) compared to the behavior of parents in nonchaotic households (Wang, Deater-Deckard, & Bell, 2013). Thus, as a stressful context, household chaos is likely to modulate the links between online maternal mentalization and behavior by reducing the link between controlled processes of real-time mentalization and sensitive, attuned behavior.

The present study

This study examined online maternal mentalization (as measured by maternal MM), maternal sensitivity during dyadic interactions, family triadic interactions, and household chaos in a sample of families of 6-month-old preterm (with low medical risk) and full-term infants. The primary aim of the study was to empirically examine the role of CSC as a moderator of the links between online maternal mentalization and behavior, as manifested in maternal sensitivity and family triadic interactions. The following hypotheses were tested:

- 1 The association between MM and maternal sensitivity in the mother–infant dyad would be moderated by CSC, such that this link would be stronger under low CSC compared to under high CSC.
- 2 MM would be associated with the quality of family triadic interaction, and this link would be stronger under low CSC compared to under high CSC.

METHOD

Participants

The sample included 134 families (mothers, fathers, and infants) with infants born full-term ($n = 57$) and preterm ($n = 77$), who participated in the longitudinal preterm early development study (see Gueron-Sela, Atzaba-Poria, Meiri, & Marks, 2015). This study will present data collected when infants were 6 months old ($M_{\text{age}} = 6.16$ months, $SD = .50$ in the full-term group; $M_{\text{age}} = 5.79$ months, $SD = .54$ corrected for prematurity in the preterm group). Originally, 150 families participated in the study at the age of 6 months, but 16 were excluded from the present analyses due to the following reasons: Nine families had missing data; five mother–infant interactions were uncodable due to technical reasons; and two families were identified as outliers due to extremely low sensitivity scores (more than three standard deviations below the mean; both families were from the preterm group) and thus were excluded from analyses. Furthermore, because 14 fathers declined to participate in the study, analyses including the family triadic interaction measure included only 120 families.

This study was conducted in accordance with the Declaration of Helsinki's guidelines. Families were invited to participate in the study after the Helsinki Review Board at Soroka University Medical Center approved the study's procedures. Families were recruited in proximity to birth from the maternity ward (full-term group) or from the Neonatal Intensive Care Unit (NICU; preterm group) at Soroka Medical Center, the largest medical center in the southern region of Israel. Hebrew-speaking, two-parent families after singleton birth were invited to participate in the study. Seventy percent of the families that were approached agreed to participate and signed written informed consent forms. Infants in the preterm group (60% boys), were born with low medical risk (without significant neonatal neurological complications) between 28 to 34 weeks of gestation, with birthweight above 1,000 g. Infants in the full-term group (44% boys) were healthy infants born after at least 37 weeks of gestation. Infants' medical risk at birth was measured using the Nursery Neurobiological Risk Score (NBRS; Brazy, Eckerman, Oehler, Goldstein, & Angela, 1991), which assesses seven neonatal conditions

on a scale between 0 (no evidence) to 4 (severe), based on infants' medical records: infection, blood pH, seizures, intraventricular hemorrhage, assisted ventilation, periventricular variation, and hypoglycemia. Risk for abnormal outcomes is identified for scores higher than 6. All full-term infants had a score of 0. Preterm infants ranged between 0 and 4 ($M = 0.67$, $SD = 1.01$), indicating low neonatal medical risk.

Demographic information regarding infants and parents is reported in Tables 1 and 2, respectively. Preterm and full-term infants had a similar number of siblings, $t(132) = -1.07$, $p = .283$, with most infants having one or two siblings. Preterm infants had lower Apgar scores compared to full-term infants, $t(130) = 4.13$, $p < .001$, and were hospitalized for a longer period, $t(125) = -8.38$, $p < .001$. Most of the parents in the sample had a high school diploma or a higher degree, and the majority of them were employed. Families varied substantially in parents' occupations (see Table 2). Groups did not differ in parents' age, ($t(132) = -1.48$, $p = .14$, and $t(131) = -1.46$, $p = .15$, for mothers and fathers, respectively), in parents' occupation ($U = 2,044.5$, $p = .493$, and $U = 2,044.5$, $p = .493$ for mothers and fathers, respectively) and in mothers' educational level ($U = 1,976.0$, $p = .275$). However, there was a trend-level difference in paternal education ($U = 1,785.0$, $p = .083$), revealing that fathers in the full-term group had somewhat higher education than fathers in the preterm group.

Procedure

Measures were assessed at participants' homes, during a home visit when the infants were 6 months of age. Mother–infant dyadic free-play interactions were videotaped for the assessment of maternal MM and maternal sensitivity, and mother–father–infant triadic interactions were videotaped. Both parents also reported on household-chaos levels. Maternal MM, maternal sensitivity and family triadic interactions were coded by different coders.

Measures

Maternal mind-mindedness (MM)

Mother–infant free-play interactions were videotaped during the home visit. Mothers were given a box of age-appropriate toys and were instructed to play with their infant as they normally would. The videotaped interactions were coded by three

TABLE 1
Infant demographic information for the total sample and by prematurity group

	<i>Total sample</i> (<i>N</i> = 134)		<i>Full-term group</i> (<i>N</i> = 57)			<i>Preterm group</i> (<i>N</i> = 77)		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>Range</i>	<i>M</i>	<i>SD</i>	<i>Range</i>
No. of siblings	1.54	1.32	1.4	1.28	0–5	1.65	1.33	0–6
Gestational age (weeks)	35.27	3.92	39.44	1.19	37–42	32.18	1.77	28–34
Birthweight (g)	2,486	878	3,339	423	2,370–4,316	1,847	474	996–2,718
Days of hospitalization	12.42	13.04	3.06	1.39	1–9	18.91	13.57	2–75
Apgar score	9.66	0.86	10.00	0.0	10–10	9.41	1.07	3–10

TABLE 2
Parental demographic information for the total sample and by prematurity group

	<i>Total sample</i> (<i>N</i> = 134)		<i>Full-term group</i> (<i>N</i> = 57)		<i>Preterm group</i> (<i>N</i> = 77)	
	<i>Mothers</i>	<i>Fathers</i>	<i>Mothers</i>	<i>Fathers</i>	<i>Mothers</i>	<i>Fathers</i>
Age (years)	32.18	34.23	31.40	33.42	32.75	34.82
<i>M</i> (<i>SD</i>)	(5.28)	(5.49)	(4.77)	(4.87)	(5.59)	(5.86)
Education						
>12 years	7.5%	22%	7%	15.8%	7.8%	26.7%
Partial high-school diploma	8.2%	6.1%	5.3%	3.5%	10.4%	8%
Full high-school diploma	29.9%	25.8%	28.1%	28.1%	31.2%	24%
Academic education	54.5%	46.2%	59.6%	52.6%	50.6%	41.3%
Occupation						
Unemployed	19.4%	9.2%	24.6%	5.3%	15.6%	12.2%
Unskilled worker	3%	9.2%	–	10.5%	5.2%	8.1%
Agricultural/ manufacturing worker	–	22.9%	–	22.8%	–	23%
Sales and customer service	13.4%	13.7%	8.8%	15.8%	16.9%	12.2%
Clerical work	20.9%	5.3%	21.1%	5.3%	20.8%	5.4%
Management position	9%	11.5%	7%	10.5%	10.4%	12.2%
Professional worker/technician	20.9%	10.7%	17.5%	12.3%	23.4%	9.5%
Academic professional	13.4%	17.6%	21.1%	17.5%	7.8%	17.6%

Note. Parents' age is at the time point of 6 months.

trained coders using the interactional Mind-Mindedness Coding System (MM online; Meins & Fernyhough, 2010). This coding system has shown consistent construct validity, as well as high inter-rater reliability and validity in predicting sensitivity and children's theory of mind development (e.g., McMahon & Bernier, 2017; Meins et al., 2003). First, mothers' speech was transcribed verbatim. Afterward, all the comments in which mothers used mental-state language regarding their infant's mind (i.e., sentences that included words that referred to cognitive or affective states, such as "like," "want," "happy," "sad," "angry,"), and comments in which mothers talked on behalf of their infants, as if they were "giving words to children's cognitions and feelings" were marked as mind-related comments. Finally, coders classified each mind-related comment either as "appropriate," in other words, as reflecting a plausible interpretation of the infant's mental state, or as "nonattuned," in other words, comments that did not seem to match the infant's current mental state, as interpreted by his or her behavior. Maternal MM scores were calculated as the proportion of appropriate mind-related comments out of the total number of utterances each mother made during the interaction. To ensure proper inter-rater reliability, 10% of the total number of videos was coded by all three coders. Intraclass correlation coefficients were .98 for identification of mind-related comments and .97 for number of appropriate mind-related comments.

Maternal sensitivity

The free-play interactions were also coded for maternal sensitivity, using the Sensitivity scale from the fourth edition of the *Emotional Availability Scales* (EA; Biringen, 2008). The EA is widely used, including in Israel (e.g., Atzaba-Poria et al., 2010), and was found to have high inter-rater agreement (for a review of reliability and validity of the EA scales, see Biringen, Derscheid, Vliegen, Closson, & Easterbrooks, 2014). In the EA conceptualization, sensitivity referred to parents' appropriate responsiveness to their child's signals, awareness of timing, positive affect sharing, flexibility, creativity, and variety in play and negotiation in conflict situations. Each dyad was rated on a scale of 1–7 (including half points, e.g., 4.5), with higher scores indicating higher sensitivity. Interactions were coded by two trained coders. To ensure proper inter-rater reliability, 15% of the total number of videos were coded by the two coders, and the interclass correlation was .97.

Family triadic interaction

To measure the quality of the family triadic interaction, families were given the Lausanne Trilogue Play scenario (LTP; Fivaz-Depeursinge & Corboz-Warnery, 1999). Parents were given a box of age-appropriate toys, and infants were seated in an infant seat, facing the parents. Parents were asked to play for 10 min, while dividing this time frame into four play scenarios: In the first two parts, one parent played with the infant and the other one was an observer; in the third part, the three members of the family played together, and in the last part, parents had a conversation with the infant as an observer. Parents were given a stopwatch to allow them to monitor their time.

Interactions were coded using the Family Alliance Assessment Scale (FAAS; Lavanchy Scaiola, Favez, Tissot, & Frascarolo, 2008), which has shown good reliability and validity (Favez, Scaiola, Tissot, Darwiche, & Frascarolo, 2011). Two trained coders coded the interactions, and reliability (ranging between $\alpha = .70$ and $\alpha = .87$) was determined on 20% of the tapes. The following general scales were used in this study and each corresponded to a theoretical concept comprised of subscales (Favez et al., 2011):

- 1 *Affect sharing* ($\alpha = .87$) included three subscales: family warmth (positive affect sharing in the triad), validation of the child's emotional experience (parents reacted to the infant with empathy and assisted in emotion regulation when affect was negative), and authenticity of expressed emotions (family members' expression of affect seemed genuine and situation appropriate).
- 2 *Timing/synchronization* ($\alpha = .71$) included two subscales: communication mistakes during activities (miscommunications and miscoordination mistakes were scarce, and when they did occur, families were able to repair them smoothly) and communication mistakes during transitions between different play scenarios (transitions between play scenarios were smooth and were conducted after being negotiated and agreed upon).
- 3 *Infant behavior* ($\alpha = .86$) included the infant involvement subscale (engagement and use of signals during the interaction) and the self-regulation subscale.

- 4 *Focalization* ($\alpha = .86$) referred to the parental coconstruction subscale (roles in each scenario were respected and activities were shared between all family members) and the parental scaffolding scale (parents provided age and emotionally appropriate stimuli for the infant).
- 5 *Participation* ($\alpha = .70$) was composed of the posture-and-gaze subscale (family members' body gestures indicated engagement in the activity) and the inclusion-of-partners subscale (all family members were included in the interaction).
- 6 *Coparenting* ($\alpha = .90$) included the support (parents were supportive of each other) and the conflicts (parents did not express signs of explicit or implicit conflict or interfere with one another) subscales.

Coders rated each of the subscales on a 3-point scale (ranging from 0 to 2), with higher scores indicating more appropriate behaviors. The score for each concept was calculated as the sum of its "scales" ratings. Principle components analysis (PCA) revealed that all concepts loaded on one factor, which accounted for 65.93% of the variance. Hence, a composite family triadic interaction score was created by averaging standardized scores across all six concepts.

Household chaos

Mothers and fathers were asked to complete the short version of the *Confusion, Hubbub, and Order Scale* (CHAOS; Matheny et al., 1995; for information on validity, see Dumas et al., 2005) questionnaire, which includes six items. In each item, parents were asked to indicate the degree to which they agreed with statements describing the chaos in their homes (e.g., "You can't hear yourself think in our home") on a scale from 1 to 5. Higher scores indicate higher levels of household chaos. One item ("There is usually a television turned on somewhere in our home") was omitted due to low variability. To get a more representative picture of the levels of chaos in the house, and to increase reliability and validity of this measure (Epstein, 1984; Rush-ton, Brainerd, & Pressley, 1983), mothers' and fathers' ratings ($\alpha_s = .61$ and $.60$, respectively; the reported internal consistency is in line with previous studies using the short form of the CHAOS scale, e.g., Coldwell et al., 2006; Deater-Deckard, Wang et al., 2012) were averaged. High and low household-chaos groups were created using a median split.

Parental education

The quality of the family triadic interaction has been previously associated with parental education (Marcu et al., 2016). Thus, to control for families' education levels, each family was given an education level score based on mothers' and fathers' highest education level. Each parent's education level was rated on a scale from 1 to 6: 1 for up to 8 years of education, 2 for 8–10 years of education, 3 for 10–12 years of education, 4 for partial fulfillment of high-school graduation requirements (partial high-school diploma), 5 for complete fulfillment of high-school graduation requirements (full high-school diploma), and 6 for academic education. Afterward, a family parental education score was created based on the highest score among each couple's education levels.

RESULTS

Preliminary analyses

Bivariate correlations between study variables by prematurity groups and by household-chaos groups are presented in Table 3. Among the full-term group, maternal MM was significantly associated with maternal sensitivity and there was a trend for an association between maternal MM and family triadic interaction. However, these associations were modest and nonsignificant among the preterm group. Furthermore, maternal sensitivity and family triadic interaction were significantly associated in both groups. A similar pattern of results is evident when examining patterns of associations in low vs. high household-chaos groups (regardless of prematurity group); maternal MM significantly correlated with both maternal sensitivity and family triadic interaction in the low household-chaos families, but these links were nonsignificant in the high household-chaos families. Moreover, maternal sensitivity and family triadic interaction were significantly associated in both household-chaos groups. These similarities in the patterns of associations between the study variables among families having preterm infants and families having high household-chaos vs. the full-term and low household-chaos families indicate that both prematurity and household chaos pose risk on the relations between maternal mentalization and maternal behavior. Furthermore, a chi-square test revealed that prematurity and household chaos were independent, $\chi^2(1, N = 134) = 0.105, p = .861$, indicating that preterm and full-term families did not differ with respect to household chaos.

Creating CSC scores

Cumulative stressful context scores were created for each family by summing the number of contextual risk factors (i.e., prematurity and high household chaos). This resulted in three groups, according to the number of stressful contexts: 0, 1, or 2. In the low CSC group ($n = 28$), infants were born full-term and household-chaos levels were low. The medium CSC group ($n = 69$) included families with one stressful context (i.e., families in which either infants were born prematurely or household-chaos levels were high). In the high CSC group ($n = 37$), both stressful contexts were present (i.e., infants were born preterm, and household-chaos levels were high).

TABLE 3
Bivariate correlations between study variables by prematurity and household chaos groups

	<i>Prematurity groups</i>				<i>Household chaos groups</i>			
	1.	2.	3.	4.	1.	2.	3.	4.
1. Maternal MM		.37**	.21	.20		.54***	.46***	.11
2. Maternal sensitivity	.14		.38**	.39**	-.10		.30*	.16
3. Family triadic interaction	.12	.26*		.42**	-.16	.30*		.40**
4. Parental education	.03	.03	.46***		.07	.19	.49***	

Notes. Values above the diagonal represent correlations among the full-term group or among the low-chaos group, whereas values below the diagonal represent correlations among the preterm or among the high-chaos group. MM = mind-mindedness.

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

Bivariate correlations between study and control variables, as well as means and SDs of study variables by CSC groups, are presented in Table 4. The groups did not differ in maternal MM or parental education ($F_s < 1$). Furthermore, family triadic interaction was significantly associated with parental education scores. In all analyses hereafter, parental education was entered as a covariate, and reported effects represent a unique contribution to variance over and above education levels.

Moderation analysis

Analysis plan

To test the potential moderating role of CSC in the links between maternal MM the two behavioral indices (maternal sensitivity and family triadic interaction), CSC was recoded into two dummy variables using the Helmert coding method, which is useful for coding of ordinal variables and follows the logic of orthogonal contrasts in ANOVA (Hayes & Montoya, 2017). In this coding, the CSC₁ coefficient signifies the difference in the DV between the low CSC group and the mean of the medium and high CSC groups, whereas the CSC₂ coefficient signifies the difference between the medium and high CSC groups. Likewise, the CSC₁ × maternal MM interaction coefficient signifies the difference between the slope of MM regressed on the DV for the low compared to the mean of the slopes of the medium and high-risk groups, whereas CSC₂ × maternal MM interaction coefficient signifies the difference in slopes between the medium and high CSC groups. For each DV, a hierarchical regression was conducted. In the first step, parental education (as a control variable), maternal MM, and CSC variables (CSC₁ and CSC₂) were entered. Then, in the second step, the two interaction terms were added to the regression. The moderation analysis and post hoc analyses of the conditional effect of maternal MM on DV for each CSC level were executed using PROCESS tool for SPSS (Hayes, 2013; Preacher, Rucker, & Hayes, 2007).

The moderating role of CSC in the link between maternal MM and sensitivity

To test the moderating role of CSC in the link between maternal MM and maternal sensitivity, a hierarchical multiple regression analysis was conducted (see Table 5). The

TABLE 4
Means, standard deviation, and bivariate correlations between study variables

	1.	2.	3.	4.	Mean (SD) by CSC groups			
					Total sample	Low CSC	Medium CSC	High CSC
1. Maternal MM	–	.23**	.16 [†]	.09	.09 (.06)	.08 (.07)	.09 (.06)	.08 (.06)
2. Maternal sensitivity		–	.31***	.17*	5.71 (0.79)	5.82 (0.81)	5.84 (0.76)	5.41 (0.75)
3. Family triadic interaction			–	.44***	0.00 (0.80)	0.05 (0.79)	–0.01 (0.81)	–0.02 (0.82)
4. Parental education				–	5.46 (0.82)	5.54 (0.74)	5.45 (0.80)	5.41 (0.93)

Notes. CSC = cumulative stressful context; MM = mind-mindedness; SD = standard deviation.
[†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p \leq .001$.

TABLE 5
 Hierarchical regression analyses for maternal mind-mindedness and cumulative stressful context in predicting maternal sensitivity and family triadic interaction

Predictors	DV: Maternal sensitivity			DV: Family triadic interaction		
	β	R^2	F	β	R^2	F
Step 1						
Parental education	.14 [†]	.13	4.97***	.43***	.20	7.40***
Maternal MM	.22**			.09		
CSC ₁	-.11			-.02		
CSC ₂	-.23**			.02		
Step 2						
Parental education	.12	.23	7.66***	.42***	.25	6.35***
Maternal MM	.26**			.11		
CSC ₁	-.15 [†]			-.03		
CSC ₂	-.23**			.01		
Maternal MM × CSC ₁	-.31***			-.20*		
Maternal MM × CSC ₂	-.14 [†]			-.13		

Notes. CSC = cumulative stressful context; MM = mind-mindedness.

[†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

first step of the regression revealed that maternal MM was significantly associated with maternal sensitivity, over and above parental education and CSC. Furthermore, maternal sensitivity was significantly lower in the high CSC groups compared to the medium CSC group, but the low CSC group did not differ significantly from the medium and high CSC in maternal sensitivity. The addition of the two interaction terms to the second step of the regression accounted for a significant portion of variability in maternal sensitivity ($\Delta R^2 = .09$, $F(2, 127) = 7.66$, $p < .001$). The association between maternal MM and maternal sensitivity was significantly stronger in the low CSC group compared to the medium and high CSC group, and there was a trend-level difference between the slopes in the medium and the high CSC groups. Post hoc analysis (see Figure 1) revealed that the association between maternal MM and sensitivity was large and significant under low CSC ($\beta = .74$, $p < .001$), but was only nearing significance under medium CSC ($\beta = .18$, $p = .099$) and was not significant under high CSC ($\beta = -.14$, $p = .365$).

The moderating role of CSC in the link between maternal MM and family triadic interaction

A similar analysis was conducted to test the moderating role of CSC in the link between maternal MM and family triadic interaction (see Table 5). The first step of the regression did not reveal an association between maternal MM and family triadic interaction. Furthermore, the CSC groups did not differ in the quality of family triadic interaction. The addition of the two interaction terms to the second step of the regression accounted for a significant portion of variability in maternal sensitivity ($\Delta R^2 = .05$, $F(2, 113) = 3.59$, $p = .031$). The association between maternal MM and family triadic interaction was significantly stronger in the low CSC group compared to the medium and high CSC group, but the difference between the slopes in medium

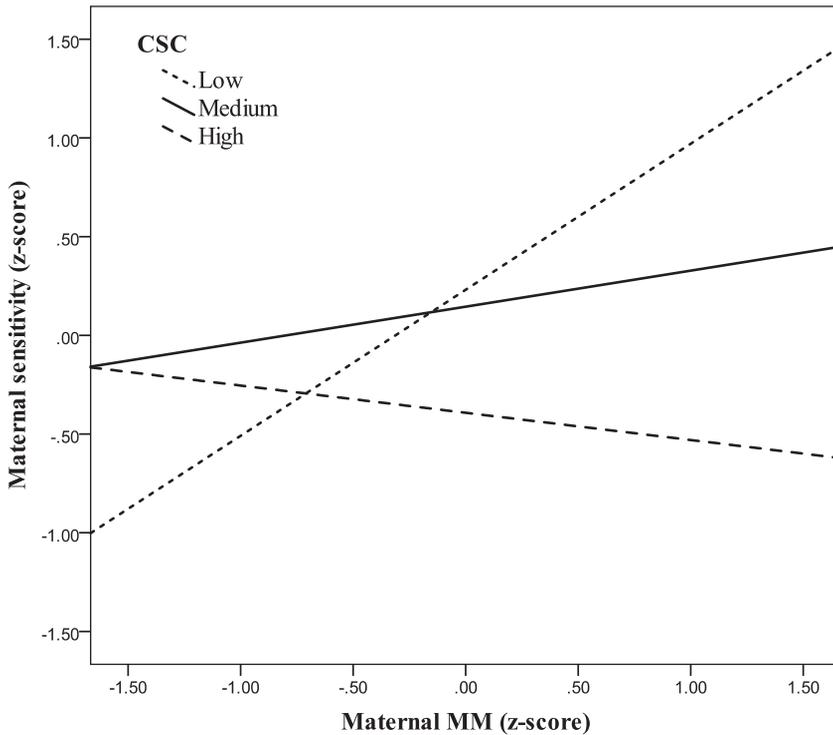


Figure 1 The links between maternal MM (independent variable) and maternal sensitivity (dependent variable) at levels of CSC. *Note.* CSC = cumulative stressful context; MM = mind-mindedness.

and high CSC was nonsignificant. Post hoc analysis (see Figure 2) revealed that the association between maternal MM and sensitivity was moderate and significant under low CSC ($\beta = .41, p = .018$), but was not significant under medium or high CSC ($\beta = .11, p = .355$, and $\beta = -.19, p = .202$, respectively).

DISCUSSION

In the recent years, maternal mentalization has been linked with various positive aspects of the parent–child relationship, most notably maternal sensitivity (e.g., Ensink et al., 2016; Koren-Karie et al., 2002; Meins et al., 2001; Zeegers et al., 2017) and secure attachment (e.g., Kelly et al., 2005; Oppenheim et al., 2012; Laranjo et al., 2008; Zeegers et al., 2017). Furthermore, maternal mentalization, as measured using online and offline MM scales, has been associated with children’s cognitive and socioemotional development (e.g., Bernier et al., 2017; Hughes et al., 2016; Meins et al., 2013). The aim of the present study was to further understand these early processes. Specifically, we sought to examine the role of cumulative stressful context—due to premature birth or household chaos—in the relations between online maternal mentalization and both maternal sensitivity and the family triadic interaction. To this end, we tested two moderation models in a sample of families with 6-month-old infants born

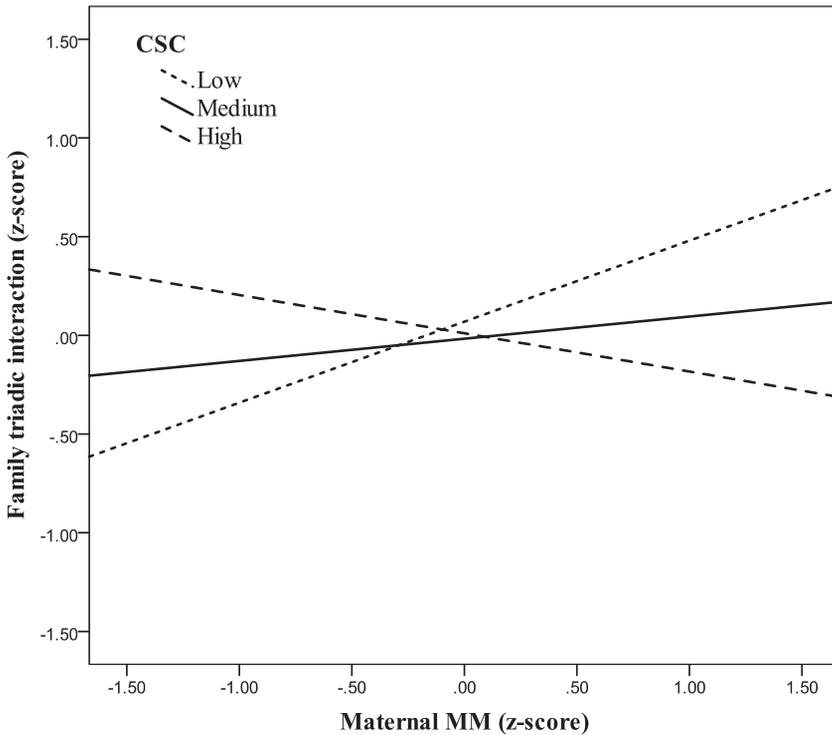


Figure 2 The link between maternal MM (independent variable) and family triadic interaction (dependent variable) at levels of CSC. *Note.* CSC = cumulative stressful context; MM = mind-mindedness.

preterm (with low medical risk) or full-term. We found that the association between maternal mentalization during mother–infant interaction and maternal behavior was mitigated by CSC. First, although maternal MM was associated with maternal sensitivity under low CSC, this association was significantly smaller among mothers experiencing medium and high CSC levels. Specifically, the link between maternal MM and maternal sensitivity was only marginally significant among mother experiencing one stressful context (medium CSC) and was low and nonsignificant among mothers under high CSC. Second, maternal MM was associated with family triadic interaction under low CSC, but not under medium or high CSC.

It has been widely accepted that maternal sensitive responses depend on maternal mentalization (e.g., Meins, 2013; Zeegers et al., 2017). That is, to respond to infants in attuned and appropriate manners and to adjust parental behaviors to meet infants' needs, mothers need to be able to detect infants' cues and to understand how the infants are feeling and thinking, as well as how their own responses may affect their infants (Ainsworth et al., 1974; Meins, 2013; Oppenheim & Koren-Karie, 2013). In other words, sensitive mothers translate their representations of their child's and their own mental states to sensitive, appropriate behavior. The results of the present study extend this notion in two ways. First, we found evidence that stressful contexts mitigate the relation between online maternal mentalization and sensitivity, such that online mentalization is not associated with sensitive behavior under contextually

stressful conditions. Second, adding to recent findings regarding mentalization and family interactions (Jessee et al., 2018; Marcu et al., 2016), our findings suggest that under low contextual stress, a mother's spontaneous ability to understand her infants' mental states contributes not only to the quality of the mother–infant relationship but also to the quality of the family interaction as a whole. In line with previous studies, our results also indicated that mothers under high CSC risk were less sensitive than mothers under low CSC (e.g., Browne et al., 2016; Neuhauser, 2016; Smaling, Huijbregts, Suurland, et al., 2016).

The novel finding that CSC moderated the links between online maternal mentalization and behavior can be explained by dual-system models of cognition (e.g., Lieberman, 2003; Mayes, 2000; Shiffrin & Schneider, 1977). According to such models, automatic processing is favored over controlled processing under stressful conditions (e.g., Mayes, 2000). Thus, a plausible explanation is that mothers under contextual stress behave more automatically: Their behaviors toward their infants are not guided by their representations of their infants' minds, but rather by their automatic response tendencies. Automatic response tendencies are likely to be behaviors that meet one's own needs, rather than the needs of others, and therefore, these behaviors are expected to be associated with lowered attunement to the child, as reflected in the lower sensitivity among mothers in the high-risk group.

Thus, our results suggest that contextually stressful conditions can attenuate the link between real-time, online maternal mentalization and maternal behavior in the dyadic interaction. This finding is especially strong given that both maternal mentalization and maternal sensitivity were assessed using the same mother–infant play interactions, and even then, there was no significant correlation between the two among the subgroups of mothers who raise their children under high CSC. In further support of this finding, the same pattern of results was revealed with regard to the link between online maternal mentalization and the family triadic interaction.

How do stressful contexts modulate the link between maternal mentalization and behavior?

Outside the context of parenting, Luyten & Fonagy (2015) and Luyten, Fonagy, Lowyck, & Vermote (2012) (see also Lieberman, 2003) have proposed that stress and arousal increase the likelihood that a transition from a reflective-controlled to an automatic mode of mentalization would occur. Our results do not align with this suggestion: Although the measure of maternal mentalization that was used in the present study (i.e., maternal MM) is likely to tap controlled mentalization (because this measure is based on appropriate online, real-time interpretation of nonverbal or verbally limited infants), CSC groups did not differ in online maternal mentalization in our sample. Although this is a null effect and thus should be interpreted with caution, it nonetheless suggests that stress does not necessarily interfere with mentalization itself, but rather with the effect of mentalization on behavior. Specifically, stressful contexts seem to interfere with the translation of a mother's understanding of her child's mental states to maternal attuned, sensitive responses toward the child.

However, it is possible that other factors interact with stress among mothers under high CSC and may affect whether mentalization *itself* is automatic or controlled. For example, Luyten & Fonagy (2015) and Luyten et al. (2012) added that because stress is also associated with activation of the attachment system, the transition from

controlled to automatic mentalization in stressful situations is affected by adult attachment styles as well. Hence, it is likely that attachment styles may differentiate between subgroups of mothers under high CSC. Furthermore, the transitions between automatic and controlled mentalization are likely to be modulated by individual differences in cortisol reactivity, a marker of hypothalamic–pituitary–adrenal (HPA) reactivity to stress (Dickerson & Kemeny, 2004). Thus, to better identify which component is affected by stressful contexts, future studies should consider other maternal characteristics (e.g., adult attachment style and cortisol reactivity), which may affect mentalization under stress.

Why do household chaos and prematurity act cumulatively?

Taken together, the results of the present study contribute to the understanding of the link between maternal cognition and behavior within the family setting and highlight possible conditions that may disrupt these consequential associations. Findings from this study indicate that prematurity and household chaos pose a risk to the influence of online maternal mentalization on both maternal sensitivity and the family triadic interaction. Prematurity and household chaos are both contextual risk factors for stress, but they exert stress in different ways. Prematurity can be seen as a child-driven source of stress. Mothers of prematurely born infants are at risk for experiencing emotional distress and for worrying about their child's health and development as well as regarding their relationship with their child and their fulfillment of the parental role (e.g., Al Maghaireh et al., 2016; Borghini et al., 2014; Miles & Holditch-Davis, 1997; Polic et al., 2016), even when medical risk is low (e.g., Gueron-Sela, Atzaba-Poria, Meiri, & Marks, 2013), leading to preoccupation with disturbing thoughts. On the other hand, household chaos is perceived as an environment-driven source of stress, creating overload due to noise, unpredictability, and crowding being present in a mother's environment and causing stress. Both emotional distress (associated with prematurity) and household-related stress have been linked with a lowered ability to exercise control, by making it more difficult to focus attention or self-regulate (e.g., Bishop, 2009; Deater-Deckard, Chen, et al., 2012; Evans, 2006; Eysenck, Derakshan, Santos, & Calvo, 2007; Wang et al., 2013). These factors can lead to a transition from controlled to automatic modes of processing and consequently interfere with a mother's attempts to understand her child's mind and adjust her behavior appropriately.

Why is mentalization unrelated to sensitivity and to the family triadic interaction in families with the specific combination of having a preterm infant in a chaotic home? One possibility is that chaotic families find it more difficult to adjust to the stressful situation of having a premature baby. An organized environment is important for every child and family. It has been associated with lower stress, more positive parenting behaviors, higher levels of cognitive functioning, and lower levels of child conduct problems (e.g., Coldwell et al., 2006; Deater-Deckard et al., 2009; Evans, 2006). However, it seems that an organized environment is perhaps even more important when a premature baby joins the family. For example, with a full-term birth, parents generally have had sufficient time to prepare for the arrival of their newborn. However, a preterm birth requires the family system to adjust to multiple changes (physical and emotional) and to reorganize in a relatively short period of time. Thus, when a less organized and more chaotic family experiences a preterm birth, this challenge can put the entire family at risk for stress and malfunctioning, even if the preterm newborn

was born with low medical risk. Our findings suggest that families of preterm infants may be more sensitive to the stressful, overloading environmental influences of being in a chaotic home, and thus, it is particularly important for families of preterm infants to create and maintain an organized and predictable environment.

Limitations and future directions

Because maternal mentalization has been positively associated with cognitive, emotional, and social functioning (e.g., Bernier et al., 2017; Devine & Hughes, 2016; Meins et al., 2013), future studies should extend the current study by examining children's outcome. Specifically, to assess how maternal mentalization, maternal sensitivity, and the family triad affect infants' development, under high and low CSC.

Although our results shed some light on the influence of maternal mentalization and sensitivity in the mother–infant dyad on the family triad, the design of the study had some limitations that should be taken into account. First, although online maternal mentalization as assessed during mother–infant interactions using the MM scale taps voicing of mothers' representations of their infants' mental states, this measure is not purely representational (Meins, 2013). Future studies should further examine the question of when and why a mother's representations of her child's mind may not be associated with her behaviors using interview methods of measurement of parental mentalization (e.g., parental reflective functioning coding of the Parent Development Interview, or insightfulness assessment), which may assess representations more purely. Furthermore, we did not focus on the manner in which prematurity affected mothers' well-being and experience at birth, and future studies should consider maternal experience following preterm birth when examining its contextual stress.

Second, family systems include additional subsystems other than the mother–infant dyadic system, namely the father–infant and mother–father subsystems. One limitation of the present study is that we did not include paternal MM when explaining the family triadic interaction. Further research is required to examine the contribution of both paternal and maternal mentalization to the quality of the family interaction, taking into account paternal involvement in child-rearing and marital relationships.

Clinical implications

Our results have significant implications for clinical work. Interventions and preventive programs targeted at promoting parent–child relationships often aim to do so through improving parental sensitivity or mentalization (usually under the term reflective functioning; e.g., Camoirano, 2017; Letourneau et al., 2015). Our results highlight the importance of addressing parental stressors in these programs because stressful contexts may hinder the effect of these programs on sensitivity, especially those stressors that create emotional distress, such as a premature birth, when parents struggle with high levels of worries and are often guided by their own fears and thoughts rather than by their child's needs. Helping parents of preterm infants reduce their worries, fears, and negative thoughts may enhance their ability to become better attuned and more sensitive to their infants. Similarly, our study indicated that when parents raise their children in overloading, unorganized, chaotic homes, they may not be able to meet their child's needs even if they perceive them correctly. Working with parents on

organizing their homes and creating a predictable, calm environment, may improve parents' abilities to become better attuned and more sensitive to their children.

Intervention and preventive programs should also take into account the harmful impact of CSC risk. Raising preterm infants in chaotic homes puts mothers and, in fact, the entire family, at the highest risk for mismatch between mentalization and behavior. Therefore, intervention programs specifically aimed at assisting parents of preterm infants should address both parental stress related to the premature infant and the atmosphere of the home environment. This notion of attending the organization of the household environment is also important for social workers working with parents at risk and conducting home assessment and intervention.

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CONFLICT OF INTEREST

The authors report no conflict of interest.

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