

## Regular Article

# Family Minds: A randomized controlled trial of a group intervention to improve foster parents' reflective functioning

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### Abstract

Family Minds is a brief group psychoeducational parenting intervention designed to increase the reflective functioning (RF) and mentalization skills of foster parents. RF is important for foster parents who have to build relationships with children whose adverse experiences increase their risk for psychosocial challenges. A randomized controlled trial (RCT) for Family Minds was conducted in Texas with 89 foster parents. The main aims of this study were to examine whether the intervention could significantly increase the RF/mentalization skills of the foster parents and decrease their parenting stress. After 6 weeks, compared with the control group, intervention foster parents improved their RF via a lowering of pre-mentalizing and also significantly decreased parenting stress related to parent-child dysfunctional interactions. Other measures of RF and parenting stress showed no significant differences between groups. Foster child behavior was not significantly different between groups, although data at 6 months showed a possible lowering of internalizing symptoms for children of intervention parents. This RCT provides some encouraging evidence that Family Minds may increase RF in foster parents, improve parental sensitivity and their ability to emotionally regulate, decrease parenting stress related to challenging interactions with their foster children, and possibly decrease children's internalizing behavior.

**Keywords:** reflective functioning, mentalization, parenting intervention, foster parents, parenting stress

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### Introduction

Promoting positive relationships between foster parents and foster children is key to supporting the wellbeing of foster children and their optimal developmental outcomes (Smyke & Breidenstine, 2019). In the United States, nearly half a million children were reported to be in foster care due to abuse and neglect (U.S. Department of Health & Human Services, 2018). Compared to children not involved in the child welfare system, children in foster care experience higher levels of adversities, such as parental separation or divorce, the death or imprisonment of a parent, parental abuse, exposure to violence, and a family member with mental illness and substance misuse (Turney & Wildeman, 2017). Such adverse childhood experiences can produce detrimental physical, psychological, and behavioral problems in children throughout their lives (Child Welfare Information Gateway, 2019; Gilbert et al., 2015). Supportive foster parents can help children cope with the effects of their adverse experiences by building a positive relationship with their foster child

(Smyke & Breidenstine, 2019). Foster parents' efforts to create meaningful relationships with their children can offer a positive lifelong influence and mitigate the impact of adverse childhood experiences (McPherson, Gatwiri, Tucci, Mitchell, & Macnamara, 2018). Given the number of children in foster care, the development of evidence-based parenting programs that support foster parents and empirical evaluations of such programs are of paramount importance (Dozier, Albus, Fisher, & Sepulveda, 2002). The current study reports the results of a randomized controlled trial (RCT) for a new psychoeducational parenting program designed for foster parents, Family Minds.

Foster parents have voiced their need and willingness to gain necessary parenting skills to address the emotional and behavioral problems of foster children (Spielfogel, Leathers, Christian, & McMeel, 2011), yet few foster parents receive evidence-based training and support (Pasztor, Hollinger, Inkelas, & Halfon, 2006). Typical foster parent training covers issues such as behavior management, crisis prevention, and sibling issues. However, a more therapeutic form of parenting is often needed to support the children's developmental recovery after traumatic experiences (Milot, St-Laurent, & Éthier, 2015; Ottaway & Selwyn, 2017), requiring caregivers to adopt a profoundly nurturing style that features self-awareness and *mentalizing*, or the ability to keep their foster child's mental state in mind (Luyten, Campbell, Allison, & Fonagy, 2020). The ability to mentalize allows caregivers to engage in *reflective functioning* (RF), which supports caregivers'

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understanding of their children's behavior (as well as their own), enabling them to respond to children's distress empathically and support the child's self-regulation and social-emotional development (Luyten *et al.*, 2020). Supporting and expanding foster parents' mentalizing abilities is a key focus of this intervention.

### *Mentalization and reflective functioning*

With roots in developmental psychology, attachment theory, and neuroscience, mentalization is the ability to make sense of the mental states of oneself and others, thus rendering behaviors meaningful. It describes the capacity to understand and interpret the actions of oneself and others as an expression of mental states such as feelings, thoughts, needs, and desires (Fonagy, Steele, Steele, Moran, & Higgitt, 1991). In the context of parenting, mentalizing is operationalized as reflective functioning (RF), describing the parent's capacity to mentalize their child and be cognizant of their own emotions, motivations, and actions while also envisioning their children's mental states and understanding their reactions to their child as a function of these states (Fonagy *et al.*, 1991; Slade, 2002, 2005). Caregivers who can effectively mentalize recognize their children as a separate individual and show curiosity and consider the motivations beneath the child's behavior, while admitting the limits of exactly knowing the inner world of another (Fonagy & Target, 1997; Kalland, Fagerlund, von Koskull, & Pajulo, 2016; Zeegers, Colonnese, Stams, & Meins, 2017). Effective mentalizing implies that relating to others can change as one learns more about the feelings and thoughts of others (Fonagy & Target, 1997), which can influence caregivers' understanding of their child's behavior and how they choose to respond.

Parents' mentalizing abilities are consistently associated with better caregiving, parental satisfaction, parental self-efficacy, and healthy communication between family members (Byrne *et al.*, 2018; Camoirano, 2017; Kalland *et al.*, 2016; Rostad & Whitaker, 2016; Slade, 2005). Parents with higher RF appreciate their children's behaviors in terms of their mind state and comprehend the interaction between their own mental states and that of the child, which is associated with more optimal parent-child relationships (Slade, 2002). Parental RF is positively related to the children's social and cognitive development, particularly their mentalizing capacity (Ensink, Begin, Normandin, & Fonagy, 2017; Laranjo, Bernier, Meins, & Carlson, 2010; Meins, Fernyhough, & Wainwright, 2003). Low parental RF, in contrast, has been associated with emotion dysregulation, anxiety disorders, internalizing, and externalizing behaviors in children (Camoirano, 2017; Ensink, Begin, Normandin, Godbout & Fonagy, 2017). Parents with less mentalizing skill may not understand their children's inner world or mental states, which may result in insensitive caregiving (Slade, 2002).

Reflective Functioning (RF) is a skill that can be bolstered or challenged by external factors, such as interpersonal stress; however, higher baseline RF increases the likelihood of maintaining an emotionally regulated state and lowers the likelihood of being emotionally triggered (Fonagy, Gergely, Jurist, & Target, 2004). Both of these abilities are important for foster parents, which makes increasing baseline RF an important goal. RF can be increased with intervention efforts, which then can contribute to increases in child attachment security, particularly for parents with low RF prior to the intervention (Sadler *et al.*, 2013; Slade *et al.*, 2019; Volkert *et al.*, 2019). Raising a parent's baseline RF level can increase the chances of remaining calm and sensitive, even when being tried by stressors, allowing parents to draw on

their mentalizing skills to facilitate more positive interactions with their foster children.

Given the high rate of traumatic experiences and resulting challenges of parenting foster children (Pecora *et al.*, 2005; Szilagyi, Rosen, Rubin, & Zlotnik, 2015), mentalizing is an especially crucial skill for foster parents. Foster children's prior experiences of relational trauma can make it challenging to build trusting relationships and contribute to difficulty with self-regulation, even after being adopted out of foster care (Wijedasa & Selwyn, 2015). Rather than assuming negative intentions, parents with higher RF are more likely to make an effort to understand why their children behave in specific ways (Turner, Wittkowski, & Hare, 2008) and provide a safe environment in which their children can feel comfortable voicing their thoughts, feelings, desires, and needs (Jacobsen, Ha, & Sharp, 2015). With higher levels of RF, caregivers are more likely to be involved and to communicate with their children, use positive limit setting and discipline, feel more satisfied with the caregiving role, and respond sensitively to their children's needs (Rostad & Whitaker, 2016). When there is insufficient support, caring for children with behavioral and emotional difficulties can result in foster parents' vulnerability to failures in mentalizing (Redfern *et al.*, 2018). Considering that higher levels of RF promote well-being within the foster placement (Bunday, Dallos, Morgan, & McKenzie, 2015), training programs to improve RF can provide critical support for both the foster parents and their foster children. Effective caregiving interventions ideally create change for the child as well as the caregiver. To assess the efficacy of Family Minds to create meaningful change in foster family well-being, we included assessments of foster children's adjustment (strengths and difficulties) as an outcome of the intervention.

### *Parenting stress*

Parenting stress is a key factor to consider in the context of parental reflective functioning (RF) as well. Parenting stress can impair caregiving behavior, including foster parents' ability to help their children regulate their emotions and behavior (Masten & Coatsworth, 1998) and is known to negatively affect the parent-child relationship (Belsky, 1997; Teti, Nakagawa, Das, & Wirth, 1991). Stressors specific to the parenting context are especially important to consider in foster parent-child relationships, as both child and caregiver must build a new relationship with one another. If the foster parent does not understand the foster child's behavior and is frustrated by it, that could increase the likelihood of a negative interaction. Emotional arousal can impair mentalizing in general, as well as a parents' ability to mentalize their children (Berthelot, Lemieux, Garon-Bissonnette, Lacharite, & Muzik, 2019; Georg, Schroder, Cierpka, & Taubner, 2018; Muller-Pinzler, Krach, Kramer, & Paulus, 2017; Perroud *et al.*, 2017; van Ee, Kleber, & Jongmans, 2016; Williams, Patricia Taylor, & Schwannauer, 2016). For example, if high levels of stress impair a foster parent's ability to mentalize, it could result in the caregiver being less tolerant of or less able to manage dysregulated child emotional states. They may jump to conclusions to assume negative intentions on the child's part, rather than considering other possible underlying reasons for their foster child's behavior. In addition to caring for a child who likely has problems with emotion regulation, foster parents also face unique caregiving challenges, such as uncertainty about placement length and feeling unsupported by child protective services (Smyke & Breidenstine, 2019). These challenges add to the stress of being

a foster parent and can add further stress to their relationships with their foster child or children.

Because the connection between parenting stress and RF is meaningful for foster family interactions, this RCT also examined whether Family Minds would reduce foster parents' self-reported parenting stress. The goal of Family Minds is to increase foster parents' RF, increase their capacity to understand their foster child, and support their ability to have positive interactions. Learning about mentalizing and gaining an increased understanding of how emotional states are influencing parent/child interactions, could reduce foster parents' frustration with challenging foster child behavior, and thus reduce parenting stress levels. To account for the potential effects of parenting stress on RF, this study included measures of parenting stress at all time points to assess the efficacy of Family Minds at reducing parenting stress, in addition to increasing RF.

### *Reflective functioning interventions and psychoeducation for foster parents*

Interventions to enhance parental RF have demonstrated empirical support across multiple parenting groups, including for high-risk, hard-to-reach parents (Byrne et al., 2018), parents of children with neurodevelopmental disorders (Enav et al., 2019; Sealy & Glovinsky, 2016), substance-abusing mothers (Suchman, DeCoste, Castiglioni, Legow, & Mayes, 2008), pregnant young mothers (Slade et al., 2005) and mothers in prisons (Sleed, Baradon, & Fonagy, 2013). These intervention efforts demonstrate that parents with significant challenges to caregiving are able to increase RF as well as demonstrate that these changes support children's outcomes.

Extending interventions into psychoeducational programs whose useful information can be distributed more widely, easily, and affordably is a key step in increasing access to information across families. Recently, there has been an increasing interest in group-based psychoeducational intervention programs designed to increase RF of foster parents. Although few in number, programs in the UK such as the Nurturing Attachments Parenting Program (Staines, Golding, & Selwyn, 2019) and the Reflective Fostering Programme (Redfern et al., 2018) have preliminary findings that showed some positive changes in parental distress, RF, and self-efficacy (Midgley et al., 2019; Staines et al., 2019), although they were limited by the lack of comparison group, possibility of selection bias, and reliance on parent self-reporting. In the United States, a quasi-experimental study was conducted to evaluate Family Minds, a group-based psychoeducation intervention specifically developed to increase the mentalizing skills of foster parents (Adkins, Luyten, & Fonagy, 2018; Bammens, Adkins, & Badger, 2015). Results indicated that foster parents in the Family Minds group significantly improved their mentalizing skills and lowered their parenting stress, in contrast to the foster parents receiving regular foster parenting training (Adkins et al., 2018). Because of these promising results, the current study was designed to more rigorously evaluate this program.

### *Family Minds*

Family Minds includes the building of skills such as being curious about the mental states of others and self, understanding how emotions and mental states can be not so transparent, the uncertainty of knowing what is in another's mind, being able to take different perspectives within relationships, and understanding how one's own mental states and actions affect others (Asen &

Fonagy, 2012.) Most parents find it relatively easy simply to talk about their child's external experiences and behavior, but it can be a more complex and difficult task to think about the mental states of self and other, and understand those as motivators of behavior (Slade, 2006). Furthermore, parents might find it difficult to think about and understand how their thoughts and feelings might be directly impacting their own child (Slade, 2006). Given this, the material of this intervention is designed in such a way as to ease the parents into the concept and experience of mentalization, progressing from mentalizing self to understanding their children's internal world of experiences, and finally to mentalizing the parent-child relationship.

Family Minds is designed as an educational primer on mentalizing, which incorporates experiential exercises that build mentalizing skills and provide opportunities to practice those skills in the training group. The curriculum includes information on trauma, attachment, foster children's behavior, sensitive/reflective parenting, and mentalization to support the Family Minds goal of helping caregivers understand their children's emotions and behaviors, as well as their own actions of parenting. In addition to in-class activities, foster parents are asked to complete a variety of at-home parent-child activities that encourage mentalizing (see example in supplementary materials).

A key feature of Family Minds is the classroom experiential group activities that progress from (a) more general and less emotionally demanding mentalizing activities, such as mentalizing strangers, to (b) the more personal, such as mentalizing one another and mentalizing parent and child scenarios, and finally to (c) the potentially more challenging task of mentalizing their own child. The order ensures that the mentalizing activities are familiar and comfortable before being applied to their child and themselves, helping parents emotionally scaffold these mentalization skills. An example of a group mentalizing exercise in Family Minds is the "projective picture exercise" (adapted from Allen, Fonagy, & Bateman, 2008; see supplementary materials). Projective stimuli that are both ambiguous in nature and indicative of an interpersonal scene are shown to the group and they are asked to write/tell a story of (a) what is happening in the scene and (b) what the characters might be feeling or thinking. This scene produces a wide range of responses, paralleling participants' own mentalizing of relationships and relational interactions. The goal of the activity, beyond having participants practice explicit mentalizing, is for participants to hear the range of responses and experience the sheer diversity of mental perspectives one scene can elicit (Allen et al., 2008). Participants are further asked to ponder where their own stories come from, which stimulates a new understanding of mentalization and how their own unconscious perceptions and assumptions influence their perspectives and behavior. The process can be quite powerful and insightful for participants (Allen et al., 2008).

### *Current study*

This study reports on the efficacy of a RCT for Family Minds, which to the best of the authors' knowledge, is the first US-based psychoeducational group intervention designed to increase foster parents' reflective functioning (RF) skills. High RF promotes resilience in family members by enhancing their mentalizing skills as a means to promote relationship building and problem solving (Allen et al., 2008; Fonagy, Steele, Steele, Higgitt, & Target, 1994). Emphasizing the use of mentalization skills allows family members to be more open to seeing and

understanding each other's mental states (Midgley & Vrouva, 2012). To ensure understanding and scaffolding, the material is further designed to be cumulative and progressive. Prior evidence showed that parents who participated in Family Minds improved their mentalizing skills and lowered their parental stress, in contrast to the foster parents receiving regular foster parenting training (Adkins et al., 2018). Based on these promising findings, an RCT was designed to further assess the efficacy of Family Minds by addressing the following aims.

- (a) Examine if the intervention can significantly increase the RF/mentalizing skills of foster parents by the end of the study, and if parents in the intervention group will show a greater increase than the control group.
- (b) Examine if the intervention can significantly decrease the parenting stress of foster parents by the end of the study, and if parents in the intervention group will show a greater decrease than the control group.
- (c) Examine if the intervention impacts the foster children via a significant decrease in parent reported emotional or behavioral difficulties of their children, and if the decrease will be greater for children whose foster parents are in the intervention group than the control group.

## Method

### Participants

Participants were licensed foster parents from both Austin and the Dallas/Fort Worth areas of Texas, recruited using private child-placing agencies as well as Child Protective Services, the state authority for foster care children. In total, 89 foster parents were enrolled in the study, 61 mothers and 28 fathers. Parents ranged in age from 22 to 76 years ( $M = 43.45$ ,  $SD = 9.89$ ) and had been a foster parent for between 1 month and 24 years, with an average of 3.8 years ( $M = 45.86$  months,  $SD = 64.63$ ). The sample comprised a relatively well-educated group of parents, with the majority (89%) having at least some college education. Most parents reported their ethnicity as Caucasian (72%), and 11% identified as Black, 11% Hispanic and 7% Multi-ethnic. The median number of foster children per home was two, ranging from one to five. See Table 1 for additional demographic data regarding foster parents (including by group). Foster children ranged in age from 1 month to 17.5 years, with a mean age of approximately 6.8 years ( $M = 81.54$  months,  $SD = 60.02$ ). They spent between 1 month and 4.7 years in the homes of these foster parents, with an average stay of almost 10 months ( $M = 9.75$  months,  $SD = 12.07$ ). The total time each child spent in foster care is unknown, as these data were not accessible. See Table 2 for additional data about the children. There were no significant differences between the intervention and the control group regarding almost all of the demographic characteristics of foster parents and their children. The only significant difference seen between groups was concerning "time as a foster parent", where the control group participants averaged 17 months longer as a foster parent ( $t(35) = 5.31$ ,  $p = .000$ ). There were also no significant differences regarding the demographic data of foster parents who dropped out of the study (see Table 1).

### Procedure

**Recruitment.** Participants for both groups were recruited through child placing agencies and Child Protective Services staff who sent

out a study flyer and e-mail to foster parents in the area. Requirements for participation in the study were that a parent: (a) was licensed as a foster parent for the state of Texas and (b) had at least one foster or adopted (from foster care) child at least 4 years of age placed in their home. It's important to note that in Texas, foster parents can and do sometimes adopt the foster children in their care. All of the parents in this study were licensed foster parents who either had foster children in their home, or had openings for foster children; some had adopted a foster child placed in their home previously. Participants were offered training hours that counted towards the maintenance of their foster parent license and \$25 gift cards for each survey completed. All surveys were completed online, which included informed consent. This study had full university institutional review board approval.

**Randomization.** Foster parents were asked to complete a baseline survey online, which included a demographic questionnaire. Randomization followed consent, enrollment, and baseline assessment. Treatment allocation was made off-site via e-mail by an administrator not familiar with the study hypotheses, with access only to the control parameters. Participants were randomized using a stochastic minimization program (MINIM) balancing for age, gender, and years as a foster parent. In total, 49 participants were assigned to the intervention group and 40 to the control group (see Figure 1). Some of the parents wanted to participate as a co-parenting couple, therefore, each couple was randomized together so they would belong to the same group. As a result, 30 of the 49 participants in the intervention group were part of a co-parenting couple, as were 28 of the 40 control group participants. Although each individual participant provided demographic data on themselves and their children, the children (and their demographic data) of couples were only counted once.

**Intervention.** The intervention group received the mentalizing psychoeducational intervention Family Minds (Adkins et al., 2018). Foster parents in this group participated in three class modules of approximately 3 hrs each, spread out over 4 to 6 weeks. The Family Minds classes were taught by the main author of this study. The curriculum is designed to educate parents on the importance of mentalization for relationships, and includes opportunities to practice and build on their mentalizing skills using group experiential exercises. Furthermore, the material is trauma informed and provides basic training on attachment, and how these interact to influence children's emotional and behavioral difficulties. In addition, parents are encouraged to examine their own triggers and reactions to their children. To further build reflective functioning (RF) within themselves and their children, foster parents are encouraged to complete at-home parent-child activities that are designed to build mentalizing skills (see example in supplementary materials).

**Control group.** Participants in the control group received a typical foster training class that any foster parent in the same area might receive. In this case, the control group received a 4-hr training consisting of educational material on trauma and how to manage the behavior of foster children. Control group classes were taught by experienced foster care agency staff.

### Measures

All measures were given at baseline, 6 weeks and at a 6-month follow-up. Foster parents were instructed to think about one particular child in their home while answering all questions. Participants were specifically instructed to be consistent in

**Table 1.** Demographic characteristics of foster parents

	Total parents (N = 89)		Intervention group (n = 49)		Control group (n = 40)		Dropped out parents (n = 27)	
	M	SD	M	SD	M	SD	M	SD
Parent age (years)	43.45	9.89	43.75	10.02	43.05	9.85	42.74	8.80
Time as FP (months)	45.86	64.63	38.16	65.36	55.92*	63.15	43.91	55.79
	n	%	n	%	n	%	n	%
<b>Gender</b>								
Male	28	30.3	16	33.7	12	32.4	7	29.2
Female	61	69.7	33	67.3	25	67.6	17	70.8
<b>Education</b>								
HS degree	9	10.1	6	12.2	3	7.5	4	16.7
Some College	25	28.1	13	26.5	12	32.4	7	29.2
College grad	30	33.7	15	30.6	15	40.5	10	41.7
Grad degree	22	24.7	15	30.6	7	18.9	3	12.5
<b>Ethnicity</b>								
Caucasian	62	69.7	33	67.3	29	78.4	22	81.5
Black	9	10.1	6	12.2	3	8.1	0	0.0
Hispanic	9	10.1	5	10.2	4	10.0	1	4.2
Asian	1	1.1	1	2.0	0	0.0	1	4.2
Native Am.	1	1.1	1	2.0	0	0.0	0	0.0
Multi-ethnic	4	4.4	3	6.1	1	2.5	0	0.0
<b>Marital status</b>								
Married	59	66.3	33	61.1	29	60.4	17	73.9
Single	24	27.0	10	18.5	8	16.6	6	26.1
Cohabiting	2	2.2	10	18.5	8	16.6	0	0.0

Note: FP = foster parents

\* $p < .01$ .

thinking of the same child for all surveys and measures throughout the study. All measures were distributed and collected online using a secure survey platform by a research assistant without knowledge of treatment allocation.

**Reflective functioning (RF).** Two measures were used to assess foster parents' RF capacity: (a) the Parental Reflective Functioning Questionnaire (PRFQ; Luyten, Mayes, Nijssens, & Fonagy, 2017) and (b) the Reflective Functioning Five Minute Speech Sample (RF-FMSS; Adkins et al., 2018; Bammens et al., 2015). Two forms of assessment were used to provide multidimensional assessments of RF, which is the primary target of the intervention. In addition, it allows us to use both self-report and observation methods, which can provide stronger support for the efficacy of Family Minds effectively to increase foster parents' RF.

The PRFQ (Luyten et al., 2017) is a brief self-report measure that assesses parents' mentalizing abilities. The questionnaire consists of 18 items rated a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) that are organized into three scales: Pre-Mentalizing, Certainty about Mental States, and Interest and Curiosity in mental states. Pre-Mentalizing describes a non-mentalizing stance, that is, one in which the parent cannot adequately adopt the child's perspective. An example item is "My child cries around strangers to embarrass me."

Certainty about Mental States scores reflect a parent's lack of ability to see the changing nature and flexibility of mental states, or their unwarranted certainty that they know exactly what is inside their child's mind. An example item is "I always know what my child wants." Lastly, Interest and Curiosity in mental states scores reveal a parent's curiosity about the inner mental world of their child. An example item is "I wonder a lot about what my child is thinking and feeling."

The PRFQ has demonstrated validity and reliability across low- and high-functioning mothers of infants, as well as mothers and fathers of normally developing children. The authors used exploratory and confirmatory factor analyses to support the three-factor structure, which was replicated with both mothers and fathers in two different samples. Overall, the PRFQ is reported to have good internal consistency in prior studies, with alphas ranging from .70 to .82 (Luyten et al., 2017). In the current study, the alpha for each scale at baseline was: Pre-Mentalizing ( $\alpha = 0.67$ ), Certainty about Mental States ( $\alpha = 0.80$ ), and Interest and Curiosity about mental states ( $\alpha = 0.56$ ). Traditionally, alpha levels are considered acceptable above .60 for the number of items in this measure (Cortina, 1993; Loewenthal, 2004). While the scale Curiosity about Mental States had an  $\alpha = 0.56$ , it was considered preferable to keep the original and theoretically established scale, rather than adjust

**Table 2.** Demographic characteristics of children

	Total children (N = 85)		Intervention group (n = 52)		Control group (n = 33)	
	M	SD	M	SD	M	SD
Child age (months)	81.54	60.02	83.61	59.07	73.34	62.12
Time in FC (months)	9.75	12.07	10.07	10.84	9.12	14.12
	n	%	n	%	n	%
Gender						
Male	39	43.3	23	44.2	16	48.5
Female	46	56.7	29	55.8	17	51.5
Type of child						
Foster	61	71.8	40	76.9	21	66.7
Kinship	3	3.5	2	3.9	1	3.0
Adopted (from care)	21	24.7	10	19.2	11	33.3
Level of care for foster children						
Basic	47	77.0	29	72.5	18	85.7
Moderate	8	13.1	7	17.5	1	4.8
Specialized	6	9.9	4	10.0	2	9.5

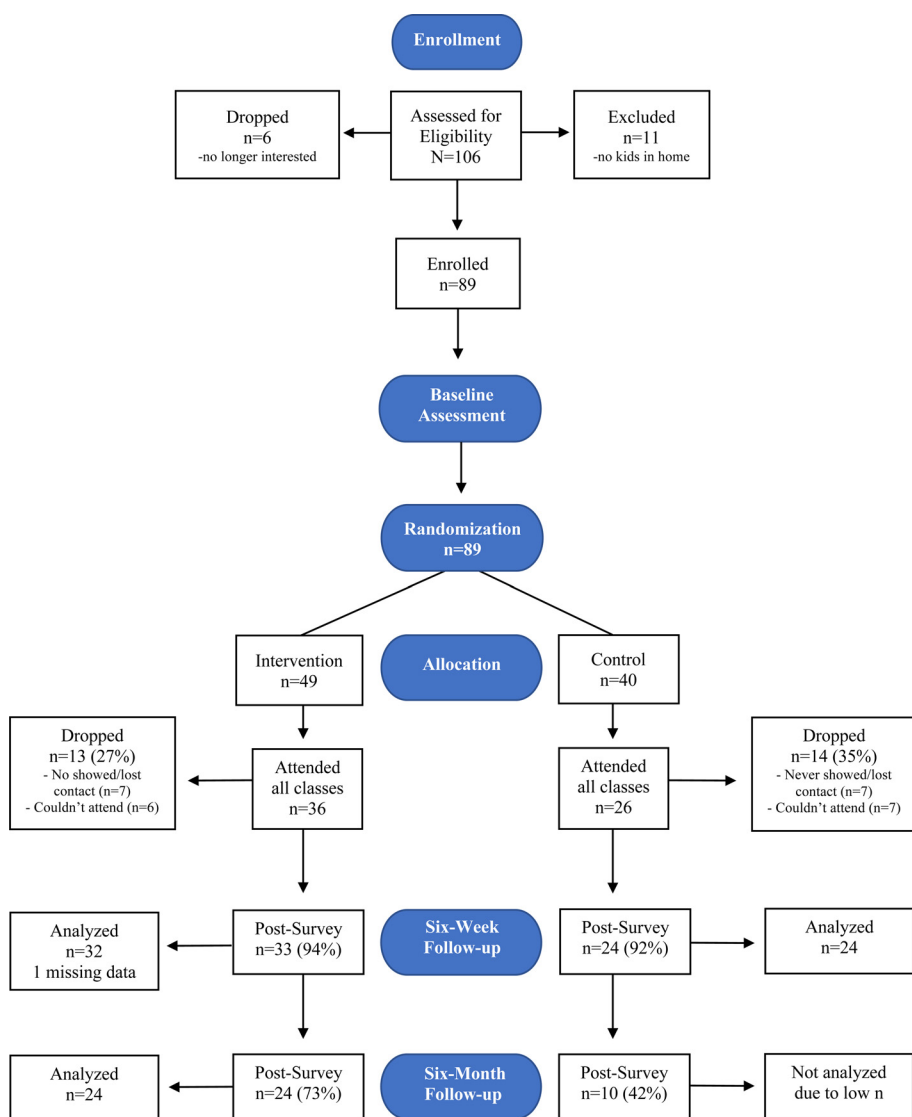
Note: FC = foster care; Texas Child Protective Services level of care designations: [https://www.dfps.state.tx.us/Child\\_Protection/Foster\\_Care/Service\\_Levels.asp](https://www.dfps.state.tx.us/Child_Protection/Foster_Care/Service_Levels.asp)  
 Basic = little to no behavior/emotional problems, Moderate = above average behavior/emotional problems, Specialized = significant behavior/emotional problems.

the scale items for this individual study, in the interest of being consistent with prior research using this measure.

The RF-FMSS (Adkins & Fonagy, 2017; Bammens et al., 2015) was the second measure of RF. This observational measure codes RF from a 5-min long speech sample provided by the participant. The FMSS was originally developed to measure psychological states using content analysis of verbal behavior using a 5-min recorded monologue, rather than a lengthy standardized interview procedure (Gottschalk & Gleser, 1969; Magaña et al., 1986). The FMSS method has been used successfully with multiple clinical populations, including attention deficit hyperactivity disorder (Marshall, Longwell, Goldstein, & Swanson, 1990), bipolar (Miklowitz, Goldstein, Nuechterlein, Snyder, & Mintz, 1988), depressive disorder (Asarnow, Goldstein, Tompson, & Guthrie, 1993), and schizophrenia (Hahlweg et al., 1989). In addition, the FMSS has been used with other coding scales to measure a variety of interpersonal traits such as “parental warmth” (Pasalich, Dadds, Hawes, & Brennan, 2011) and “parental criticism” (Wamboldt, Wamboldt, Gavin, Roesler, & Brugman, 1995).

The RF-FMSS was developed to utilize the FMSS methodology specifically to assess parents’ RF capacity. However, instead of using the original FMSS protocol that involved asking a patient to speak freely on a topic for 5 min, the RF-FMSS includes three structured questions to which they are asked to speak about whatever comes to mind in response to: (a) *What is your child like?*, (b) *How do you feel about your child and how do you think your child feels about you?*, and (c) *Tell me about a problem you had with your child recently and how you dealt with it.* These prompts were chosen because of their similarity to questions in the Parent Development Interview (PDI; Slade, Aber, Bresgi, Berger, & Kaplan, 2004), a semi-structured interview specifically designed to elicit RF and assess internal working models of relationships, a parent’s representation of their present relationships with their child.

In the current study, the RF-FMSS was collected from all foster parents by asking them to speak for 5 min about their foster child, without the presence of an interviewer and in private, using an instruction sheet that included the three prompts (Adkins et al., 2018). Because data collection was mostly occurring online in this study, the speech sample collection method entailed participants making a digital audio recording of their answers and transmitting these files via a secure internet link. This new online collection method did not deter participants, however, as baseline RF-FMSS completion rates were higher than using the in-person method in the previous study (60% vs. 51%; Adkins et al., 2018). In this study, while the participants were completing the online surveys, a prompt would appear with instructions on how to record the answers to the questions provided for 5 min on their smartphone, and then on how to email the recording securely. Those without smartphones were provided with a phone number to leave a 5-min voicemail recording. Responses were coded using the Reflective Functioning Scale (Fonagy, Target, Steele, & Steele, 1998), which has been successfully used to code RF with both the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1985) and the PDI (Slade et al., 2004). This coding method assesses a parent’s ability to both recognize and describe mental states, as well as their ability to relate these mental states to their own behavior and that of their child. It uses an 11-point scale that ranges from –1 (negative RF; the inability to understand the mental states of others) to +9 (full or exceptional RF; the ability to converse in a dynamic and interpretive manner about their own and the other’s subjective experience; Slade, 2007). Speech samples were coded for overall RF. A score +2 to +4 indicates the low end of RF and speech in this range is often seen as representing mental states in a very one-dimensional manner, never reflecting mixed emotions, or the uncertainty about the feelings of others. A score of +5 indicates that the respondent has progressed from simply being able to verbalize mental states



**Figure 1.** CONSORT diagram of the randomized controlled trial.

to being able to form more complex reflective statements, such as being able to relate mental states to behavior. A score of +7 or higher indicates sophisticated RF that is complex or elaborate, for example speech that describes multiple mental states in unusual detail and how they are related to one another.

Coders of the RF-FMSS were blind to which time point (baseline or follow-up) or group (intervention or control) each speech sample belonged. To assess inter-rater reliability, 12 speech sample transcripts were randomly selected from both the intervention and control groups and coding for two independent coders was compared. A two-way mixed intra-class correlation coefficient (ICC; McGraw & Wong, 1996) demonstrated strong agreement with ICC = 0.85, indicating that coders had a high degree of agreement and suggesting that RF was rated similarly across the two coders (Cicchetti, 1994).

**Parenting stress.** Parenting stress was measured using the Parenting Stress Index – Short Form (PSI-SF; Abidin, 1995), which is a 36-item shortened version of the full 120-item PSI. It contains an almost equal number of parent- and child-focused items that cover three different subscales. The PSI-SF measures stress on a 5-point Likert scale from 1 (*strongly agree*) to 5 (*strongly disagree*). It results in scores on the three subscales of

parental distress (PD; extent to which parents feel competent in their role as a parent;  $\alpha = 0.88$ ), difficult child (DC; whether a child is easy or difficult to care for;  $\alpha = 0.90$ ), and parent-child dysfunctional interaction (PCDI; degree to which parents feel satisfied with their interactions;  $\alpha = 0.91$ ). The PSI-SF also contains a defensive responding subscale, to help determine whether low scores on the measure are indicative of parents who are trying to minimize the problems they may be having as a parent ( $\alpha = 0.83$ ). Raw scores are converted into percentile scores, with high stress scores being those that are at or above the 85th percentile (Abidin, 1995). Raw scores on all of the subscales were used in the analyses in this study. Reliability and validity of the PSI-SF support that parenting stress is a measure that is useful across diverse populations, including inner-city, low socio-economic status, rural, and Hispanic parents (Abidin, 1995 & 2012; Aracena et al., 2016; Barroso, Hungerford, Garcia, Graziano, & Bagner, 2016; Lee, Gopalan, & Harrington, 2016).

**Foster childrens' emotional and behavioral strengths and difficulties.** This was measured using the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997). The SDQ was created as a brief instrument for assessing the psychological adjustment of children and adolescents and can be administered

to parents and teachers of children aged 4–16, or taken by the children themselves if they are 11–16 years old. The SDQ contains 25 items that are divided equally between five scales: Emotional Symptoms, Conduct Problems, Hyperactivity-Inattention, Peer Problems, and Prosocial Behavior (Goodman, 1999). Each of the 25 items is scored on a 3-point scale with 0 = *not true*, 1 = *somewhat true*, and 2 = *certainly true*. Subscale scores are summed and range from 0 to 10. In addition, a total difficulties score that ranges from 0 to 40 can be computed by summing the scale scores. The SDQ's construct validity and clinical applicability is supported by studies across multiple countries (Marzocchi et al., 2004; Obel et al., 2004; Woerner et al., 2004).

### Analytic approach

Statistical analyses were completed using SPSS 24.0. *t* tests and chi square tests were performed to conduct baseline comparisons of continuous and categorical variables. Furthermore, analysis of variance using the general linear model for repeated measures was conducted. Specifically, multiple analysis of variance and analysis of covariance (ANCOVAs) tests were performed using group as the between-subjects factor and time as the within-subjects factor. Effect sizes (ES) were calculated using partial eta square ( $\eta_p^2$ ) and reported as Cohen's *d* according to general guidelines with .02 for small, .05 for medium and .08 for large effects (Cohen, 1988). Scores on all measures were also centered and standardized to facilitate the interpretation of findings and analyses were performed using *z*-scores.

Analyses were conducted to determine whether participants who dropped out (i.e., those who did not attend the training and did not complete the post-assessments) were significantly different from those who attended all classes and completed both pre- and post-assessments (see Figure 1 for full consort diagram of the study). After parents were randomized and assigned to groups, a percentage of parents in each group decided they could no longer participate or they simply did not show. For those assigned to the intervention group, 27% ( $n = 13$ ) dropped out of the study before the classes began, leaving an intervention group of 36 parents. This number was slightly higher for the control group at 35% ( $n = 14$ ), leaving a control group total of 26 parents. Parents who dropped from the study included those that could no longer attend given their schedule, and those that simply did not show and with whom we lost contact. Given this, we wanted to determine if there was a difference between the groups for those participants who decided to drop out of the study. All of the baseline subscales of the PRFQ, PSI-SF, and SDQ were analyzed using independent samples *t* tests, and the demographic data were examined using chi-squared tests. Analyses indicated that there were no differences between those that dropped out versus those that completed the study. For the pre- to 6-week posttest, data were analyzed on the 33 intervention parents and 23 control group parents who completed the post-6-week survey. A much smaller number of parents completed the 6-month posttest, leaving 24 (73% of those who completed the 6-week posttest) intervention parents and 10 (43%) control group parents' data to analyze.

## Results

### Preliminary analyses

Analysis began with examining the correlations between standardized measures of the outcome variables in relation to the

demographic data. We computed change scores for all outcome variables and examined associations between these and the demographic information collected at baseline. There were two demographic variables that significantly correlated with the outcome measures. Gender of the foster parent correlated significantly with Curiosity scale on the PRFQ,  $r = .237$ ,  $p = .02$ ,  $n = 89$  and the ethnicity of the foster parent also correlated significantly with the Curiosity scale of the PRFQ ( $X^2(75, N = 86) = 125.07$ ,  $p = .000$ ) as well as with the total stress subscale of the PSI-SF ( $X^2(228, N = 84) = 266.39$ ,  $p = .04$ ). Therefore, we used foster parent gender and ethnicity as covariates in further analyses. There were no significant differences between groups at baseline on any of the measures. Pre- to post-6-week descriptive statistics including means and standard deviations, as well as multivariate and univariate main and interaction effects, are all listed in Table 3. Multivariate analyses were not possible for post-6-month data, due to the low response rate, particularly for the control group (see Figure 1).

### Parental reflective functioning

The first aim of this study was to examine if the intervention could significantly increase the mentalization skills of foster parents by the end of the study and if parents in the intervention show a greater increase than those in the control group. Results indicate that foster parents in the intervention group significantly increased their reflective functioning (RF), although there were mixed results on whether this increase was greater than that of the control group.

As shown in Table 3, there was a significant post-6-week difference in RF with a large ES, as measured by the RF-FMSS across condition ( $F(1, 28) = 4.90$ ,  $p = .03$ ,  $d = .85$ ), meaning both groups increased in RF but not at significantly different rates from each other ( $F(1, 28) = .12$ ,  $p = .73$ ,  $d = .13$ ). However, each group was analyzed separately, univariate tests revealed that baseline RF ( $M = 4.42$ ,  $SD = 1.39$ ) increased significantly in 6 weeks ( $M = 5.11$ ,  $SD = 1.52$ ) only in the intervention group ( $t(18) = -2.23$ ,  $p = .03$ ), while the control group's baseline RF ( $M = 4.30$ ,  $SD = 1.34$ ) 6-week increase ( $M = 4.80$ ,  $SD = 1.48$ ) was not significant ( $t(9) = -1.10$ ,  $p = .29$ ).

On the PRFQ there were significant 6-week posttest differences between groups that were significant for only one specific scale, Pre-Mentalizing (see Table 3). Repeated-measures ANCOVAs performed separately on each scale revealed an increase in mentalizing only for the intervention group on the Pre-Mentalizing (PM) scale, with a large ES ( $F(1, 52) = 6.87$ ,  $p = .01$ ,  $d = .71$ ). Follow-up exploratory analyses revealed that this significant change from a mean of 2.08 ( $SD = .89$ ) to 1.65 ( $SD = .60$ ) was due to the intervention group increasing their mentalizing skills via a lowering of their concrete thinking (PM) ( $t(31) = 4.24$ ,  $p = .000$ ). There was no significant change in the control group's mentalizing skills from pre ( $M = 2.26$ ,  $SD = .95$ ) to post 6 weeks ( $M = 2.26$ ,  $SD = .95$ ;  $t(23) = 1.20$ ,  $p = .24$ ). Both the Curiosity scale ( $F(1, 52) = 1.30$ ,  $p = .61$ ,  $d = .31$ ) and Certainty of Mental States ( $F(1, 52) = .17$ ,  $p = .69$ ,  $d = .11$ ), showed no differences between the groups at post 6 weeks.

Due to the low response numbers at post 6 months, multivariate analysis of these data was not possible. However, follow-up exploratory *t* tests on the PRFQ for the intervention group ( $n = 24$ ) did reveal an interesting finding on this measure that indicates a possible maintaining of their post-6-week mentalizing gains via a significant pre- ( $M = 2.01$ ,  $SD = .87$ ) to post-6-month ( $M = 1.72$ ,



**Table 3.** Mean values at two time points and analysis of covariance (ANCOVA) results for control and intervention groups

Outcomes	Per protocol analysis											
	<i>N</i> <sup>a</sup>	Intervention group		<i>N</i> <sup>a</sup>	Control group		Time (across condition)			Time × Condition		
		Baseline	Six-week post		Baseline	Six-week post	<i>F</i>	<i>p</i>	Cohen's <i>d</i>	<i>F</i>	<i>p</i>	Cohen's <i>d</i>
RF-FMSS	19	4.42 ± 1.39	5.11* ± 1.52	10	4.30 ± 1.34	4.80 ± 1.48	4.90	.03*	.85	.12	.73	.13
PRFQ	32			24								
Pre-Ment		2.08 ± .89	1.65* ± .60		2.26 ± .95	2.10 ± .66	.14	.71	.11	6.87	.01*	.71
Certainty		2.82 ± 1.06	3.00 ± 1.05		3.19 ± 1.03	3.29 ± 1.12	.00	.95	.00	.17	.69	.11
Curiosity		6.02 ± .54	6.18 ± .58		5.83 ± .63	5.81 ± .56	.03	.87	.00	1.30	.26	.31
PSI-SF	30			22								
PD		30.56 ± 12.09	28.72 ± 12.04		36.05 ± 11.57	37.18 ± 10.65	.01	.94	.00	.68	.41	.24
PCDI		27.13 ± 13.14	24.75* ± 11.06		28.95 ± 13.45	30.36 ± 13.27	.62	.43	.22	4.12	.04*	.58
DC		37.39 ± 14.29	37.94 ± 14.74		37.32 ± 14.29	39.81 ± 14.74	.09	.77	.09	.68	.42	.04
SDQ	32			22								
Emotion		8.00 ± 2.48	7.78 ± 2.23		7.55 ± 2.30	7.45 ± 2.23	.87	.36	.11	.10	.75	.06
Conduct		7.69 ± 2.57	6.91 ± 2.26		7.09 ± 2.25	6.68 ± 2.08	.62	.44	.09	.29	.59	.14
Hyper		7.47 ± 2.50	7.38 ± 2.45		7.55 ± 2.60	6.55 ± 2.43	.05	.82	.14	.01	.94	.37
Peer		7.53 ± 1.63	7.50 ± 1.55		7.77 ± 1.95	6.95 ± 1.73	.05	.82	.23	.11	.74	.38
Prosocial		10.41 ± 2.72	11.00 ± 2.51		10.50 ± 3.10	10.64 ± 2.06	.02	.90	.06	.01	.94	.13
Total diff		30.69 ± 6.32	29.56 ± 6.17		29.95 ± 6.18	27.64 ± 6.52	.98	.33	.27	.04	.84	.06

Results are expressed as mean ± standard deviation.

DC = difficult child; PCDI = parent-child dysfunctional interaction; PD = parental distress; PRFQ = parental reflective functioning questionnaire; Pre-Ment = Pre-Mentalizing; RF-FMSS = reflective functioning 5-min speech sample; PSI-SF = parenting stress index - short form; SDQ = strengths and difficulties questionnaire; Total Diff = total difficulties.

\**p* ≤ .05

<sup>a</sup>*N* differ due to missing data.

$SD = .57$ ) lowering of PM ( $t(23) = 2.40, p = .02$ ). There was not enough post-6-month data from either group on the RF-FMSS to conduct a similar analysis.

### Parenting stress

The second aim of this study was to examine if the intervention could significantly decrease the parenting stress of foster parents by the end of the study and if parents in the intervention group show a greater decrease than the control group. Results suggest the intervention may significantly lower a certain type of parenting stress, but not other kinds.

There were no significant differences between groups in parenting stress at baseline; however, posttest differences between groups were significant for the PSI-SF subscale PCDI (see Table 3). Repeated-measures ANCOVAs performed separately on each scale revealed a significant group difference across time on the PCDI subscale ( $F(1, 53) = 4.21, p = .04, d = .58$ ). After exploring this interaction with individual  $t$  tests, it is unclear whether this significant difference is due to a lowering of PCDI parenting stress in the intervention group ( $t(31) = 1.67, p = .11$ ) as the mean did lower from 27.12 ( $SD = 13.14$ ) to 24.75 ( $SD = 11.06$ ), or an increase in this type of parenting stress in the control group ( $t(21) = -.78, p = .44$ ) as this group's mean did increase from 28.95 ( $SD = 13.45$ ) to 30.36 ( $SD = 13.27$ ). The other subscales of parenting stress, parental distress ( $F(1, 53) = .68, p = .41, d = .24$ ) and difficult child ( $F(1, 53) = .68, p = .42, d = .04$ ), did not reveal any significant differences between groups at post 6 weeks.

### Foster children's emotional/behavioral difficulties

The third aim of this study was to examine if the intervention impacted the foster children via a significant decrease in their reported emotional or behavioral difficulties and if that decrease would be greater for children whose foster parents were in the intervention group than the control group. Results on this measure indicate that 6 weeks later, the intervention did not appear to impact the difficulties of the children significantly; however, it might positively impact them 6 months later.

There were no significant differences between groups at baseline on the SDQ, and there were also no significant differences at 6 weeks post test between the groups ( $F(1, 47) = .974, p = .44$ ). Furthermore, repeated-measures ANCOVAs performed separately on each SDQ scale at post 6 weeks revealed no significant group differences across time on any of the scales (see Table 3). However, follow-up exploratory  $t$  tests for the intervention group at 6 months revealed a significant pre- ( $M = 29.91, SD = 6.83$ ) to post-6-month ( $M = 26.55, SD = 7.18$ ) lowering of SDQ total difficulties ( $t(21) = 2.95, p = .008$ ) was observed for the foster children in the intervention group of parents. Further analyses showed that the scales associated with internalizing difficulties (Emotional Symptoms and Peer Problems; Goodman, Lamping, & Ploubidis, 2010) were significantly lower at the 6-month follow-up (pre:  $M = 15.26, SD = 2.94$ ; post 6 months:  $M = 12.96, SD = 3.44$ ) for those in the intervention group,  $t(21) = 3.61, p = .002$ . In addition, there was a significant increase in child Prosocial Behavior ( $t(21) = -2.53, p = .02$ ) with a mean that increased from 10.18 ( $SD = 2.92$ ) to 11.86 ( $SD = 2.82$ ). Unfortunately, multivariate and exploratory analysis of the control group was not possible due to low response rate at 6 months post ( $n = 10$ ).

## Discussion

This study reports on the first RCT for Family Minds, a mentalization-based psychoeducational intervention conducted with foster parents. Results demonstrate that foster parents in the intervention group significantly improved their reflective functioning (RF) via a lowering of pre-mentalizing, in contrast to the control group who did not show any such improvements. However, there were no differences between groups on the other measures of RF. The intervention group also showed a significant decrease in one important type of parenting stress related to parent-child dysfunctional interactions, which was not seen in the control group. Again, this was the only difference between groups across the different types of parenting stress. RF has been examined in foster parents in a limited number of studies, making Family Minds a meaningful contribution to the literature and psychoeducational repertoire of mentalization-based approaches. This study's design, which included a randomized control group, multiple time points, and both self-report and observational methods, is a major strength that provides empirical support for the efficacy of Family Minds.

The elevated risk factors that foster families often navigate make it especially important to have effective short-term interventions that have demonstrated a reduction in foster parents' stress levels related to interactions with their foster children. Results of this study demonstrate that this psychoeducational program can potentially increase foster parents' RF and lower parenting stress in just three sessions, totaling approximately 9 hr across 4 to 6 weeks, making it cost effective and possibly easier to implement than longer or more intensive programs.

### Reflective functioning

Reflective functioning (RF) strongly influences caregiving behavior and child outcomes (Slade, 2007). This study demonstrated that Family Minds has the potential to meaningfully increase RF in foster parents. A prior study had established the preliminary efficacy of this program (Adkins et al., 2018) and this is the first study to demonstrate its efficacy using an experimental design with random allocation. Foster children have high rates of trauma and adverse experiences that can result in additional challenges for caregivers (Pecora et al., 2005), particularly if the foster parent is new to the child and must build a trusting relationship from scratch. Helping foster parents provide the best support possible for foster children is critical when considering that upwards of 80% of children entering foster care demonstrate significant mental health needs (Szilagyi et al., 2015) and alumni of foster care show rates of posttraumatic stress disorder higher than that of US war veterans (Pecora et al., 2005). High RF implies the ability to understand how emotions can vary in intensity, that they are not always obvious, and that they can trigger other emotions, both within the self and during social interactions with their child (Fonagy et al., 1998). Increasing foster parent RF is a key factor in supporting foster parents' understanding of their foster children's behavior so that they can intentionally decide on the best response for that child.

While Family Minds did significantly increase foster parents' RF by the end of the intervention, results only showed a significant difference between groups on one of the two measures of RF. Furthermore, on the RF measure that did reveal group differences, there was a significant difference between groups on only one of the three subscales of RF/mentalizing. Although there

was a significant reduction in pre-mentalizing tendencies, there were no differences around parents' curiosity or certainty of mental states. These two aspects of mentalizing were addressed in the intervention, so it is unclear why no results were obtained regarding these skills, especially given they were positively impacted in a previous study (Adkins et al., 2018). The data do show an improvement in both these mentalizing skills for the intervention group, but this increase was not statistically significant. The lack of significant improvement in these skills could be because the intervention was not robust enough to impact these aspects of mentalization or because the total number of participants was too low to detect the change. It could also be that the participants had enough baseline RF abilities, particularly with regards to their curiosity and certainty of mental states, that significant increases in these skills were not achievable. This last hypothesis might hold merit, given that initial mean values for both curiosity and certainty of mental states in our sample indicate that these foster parents already had an average to above average ability in these skills, while also having a below average pre-mentalizing ability compared to a community sample of 770 parents (Pazzagli, Delvecchio, Raspa, Mazzeschi, & Luyten, 2018).

The significant difference between groups on pre-mentalizing is quite an encouraging and useful result. Pre-mentalizing is a form of non-mentalizing or a defense against mentalizing, when one resorts to concrete or "black or white" thinking. It involves a type of psychic equivalence, where what one feels inside must be what is true, and which prevents flexible thinking and taking another's perspective (Fonagy et al., 2004). A foster parent with high pre-mentalizing might react to their child's behavior in a very unyielding way or attribute malevolent intentions to the child. Such parents might not be able to enter into the subjective world of their child, only taking into account their own emotions and as a result might be more prone to lash out or overreact. Given the vulnerability of foster children, a mentalizing intervention for foster parents should have as its primary goal to specifically lower pre-mentalizing in addition to raising RF. Research has shown that high levels of pre-mentalizing have been associated with a decrease in parents' sensitivity to their child's distress, while curiosity and certainty of mental states did not impact parental sensitivity (Krink, Muehlhan, Luyten, Romer, & Ramsauer, 2018). In addition, a recent study discovered that mothers who had more difficulty with their own emotional regulation and suppressed their emotions, displayed more pre-mentalizing modes (Schultheis, Mayes, & Rutherford, 2019). Furthermore, there is some evidence that the higher the pre-mentalizing of a parent, the lower their emotional availability and mutual attunement to their child (Luyten et al., 2017). Thus, the results of this study are quite encouraging that this intervention can positively impact the parent-child relationship by helping parents better regulate their emotions during distressing interactions and increasing their parental sensitivity. Finally, there is a possibility that this increase in foster parents' mentalizing ability may have been maintained 6 months later.

The current study also provides encouraging results for a new measure of parental RF, the RF-FMSS (Adkins et al., 2018). The initial study (Adkins et al., 2018) using this measure found a significant increase in RF across groups on both the RF-FMSS and the PRFQ. Although the current study did not find as strong results on this new measure, the finding that there was a significant increase in RF on the RF-FMSS for the intervention group, while there was also a significant increase in some mentalizing skills on the PRFQ across groups, provides additional data to

indicate this measure needs further investigation as to its validity as a reliable measure of RF.

Traditionally, parents' mentalizing abilities have been measured using the PDI (Slade et al., 2004) or the AAI (George et al., 1985). Both take approximately an hour to administer and even longer to code, in addition to requiring intensive training to be considered a reliable coder. Thus, while the PDI and the AAI both have robust psychometric properties, they are resource-heavy instruments that require significant time, skill, and money for the administration, transcription, and coding of the interview. The RF-FMSS was originally developed as a brief and practical method to assess RF, which was also based on parent narrative but did not require an interviewer to be present. Early studies of the RF-FMSS showed preliminary promise (Adkins et al., 2018; Bammens et al., 2015) and the results of this study demonstrate that it might be a worthwhile tool for assessing RF in foster parents and could be ideal for parenting research because it is an observational measure that is quick to administer, transcribe, and code. In addition, the high levels of interrater reliability found in this and previous studies using the RF-FMSS indicate that it is a system that can be effectively trained with congruence retained across coders. Future studies could utilize this measure with other populations to assess its validity across different populations of parents.

### Parenting stress

This study demonstrated that Family Minds can meaningfully decrease parenting stress related to difficult interactions between parent and child. This replicated a prior finding that also found Family Minds reduced this type of parenting stress for foster parents who received the intervention (Adkins et al., 2018), which provides additional strength to these results and highlights the value of the Family Minds intervention. Parenting stress is an important factor for foster parents, given that children in foster care are more likely to have experienced trauma and adverse events that have negatively impacted their social-emotional development, increasing the likelihood of mental health issues and relational difficulties (Szilagyi et al., 2015). It is interesting to note that the specific parenting stress subscale of parent child dysfunctional interactions (PCDI) was positively impacted by this intervention. This subscale measures the parent's distress around the quality of the parent-child interaction and evaluates to what degree the parent sees their child as having dysfunctional interactions with them, which cause problems within their relationship and are a source of parenting stress (Abidin, 1995). The change observed in this study indicates that improvement with a parental mentalizing intervention may be particularly relevant to normalizing interactions previously seen simply as dysfunctional.

The aspects of parenting stress that did not change were noteworthy too. There was no change in parents' internal feelings of overall distress (parental distress subscale), nor in the stress related to a difficult child's behavior (difficult child subscale), which replicates the findings from a previous study evaluating Family Minds (Adkins et al., 2018). It could be that a larger sample is needed to see such differences, or alternatively, that Family Minds does not impact these types of parenting stress. Given that the parental distress has been highly associated with parent's self-reported psychological symptoms and difficult child stress highly correlated with child oppositionality (Reitman, Carrier, & Stickle, 2002; Theule, Wiener, Tannock, & Jenkins, 2013), perhaps it

makes sense that this intervention did not reduce these types of parenting stress, as the main goal of Family Minds is to impact the parent–child relationship positively through an increase in parent and family mentalizing, but not necessarily to influence or change parents' psychological symptoms or their child's difficult behaviors.

A major benefit of successful mentalizing is that it improves relational capacities when these are challenged by the apparently incomprehensible attitudes and behaviors of a fostered child. When a parent is able to understand the beliefs and feelings that likely underpin their child's actions and, further develop a more compassionate attitude born of understanding the reasons for their own actions, they are less likely to respond in a dysfunctional manner (to overreact, lash out, or shut down in response) to their child's behavior. This, in turn, increases their ability to help manage the overwhelming emotions in their child and themselves that arise during difficult parent–child interactions. We suggest that if a parent improves their ability to mentalize (themselves and their child), the potential for more satisfying and productive interactions with their child may be realized. Family Minds' efficacy in reducing any parenting stress benefits foster parents and children alike, reducing a substantial potential risk factor for foster family well-being.

The significant difference in the 6-week posttest results in one type of parenting stress between intervention and control group parents could also be due to intervention parents' stress reducing while that of the control group parents stress increasing over the same period. This raises the question of whether it is the increase in RF capacity that reduced parents' stress, or whether improving RF prevented an increase in parenting stress as seen in control group parents. Difficulty in mentalizing their children accurately can affect parents' emotions, making negative emotions harder to tolerate (Sharp & Fonagy, 2008). This may be particularly challenging for foster parents who do not always have a long-shared history of the child to draw upon, particularly when children are displaying behaviors the foster parent finds challenging and hard to understand. The current study results suggest that foster parents' mentalizing abilities improve through Family Minds, which may then be supporting their own experience of the relationship through more satisfaction in their interactions with their foster child. Given that the intervention did not seem to change/impact other types of parenting stress, such as parent's own internal feelings of distress or the stress around their children's difficult behaviors, lends support to this idea.

### *Child emotional and behavioral challenges*

This study explored change in child outcomes, in addition to foster parents' RF and parenting stress. Foster parents in the intervention and control groups reported similar levels of child emotional and behavioral difficulties at baseline and at 6 weeks post intervention. This is a replication of the first study evaluating Family Minds, which also did not find any significant change in this outcome from pre to post 6 weeks (Adkins *et al.*, 2018). This result could be an artifact of the type of children in this study. When examining the "Level of care" (see Table 2) demographic information for this sample of children, the majority (77%) were classified as having no significant emotional or behavioral issues. It could be, therefore, that it is difficult to detect change in such behaviors in this sample. It could also be that, while changes in foster parents' capacities and attitudes can come about relatively rapidly, it may take longer than 6 weeks for the

improved parental RF to impact the parent–child relationship sufficiently for there to be a measurable difference in child behavior. This hypothesis might have merit, as this study's post-6-month data revealed that foster parents in the intervention group reported a significantly lower level of total child difficulties, particularly internalizing behaviors. Although a comparison to the control group was not possible due to attrition, this is a promising finding with interesting implications for understanding how increasing foster parent RF may positively influence children's emotional challenges. For children, overwhelming emotions can lead to behavior issues, and the lack of being able to process these emotions can lead to mental health issues, such as depression or anxiety (Borelli *et al.*, 2018; Cicchetti, Ackerman, & Izard, 1995; Ensink, Begin, Normandin, & Fonagy, 2017; Ensink, Begin, Normandin, Godbout, & Fonagy, 2017). Parental RF is particularly important for supporting children who internalize their emotions, since mentalizing about the child's internal state is often required to connect meaningfully and help the child. This may be particularly important if the relationship between foster parent and child is still being built. This promising longitudinal finding should be explored in more depth in future studies where both control and intervention groups can be compared at 6 months.

### *Limitations and future directions*

This study had multiple strengths in its design, but there are severe limitations as well. The current sample size was too small to permit generalization. The overall study dropout rate was high, bringing into question the statistical power available to test the study aims and the representativeness of the ultimate sample. Further research with larger samples will be necessary to confirm the promising results reported here. The control group intervention was not well matched to the experimental intervention in terms of duration and implementation. While the control group consisted of a typical foster parent training that was appropriate, as it is the intervention generally provided by state law to all foster parents and was delivered by experienced workers, the study cannot tell us if the impact observed would generalize beyond the individual trainer who developed the program. A replication of this study with the intervention provided by alternative instructors trained to deliver Family Minds with fidelity will be necessary.

We did not have sufficient statistical power to test the mediational model that underpins the intervention. We would predict that the extent of stress reduction and behavioral change at 6 months should be in line with the observed change in RF. Larger studies with similar instrumentation will be needed to provide a more nuanced picture of change mechanisms (Cuijpers, Reijnders, & Huibers, 2019). Furthermore, in the absence of a biological parent comparison group we do not know if this essentially generic intervention worked to enhance general parenting capacities or if it was effectively targeted at the problems of foster parents as it was intended.

Another confounding issue with the study participants that could limit the generalizability of this study is the fact that some of the foster parents adopted their foster children. There is a possibility that some of these parents could have different expectations of the children in their care if they adopted their children and if they intend to adopt any more of the foster children in their care. These parents could be qualitatively different from foster parents who never intend to adopt, but in this study these

aspects were not able to be adequately considered and assessed. Future studies should assess the efficacy of Family Minds across different populations of parents, taking these issues into account. This could help determine which aspects of the program are most effective at generically increasing RF versus addressing the needs of particularly stressed groups of caregivers.

However, the question of whether Family Minds can create long-lasting change remains unanswered due to the high level of attrition at the 6-month follow-up. It would be ideal to follow these foster parents up again to determine the efficacy of the intervention in the long term. Long-term follow-up is a challenge for all studies with high-risk populations, but it is particularly difficult with foster parents whose engagement with training programs is normally quite tenuous and whose commitment to research competes with sometimes exceptional demands of care.

## Conclusion

Effective family interventions create change for the whole family, in addition to changing caregiver behavior. It is likely that the success of Family Minds in this study is grounded in the mentalization-based curriculum that helped caregivers increase their RF capacity. Increased RF likely increased foster parents' capacity to understand their foster children better, resulting in decreased parenting stress and decreased foster child internalizing behavior.

Mentalization skills are valuable tools for caregivers for understanding child behavior and providing optimal support for children's development. This study provides some encouraging evidence for the effectiveness of the Family Minds program to increase mentalization skills and RF in foster parents. The efficacy of Family Minds, in combination with the program's brief, flexible, and accessible format, makes it a promising new approach for providing preventative support for families.

**Supplementary Material.** The supplementary material for this article can be found at <https://doi.org/10.1017/S095457942000214X>

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