








## RESEARCH ARTICLE

# Maternal dispositional mindfulness and mother–child relationship: The mediating role of emotional control during parenting

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## Abstract

**Background:** The literature supports the role of parental dispositional mindfulness on parent–child relationship quality. However, little is known about the connection between these two aspects.

**Objective:** The aim of this study was to investigate whether emotion regulation during parenting, that is, the ability to control negative emotions, mediated the association between parental dispositional mindfulness and parent–child relationship quality. The study also explored the moderation role of child age on the association between parental dispositional mindfulness and parent's ability to control negative emotions during parenting.

**Methods:** Participants were 635 mothers of children aged between 12 months and 5 years. Mothers completed self-report questionnaires to measure maternal dispositional mindfulness, mother–child relationship quality and maternal control of negative emotions during parenting.

**Results:** Results showed that maternal ability to control negative emotions during parenting partially mediated the association between maternal dispositional mindfulness and mother–child relationship quality. Moreover, the moderation role of child age indicated that the association between maternal dispositional mindfulness and maternal ability to control negative emotions during parenting was stronger for older children's mothers.

**Conclusion:** Dispositional mindfulness has a protective role for the quality of parenting and the mother–child relationship. Theoretical and practical implications are discussed.

## KEYWORDS

emotion regulation, mindfulness, mother–child relationship, parenting

# 1 | MATERNAL DISPOSITIONAL MINDFULNESS AND MOTHER-CHILD RELATIONSHIP: THE MEDIATING ROLE OF EMOTIONAL CONTROL DURING PARENTING

Mindfulness—defined as ‘the awareness that emerges through paying attention on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment by moment’ (Kabat-Zinn, 2003, p. 145)—has been mainly explored as an intrapersonal ability to perceive, be aware, recognize and regulate many aspects of own inner experience (e.g., emotions and behaviours). Thus, mindfulness, and particularly the ability of describing and non-reacting to inner experience, reduces the intensity of emotional responses, increases tolerance, enhances emotional recovery and reduces negative evaluation of individual emotional responses (Bränström et al., 2011; Davis et al., 2019; Harrington et al., 2014), allowing the implementation of more functional emotion regulation strategies (Goodall et al., 2012; Hölzel et al., 2011; Iani et al., 2018; Roemer et al., 2015).

In addition to this, there is a growing interest in the study of mindfulness as an interpersonal ability and its effect on the enhancement of relationship quality. Several studies highlighted how adults' mindfulness was positively associated with their secure attachment (Pepping et al., 2013), friendship quality (Pratscher et al., 2018) and marital satisfaction (Khaddouma et al., 2015; Williams & Cano, 2014). Another strand of literature investigated the protective role of mindfulness in supporting the quality of the fundamental intimate interpersonal relationship that is parent-child relationship (Fernandes et al., 2022).

Indeed, recent studies showed that parental mindfulness was positively associated with mother's attachment to the fetus (Brassel et al., 2020; Hicks et al., 2018) and with the quality of parent-child relationship during infancy (Cohen, 2010; Derakhshanpour et al., 2022; Fernandes et al., 2021a), childhood (Brassel et al., 2020; Potharst et al., 2021) and adolescence (Medeiros et al., 2016; Turpyn & Chaplin, 2016; Duncan et al., 2015).

Despite this empirical evidence, the mechanism of the association between parental mindfulness and the quality of parent-child relationship is not clear yet. The attachment theory evidenced that the quality of parent-child relationship is affected by many factors, the main of which refers to the ability of the parent to sensitively notice, understand and respond to infant's needs (Ainsworth, 1985; Bowlby, 1988). Sensitive responding and parenting behaviours are in turn facilitated by parent's capacity to manage the experience and expression of their own emotions in caregiving contexts, irrespective of the affective state of the child (Gross, 2014; Rutherford et al., 2015). Parents more able to regulate their emotions do not allow their negative emotional experiences to affect the quality of their relationship with their children.

Considering the positive association between mindfulness and individual emotion regulation (Goodall et al., 2012; Hölzel et al., 2011; Iani et al., 2018; Roemer et al., 2015), we hypothesize that emotion regulation could be the mechanism through which parental

## Key Messages

- Maternal dispositional mindfulness, as an individual general trait not necessary context specific for parenting, is associated to mother-child relationship.
- An adaptive parenting, specifically the ability to control negative emotions, is a mechanism of such association.
- Mindfulness is a protective factor and an internal source of support for mothers, especially for those of preschoolers.
- Mindfulness-based interventions should be offered mainly to mothers of preschoolers.

mindfulness could improve parent-child relationship quality. Parents with high mindfulness can connect with their inner emotional experience and to effectively regulate their distresses. The more effective emotion regulation allows them to have awareness of what is happening during parent-child interactions and to find more functional strategies to respond to the child, despite their own emotional experiences. This could in turn foster a good parent-child relationship (Parent et al., 2016; Snyder et al., 2012).

Despite some evidence of the association between mindfulness and emotion regulation in samples of parents (e.g., Derakhshanpour et al., 2022), and mindfulness and positive parent-child relationship (e.g., Fernandes et al., 2022), to the best of our knowledge no studies have explored the effect of mindfulness on emotion regulation during parenting and the cascade effect on the quality of parent-child relationship. Because the quality of parent-child relationship is associated with short- and long-term effects on several domains of child development (e.g., Ainsworth, 1985; Evans & Porter, 2009; Feldman et al., 1996; Rocha et al., 2020; Sansavini et al., 2015), it is particularly relevant to explore the potential protective role of parental mindfulness on the quality of parent-child relationship.

To fill this literature gap, the present study investigated whether emotion regulation during parenting, that is the ability to modulate own negative emotions in order to achieve parenting-related goals (Pereira et al., 2017), may mediate the association between parental dispositional mindfulness and the quality of parent-child relationship. Unlike most previous studies that focused on mindful parenting—a non-judgemental present-centred attention to parent-infant interactions (Pratscher et al., 2019)—it was decided to investigate the role of dispositional mindfulness as an individual trait in promoting the quality of parent-child relationship.

The objectives of the study can summarize into the following hypotheses:

- High parental dispositional mindfulness is associated with the regulation of negative emotions by parents.
- High parental dispositional mindfulness is associated with a high quality of the parent-child relationship.

- Emotion regulation during parenting mediates the association between parental dispositional mindfulness and the quality of the parent-child relationship.
- Child age moderates the association between parental dispositional mindfulness and emotion regulation during parenting in the previously described model, considering that parenting/caregiving tasks differ according to child age (Moreira & Canavarro, 2018).

## 2 | METHODS

### 2.1 | Participants

The sample included 635 mothers ( $M = 36.97$  years,  $SD = 4.98$ ) of children aged between 12 months and 5 years. A power analysis suggested that a sample of  $N = 635$  was sufficient to achieve power that approaches 0.80 (with a critical alpha of 0.05) to test the hypothesized moderated mediation model. The sample had the following characteristics: 606 mothers were Italian, all lived in Italy. Most of the sample (91.6%) had a medium high socio-economic status. Mean years of education indicated high maternal education ( $M = 16.13$  years,  $SD = 4.07$ ). Children's mean age was 53.53 months ( $SD = 24.28$ ), 364 were boys, 327 singleton and 493 firstborns.

### 2.2 | Procedures

Mothers were recruited online following a snowball procedure. Recruitment occurred via social media platforms (e.g., advertising the study via Facebook posts) aiming to reach a sample from different areas that was as representative as possible. We asked mothers to complete an anonymous online survey (McDonald et al., 2022; Vernon & Moretti, 2022; Weigold et al., 2013). Informed consent was obtained from all participants who were informed about the study description and ethical conditions. The survey included screening questions to identify exclusion criteria of participants (child's age, prematurity and child's diseases). Of the 729 initial sample, 27 were excluded because the child had a disease, six because the child was younger than 12 months old, 11 because were not mothers and 63 did not complete the full set of questionnaires. The final sample consisted of 635 mothers. The study was approved by the Ethical Committee of Department of Neurosciences, Imaging and Clinical Sciences, G. d'Annunzio University of Chieti-Pescara.

### 2.3 | Measures

#### 2.3.1 | Maternal dispositional mindfulness

Maternal dispositional mindfulness was measured with the Five Facet Mindfulness Questionnaire-Short Form (FFMQ-SF; Wilkinson & Hao, 2021). The FFMQ-SF is composed of 20 items selected by the original 39-items of the FFMQ (Baer et al., 2006). Participants were

asked to indicate to what extent each item is true for them on a Likert scale ranging from 1—*never or rarely true* to 5—*very often or always true* (e.g., 'When I do things, my mind wanders off and I'm easily distracted', 'I watch my feelings without getting lost in them' and 'I tell myself that I shouldn't be thinking the way I'm thinking'). High scores indicate high dispositional mindfulness. The total score was used in the present study. Cronbach's  $\alpha$  was 0.75.

#### 2.3.2 | Maternal lack of emotional control during parenting

Maternal emotion regulation during parenting was assessed with the five items of the parents' emotional lack of control subscale of the Parent Emotion Regulation Scale (PERS; Pereira et al., 2017). The PERS is a 20 items self-report aiming to assess the regulation of negative emotions in the context of parenting on a Likert scale ranging from 0—*never or almost never* to 4—*always or almost always* (e.g., 'When I am sad, anxious or angry, I can reasonably control my feelings/emotions in front of my child' and 'I do get angry with my child, only because I am nervous or angry with other issues of my life'). High scores indicate low regulation of negative emotions in the parenting context. Cronbach's  $\alpha$  in the current study was 0.66, similar to the 0.69  $\alpha$  of the validation study (Pereira et al., 2017).

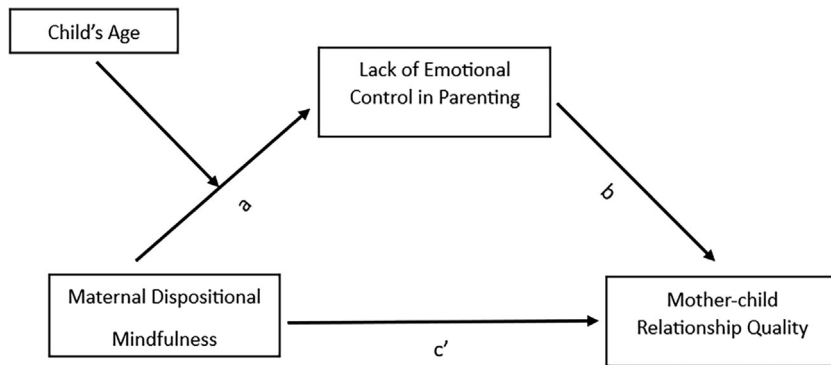
#### 2.3.3 | Mother-child relationship quality

Mothers completed the Maternal Postnatal Attachment Scale (MPAS; Condon & Corkindale, 1998) to assess the quality of mother-child relationship. The MPAS consists of 19 items on a 5-point Likert scale ranging from 1—*never* to 5—*very frequently* (i.e., 'I spend as much time as possible playing with my child' and 'When I am with the child, I am happy and satisfied'). High scores indicate a high relationship quality. The total score was used in the current study. Cronbach's  $\alpha$  was 0.85.

## 3 | ANALYTIC PLAN

Associations among study variables were explored with Pearson's correlations. The mediating role of maternal lack of emotional control during parenting (mediator) in the association between maternal dispositional mindfulness (predictor) and mother-child relationship quality (outcome) was examined with a mediation model conducted using SPSS PROCESS macro for SPSS version 4.0 (Hayes, 2017) after standardizing scores. Mother's years of education were entered as covariate. Then, in order to examine the moderating effect of child age (as a continuous variable) on the association between maternal dispositional mindfulness and the lack of emotional control during parenting, we added the interaction effect to the mediation model and a moderated mediation model was run (see Figure 1).

Finally, we followed up the interaction effect by a conditional interaction plot with simple slopes. For purely representative



**FIGURE 1** The moderated mediation model. Note: The proposed conceptual model for associations between maternal dispositional mindfulness and mother–child relationship quality as mediated by maternal lack of emotional control in parenting, with child's age moderating such an indirect effect. Maternal years of education were used as covariate.

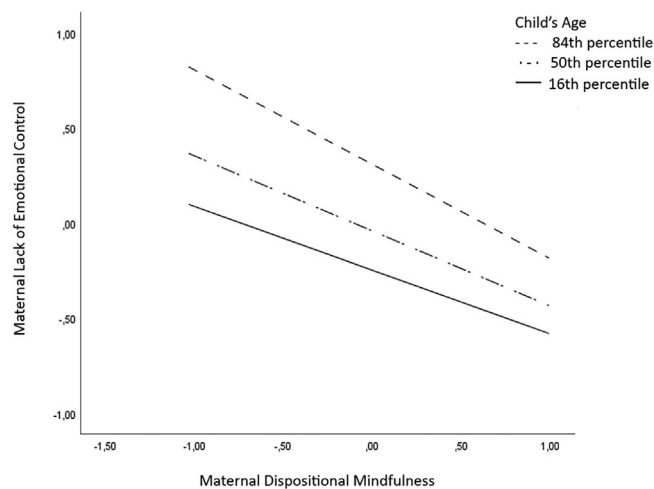
**TABLE 1** Means (*M*), standard deviations (*SD*) and Pearson's correlations of study variables.

		<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1	Children's age (months)	53.53	24.28	–	0.28***	0.05	0.04	0.24***	–0.21***
2	Mothers' age (years)	36.97	4.99		–	0.18***	0.19***	0.02	–0.03
3	Maternal years of education	16.01	4.98			–	0.21***	0.02	–0.14***
4	Maternal dispositional mindfulness	3.91	0.50				–	–0.38***	–0.39***
5	Lack of emotional control in parenting	1.76	0.58					–	–0.58***
6	Mother–child relationship quality	3.92	0.50						–

\*\*\**p* < 0.001.

**TABLE 2** Results of the mediation model and moderated mediation model.

Outcome	Predictors	Mediation model: direct effects					
		$\beta$	$R^2$	<i>SE</i>	<i>t</i>	<i>p</i>	
Mother–child relationship quality	Maternal dispositional mindfulness Maternal years of education	0.24	0.40	0.03	7.10	<0.001	
Lack of emotional control in parenting	Maternal dispositional mindfulness Mother's years of education	–0.40	0.15	0.04	–10.63	<0.001	
Mother–child relationship quality	Lack of emotional control in parenting	–0.48	0.40	0.03	–14.44	<0.001	
		Total effect model					
		$\beta$	$R^2$	<i>SE</i>	<i>t</i>	<i>p</i>	
Maternal dispositional mindfulness → lack of emotional control → mother–child relationship quality		0.44	0.20	0.04	11.99	<0.001	
		Indirect effects					
		$\beta$	<i>SE</i>	<i>LLCI</i>	<i>ULCI</i>		
Mediator: Lack of emotional control in parenting		0.19	0.02	0.15	0.24		
		Moderated mediation model: Interaction					
		$\beta$	$R^2$ -change	<i>SE</i>	<i>p</i>		
Maternal dispositional mindfulness × child's age		–0.07	0.0059	0.03	0.03		
		Indirect effects of moderator					
Level	Effect	<i>SE</i>	<i>LLCI</i>	<i>ULCI</i>			
Low (16th percentile)	0.16	0.02	0.11	0.21			
Moderate (50th percentile)	0.19	0.02	0.15	0.24			
High (84th percentile)	0.24	0.04	0.17	0.32			
Index of moderated mediation	0.04	0.02	0.01	0.07			



**FIGURE 2** Conditional interaction plot. Each line represents the relation between maternal dispositional mindfulness and maternal lack of control conditioned to the 16th, 50th and 84th percentile of child's age ( $N = 635$ ). Note: Child age moderated the association between maternal dispositional mindfulness and maternal lack of emotional control. The effect was stronger for mothers of older children.

purposes, the relationship between maternal dispositional mindfulness and lack of emotional control during parenting were plotted considering child age in months as a continuous variable (i.e., child months below 16th percentile, at 50th percentile and above 84th percentile). The bootstrap method was utilized to generate 95% confidence intervals (CI; Hayes, 2017; Preacher et al., 2008) to test the significance of the effects with 5000 resamples.

## 4 | RESULTS

### 4.1 | Preliminary analyses

Descriptive statistics and Pearson's correlations among variables are presented on Table 1. Mothers of older children reported higher lack of emotional control during parenting and lower mother-child relationship quality. Older mothers and mothers with higher education reported higher dispositional mindfulness and better mother-child relationship quality. Mothers with higher education reported less lack of emotional control during parenting. Negative associations were present among maternal mindfulness, mother-child relationship quality and lack of emotional control during parenting.

### 4.2 | Mediation and moderated mediation analyses

Results of the mediation and moderated mediation models are summarized in Table 2. High dispositional mindfulness significantly predicted low lack of emotional control during parenting, path a:  $\beta = -0.398$ ,  $p < 0.001$ , and high mother-child relationship quality,

path c:  $\beta = 0.243$ ,  $p < 0.001$ . Low lack of emotional control during parenting (that means high regulation of negative emotions during parenting) predicted a high quality of mother-child relationship, path b:  $\beta = -0.484$ ,  $p < 0.001$ . Maternal dispositional mindfulness indirectly predicted the quality of mother-child relationship through the ability of the mother to control negative emotions during parenting. Path c':  $\beta = 0.193$ , 95% CI [0.15, 0.24]. Overall, these results confirmed that the beneficial effect of maternal dispositional mindfulness on the mother-child relationship is partly explained by the mediating role of maternal lack of emotional control during parenting. Subsequently, we tested the moderating role of child age in the relationship between maternal dispositional mindfulness and lack of emotional control during parenting (see Table 2). Findings showed a significant effect of the interaction between maternal dispositional mindfulness and child age on the level of maternal lack of emotion regulation during parenting. When the interaction term was added the model goodness-of-fit significantly improved,  $R^2$ -change = 0.006,  $F(1, 630) = 4.779$ ,  $p < 0.05$ . To represent the interaction effect, we plotted simple slopes for child months below the 16th percentile, at the 50th percentile and above the 84th percentile (Figure 2). Figure 2 showed that maternal dispositional mindfulness significantly predicted maternal lack of emotional control for mothers of all children, with a greater effect for mothers of older children than mothers of younger ones. In other words, at low levels of maternal dispositional mindfulness, mothers of older children reported greater lack of emotional control in parenting than mothers with younger children. In the context of high levels of dispositional mindfulness, mothers of older children showed lower levels of lack of emotional control during parenting similar to mothers of younger ones. The conditional indirect effects for high (84th percentile), medium (50th percentile) and low (16th percentile) levels of the moderator child's age were  $\beta = 0.241$ , 95% CI [0.04, 0.17];  $\beta = 0.192$ , 95% CI [0.02, 0.15]; and  $\beta = 0.163$ , 95% CI [0.02, 0.12], respectively.

## 5 | DISCUSSION

The main aim of our study was to investigate the mediation role of emotion regulation during parenting (i.e., lack of emotional control) on the association between maternal dispositional mindfulness and the quality of mother-child relationship. Results showed how maternal dispositional mindfulness predicted directly and indirectly—through a better ability to control negative emotions during parenting—mother-child relationship quality. Mothers who were more aware of what happens moment by moment in the surrounding environment and who paid more attention to their own internal images, thoughts, sensations and emotions, accepting them without judgement and without getting taken over by it, all aspects directly related to mindfulness (Kabat-Zinn, 2003), reported a better relationship with their child. These results are in line with previous studies conducted with pregnant women and mothers of adolescents (Derakhshanpour et al., 2022; Fernandes et al., 2021b; Turpyn & Chaplin, 2016), highlighting the relevance of maternal

mindfulness as an individual general trait in promoting the quality of mother–child relationship. This may suggest the relevance of mindfulness-based interventions focused on promoting individual dispositional and not necessarily context specific for parenting (i.e., mindful parenting) mindfulness in fostering the quality of mother–child relationship.

Moreover, this study highlighted the role of lack of emotional control during parenting in explaining the association between maternal dispositional mindfulness and the quality of mother–child relationship. Mothers with high dispositional mindfulness reported better ability to control their negative emotions during parenting (i.e., not getting angry with the child when they are nervous or angry with other issues of their life), and this was associated with higher quality of mother–child relationship (i.e., feeling happy and satisfied when playing and spending time together with their child). Consistent with previous studies showing a positive association between mindfulness and emotion regulation (Davis et al., 2019; Iani et al., 2018), this study suggests that maternal mindfulness also promotes emotion regulation during parenting. Because mindfulness refers to the ability to pay attention and to be connected to own here-and-now thoughts and emotions, non-judging and non-reacting to them (Kabat-Zinn, 2003), our findings showed that these abilities are associated with better capacity of the mother to control and manage emotions in front of the child when they are sad, anxious and upset. Through these mechanisms, a more mindful mother could act consciously rather than reacting automatically (Snyder et al., 2012). Maladaptive emotional reactions may decrease and the mother's ability to notice and understand child's needs and signals more appropriately, attuning to them, may improve, enabling the roots of a more functional relationship (Ainsworth, 1985).

Consistent with our hypothesis, the results highlighted a moderating role of child's age on the relationship between maternal dispositional mindfulness and emotion regulation during parenting. In line with the idea that preschoolers present mothers more behavioural challenges than toddlers (i.e., greater lively and disobedient behaviours and higher demands for attention), mothers of older children regulated their negative emotions during parenting worse than mothers of younger children (Moreira & Canavaro, 2018). However, the positive impact of maternal mindfulness on the ability to regulate own emotions during parenting was stronger for mothers of older children, evidencing the powerful protective role that mindfulness may have for these mothers.

The results of this study should be considered in light of some limitations. Most important, all data were based on online self-report questionnaires. Future studies should provide a more comprehensive image on the relationship between maternal dispositional mindfulness, regulation of negative emotion during parenting and mother–child relationship, including observational measures especially for the quality of mother–child relationship (i.e., observer-rated attachment relationship) and by observing mother's regulation of negative emotions during mother–child interaction. Moreover, the current study used cross-sectional data that could produce biased estimates in the model fit (i.e., overestimated, underestimated or only approximated)

(e.g., De Los Reyes, 2017; Maxwell & Cole, 2007; Valeri & VanderWeele, 2013). Further research could investigate longitudinally the effect of maternal dispositional mindfulness on the regulation of negative emotions during parenting and their influence on the quality of mother–child relationship. Finally, our sample largely included mothers who were highly educated and with high socio-economic status, limiting the generalizability to the population experiencing cultural, socio-economic and other disadvantages. More at risk mothers not only could be more prone to difficulties in regulating emotions during parent–child interactions due to the socio-economic difficulties (Deater-Deckard et al., 2016) but also could benefit from a dispositional mindfulness training. Focusing on a more diverse population could inform mindfulness-focused training that could be helpful to buffer the potential negative effect of a disadvantage on the quality of mother–child relationship.

However, the present study is exploratory, and despite these limitations, it has explored important aspects that have never examined before. Moreover, although our data are cross-sectional, we measured mother's dispositional mindfulness, which is supposed to be a stable trait of the individual and measurable before parenting, with respect to mindful parenting. However, longitudinal studies are needed to further confirm these present study suggests mindfulness is an important internal source of support and a potential protective factor that allows the mother to better regulate her own emotions during parenting and to establish a good relationship with the child. Mindfulness could be evaluated as a screening to identify mothers more at risk to develop difficulties in parenting. For example, available interventions developed with the aim to promote positive parenting (Juffer et al., 2018) should consider dispositional mindfulness as an individual factor that could affect the ability of the parent to distinguish own and child emotions and therefore to be sensitive to child needs. Further, mindfulness-based interventions should be offered to mothers in order to maximize their ability to provide positive parenting and develop a good relationship with their child. From a preventive and clinical perspective, the role of mindfulness is more crucial for mothers of preschoolers, as they might have more difficulties in regulating their emotions during parenting than mothers of infants. Considering that this difficulty might affect the quality of the mother–child relationship, which is known to have important cascading effects on the child's development (e.g., Rocha et al., 2020), mindfulness-based interventions should be offered especially to mothers of preschoolers, with the aim of improving their emotional control during parenting through an enhanced mindfulness ability.

#### AUTHOR CONTRIBUTIONS

**Ilenia Passaquindici:** Writing - original draft; formal analysis; conceptualization. **Odetta Nardoza:** Writing - review and editing. **Alessandra Sperati:** Writing - review and editing; formal analysis. **Francesca Lionetti:** Writing - review and editing; conceptualization. **Giulio D'Urso:** Formal analysis; writing - review and editing. **Mirco Fasolo:** Writing - review and editing; supervision. **Maria Spinelli:** Conceptualization; writing - review and editing; supervision.

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## CONFLICT OF INTEREST STATEMENT

We have no conflicts of interest to disclose.

## DATA AVAILABILITY STATEMENT

The dataset is available upon request to authors.

## ETHICS STATEMENT

The study was approved by Ethical Committee of the University G. d'Annunzio of Chieti-Pescara, Italy. Participants provided informant consent.

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