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Meins, Elizabeth, Larkin, Fionnuala, Fishburn, Sarah et al. (2026) Relations between mind-mindedness, stress and parent-child relationship quality in parents of children with a history of mental health or behavioural difficulties. *British journal of developmental psychology*. pp. 199-216. ISSN: 0261-510X

<https://doi.org/10.1111/bjdp.70015>

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## ARTICLE

# Relations between mind-mindedness, stress and parent–child relationship quality in parents of children with a history of mental health or behavioural difficulties

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## Abstract

This study extends research on relations between parental distress and mind-mindedness in high-risk samples by exploring these relations in parents of children who had/had not received professional support for mental health, emotional or behavioural difficulties. An online survey was completed by parents of children who had received professional input around mental health or behaviour ( $n = 67$ ) versus a comparison group ( $n = 84$ ) who had not. Measures of parental mind-mindedness, parental distress, and parent-child relationship quality (closeness and conflict) were administered. Parents in the clinical group reported higher distress, conflict with their child and negative mind-mindedness. Moderated mediation analyses showed the association between positive mind-mindedness and parental distress was fully mediated by *conflict* in both groups, and partially mediated by *closeness* in the clinical group. Negative mind-mindedness had a direct effect on parental distress, not mediated through relationship quality. Findings indicate that more positive and less negative mind-mindedness provides a buffer against parental distress. Interventions enhancing mind-mindedness are likely to alleviate parental distress and improve parent–child relationships. The findings are consistent with the proposal that mind-mindedness is a relational construct rather than a trait-like quality of the caregiver.

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**KEYWORDS**

mind-mindedness, parent–child conflict, parent–child relationship, parenting stress

**Statement of Contribution**

- What is known
  - Negative and positive mind-mindedness predict higher and lower parenting stress respectively.
  - Parents of children in clinical groups can have high stress and more negative/less positive mind-mindedness.
- What this study adds
  - Relations between positive mind-mindedness and stress were mediated fully by conflict, partially by closeness.
  - Focus on positive mental aspects of the child may reduce conflict, increase closeness, and lower parental distress.

**INTRODUCTION**

Parenting stress can be defined as a parent's perception that their child, their interactions and relationship with their child, or the parenting role is difficult (Abidin, 1995). High levels of parenting stress may negatively impact parenting practices and child functioning (Crnic et al., 2005; Crnic & Low, 2002). Greater parenting stress is often reported by parents who perceive their child as being demanding or themselves to be ineffective caregivers (Crnic & Low, 2002; Harrison & Sofronoff, 2002); a perception that is more likely to occur when parents feel the demands of parenting outweigh their ability or resources to deal with them (Deater-Deckard, 2004).

Having a child with a genetic or developmental disorder may increase parenting stress (Baker et al., 2003; Blacher et al., 2005; Craig et al., 2016; Gernstein et al., 2009; Hauser-Cram et al., 2001; Woodman, 2014; Woodman et al., 2015). Additionally, parents may be vulnerable to experiencing parenting stress when their children have emotional or behavioural difficulties, an association which has been found in a range of studies with both community samples (Anthony et al., 2005; Baker et al., 2005; Benzies et al., 2004; Vaughan et al., 2012) and in children referred for clinical input (Walker et al., 2012). The number of parents this could affect is increasing, with 1 in 6 children aged 5–16 years in the United Kingdom being identified as having at least one probable mental disorder (NHS Digital, 2020).

The relation between parenting stress and child behaviour problems is complex. Neece et al. (2012) suggest that parenting stress is both an antecedent and a consequence of child behaviour problems. Collectively, research suggests that parenting a child with a disorder or a child who presents with elevated levels of emotional and behavioural difficulties can contribute to parents' perceived stress levels, which can negatively affect their parenting behaviour (Anthony et al., 2005; Deater-Deckard, 2004; Deater-Deckard & Scarr, 1996) and the quality of the parent–child relationship (Crnic et al., 2005). Given that the parent–child relationship has a critical role in healthy child development (Schor, 2003), it is important to understand what factors influence parenting stress in these populations. The primary aim of the present study was to investigate risk and protective factors for parenting stress in a sample of children who had received professional input for mental health, emotional or behavioural difficulties. In this study, parenting distress was the focus, which is a specific dimension of parenting stress that indicates the parent's experience of negative emotions in relation to their parenting role.

Mind-mindedness (Meins, 1997) is a specific aspect of the parent–child relationship that may function as a protective factor against parenting stress. Mind-mindedness describes a parent's proclivity to treat their child as an individual with a mind of their own and interpret their behaviour in terms of their underlying mental states. In childhood, mind-mindedness is typically assessed in terms of parents' focus on mental attributes when given an open-ended invitation to describe their child, for example, “She's a clever, thoughtful child who loves her siblings” (Meins et al., 1998). Mind-mindedness is thought to be at the interface between parental representation and behaviour (Meins et al., 2012), as parents form a representation of their child's mental states, which subsequently informs how they engage with their child.

Studies investigating associations between mind-mindedness and parenting stress in community samples suggest that higher levels of mind-mindedness may serve as a protective factor against parenting stress, particularly when the emotional valence of parents' descriptions of their child is considered. For example, Demers et al. (2010) reported that, although parents' overall mind-mindedness was not related to parenting stress, parents' tendency to describe their child using positive mental attributes (‘positive mind-mindedness’) was associated with lower parenting stress. These findings were replicated in McMahon and Meins' (2012) study, which additionally found a negative association between overall mind-mindedness and parenting stress. In terms of mechanisms, it can be postulated that if parents have a tendency to represent their child as an independent being with thoughts, emotions and desires of their own, they may be better able to interpret child behaviour according to the mental states that govern it, thus reducing stress or frustration, particularly if the parent's representation of their child's mental states is positive (Colonnaesi et al., 2022; Hobby et al., 2022; Larkin, Hayiou-Thomas, et al., 2021; McMahon & Meins, 2012). The emotional valence of mind-minded descriptions is therefore important to consider, given that the previous literature suggests that stress may relate not just to overall mind-mindedness, but to the emotional appraisal (negative or positive) of the mental descriptors, for example, describing a child as ‘manipulative’ or ‘spiteful’ (negative mind-mindedness) versus ‘considerate’ or ‘loving’ (positive mind-mindedness).

Associations between mind-mindedness and parenting stress have also been explored in ‘high-risk’ populations. Walker et al. (2012) investigated differences in mind-mindedness between a community sample of parents and parents of children referred to Child and Adolescent Mental Health Services (CAMHS), who were aged 3–5 years ( $n = 49$  in total). The authors found that mind-mindedness was significantly lower in the clinical group compared to the community group; mental descriptions were also significantly more likely to be of negative valence (‘negative mind-mindedness’) in the clinical group. They reported a significant negative correlation between mind-mindedness and parenting stress in the clinical group, supporting the notion that mind-mindedness may protect against parenting stress. However, there was no significant association between mind-mindedness and parenting stress in the community group, leading the authors to conclude that mind-mindedness only served as a protective factor in parents experiencing high stress levels.

Kirk and Sharma (2017) sought to examine mind-mindedness and parenting stress using a between-subjects design, comparing mothers' descriptions of their child with autism spectrum disorder ( $n = 55$ ) and their non-autistic sibling ( $n = 27$ ). Parents' overall mind-mindedness did not differ for their autistic child compared to their sibling; however, negative mind-mindedness was higher for the autistic children. Interestingly, associations between parenting stress and mind-mindedness failed to reach significance, suggesting that mind-mindedness did not protect against parenting stress. However, it was proposed that the high levels of stress experienced by the participants may have been beyond the protective reach of mind-mindedness, an explanation that diverges from that of Walker et al. (2012) above.

Larkin, Hayiou-Thomas, et al. (2021) investigated mind-mindedness and stress in parents of children with a range of developmental disorders (Attention Deficit Hyperactive Disorder, autism, Down's Syndrome, 22q11.2 Deletion Syndrome) and typically developing children. While parents' overall levels of mind-mindedness did not differ significantly by diagnostic group, higher levels of overall mind-mindedness were associated with lower levels of parenting stress. Valence moderated these findings, with negative mind-mindedness relating to higher parenting stress, and positive mind-mindedness

relating to lower parenting stress across the diagnostic groups. The authors proposed that the parent's ability to retain a positive view of the child, despite challenges around additional needs, appears to offer a protective buffer against stress.

Furthermore, intervention studies with parents in 'high-risk' groups have demonstrated that mind-mindedness may improve as stress levels reduce (Brophy-Herb et al., 2022). Zeegers et al. (2020) reported that among adoptive parents, engagement in an attachment-based intervention resulted in improvements in mind-mindedness (i.e., more overall and more positive mind-mindedness) and lower stress; however, causal relations between these two variables were not examined. In a clinical sample of parents undergoing parent-child interaction therapy (children aged 2–7), Meynen et al. (2022) did not find associations between parenting stress and mind-mindedness (measured via video interactions rather than interview). Moreover, Konijn et al. (2020) found no significant correlations between parenting stress and interview mind-mindedness (overall, positive, or negative) in a sample of foster parents. This finding may be related to the carer's focus on the impact of traumatic events for their child, as previous research has found that focussing on placement history tends to be associated with lower mind-mindedness (Fishburn et al., 2017).

## The present study

One important question that has not been addressed by previous research is whether the relations between mind-mindedness and parenting stress are mediated by the quality of the parent-child relationship. Mind-mindedness has been proposed to be a quality of close personal relationships rather than a trait-like construct (Fishburn et al., 2017; Larkin, Schacht, et al., 2021; Meins et al., 2014). The parent's perception of the quality of the parent-child relationship may therefore mediate the association between mind-mindedness and parenting stress. The principal aim of the present study was to investigate this question. We assessed parenting stress, mind-mindedness (overall, positive and negative) and perceived closeness and conflict in the parent-child relationship in families where the child had received professional support for mental health, emotional or behavioural difficulties and in a community sample of children who had not.

We hypothesised that compared to the community sample, the clinical sample would have (1) lower levels of overall and positive mind-mindedness and closeness in the parent-child relationship and (2) higher levels of negative mind-mindedness, parenting stress and conflict in the parent-child relationship. Next, we hypothesised that (3) overall mind-mindedness and positive mind-mindedness would be associated with lower parenting stress and conflict and higher closeness, whereas (4) negative mind-mindedness would be associated with higher parenting stress and conflict and lower closeness. Finally, we investigated whether parental perception of parent-child relationship quality mediated any observed associations between mind-mindedness and parenting stress. We explored these associations within groups, given previous findings suggesting different associations in clinical and community samples. The analyses and data were registered on OSF [\[link\]](#).

## MATERIALS AND METHODS

### Procedure

Ethical approval was obtained from the relevant University ethics committee, and testing was in line with American Psychological Association and British Psychological Society standards. Participants were recruited to take part in a study to understand how parents think and feel about their child and their relationship with their child, and how this relates to children's difficulties with emotions and behaviour. Adverts were via social media sites (Facebook, Twitter) and online parenting forums, and specified parents of a child aged 4–16 years. All data were collected via an online survey,

which participants accessed through a Qualtrics link. The first page of the online survey contained a study information sheet, which ended with a consent form. Where consent was given, participants obtained access to the initial demographic questions about their family and their child. Parents reported their educational attainment on a 5-point scale: 1: up to primary education (2%), 2: up to secondary education (14.4%), 3: up to third level certificate (37.9%), 4: up to undergraduate degree (20.3%), 5: up to postgraduate degree (25.5%).

## Use of professional support for child difficulties

Participants were asked two questions: “Is your child currently receiving professional support for mental health, emotional, or behavioral difficulties?” and “Has your child ever received professional support for mental health, emotional, or behavioral difficulties?”. If they responded “yes” to either of these questions, they were assigned to the clinical group. If they responded “no” to both of these questions, they were assigned to the comparison group. Parents were then asked: “Does your child have any diagnoses of developmental disorders (e.g., autism, ADHD, intellectual disability) or mental health problems (e.g., low mood, anxiety, OCD, oppositional defiant disorder)?” Free-text answers given by parents were categorised (see Table 1). Some parents also reported physical health problems; these were not coded.

## Participants

The final sample was comprised of 151 parents (148 mothers, 3 fathers) of children aged 4–16 years (78 boys, 72 girls, 1 no response;  $M = 10.09$  years,  $SD = 3.25$ ). While 211 parents accessed the online survey, 57 did not progress beyond giving demographic information, and three participants did not complete the parenting stress or mind-mindedness measures and thus were excluded from the analyses. The clinical group consisted of 67 parents of children (34 boys); three participants in the clinical group were foster parents, and all other parents in the study were biological parents. The comparison group consisted of 84 participants (44 boys).

TABLE 1 Frequency and count of child diagnoses in clinical and comparison groups.

	Clinical group $n = 67$	Comparison group $n = 84$
Autism spectrum disorder	14	3
Attention deficit hyperactivity disorder (either subtype)	13	3
Learning diagnoses (e.g. intellectual/learning disability; dyslexia; dyspraxia)	27	26
Anxiety or mood disorder (e.g. low mood; anxiety; obsessive compulsive disorder)	15	6
Physical disorder (e.g. epilepsy, heart problem)	1	4
Sensory disorder (e.g. sensory processing disorder)	10	3
Oppositional defiant disorder	4	0
One disorder	24 (36%)	18 (21%)
Two disorders	12 (18%)	12 (14%)
Three disorders	8 (12%)	4 (5%)
Four disorders	4 (6%)	0
Five disorders	1 (1.5%)	0
Six disorders	1 (1.5%)	0

Note: ns do not sum to the total sample size as some parents reported more than one diagnosis for their child.

Parents in the clinical group were older than the community group parents,  $t(149) = 2.76, p = .007, d = .45$ , and children in the clinical group were older than comparison group children,  $t(149) = 2.56, p = .012, d = .42$ . There were no significant differences in parent education in the clinical and comparison group parents,  $t(149) = 1.05, p = .295, d = .17$ .

## Measures

Measures were presented in the order below.

### Mind-mindedness

Parents were invited to “please describe your child in the space below” and given no specific guidance. Responses were divided into discrete attributes and were coded into one of the following exclusive and exhaustive categories, in accordance with Meins and Fernyhough's (2015) mind-mindedness coding manual: mental (e.g., ‘intelligent’), behavioural (e.g., ‘energetic’), physical (e.g., ‘tall’), general (e.g., ‘lovely’), self-referential (e.g., ‘we enjoy him’). Following Larkin, Hayiou-Thomas, et al. (2021), a disorder-related category was also included (e.g., “taking concerta for his ADHD”, “dyslexic and combined type ADHD”). However, if a description mentioning a disorder was specifically focussed on the child's emotional or mental experience of the disorder, this was coded as a mental attribute (e.g., “she worries about people knowing she has ADHD”). Mind-mindedness scores were expressed as a proportional score, by dividing the number of mental attributes by the total number of descriptions (the range of total descriptions was 1–20). Non-mental scores comprised an aggregate of behavioural, physical, self-referential, general and disorder-related attributes. Inter-rater reliability was established by a second researcher double-coding a random selection of 20% of the participant responses:  $\kappa = .75$ .

The emotional valence of all descriptions, both mental and non-mental, was also coded following Demers et al.'s (2010) guidelines. Each description of the child was classified as positive, negative or neutral; for example, a mental attribute such as “manipulative” was classified as a negative mental description. A behavioural attribute such as “helpful” was classified as a positive behavioural description. A physical attribute such as “he is 9” was classified as a neutral physical description. Positive, negative and neutral attributes were expressed as a proportional score, by dividing the number of positive, negative or neutral attributes by the total number of descriptions. Therefore, positive and negative mental and non-mental proportional scores could be calculated. For the purposes of this analysis, positive and negative mental and non-mental scores were included, but neutral scores were not considered. Inter-rater reliability was established as described above:  $\kappa = .78$ .

### Parental closeness to child

The Child–Parent Relationship Scale – Short Form (CPRS-SF; Pianta, 1992) assessed parents' perception of their relationship with their child. The CPRS-SF is comprised of 15 items, rated on a 5-point scale to yield scores on two subscales: conflict (range 8–40; e.g., “My child and I always seem to be struggling with each other”) and closeness (range 7–35; e.g., “My child values his/her relationship with me”). Higher scores index higher closeness / conflict. Missing items were prorated for  $n = 2$ , using the subscale average. Internal reliability was  $\alpha = .88$  for conflict scores and  $\alpha = .73$  for closeness scores.

## Parenting stress

The Parenting Stress Index-Short Form (PSI-SF; Abidin, 1995) is comprised of 36 items, rated on a 5-point scale. Only the 12-item Parental Distress (PD) subscale was administered, yielding scores from 12 to 60, with higher scores indicating higher stress. Parental distress is a particular aspect of parenting stress that focuses on the parent's adjustment in their parenting role, as opposed to their perception of their child or the parent–child relationship (Abidin, 1995). It was considered sufficient to use this subscale to reduce participant burden and to avoid redundancy of questions, given the other measures included in the study. Internal reliability for PSI-PD scores was  $\alpha = .87$ .

## Child behaviour

Parent-reported child behavioural difficulties were assessed using the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997), which comprises 25 items rated on a 3-point scale to yield scores in four main areas of difficulty: (a) emotional symptoms, (b) conduct problems, (c) hyperactivity and (d) peer problems. Scores for the four subscales were summed to give a Total Difficulties score (range 0–40). Higher scores index more symptomatology. Internal reliability was  $\alpha = .88$ . The SDQ was used for the purposes of grouping the sample (see [Descriptive statistics and preliminary analyses](#)).

## Statistical analysis

Analyses were pre-registered on osf.io. Given group differences in demographic variables, all analyses controlled for child age, parent age and sex of child.

Of the 151 respondents,  $n = 15$  did not complete the PSI-PD measure,  $n = 18$  did not complete the SDQ measure and  $n = 10$  did not complete the CPRS measure. However, missing measures were evenly distributed between the clinical ( $n = 7$ , 12% of group) and comparison group ( $n = 12$ , 14% of group); Little's MCAR tests were run in SPSS, none of which were significant (PSI-PD,  $\chi^2(11) = 5.96$ ,  $p = .876$ ; SDQ,  $\chi^2(72) = 76.22$ ,  $p = .344$ ; CPRS, *could not be calculated as all of the CPRS items were missed by these 10 participants*). We judged these data to be missing at random, and the cases were retained in the sample to maximise statistical power and allow analyses on the measures that were completed. The moderated mediation includes correction for missing data as we used bootstrapping with full information maximum likelihood, where the resampling was based on the estimated model, which accounted for missingness through likelihood-based estimation.

Initial analyses were run to investigate whether the data were normally distributed; for both the clinical and comparison groups, parental distress (PSI-PD) scores were normally distributed, but the remaining measures were not, as the Shapiro–Wilk test was significant for the two CPRS subscales (closeness and conflict), and for all of the mind-mindedness variables. Therefore, non-parametric tests were used for correlational analyses.

To explore group differences, we used ANCOVA, which is robust to violations of normality. Relations between the variables were analysed using Spearman's correlations. Next, to test whether the quality of the parent–child relationship mediated the associations between mind-mindedness and parenting stress differently across groups, we conducted a moderated mediation analysis using M-Plus 8.8 (Muthén & Muthén, 2012). The maximum likelihood (ML) estimator was used with 10,000 bootstrap resamples to obtain robust confidence intervals. The analysis tested (a) direct and indirect paths from positive/negative mind-mindedness to parenting distress, (b) whether the quality of parent–child relationships (i.e., conflict and closeness) mediated relations between the variables and (c) whether the effect of mediation varied between clinical and comparison groups. We ran separate models for positive and negative mind-related comments as well as for closeness and conflict on the CPRS.

Power analyses in G\*power (Faul et al., 2007) showed that (1) the sample had .86 power to detect a medium-sized effect for ANCOVA involving two covariates, (2) power to detect medium effects for bivariate correlations was .80 in the clinical group and .89 in the comparison group and (3) for an  $F$ -test with 5 predictors, alpha of .05 and power of 0.80, a sample size of 70 was advised to detect a small effect size (0.20). Therefore, we were satisfied that the sample size was adequate to test our hypotheses.

## RESULTS

### Descriptive statistics and preliminary analyses

Seventeen (25%) of the clinical group parents did not report any diagnoses for their child, but 34 (40%) of parents in the community group recorded diagnoses of either neurodevelopmental, learning or mental health conditions in their child (see Table 1). While receipt of services can be taken to suggest that children's difficulties and/or parents' ability to manage them had reached a particular threshold such that clinical input was needed, some parents assigned to the community group may have reached this threshold but have been unable to obtain support. Mindful of this possibility, we validated our clinical and community grouping by comparing their scores on the SDQ, which were significantly lower in the community group,  $M = 12.54$ ,  $SD = 7.00$ , than in the clinical group,  $M = 19.54$ ,  $SD = 7.37$ ,  $t(131) = 5.61$ ;  $p < .001$ , Cohen's  $d = .98$ . Therefore, the grouping was deemed to reflect genuine differences in the severity of children's difficulties and/or parents' perception of those difficulties.

Descriptive statistics for demographics and study variables are presented in Table 2. Parental stress was negatively correlated with child age,  $r(136) = -.20$ ,  $p = .023$ , and parent age,  $r(136) = -.29$ ,  $p = .005$ ;

TABLE 2 Descriptive statistics for demographic variables and questionnaire measures.

	Clinical group ( $n = 67$ ) $M$ ( $SD$ ) range	Comparison group ( $n = 84$ ) $M$ ( $SD$ ) range	ANCOVA
Child diagnoses	1.48 (1.36) 0–6	0.64 (0.90) 0–3	
Parent age	43.81 (5.51) 31–55	41.06 (6.50) 21–58	
Parent education	3.63 (1.03) 1–5	3.44 (1.12) 1–5	
Child age	10.84 (2.93) 4–16	9.50 (3.39) 4–15	
Child sex (M; F)	34; 32 <sup>a</sup>	44; 40	
PSI-PD	31.38 (9.21) 12–49	28.85 (9.74) 12–52	$F(1, 130) = 5.49$ , $p = .021$ , $\eta^2 = .04$
Overall mind-mindedness	0.58 (0.26) 0–1	0.58 (0.28) 0–1	$F(1, 147) = 0.20$ , $p = .888$ , $\eta^2 = .000$
Positive mind-mindedness	0.25 (0.21) 0–0.75	0.32 (0.26) 0–1	$F(1, 147) = 3.81$ , $p = .053$ , $\eta^2 = .025$
Negative mind-mindedness	0.21 (0.21) 0–0.71	0.11 (0.20) 0–1	$F(1, 147) = 8.29$ , $p = .005$ , $\eta^2 = .053$
Positive non-mental	0.17 (0.18) 0–1	0.17 (0.20) 0–1	$F(1, 147) = 0.02$ , $p = .903$ , $\eta^2 = .000$
Negative non-mental	0.06 (0.10) 0–0.50	0.02 (0.06) 0–1	$F(1, 147) = 13.21$ , $p < .001$ , $\eta^2 = .083$
CPRS closeness	30.81 (3.88) 15–35	31.64 (3.06) 22–35	$F(1, 137) = 1.17$ , $p = .193$ , $\eta^2 = .012$
CPRS conflict	23.81 (7.84) 9–39	18.24 (7.45) 8–37	$F(1, 137) = 20.57$ , $p < .001$ , $\eta^2 = .131$
SDQ total	19.54 (7.37) 3–37	12.54 (7.00) 1–27	

<sup>a</sup>1 sex of child is missing.

being an older parent and having older children was therefore associated with lower parental stress. Child age was negatively correlated with CPRS Closeness,  $r_s(141) = -.19, p = .021$ . Parent education was unrelated to any of the study variables,  $r_s < .11, p_s > .19$ . There was a significant difference in PSI-PD scores as a function of child sex, with scores significantly higher for parents of boys ( $M_{\text{boys}} = 32.29, SD = 9.39$ ;  $M_{\text{girls}} = 27.23, SD = 8.88$ ),  $t(133) = 3.21, p = .002, d = .55$ . As outlined above (Statistical Analyses), all analyses controlled for child and parent age and child sex.

## Are there group differences in parental distress, mind-mindedness and parent-child relationship quality?

The ANCOVA analyses (Table 2, Figures 1 and 2) showed no group difference for overall mind-mindedness. As predicted, there was a main effect of group for negative mind-mindedness, with higher negative mind-mindedness in the clinical group. There was a non-significant trend in the predicted direction for positive mind-mindedness, with lower positive mind-mindedness in the clinical group. There was a main effect of group for negative non-mental descriptions, with more negative descriptions in the clinical group, but not for positive non-mental descriptions.

As predicted, there was a significant difference in PSI-PD scores, with higher parenting stress in the clinical group. Also, as predicted, there was a main effect of group on the CPRS conflict measure, with greater conflict in the clinical group, but group differences were not found on the CPRS closeness measure.

In summary, the clinical sample showed more negative mind-mindedness, parenting distress and parent-child conflict, as predicted. Contrary to predictions, there were no group differences on overall or positive mind-mindedness or on parent-child closeness.

## Does mind-mindedness relate to parental distress and parent-child relationship quality?

Spearman's correlations (Table 3) showed that in the comparison group, relations between mind-mindedness and parental distress did not hold as expected; parental distress did not correlate with either positive or negative mind-mindedness. Within the clinical group, higher parental distress was associated with lower positive mind-mindedness and positive non-mental comments and with higher negative mind-mindedness. Overall, mind-mindedness was not related to parenting stress in either group.

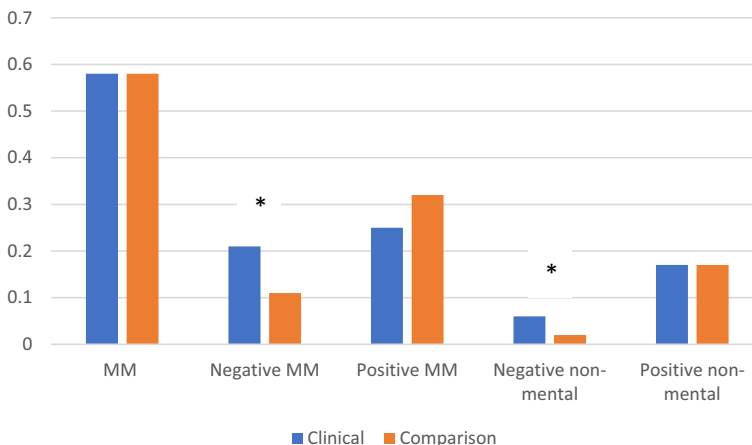


FIGURE 1 Group differences on mind-mindedness measure. \* = significant difference.

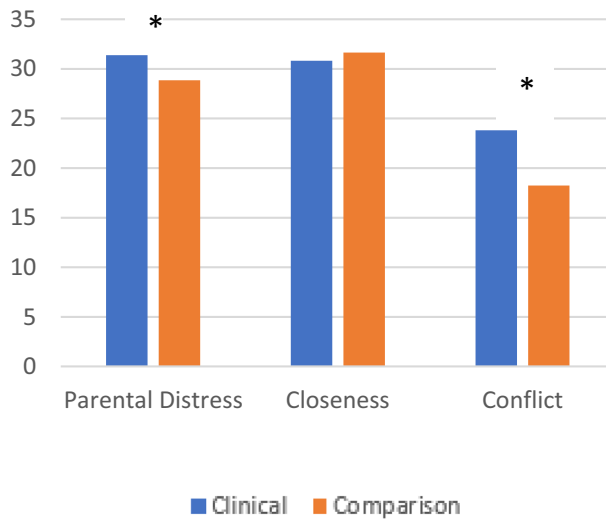


FIGURE 2 Group differences on parental distress, closeness and conflict. \* = significant difference.

TABLE 3 Spearman's correlations between parental distress, relationship quality and mind-mindedness within groups.

	Clinical group ( <i>n</i> = 67)			Comparison group ( <i>n</i> = 84)		
	CPRS conflict	CPRS closeness	PSI-PD	CPRS conflict	CPRS closeness	PSI-PD
Overall MM	-.14	.05	.03	-.10	-.14	-.12
Negative MM	.19	-.10	.28*	.21	-.19	.08
Positive MM	-.31*	.29*	-.32**	-.31**	-.03	-.13
Negative non-mental	.26*	-.11	.09	.28*	-.20	.17
Positive non-mental	-.07	.06	-.27*	-.23*	.41***	-.04

Abbreviations: CPRS, Child Parent Relationship Scale; MM, mind-mindedness; PSI-PD, Parenting Stress Index – Parental Distress.

\**p* < .05.

\*\**p* < .01.

\*\*\**p* < .001.

For relations between mind-mindedness and parent–child relationship quality, in both the clinical and comparison groups, (a) overall mind-mindedness was unrelated to CPRS conflict and closeness; (b) positive mind-mindedness was negatively related to CPRS conflict and (c) negative mind-mindedness was unrelated to CPRS closeness or conflict. Specifically, in the clinical group, positive mind-mindedness was related to CPRS closeness.

## Does relationship quality mediate relations between mind-mindedness and parenting stress?

Following Spearman's correlations (Table 4), the moderated mediation model was tested, with child age, parent age and children's sex included as covariates. All models were fully saturated;  $\chi^2 = 0.00$ , Comparative Fit Index (CFI) = 1.00, Tucker Lewis Index (TLI) = 1.00, Standardised Root Mean Square Residual (SRMR) = 0.00.

TABLE 4 Zero-order correlations (Spearman's) between study variables.

	1	2	3	4	5	6	7
1. PSI-PD	—						
2. Mind-mindedness	-.09						
3. Negative Mind-mindedness	.19*	.36***					
4. Positive Mind-mindedness	-.25**	.46***	-.25**				
5. Negative non-mental	.16	-.24**	.17*	-.24**			
6. Positive non-mental	-.13	-.51***	-.25**	-.10	-.01		
7. CPRS Conflict	.55***	-.10	.28***	-.35***	.33***	-.16	
8. CPRS Closeness	-.33***	-.05	-.17*	.16	-.17*	.25**	-.46***

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

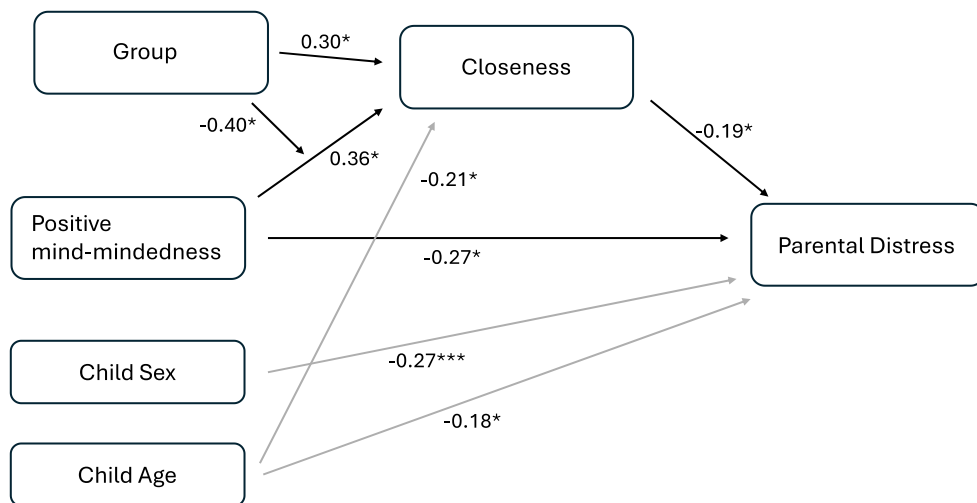


FIGURE 3 Pathway model from positive mind-mindedness to parental distress through closeness. Only statistically significant paths (solid lines) and statistically significant covariances (grey lines) are reported. \* $p < .05$ , \*\*\* $p < .001$ .

The first model (Figure 3) examined the path from positive mind-mindedness to parenting stress via closeness. Closeness partially mediated the relation between positive mind-mindedness and parental distress. That is, positive mind-mindedness was associated with lower parental distress both directly and indirectly through greater closeness between parent and child. The overall mediation effect did not significantly differ between groups (estimate = 2.69,  $SE = 1.69$   $p = .112$ ). The model explained 27.7% of the variance in parental distress. Relative effects include the following: (a) group status moderated the association between positive mind-mindedness and closeness, with a stronger effect in the clinical group; (b) child age and sex were directly related to parental distress and (c) child age had a significant direct association with closeness.

The second model (Figure 4) examined the path from positive mind-mindedness to parental stress via conflict. Conflict fully mediated the relation between positive mind-mindedness and parental distress. That is, higher positive mind-mindedness was related to lower parental distress via lower conflict between parents and child. The mediation effect did not differ significantly between groups (estimate = 0.77,  $SE = 3.54$ ,  $p = .828$ ). This model explained 43.1% of the variance in parenting distress.

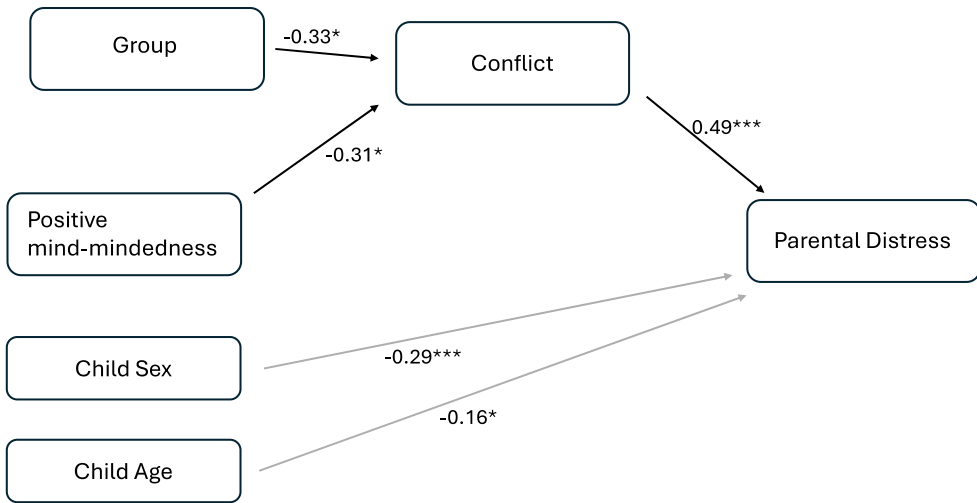


FIGURE 4 Pathway model from positive mind-mindedness to parental distress through conflict. Only statistically significant paths (solid lines) and statistically significant covariances (grey lines) are reported. \* $p < .05$ , \*\*\* $p < .001$ .

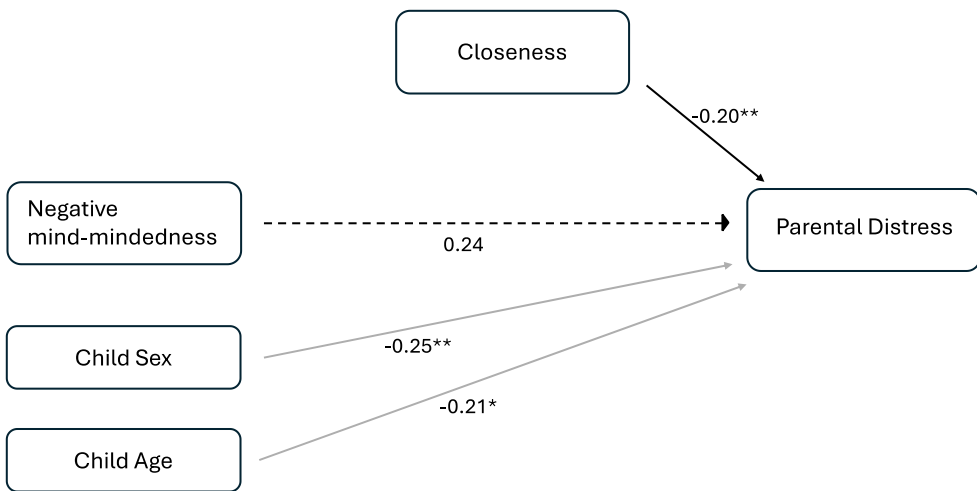


FIGURE 5 Pathway model from negative mind-mindedness to parental distress through closeness. Only statistically significant paths (solid lines), marginally significant paths (dotted line) and statistically significant covariances (grey lines) are reported. \* $p < .05$ , \*\* $p < .01$ .

Relative effects include the following: (a) the comparison group reported lower conflict and (b) child age and sex were significantly associated with parental distress.

Turning to negative mind-mindedness, Model 3 (Figure 5) examined the path from negative mind-mindedness to parenting stress via closeness. Closeness had a significant path to lower parental distress, but it did not mediate the relation between negative mind-mindedness and parental distress. Negative mind-mindedness had a marginally significant direct path to greater parental distress. Thus, there was no mediational effect in this model and no group differences in the indirect effect (estimate = 0.02,  $SE = 1.59$ ,  $p = .991$ ). The model explained 25.6% of the variance in parental distress. Relative effects include the following: child age and sex were significantly associated with parental distress.

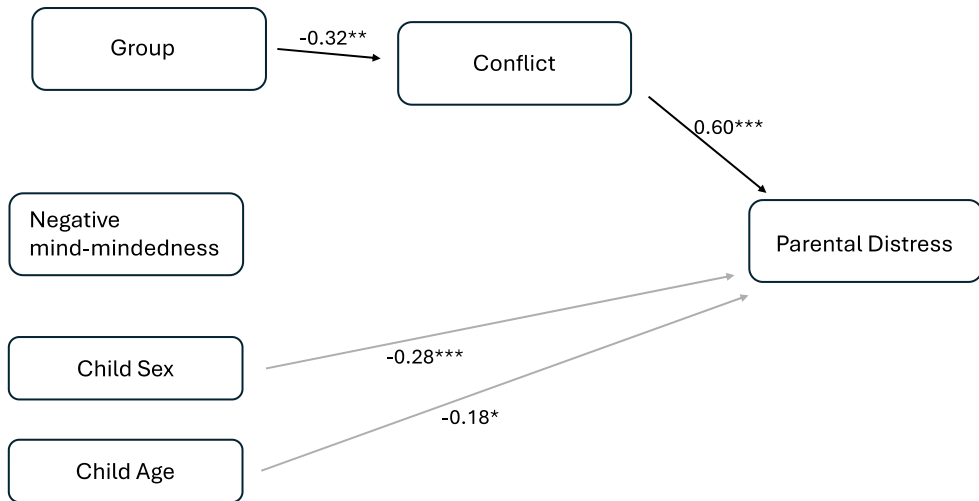


FIGURE 6 Pathway model from negative mind-mindedness to parental distress through conflict. Only statistically significant paths (solid lines) and statistically significant covariances (grey lines) are reported.  $*p < .05$ ,  $**p < .01$ ,  $***p < .001$ .

Model 4 examined the path from negative mind-mindedness to parental distress through conflict (see Figure 6). While conflict had a significant direct association with higher parental distress, negative mind-mindedness was not significantly related to either conflict or parental distress. Therefore, there was no mediation effect, and no significant group differences in the indirect effect (estimate = 0.92,  $SE = 3.98$ ,  $p = .818$ ). This model explained 43.0% of the variance in parenting distress. Relative effects include the following: (a) the non-clinical group reported lower conflict and (b) child age and sex had significant direct associations with parental distress.

## DISCUSSION

This study examined mind-mindedness and parental distress in a group of parents of children who had received clinical input for mental health, emotional or behavioural difficulties, compared to a group whose children had not. It examined associations between mind-mindedness, parental distress and parent-child relationship quality, and whether relationship quality mediated the associations between mind-mindedness and parental distress in both groups.

With regard to group differences, in line with predictions, the clinical group showed more parental distress, which accords with a body of research showing that stress in parents can be higher where children have emotional or behavioural difficulties (Kwon et al., 2022; Vaughan et al., 2012). Parents in the clinical group reported higher levels of conflict within the parent-child relationship, and negative mind-mindedness and negative non-mental comments were higher, indicating that parents of children who had received clinical input used more negative descriptions of their children. These findings are consistent with Larkin, Hayiou-Thomas, et al. (2021) and Kirk and Sharma (2017), who found more negative mind-mindedness in parents of children with developmental disorders.

Contrary to our hypotheses, closeness between parent and child did not differ between the groups, suggesting that relationships can continue to be positive and warm despite challenges. There were no group differences in overall mind-mindedness or positive non-mental descriptions, but there was a non-significant trend for positive mind-mindedness to be lower in the clinical group.

Taken as a whole, these group differences show that parents of children requiring clinical input reported higher parental distress, higher conflict and gave more negative descriptions of their children for both mental and non-mental attributes. However, their reported levels of closeness with their children and their overall levels of mind-mindedness were not lower than the comparison group; but they used fewer positive mental descriptions of their children (e.g., 'intelligent', 'caring', 'loving').

Unlike Walker et al. (2012), we did not find differences in overall mind-mindedness between the groups. Rather, our findings are in line with those of Kirk and Sharma (2017) and Larkin, Hayiou-Thomas, et al. (2021), which found no group differences in overall mind-mindedness between groups with developmental disorders and those without. We did find that negative mind-mindedness was higher in the clinical group, which is in line with Larkin, Hayiou-Thomas, et al. (2021), who reported higher negative mind-mindedness specifically in children with ADHD, compared to children with other disorders and to typically developing children.

The correlational analyses offered evidence as to whether mind-mindedness acted as a protective factor against parental distress. Within the clinical group, higher positive mind-mindedness was associated with lower parental distress, lower conflict and greater levels of closeness in the relationship, whereas positive non-mental comments were only associated with parental distress. The same associations were not in evidence in the comparison group, where parental distress did not correlate with any of the mind-mindedness measures. Similarly, within the clinical group, lower levels of negative mind-mindedness correlated with lower parental distress, whereas negative non-mental comments did not. This suggests that more positive and less negative mind-mindedness (e.g., describing the child as loving, clever, creative, kind, thoughtful) —and not a positive view of the child in general (e.g., as lovely, well-behaved, beautiful, fun) —may offer protection when difficulties arise, that is, when parental distress levels and/or child difficulties are elevated. This is in contrast to the suggestion by Kirk and Sharma (2017) that clinical groups may be 'beyond the protective reach of mind-mindedness' and suggests instead that retaining or encouraging a positive view of the child's psychology and reducing negative attributions may be particularly helpful to parents when tensions or stressors arise.

Our final aim was to investigate whether the quality of the parent-child relationship mediated any observed associations between mind-mindedness and parenting distress, and whether group status moderated them. The results of the moderated mediation analysis showed that the influence of positive mind-mindedness on parental distress was mediated by parental perceptions of conflict and closeness in the relationship, and that this held across the whole sample. These findings are the first to show that positive mind-mindedness relates to parental distress via its association with parent-child relationship quality. This is consistent with the proposal that mind-mindedness is a relational construct rather than a trait-like quality of the caregiver (Meins et al., 2014), as it demonstrates how it relates to the felt sense of closeness and lack of discord in the relationship. By contrast, the influence of negative mind-mindedness on parental distress was not mediated by conflict or closeness in either group.

This is an important and novel finding, showing that a focus on positive mental characteristics of the child may reduce conflict and increase closeness, thereby protecting against parental distress. This supports the argument that a positive representation of children's mental states may protect parents against stress and promote closeness in the context of child difficulties (Hobby et al., 2022). For example, continuing to identify a child's positive intentions and psychological attributes (e.g., being kind, clever, loving) despite emotional or behavioural difficulties may support parents to feel closer to their child, to engage in less conflict and thereby to experience lower distress. By contrast, negative mind-mindedness had a direct effect on parental distress, but this was not mediated by relationship quality in either group.

These findings have important ramifications for intervention, as they suggest that interventions to promote positive and reduce negative mind-mindedness may help parents of children in high-risk groups to better cope with their child's difficulties. Mind-mindedness interventions to date have shown positive impacts on child and parent outcomes (Colonnesi et al., 2013; Schacht et al., 2017; Larkin et al., 2019, 2023), but there is a need for further research and the development of interventions suitable for parents of children with developmental disorders or other difficulties. Some existing interventions

may in fact facilitate this adjustment in parental perception without explicitly naming or measuring mind-mindedness (e.g., Parents Plus; McMahon et al., 2023), and it would be valuable to evaluate whether this may be a mechanism of change underlying the success of these interventions. The findings of the present study suggest that promoting positive mind-mindedness and reducing negative mind-mindedness should be central to clinical applications.

Interestingly, our results highlight perceived conflict rather than closeness as being the critical aspect of the parent–child relationship that accounted for the association between positive mind-mindedness and parental distress. Recent research has highlighted links between parental stress and conflict, and the role of family conflict in mediating the effects of parental stress on child behaviour (Jones et al., 2021), suggesting that when parenting stress is high, it is more difficult to engage positively with children and thus conflict is more likely. Future research on interventions should measure perceived conflict to explore whether promoting positive mind-mindedness can reduce perceived conflict in the parent–child relationship.

The present study should be interpreted in light of some limitations. There was no independent verification of diagnoses or clinical input, and the study relied on self-report. There was also a small amount of missing data, although the path analyses accounted for this. Nevertheless, the study extends recent work on the relations between mind-mindedness and parenting stress in important ways and has clear implications for clinical practice.

## CONCLUSION

The current study found higher parental distress, relationship conflict and negative mind-mindedness in the clinical sample, with a trend for lower positive mind-mindedness and no group differences on overall mind-mindedness or relationship closeness. Positive mind-mindedness (cf. general positive comments) was found to relate to conflict, closeness and parental distress particularly in the clinical group, and a moderated mediation analysis showed that the relation between positive mind-mindedness and parental distress was mediated by conflict and partially by closeness across both groups. In light of the current and previous studies on mind-mindedness and parental distress, there is a strong empirical and theoretical rationale for the development and evaluation of interventions to promote positive mind-mindedness within clinical and community samples. Further research should investigate longitudinal shifts in positive and negative mind-mindedness over childhood and in response to life stressors, as well as how family functioning may influence mind-mindedness.

## AUTHOR CONTRIBUTIONS

**Fionnuala Larkin:** Conceptualization; investigation; writing – original draft; methodology; writing – review and editing; formal analysis; data curation; supervision. **Sarah Fishburn:** Conceptualization; investigation; methodology; writing – review and editing; formal analysis; supervision; data curation; writing – original draft. **Yujin Lee:** Writing – review and editing; software; formal analysis; visualization; methodology. **Elizabeth Meins:** Writing – review and editing; formal analysis.

## ACKNOWLEDGEMENTS

Thanks are due to Ms. Hannah Knittle, who collected the data as part of an MSc project at the University of Limerick. The authors wish to thank the participants for their time.

## CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

## DATA AVAILABILITY STATEMENT

The analyses were registered, and data made available in OSF at [https://osf.io/r3cmh?view\\_only=df3fa8f88e164684a4268b169ac47090](https://osf.io/r3cmh?view_only=df3fa8f88e164684a4268b169ac47090).

## ETHICS STATEMENT

This study was approved by the Ethics Committee of the University of Limerick.

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**How to cite this article:** Larkin, F., Fishburn, S., Lee, Y., & Meins, E. (2025). Relations between mind-mindedness, stress and parent–child relationship quality in parents of children with a history of mental health or behavioural difficulties. *British Journal of Developmental Psychology*, *00*, 1–18. <https://doi.org/10.1111/bjdp.70015>