

Turkish adaptation of the mindful parenting inventories for parents and children

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Abstract

Mindful parenting is a burgeoning global research interest. This study adapted the existing 18-item parallel mindful parenting inventories for parents and children (MPIP/MPIC) into Turkish, examining their psychometric properties and validation in 154 mothers living in Türkiye ($M_{age} = 42.74$ years, $SD_{age} = 5.06$ years) and their typically developing children ($n = 154$, $M_{age} = 13.19$ years, $SD_{age} = 1.64$ years). Confirmatory factor analyses (CFA) were performed to validate the existing factor structure of the MPIP/MPIC for the Turkish version. Multiple-group CFA was used to test the measurement invariance between mothers and children. Pearson correlations and regression analyses were used to assess the validity of the MPIP/MPIC against established measures of mindfulness and positive parenting (testing convergent validity) and child behaviours (testing concurrent and predictive validity). CFA supported that the Turkish MPIP/MPIC structure was similar to that in the UK, consisting of four dimensions: *Self-Regulation in Parenting*, *Acceptance and Compassion towards Child*, *Being in the Moment with Child*, and *Awareness of Child*, each with satisfactory internal consistency. Partial measurement invariance was found between parents and children, with mothers reporting somewhat higher scores for the *Being in*

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the Moment with Child and Awareness of Child than children. Overall, the convergent and concurrent validity of the Turkish MPIP/MPIC was supported. In addition, MPIP predicted mother-reported child behaviours, and MPIC predicted child-reported child behaviours over and above mothers' dispositional mindfulness and positive parenting (predictive validity). The Turkish parallel MPIP/MPIC show promise for use with mothers in Türkiye and children to assess mindful parenting.

KEYWORDS

child-report, measurement invariance, mindful parenting, scale adaptation

1 | INTRODUCTION

Mindful parenting, an adaptation of intrapersonal mindfulness skills into the parenting context, is of increasing interest. There is a growing body of research that recognises the importance of mindful parenting for child behavioural development both in Western (e.g., Parent et al., 2016) and Eastern cultures (e.g., Wang et al., 2018a). Despite this extensive literature, there are only a few studies of mindful parenting in Türkiye, in part because of the scarcity of available mindful parenting scales in Turkish. Further, as is found in the mindful parenting research in other countries, existing studies in Türkiye commonly consider only parent perceptions of mindful parenting, neglecting those of the child. We aimed to fill this gap by adapting the parallel mindful parenting inventories for parents and children (MPIP/MPIC; Acet & Oliver, 2023a) for use in Türkiye.

The role of parenting in children's development has garnered widespread attention in research and practice, particularly so-called 'traditional' parenting constructs (Geurtzen et al., 2015; Pan et al., 2019), including positive and negative parenting practices (e.g., Parent & Forehand, 2017) and authoritative, authoritarian, and permissive parenting styles (Baumrind, 1966). Seen as distinct from these traditional constructs, mindful parenting was first defined 25 years ago (Kabat-Zinn & Kabat-Zinn, 1997), but empirical studies long focused only on the assessment of parents' intrapersonal (dispositional) mindfulness rather than mindful parenting per se (e.g., Bögels et al., 2008; Maloney & Altmaier, 2007). This is important since high dispositional mindfulness might not necessarily be adaptable to the parenting context; that is to say, mindfulness *in* parenting may not be the same as mindful parenting (Duncan, 2007). As such, it was argued that mindfulness, defined as bringing non-judgmental and purposeful awareness to present experience, needed to be extended to the interpersonal context of parent-child relationships (Duncan et al., 2009). Accordingly, Duncan et al. (2009) presented a comprehensive model of mindful parenting considering the construct as a set of parenting skills concerning, (1) attentively listening to the child, (2) being emotionally aware, (3) being compassionate, (4) being non-reactive and (5) being non-judgmental in parenting. Since then, practising these skills has been demonstrated to associate with positive child management and parenting practices (e.g., inductive reasoning, discipline, monitoring; Coatsworth et al., 2015; Potharst et al., 2019), parental well-being (e.g., depression, parenting stress; Chaplin et al., 2021; Potharst et al., 2019), parent-child affection (e.g., more positive and less negative affect during parent-child interaction (Chaplin et al., 2021; Coatsworth et al., 2015), and, importantly, child adjustment (e.g., internalising and externalising behaviours; Coatsworth et al., 2015; Emerson et al., 2021). Moreover, several studies have reported that dispositional mindfulness and mindful parenting explain independent variance in chosen outcomes,

although the two constructs are correlated moderately to highly with each other (e.g., Gouveia et al., 2016; Han et al., 2021; Zhang et al., 2019).

1.1 | Measurement of mindful parenting

The most used scale of mindful parenting (for a review, see Ahemaitijiang et al., 2021) is the interpersonal mindfulness in parenting scale (IM-P; Duncan, 2007), the original of which consisted of 10 items and three factors: *Awareness* and *Present-Centred Attention*, and *Non-Judgment and Non-reactivity*. IM-P has since been expanded to 31 items covering all five of Duncan's et al. (2009) dimensions of mindful parenting (de Bruin et al., 2014). IM-P and its variations have been adapted to many languages, including Dutch (de Bruin et al., 2014), Portuguese (Moreira & Canavarró, 2017), Chinese (Lo et al., 2018; Pan et al., 2019), Korean (Kim et al., 2019), and Chilean (Corthorn et al., 2022), but not Turkish.

The second most used mindful parenting scale, the Mindfulness in Parenting Questionnaire (MIPQ; McCaffrey et al., 2017), is a 28-item scale comprising two factors: *Being in the Moment with the Child* and *Mindful Discipline*. MIPQ was developed and validated in a sample of parents of a wide age range of children (2–16 years), and has since been adapted to Chinese (Wu et al., 2019), Spanish (Orue et al., 2020), Turkish (Gördesli et al., 2018) and Croatian (Reič-Ercegovac & Ljubetić, 2019) languages. Finally, the least widely used self-report mindful parenting scale is the Bangor Mindful Parenting Scale (BMPS), argued to mainly aim to evaluate changes in mindful parenting due to intervention (Jones et al., 2014). Validated in parents of children with autism aged 7–16 years, the BMPS consists of 15 items from the Five Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2006) adapted to the parenting context.

None of these existing mindful parenting scales has been validated for child reports. Acknowledging social desirability biases in parent-reported parenting (Bornstein et al., 2015) and the importance of subjective experience (Schaefer, 1965), for some time, the traditional parenting literature has recognised the need for child-report parenting measures (Danese & Widom, 2020; Scott et al., 2011). Furthermore, in line with the traditional parenting literature (e.g., Scott et al., 2011), research has implied that children's subjective experiences of mindful parenting might be more pertinent for understanding child outcomes than reports parents (Liu et al., 2021; Park et al., 2020). Notwithstanding, child perceptions of mindful parenting have been little explored, and to date, there is no validated mindful parenting measure for children. In order to bridge this gap and facilitate future research, the parallel mindful parenting inventories for parents and children (MPIP/MPIC) have been recently developed and validated in UK-based mothers and their typically developing children aged 11–16 years (Acet & Oliver, 2023a). MPIP/MPIC consists of 18 items and four subscales: *Self-Regulation in Parenting*, *Acceptance and Compassion towards Child*, *Being in the Moment with Child*, and *Awareness of Child*, each shown to have satisfactory psychometric properties (Acet & Oliver, 2023a).

In the traditional parenting literature, although many similarities are seen, evidence suggests that aspects of parenting and challenges faced in parenting can differ by cultural values and norms (for review, see Lansford, 2022), as can their associations with child outcomes (for meta-analysis, see Pinquart, 2021; Pinquart & Kauser, 2018). Unlike traditional parenting constructs, however, a common assumption is that culture has little or no influence on mindful parenting, as the concept of mindfulness itself is claimed to be universal (Kabat-Zinn, 2005). Indeed, some studies have reported no significant differences in mindful parenting between minority and majority groups living in the same country (Henrichs et al., 2021; Parent et al., 2016, 2021; Park et al., 2020), although the literature is limited. In addition, associations between mindful parenting and parent-child conflict and child behaviours have been suggested to be comparable between “white” and “people of colour” (Park et al., 2020) and between Western and Eastern cultures (e.g., Han et al., 2021). However, adaptation studies have shown that the factor structure of existing mindful parenting scales varies substantially across cultures, which may result from cultural differences in the phenomenon itself or semantic differences across translations (e.g., Kim et al., 2019).

Notably, other than in Far Eastern (commonly collectivist, i.e., China (Wang et al., 2018a, 2018b) and Korea (Kim et al., 2019)) and Western (commonly individualist, i.e., USA (Parent et al., 2016) and Netherlands (de Bruin et al., 2014)) countries, little consideration has been given to mindful parenting in autonomous-related cultures that can

be considered halfway between individualist and collectivist cultures, such as Türkiye (Kağitçibasi, 1996; Göregenli, 1997; Newman et al., 2015). This is important considering previous evidence that culture-common and culture-specific challenges in mindful parenting exist across cultures located at various points along the individualism-collectivism scale (Havighurst et al., 2022). For instance, parents from collectivistic cultures may consider coaching as permissiveness, unlike their counterparts from individualistic and autonomous-related cultures (e.g., Turkish). Moreover, Turkish parents may experience more difficulties regulating their emotional reactions in parent-child interactions compared to both individualistic and collectivistic cultures (Havighurst et al., 2022). Importantly, the influence of traditional parenting on child outcomes may differ in Turkish families compared to families in more individualistic cultures (e.g., Aytac et al., 2019; Güngör & Bornstein, 2010; Newman et al., 2015) and more collectivistic cultures (Newman et al., 2015). However, the influence of mindful parenting on child behaviours in Türkiye remains unexplored.

In summary, it is essential to have a valid measure of mindful parenting appropriate for the Turkish culture affording the conductance of mindful parenting studies in Türkiye for four main reasons: (1) to enhance the overall understanding of mindful parenting by exploring its cultural variations and similarities in Türkiye; (2) to overcome Türkiye-specific challenges, if any, in mindful parenting, in turn, promoting children's healthy adjustment; (3) to explore the culture-specific association between mindful parenting and child adjustment; and (4) through all of these, to ensure culturally compatible and effective mindful parenting interventions to promote parental well-being and healthy child adjustment.

The current study aimed to examine the utility and validity of the MPIP/MPIC in Türkiye. Specifically, we aimed to (1) appropriately translate the parallel MPIP/MPIC into Turkish and confirm whether their structure is maintained in Türkiye, (2) test the measurement invariance of the inventories between mothers and their children, and (3) evaluate the validity of these new instruments by testing associations with maternal dispositional mindfulness, parenting practices and child behaviours. We expected the factor structure to be invariant across reporters, with small-to-moderate correlations (H1). We hypothesised MPIP/MPIC to be positively correlated with mothers' dispositional mindfulness and positive parenting but negatively correlated with inconsistent discipline and poor parental supervision (H2; convergent validity). We also hypothesised that there would be positive correlations between MPIP/MPIC and child prosocial behaviours and negative correlations between MPIP/MPIC and child problem behaviours (H3; concurrent validity). Additionally, we anticipated that MPIP/MPIC would predict child behaviours over and above traditional parenting practices (H4; predictive validity).

2 | METHODS

2.1 | Participants

Two hundred and seventy-five mothers with at least one child aged between 11 and 16 years old were recruited for the study in Türkiye. Thirty-three mothers dropped out without completing at least 80% of the questionnaires. Those who did not meet the eligibility criteria regarding child age ($n = 6$), residence ($n = 2$), living situation with child ($n = 2$), and psychiatric history ($n = 6$) were excluded from the study. One-hundred-and-fifty-four children of the remaining birth-mothers ($n = 226$) assented to participate (68.1%), so we had a dyadic sample of participating mothers and children consisting of 154 and their children aged 11–16 years old. To ensure a robust comparison of mother and child reports, we used only the dyadic sample ($n = 154$), which provided sufficient power for factor analysis for the 18-item final instrument, having a minimum of 5–10 participants per item (Tinsley & Tinsley, 1987). Based on expectations of medium effect size from previous research (Acet & Oliver, 2023a), G*Power analysis (Faul et al., 2007) indicated that 63 participants were required for hierarchical multiple regression analysis to test the predictive validity of MPIP/MPIC ($f^2 = .13$, $\alpha = .05$, 80% power, number of tested predictors 1, total number of predictors 6). Thus, power was also adequate for reliable estimates in regression analysis.

Mothers were between 29 and 53 years old ($M = 42.74$ years; $SD = 5.06$), most reported their marital status as married or cohabiting ($n = 135$, 87.7%), and they had between one and eight children ($M = 1.99$; $SD = 0.93$). Their target children's age ranged from 11 to 16 years old ($M = 13.19$, $SD = 1.64$), and 54.5% of these children were girls ($n = 84$). Mothers were mostly highly educated (33.1% basic or secondary school degree, 12.3% vocational school of higher education degree, 42.9% Bachelor's degree, 11.7% graduate or postgraduate degree) compared to Türkiye's general population of women over 25 (20.9% Bachelor's degree; Turkish Statistical Institute, 2022a). In addition, the mean score of subjective socioeconomic status (SES) was 6.75 ($SD = 1.65$; ranged 2–10) on the MacArthur ladder (Adler et al., 2000), a higher-than-average subjective SES for this population (Mean > 5.8; Mode = 7; Işık et al., 2019).

2.2 | Procedure

Mothers and their children aged between 11 and 16 years (1) who both were with no diagnoses of learning disability, (neuro)developmental or mental-health disorder, (2) who lived together full time, (3) who resided in Türkiye, and (4) who were native or fluent in Turkish were recruited via online social media groups (Twitter, Instagram, Facebook). Data were collected using Qualtrics Survey Software between March and July 2021. Mothers were given an information sheet about the study and asked to discuss it with their children. Mothers provided consent for their own and their child's participation, and children provided informed assent before taking part. Child questionnaires were sent via mothers. Participants were provided with debriefing information, including contact details of researchers and available support organisations. Mothers were eligible to enter a prize draw for the chance to win one of two D&R (a stationery store) vouchers worth £100 and £50 for their participation. The study was approved by the UCL Institute of Education, Postgraduate Research Ethics Committee (UCL Data Protection Registration Number: Z6364106/2021/01/43 social research).

2.3 | Measures

2.3.1 | Demographic information

Mothers reported their age (years), sex, ethnicity, marital status, the highest level of educational qualification, number of children, relationship with the target child, whether they lived with the child full-time, and the child's age (years) and sex. The MacArthur Scale of Subjective Social Status (Adler et al., 2000) was used to evaluate mother-perceived SES. The scale has one item for which individuals rate their perceived SES on a ladder with 10 rungs scored 1–10; higher scores indicate higher levels of perceived SES.

2.3.2 | Mindful parenting

The MPIP/MPIC (Acet & Oliver, 2023a) were used to assess mothers' and children's perceptions of mindful parenting, respectively. MPIP/MPIC each consists of 18 items with four dimensions: Self-Regulation in Parenting (six items), Acceptance and Compassion towards Child (five items), Being in the Moment with Child (four items), and Awareness of Child (three items). Mothers and children rated their perceptions of mindful parenting on a 5-point scale ranging from 1 (never true) to 5 (always true). Eight items of the MPIP/MPIC are reverse scored, so that higher total scores indicate higher mindful parenting (see Table S1).

An independent team of five native Turkish speakers worked on the translation of the MPIP/MPIC for families living in Türkiye. Two clinical psychologists translated the instruments into Turkish independently. Through discussion, the first author and a third psychologist decided on items to be included in the Turkish versions of the inventories. Then,

the Turkish forms were sent to two back-translators, one of whom was a Turkish clinical psychologist knowledgeable about mindfulness, and the other was bilingual and bicultural but not knowledgeable about the subject of the scale (Van Widenfelt et al., 2005). None of the back translators had seen the original English items before the translation. The first author and the third psychologist decided on the final version of the Turkish form of the MPIP/MPIC, which was sent to two Turkish parents and two children before data collection to assess the comprehensibility of the items.

2.3.3 | Mothers' dispositional mindfulness

Mothers' dispositional mindfulness was assessed using the total score of the 15-item Five Facet Mindfulness Questionnaire (FFMQ; Gu et al., 2016; Kinay, 2013). Mothers reported their mindfulness on a 5-point scale from 1 "Never or very rarely true" to 5 "Very often or always true". Seven negative items of the FFMQ are reverse scored, so higher scores indicate higher levels of dispositional mindfulness. The internal reliability coefficient was acceptable for mothers (Cronbach's $\alpha = .73$).

2.3.4 | Parenting practices

The 9-item version of the Alabama Parenting Questionnaire (APQ-9; Çekiç et al., 2018; Elgar et al., 2007) was used to assess mothers' and children's perceptions of parenting practices in three dimensions, each including three items rated on a 5-point scale from 1 "never" to 5 "always". In the current study, Positive Parenting demonstrated adequate Cronbach's alpha coefficients for mothers (Cronbach's $\alpha = .62$) and children (Cronbach's $\alpha = .82$), while Inconsistent Discipline and Poor Supervision showed poor Cronbach's alpha coefficients for both mothers (Cronbach's $\alpha = .32$ and $.38$, respectively) and children (Cronbach's $\alpha = .55$ and $.32$, respectively). Here forward, we thus used only the *Positive Parenting* subscale due to the poor reliability of the other subscales.

2.3.5 | Child behaviours

Mother- and child-report versions of the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997; Yalin et al., 2013) were used to measure child's internalising behaviours (10 items, emotional symptoms + peer relationship problems), externalising behaviours (10 items, conduct problems + hyperactivity) and prosocial behaviours (five items), as suggested for community samples (Goodman et al., 2010). Each SDQ item is scored on a 3-point scale from 0 "Not True" to 2 "Certainly True". In the current study, the internal consistencies of the internalising, externalising, and prosocial subscales of the SDQ were acceptable for mothers (Cronbach's $\alpha = .75$, $.71$ and $.66$, respectively) and children (Cronbach's $\alpha = .77$, $.68$ and $.67$, respectively).

2.4 | Data preparation and analyses

Statistical analyses were performed using SPSS 28.0 and AMOS 28.0. Little's Missing Completely at Random test showed the missing values were completely at random across mothers' ($\chi^2 = 491.274$, $df = 444$, $p = .060$) and children's questionnaires ($\chi^2 = 92.099$, $df = 82$, $p = .209$), with no items with 5% or more missing data. Thus, we imputed missing data in continuous variables using the multiple imputation method (Little & Rubin, 2002). Analyses conducted using only complete cases, the results of which were consistent with those reported here, are provided in Supplementary Materials (see Table S5–S10 and also Figure S1).

First, Confirmatory Factor Analyses (CFA) were performed to validate the factor structure of the Turkish version of the MPIP and MPIC separately. Then, Multiple-group CFA (with Emulisrel correction; Byrne, 2016) was used to test the measurement invariance of the new inventories across the reporters (mothers and their children) in four hierarchical steps: (1) configural invariance, (2) metric invariance, and (3) scalar invariance (Putnick & Bornstein, 2016). Comparative fit index ($CFI \geq .90$), root-mean-square error of approximation ($RMSEA \leq .08$), and standardised root-mean-square residual ($SRMS \leq .08$) were used as the criteria for model fit (Hu & Bentler, 1999). CFI and RMSEA changes recommended for invariance testing in small samples, as well as Chi-square (χ^2) changes, were examined to test measurement equivalence (Chen, 2007). Specifically, we followed the guidance that a CFI deterioration that is not more than $-.005$ supported by a change of $\leq .010$ in RMSEA—or nonsignificant χ^2 deterioration ($p > 0.05$)—in the metric model compared to the configural model and in the scalar model compared to the metric model, suggests that the scale meets the criteria for metric and scalar invariance, respectively (Chen, 2007). In addition, we also reported Bollen–Stine bootstrap p values ($p > 0.05$) as it is robust to the non-normality (Bollen & Stine, 1992).

Establishing at least these three steps of measurement invariance is required to compare means across cultures. However, one in three studies has reported that full measurement invariance was not supported at all steps (Putnick & Bornstein, 2016). In such a case, we established partial measurement invariance where some, albeit not all, parameters are invariant between groups (Byrne et al., 1989; Putnick & Bornstein, 2016) and compared means at latent level rather than observed level (i.e., using t -test) (Steinmetz, 2013). To calculate latent mean differences, we freely estimated latent means for mothers but fixed them to zero for children (Byrne, 2016).

In both mother and child samples, the Positive Parenting (skewness = $-1.75/-1.18$, kurtosis = $4.99/1.37$, respectively) subscale of APQ-9 deviated from the normal distribution and log 10 transformation carried out to render normality before analyses. Pearson correlations were then used to assess the agreement on mindful parenting (cross-reporter associations between the MPIP and MPIC), convergent (associations of the MPIP/MPIC with FFMQ and APQ-9 positive parenting) and concurrent validity (associations between the MPIP/MPIC and SDQ dimensions). Predictive validity was tested by conducting a series of hierarchical regression analyses where sociodemographic correlates, maternal dispositional mindfulness (FFMQ) and the traditional positive parenting dimension (from the APQ-9) were accounted for to predict child behaviours (SDQ) from MPIP/MPIC. The Bonferroni adjustment was used to reduce the likelihood of Type I error in hierarchical regression analysis ($p < .007, .05$ divided by 7).

Finally, we conducted a follow-up Structural Equation Model (SEM) including latent variables of mindful parenting (i.e., MPIP and MPIC as the indicators) predicting latent variables of mother- and child-reported child behaviours (i.e., child internalising, externalising and prosocial behaviours as the indicators).

3 | RESULTS

3.1 | Preliminary analyses

The subscale of mother-reported Being in the Moment with Child was related to mother age ($r = .21, p = .009$), child sex ($r = .21, p = .010$; 1 = girl, 2 = boy) and perceived SES ($r = -.19, p = .022$). None of these demographic variables was significantly related to child reports of mindful parenting.

3.2 | Structural analysis

CFA showed that initial models had a poor fit to both mothers' and children's data. Consulting modification indices, we allowed error covariances between items 1 and 6 (.35), and between items 7 and 15 (.30) for MPIP, as well as between items 10 and 18 (.45) for MPIC. The resulting models showed acceptable fit indices for mothers and children (see Table 1).

TABLE 1 Confirmatory factor analyses for mindful parenting inventory for Parents (MPIP) and children (MPIC).

Model	χ^2	df	χ^2/df	CFI	RMSEA [90% CI]	SRMR	B-S
MPIP (n = 154)							
Initial model	237.177	129	1.839	.881	.074 [.059, .089]	.074	.013
Modified model ^a	207.466	127	1.634	.912	.064 [.048, .080]	.071	.051
MPIC (n = 154)							
Initial model	226.270	129	1.754	.894	.070 [.055, .085]	.071	.023
Modified model ^b	201.404	128	1.573	.920	.061 [.044, .077]	.067	.081

Note: χ^2 = Chi-Square; B-S = Bollen-Stine Bootstrap; CI = Confidence Interval; CFI = Comparative Fit Index; df = degrees of freedom; RMSEA = Root-Mean-Square Error of Approximation; SRMR = Standardised Root-Mean-Square residual.

^aAllowing error covariances between items 1 and 6 (.35) and between items 7 and 15 (.30).

^bAllowing error covariances between items 10 and 18 (.45).

Our hypothesis regarding measurement invariance across mothers and children (H1) was partially supported. As shown in Table 2, multiple-group CFA demonstrated that the unconstrained nested model (with the error covariances between items 1 and 6; 10 and 18; 7 and 15) had good fit indices, supporting configural invariance. The metric model with constrained factor loading across groups; however, slightly worsened compared to the configural model. Allowing the factor loading of Item 11 ("I am patient with my child/My mother is patient with me") to be variant across groups, partial metric invariance across the groups was obtained. Compared to the partial metric model, the model fit was worse in the scalar model, implying that not all item intercepts were invariant between the mothers and their children. Making sure that at least half of the items in a factor were restricted to be equal, we released five more intercepts (Items 1, 2, 6, 15 and 16) in a backward approach until the model showed partial scalar invariance (Putnick & Bornstein, 2016). The factor loadings obtained in the partially invariant MPIP/MPIC are presented in Figure 1.

Therefore, mean differences were compared at latent level since we only achieved partial invariance (Steinmetz, 2013). Results showed that mothers perceived themselves as more mindful in the Being in the Moment with Child ($z = 3.665, p < .001$) and Awareness of Child ($z = 4.473, p < .001$) aspects of mindful parenting than their children perceived them. In contrast, there were no latent mean differences between mothers and children in Self-regulation in Parenting ($z = 1.575, p = .115$) and Acceptance and Compassion Towards Child ($z = 0.169, p = .866$).

To test the impact of establishing partial invariance on the results, we also examined the latent mean differences between mothers and their children using a fully invariant model, constraining all factor loadings and intercepts to be equal (Chen, 2008). We again found that mothers perceived themselves as more mindful in the Being in the Moment with Child ($z = 3.501, p < .001$) and Awareness of Child ($z = 3.839, p < .001$) aspects of mindful parenting than their children perceived them, while there were no such differences between mother- and child-reported Self-regulation in Parenting ($z = 0.764, p = .445$) and Acceptance and Compassion Towards Child ($z = 1.331, p = .183$). Therefore, we concluded that the noninvariance between MPIP and MPIC had little effect on our findings (Chen, 2008). Descriptive statistics of MPIP/MPIC and their subscales, as well as within- and cross-reporter correlations of the subscales, are given in Table 3.

3.3 | Reliability

Acceptable internal consistency was demonstrated by Cronbach's alpha coefficients for the MPIP/MPIC total scores (Cronbach's $\alpha = .87$ and $.88$, respectively), as well as the subscales of the MPIP (Self-Regulation in Parenting, Acceptance and Compassion towards Child, Being in the Moment with Child and Awareness of Child dimensions (Cronbach's $\alpha = .75, .82, .69$, and $.76$, respectively), and MPIC (Cronbach's $\alpha = .76, .78, .66$ and $.83$, respectively).

TABLE 2 Measure invariance test across mothers and their children.

<i>n</i> = 154	χ^2	df	χ^2/df	CFI	RMSEA [90%CI]	SRMR	B-S	Comparison	$\Delta\chi^2$	Δdf	ΔCFI	$\Delta RMSEA$
1. Configural invariance	379.990	252	1.508	.930	.041 [.032, .049]	.071	.059	-	-	-	-	-
2. Metric invariance	404.659	266	1.521	.924	.041 [.033, .049]	.073	.041	2 versus 1	24.669*	14	-.006	.000
3. Partial metric invariance	397.981	265	1.502	.927	.040 [.032, .048]	.072	.050	3 versus 2	17.991 ^{ns}	13	-.003	-.001
4. Scalar invariance	491.291	278	1.767	.883	.050 [.043, .057]	.078	.002	4 versus 3	93.310***	13	-.044	.010
5. Partial scalar invariance	413.235	273	1.514	.923	.041 [.033, .049]	.074	.047	5 versus 4	15.254 ^{ns}	8	-.004	.001

Note: χ^2 = Chi-Square; CI = Confidence Interval; CFI = Comparative Fit Index; df = degrees of freedom; RMSEA = Root-Mean-Square Error of Approximation; SRMR = Standardised Root-Mean-Square residual, $\Delta\chi^2$ = χ^2 change in the constrained model compared to the unconstrained model, Δdf = df change in the constrained model compared to the unconstrained model, ΔCFI = CFI change in the constrained model compared to the unconstrained model, $\Delta RMSEA$ = RMSEA change in the constrained model compared to the unconstrained model.

* $p < .01$, *** $p < .001$, ns = not significant

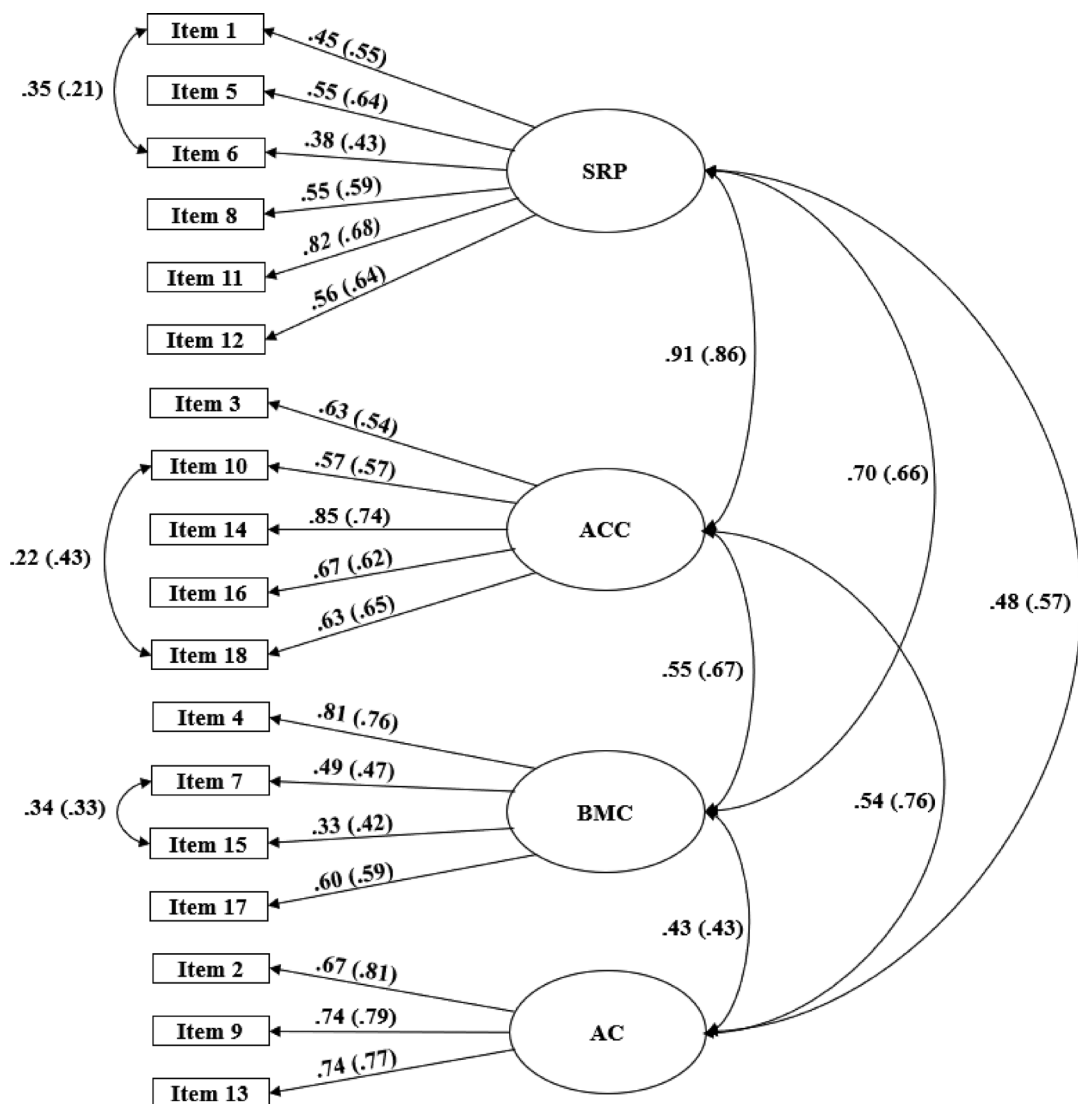


FIGURE 1 Factor loadings of mindful parenting inventories for parents (MPIP) and children (MPIC) in multiple-group confirmatory factor analysis.

Note: The factor loadings are equal across mothers and children, except for Item 11. AC = Awareness of Child; ACC = Acceptance and Compassion towards Child; BMC = Being in the Moment with Child; SRP = Self-Regulation in Parenting. MPIC factor loadings are given in brackets.

3.4 | Validity

Our hypotheses regarding convergent (H2) and concurrent validity (H3) were partially supported. As given in Table 4, indicating convergent validity, MPIP total score was positively and moderately correlated with mother-reported ($r = .40, p < .001$) and child-reported positive parenting ($r = .28, p < .001$) as well as mothers' dispositional mindfulness ($r = .44, p < .001$). MPIC was strongly positively associated with child-reported positive parenting ($r = .62, p < .001$) but not significantly associated with mother-reported positive parenting ($p = .060$) or dispositional mindfulness ($p = .107$).

TABLE 3 Descriptive statistics, within-reporter correlations of mindful parenting inventories for parents (above the diagonal) and children (below the diagonal) and cross-reporter correlations (on the diagonal, bolded).

	Mothers (<i>n</i> = 154)					Children (<i>n</i> = 154)					Correlations			
	Mean	SD	Skewness	Kurtosis	Mean	SD	Skewness	Kurtosis	MPIP (MPIC)	SRP	ACC	BMC	AC	
MPIP/MPIC	3.81	0.53	-0.40	-0.31	3.65	0.69	-0.45	-0.34	.39***	.88***	.82***	.72***	.59***	
SRP	3.36	0.7	-0.29	-0.13	3.28	0.82	-0.25	-0.56	.85***	.36***	.64***	.52***	.33***	
ACC	4.01	0.66	-1.10	1.89	3.91	0.83	-0.85	0.44	.87***	.64***	.34***	.38***	.42***	
BMC	4.00	0.72	-0.49	-0.47	3.83	0.85	-0.62	-0.28	.71***	.48***	.49***	.42***	.32***	
AC	4.09	0.63	-0.92	1.36	3.73	0.99	-0.59	-0.51	.71***	.45***	.59***	.33***	.24***	

Abbreviations: MPIP, Total score of Mindful Parenting Inventory for Parents; MPIC, Total score of Mindful Parenting Inventory for Children; MPIP/MPIC Subscales: AC, Awareness of Child; ACC, Acceptance and Compassion towards Child; BMC, Being in the Moment with Child; SD, Standard Deviation; SRP, Self-Regulation in Parenting.

p* < .01, *p* < .001.

TABLE 4 Correlations of the total score of mindful parenting inventories for parents and children with maternal dispositional mindfulness, positive parenting, and child behaviours.

	MPIP	MPIC
<i>Mother reports</i>		
FFMQ	.44***	.13
Positive parenting	.40***	-.15
Internalising child behaviours	.26***	-.19*
Externalising child behaviours	.35***	-.14
Prosocial child behaviours	.25**	.13
<i>Child reports</i>		
Positive parenting	.28*	.62***
Internalising child behaviours	.03	-.36***
Externalising child behaviours	.22**	-.35***
Prosocial child behaviours	.18*	.21*

Abbreviations: FFMQ, 15-item Five Facet Mindfulness Questionnaire; MPIP, Total score of Mindful Parenting Inventory for Parents; MPIC, Total score of Mindful Parenting Inventory for Children; Positive = Positive Parenting subscale of Alabama Parenting Questionnaire.

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

Supporting concurrent validity, all within-reporter correlations between MPIP total score and child behaviours were significant in expected directions with small to moderate effect sizes (see Table 4). Namely, MPIP was negatively related to mother-reported internalising ($r = -.26, p < .001$) and externalising behaviours ($r = -.35, p < .001$) and positively related to prosocial behaviours ($r = .25, p = .001$). MPIC was similarly negatively correlated with child-reported internalising ($r = -.36, p < .001$) and externalising behaviours ($r = -.35, p < .001$) and positively correlated with prosocial behaviours ($r = .21, p = .010$). Regarding cross-reporter correlations, MPIP was significantly associated with child-reported externalising ($r = -.22, p = .005$) and prosocial behaviours ($r = .18, p = .027$) but not child-reported internalising behaviours ($p = .718$), whereas MPIC was only significantly associated with mother-reported internalising behaviours ($r = -.19, p = .017$), not externalising ($p = .089$) or prosocial ($p = .116$) behaviours. All within- and cross-reporter correlates of MPIP/MPIC subscales are given in Table S2.

To examine the predictive validity of the Turkish MPIP/MPIC (H4), we tested their prediction of child behaviours over and above sociodemographics, maternal dispositional mindfulness and traditional positive parenting practices using hierarchical regression analysis. Sociodemographic variables related to child behaviours were included in hierarchical regression models as appropriate. There were significant correlations between mother-reported internalising behaviours and SES ($r = -.22, p = .005$), between mother-reported externalising behaviours and child sex ($r = .20, p = .011$; 1 = girl, 2 = boy) and also between mother-reported prosocial behaviours and mother age ($r = .19, p = .021$). Small significant correlations were also found between child-reported internalising behaviours and child age ($r = .23, p = .005$).

Within-reporter models (see Table S3) showed that MPIP added small but significant variance in mother-reported child externalising behaviours ($\Delta R^2 = .05, \Delta F(1, 146) = 8.71, p = .004$) after accounting for sociodemographics, mothers' dispositional mindfulness and positive parenting. Similarly, MPIC also explained additional variance in child-reported internalising ($\Delta R^2 = .09, \Delta F(1, 146) = 15.93, p < .001$) and externalising behaviours ($\Delta R^2 = .05, \Delta F(1, 146) = 8.94, p = .003$). Accordingly, MPIP negatively predicted mother-reported externalising behaviours ($\beta = -.25, t = -2.95, p = .004$), while MPIC negatively predicted child-reported internalising ($\beta = -.39, t = -3.99, p < .001$) and externalising behaviours ($\beta = -.29, t = -2.99, p = .003$). In analogous conservative cross-reporter regression models (see Table S4), neither MPIP nor MPIC explained additional variance in child behaviours.

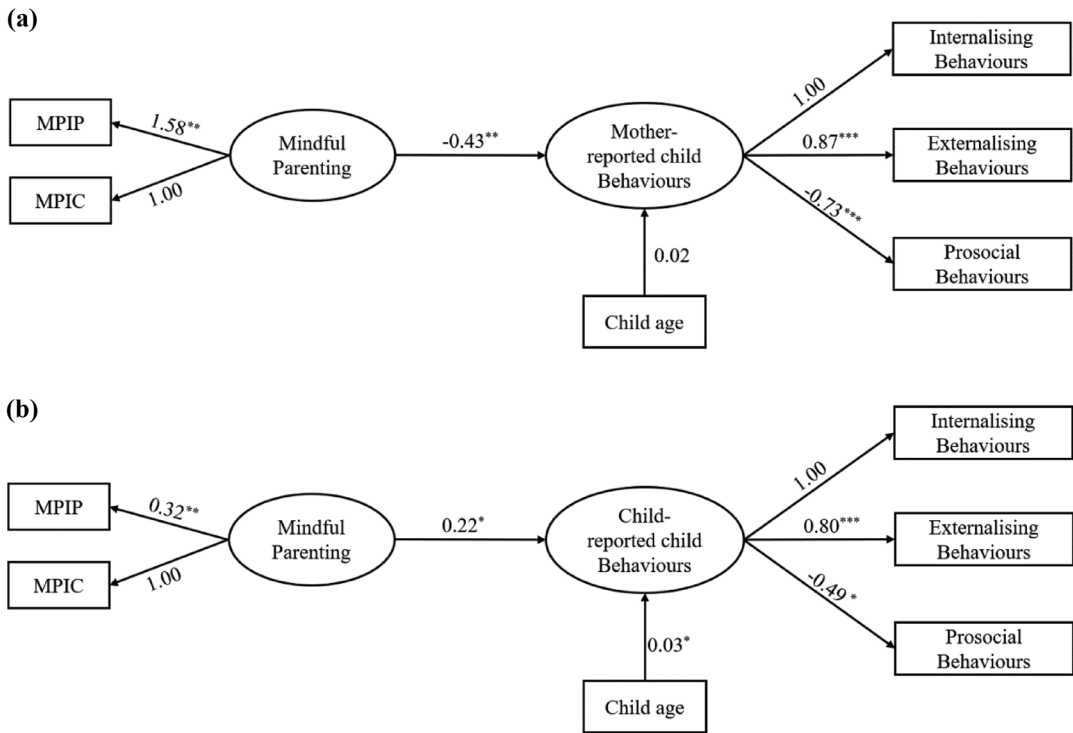


FIGURE 2 Predicting latent variables of mother-reported (a) and child-reported child behaviours (b) from latent variables of mindful parenting.

3.5 | Structural equation model

In the SEM, we again accounted for the sociodemographic variables related to mother- or child-reported child behaviours (i.e., SES, mother age, child age and child sex). To improve parsimony, we removed control variables without significant effects, thus including only child age for child behaviours in the model. Nevertheless, the model had insufficient fit to the data ($\chi^2(20) = 46.658$, $\chi^2/df = 2.233$, CFI = .891, RMSEA = .093 [.059, .129], SRMR = .074), even after allowing covariances between observed mother- and child-reported child behaviours. Thus, we tested two models of latent mindful parenting (MPIP and MPIC as indicators) predicting mother- and child-reported child behaviours separately (see Figure 2). As illustrated in Figure 2(a, b), respectively, latent mindful parenting negatively predicted both mothers' ($b = -.63$, $p < .000$; $\chi^2(7) = 6.932$, $\chi^2/df = 0.990$, CFI = 1.000, RMSEA = .000 [.000, .099], SRMR = .035) and children's reports ($b = -.73$, $p = .011$; $\chi^2(7) = 14.569$, $\chi^2/df = 2.081$, CFI = 0.910, RMSEA = .084 [.015, .145], SRMR = .058) of child behaviours.

4 | DISCUSSION

Introducing to Türkiye parallel inventories to assess parent and child perspectives of mindful parenting, the main aim of the current study was to validate the 18-item MPIP/MPIC in a sample of Turkish mothers and their children. The four-dimensional structure of the inventories was supported, and evidence for (partial) invariance between MPIP and MPIC was provided, suggesting that aspects of mindful parenting were interpreted in largely the same way between mothers and their children (Putnick & Bornstein, 2016). The Turkish versions of the MPIP/MPIC demonstrated good

internal consistency, as well as convergent, concurrent, and predictive validity. Overall, our findings supported the inventories as valid and reliable for assessing mindful parenting perceptions of mothers and children aged 11–16 years living in Türkiye.

In our study, CFA for the four-factor MPIP/MPIC revealed acceptable fit indices with comparable factor loadings to those in the original development study conducted in the UK (Acet & Oliver, 2023a). However, Item 11 (“I am patient with my child/My mother is patient with me”) showed metric non-invariance between MPIP and MPIC, which implies that mothers and their children interpreted the item differently. Given the stronger factor loading of this item on the Self-regulation in Parenting subscale in MPIP than MPIC, this finding may indicate that “being patient with the child” is more salient to the construct for mothers (Campbell et al., 2008). We acknowledge that such partial measurement invariance can lead to biased results, as the inventories may not accurately capture the construct of interest across groups (Millsap & Kwok, 2004). We caution researchers to remain aware of the potential presence of differential item functioning in Türkiye and welcome further thorough assessment of measurement invariance to enhance the validity and comparability of our measures (Byrne et al., 1989).

The Turkish version of MPIP/MPIC generally had good internal consistency for the total scale and its subscales, except for the *Being in the Moment with Child* subscale, for which these were a little low, in line with results found in the UK version, but still acceptable (Acet & Oliver, 2023a). As hypothesised and in line with the traditional parenting literature (Korelitz & Garber, 2016), there were small-to-moderate correlations between MPIP and MPIC. The low agreement between mothers and children in the Türkiye sample may offer some explanation of why mindful parenting failed to contribute to child adjustment in the cross-reporter regression model discussed below. It is also worth noting that mothers in Türkiye reported more mindful parenting than their children on this dimension, whilst mothers in the UK reported less (Acet & Oliver, 2023b). It is plausible that this is due to parents with more collectivist values (e.g., Turkish parents) having more tendency to self-report socially desirable behaviours (Bernardi, 2006; Bornstein et al., 2015), although whether this is more likely to influence results on this specific dimension than it is on others is as yet unknown. We emphasised that replication is needed before conclusions are drawn from these findings. More research is needed to understand the source of differences in perspectives of mindful parenting between these—and other—cultures. A continued focus on child reports as well as parent reports would be of particular interest, facilitated by these novel parallel inventories.

Our hypotheses regarding the validity of the MPIP/MPIC were partially supported. Albeit not surprising, within-reporter associations were more robust than cross-reporter associations. We found that mothers with higher mindful parenting skills generally used more positive parenting practices, indicating convergent validity. This is in line with the mindful parenting model (Duncan et al., 2009), as well as previous empirical findings (McKee et al., 2018; Parent et al., 2016), including in the UK sample using MPIP/MPIC (e.g., Acet & Oliver, 2023a). It is of interest that the mindful parenting model suggests that mindful parenting predicts child outcomes via parenting behaviours. Although not a direct study aim here, we note that we observed that positive parenting failed to predict child problem behaviours after controlling for mindful parenting. Further empirical research is needed to test this mediation hypothesis.

The current support for convergent validity of the MPIP and its subscales through its association with maternal dispositional mindfulness is consistent with the UK scale development study (Acet & Oliver, 2023a). However, results were rather different for the MPIC total and subscales, which were not associated with mother reports of dispositional mindfulness, despite their small-to-moderate associations with mother reports of mindful parenting. We cautiously argue that these findings may support the idea that intra- and interpersonal mindfulness should be considered distinct constructs (Pratscher et al., 2019), especially in the parent-child interaction context (Duncan, 2007), since mothers' self-reported mindful parenting was associated with child-reported externalising problems, whilst mother reports of their own dispositional mindfulness were not.

Supporting concurrent and predictive validity, mindful parenting was correlated with child behaviours in expected directions, importantly predicting child internalising and externalising behaviours over and above dispositional mindfulness and positive parenting. Here again, mindful parenting was a better predictor in within-reporter models than in the cross-reporter models. In part, this is due to shared method variance, and the findings are in accord with

previous research, showing mindful parenting and child outcomes to be significantly associated when parents reported on both variables (e.g., Cheung et al., 2021; Parent et al., 2016), but not when multiple perspectives are considered (e.g., Park et al., 2020; Wang et al., 2018a, 2018b). Note that although we acknowledge these findings presumably reflect common variance bias, we argue that it is also likely that these correlations are at least partly due to perspectives of experience that can relate strongly to subjective reports of behaviour (Youngstrom et al., 2000). Future studies in the mindful parenting field would be wise to consider multi-method approaches for gaining a clear picture of family relationships as well as reducing shared method variance.

MPIP/MPIC did not predict child prosocial behaviours. Interestingly, a recent study similarly showed the correlation between mindful parenting and prosocial behaviours to be somewhat lower than that between mindful parenting and problem behaviours (Cheung et al., 2021). This notion warrants further research since the mechanisms at play here are important to explore. On the one hand, one might assume mindful parenting to relate to mothers' own prosocial behaviours through common themes such as kindness, understanding and empathy in these constructs and thus to be related to children's prosociality through both environmental and genetic provision (Knafo & Plomin, 2006). On the other hand, mindful parenting may be more pertinent to children's problem behaviours than prosocial behaviours through emotion regulation skills pertinent to mindful parenting (Caiado et al., 2020) as well as to a lack of parental reactivity and harshness (Crandall et al., 2015). Alternatively, given the potential bidirectional nature of the relationships between mindful parenting and child behaviours (e.g., Kim & Gonzales, 2021), we might also argue more problem behaviours are detrimental to mindful parenting, while more prosocial behaviours do not promote mindful parenting as they are more "typical" (Wang et al., 2018b).

Finally, SEM showed that a latent mindful parenting variable significantly predicted the latent variables of mother- and child-reported child behaviours. However, the data fit better to the model with mother reports of child behaviours. One reason for this may be that common method bias inflated the association between mother reports of mindful parenting and child behaviours more than that between child reports due to the greater tendency of mothers to self-report desirable parenting behaviours (Scott et al., 2011). This speculation is bolstered by modification indices which suggested a covariation between the error variances of observed MPIP and latent mother-reported child behaviours when examining the model that included mother- and child-reported child behaviours simultaneously.

Previously research has provided evidence of a promising tool for understanding both parent and child perspectives of mindful parenting in UK-based families. Now we evidence the utility of a version suitable for use in Türkiye, facilitating a better understanding of this pertinent family process in Turkish families. As such, MPIP/MPIC allows direct comparison of different perspectives on mindful parenting using dyadic parent-child data within and across these cultures. Ultimately, these parallel inventories may facilitate the evaluation of mindfulness-based parenting interventions in improving mindful parenting from both parent and child perspectives, as is pertinent for child outcomes (Evans et al., 2018).

Despite its strengths, we acknowledge our study limitations also. First, the homogeneity of the sample (mothers only; typically developing children; aged 11–16 years) means that further work is needed to generalise the findings to fathers and more diverse families. Relatedly, as in other recent similar parenting research in Türkiye (e.g., Arıkan et al., 2020; Gördesli et al., 2018), the current sample of mothers was highly educated and reported a higher-than-average subjective SES (Işık et al., 2019). As such, although our mothers' age and the average number of children the mothers had adequately represent the Türkiye-based mother population with children between 11 and 16 years old (Turkish Statistical Institute, 2022b), this lack of representativeness regarding SES again warrants caution when generalising these findings to the broader population of mothers in Türkiye.

Second, the inconsistent discipline and poor supervision subscales of the APQ-9 had poor internal reliability in this sample. We suggest that this is likely due to interpretation differences that have been reported elsewhere to be particularly problematic in samples of children, non-English speakers, and community samples (for a meta-analysis, see Liang et al., 2021). We chose APQ-9 for brevity to avoid overload for our participants, but these reliability problems for the traditional parenting constructs mean that our consideration of such constructs was limited. Future studies reliably assessing traditional parenting dimensions are crucial to take the current work forwards. Third, this study used a

single method (self-reports) to collect data from multiple sources. Future studies should consider using other methods, such as independent observations, to reduce common-method bias (Podsakoff et al., 2012). Lastly, we preserved the original form of the scales in our study, as suggested by Van Widenfelt et al. (2005, p. 141). However, we encourage future research with broader samples to explore the best structure of the scales.

AUTHOR CONTRIBUTIONS

Pinar Acet: Conceptualisation, design, Data collection, cleaning and analyses, original draft, and revisions. Bonamy R. Oliver: Supervision, conceptualisation, reviewing and editing.

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CONFLICT OF INTEREST STATEMENT

The authors have no conflict of interest.

ETHICS STATEMENT

The UCL Institute of Education, Postgraduate Research Ethics Committee, granted ethical approval (UCL Data Protection Registration Number: Z6364106/2021/01/43 social research). The procedures used in this study adhere to British Psychological Society guidance and GDPR.

DATA AVAILABILITY STATEMENT

Fully anonymised data analysed for the current study are available from the corresponding author on reasonable request.

INFORMED CONSENT

Informed consent was obtained from all parents, and assent was obtained from all children included in the study.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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