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Parental mind-mindedness (MM)—defined as the propensity to view children as mental agents with their own thoughts, feelings, and intentions—is thought to shape parental behavior and affect, which are also impacted by family adversity. However, little is known about whether associations between MM, parenting, and family adversity generalize across cultural contexts. This study aimed to both address this question, and to also consider whether parental MM attenuates associations between family adversity and parenting behavior/ affect. Across three sites (England, Hong Kong, mainland China), 832 parent–child dyads ($M_{child\ age}$ = 5.18 years; $SD = 0.52$) were observed remotely in a shared drawing task, with video-footage coded for parental behavior and affect. Parental MM was assessed from transcripts of parents' descriptions of their child. Our index of family adversity comprised indicators of socioeconomic status, parental mental health, negative life events, and COVID-19 related stress. Using a single-study meta-analysis design, we found across-site generalizability of associations between parenting aspects and (a) MM (summary estimate = 0.13) and (b) family adversity (summary estimate = −0.16). By contrast, the predicted effect of MM in attenuating associations between family adversity and parenting was only partially supported. That is, the association between family adversity and parental negative affect was attenuated in the context of high MM in mainland China (but not in England or Hong Kong). For parenting behavior and affect, findings indicate both cultural similarities and contrasts and are discussed within the framework of "universality without uniformity" models.

Keywords: mind-mindedness, parenting, family adversity, cultural universality, parent–child interactions

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Mind-mindedness (MM), namely parents' propensity to view children as mental agents with their own thoughts, feelings, and intentions (Meins et al., 1998), is an important part of parental mentalizing. MM provides an index of parents' sensitivity to attunement with their children's mental states (Garon-Bissonnette et al., 2025) and can be assessed via ratings of attuned mentalistic comments during caregiver–infant interactions (Meins et al., 2003) or via transcripts of parents describing their child (Meins & Fernyhough, 2015). Cross-cultural studies have indicated significant differences in average levels of both interactive MM (parents' attuned mentalistic comments during caregiver–child interactions; Dai et al., 2020) and representational MM (parents' mental descriptions of their child;

Fujita & Hughes, 2021; Hughes et al., 2018). For each of these measures, however, it is not clear whether the association with aspects of parenting is similar across cultures.

To address this gap, the present study draws on literature related to the 5-min speech sample (FMSS; Magaña et al., 1986), which demonstrates that, across different age groups, ratings of expressed emotion in parental descriptions of their child are consistently related to the affective quality of parent–child interactions (for a systematic review, see Weston et al., 2017). Although these studies do not directly assess links between mentalizing and parenting behaviors, findings from studies utilizing the "mind-mindedness interview" (Meins et al., 1998) suggest that parents' free-form descriptions of their child can be used to index mentalizing (e.g., Devine & Hughes, 2019). A key aim of this study was to counter the lack of cultural diversity within existing study samples (88% studies cited by Weston and colleagues involved Western, White families) by examining mentalizing within the FMSS in relation to remotely observed parent–child interactions across three culturally distinct sites—England, Hong Kong, and mainland China. Notably, while Hong Kong remains deeply rooted in Confucian traditions shared with mainland China, it is more westernized than many of its geographical neighbors, not least because the 1984 Sino-British agreement enshrined the 50-year preservation of British-style economic and social systems.

Parenting is a complex construct, shaped by multiple factors in the family ecological context. These include distal factors, such as parental income, education, occupation, and social status, as well as proximal factors, such as parental mental health/well-being, and knowledge/beliefs (Roubinov & Boyce, 2017). Family adversities such as low socioeconomic status (SES) and poor parental mental health/well-being impacts family functioning and parenting quality, leading to heightened stress and conflict, hostile and harsh parenting and compromised child outcomes (Bornstein et al., 2018). Capitalizing on our large sample size

($n = 832$), our second study goal was to assess the across-site consistency in associations between family adversity and observed parenting.

Positive parenting practices have been shown to attenuate associations between risk factors and negative child outcomes (Lansford, 2022). As such, a central challenge within intervention science is to elucidate exactly how parenting might mitigate the effects of exposure to family adversity. Previous work has shown that changing how parents view their child provides an effective means of promoting optimal parenting practices (Bornstein et al., 2018). Thus, our third study goal was to investigate whether high parental MM attenuates the expected association between family adversity and negative parenting behavior and affect. Note that these two key elements of observed parenting quality capture distinct but related dimensions reflected in daily parent–child interactions. Below, we provide the background to our three study goals.

Are Links Between Parental MM and Observed Parenting Similar Across Sites?

Originally developed for use in clinical studies (Magaña et al., 1986), the FMSS paradigm has become widely used within family research. It provides a simple and effective means of capturing parents' thoughts and feelings about their children (for a review, see Sher-Censor, 2015). As noted earlier, developmentally stable associations between FMSS measures of parents' expressed emotion and direct observational ratings of parent–child interaction quality support the validity of this approach. Following the adoption of the FMSS within the developmental literature, researchers have gone beyond the original focus on the affective quality of parent–child relationships to apply parental descriptions of children to evaluate narrative coherence (e.g., Sher-Censor & Yates, 2015), family affective attitudes (Bullock & Dishion, 2007), and of particular relevance to the present study, aspects of parental mentalizing (e.g.,

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reflective functioning, Adkins et al., 2018; mind-mindedness, Hughes et al., 2018).

Using the mind-mindedness interview (Meins et al, 1998) and modified versions of Meins & Fernyhough, 2015 coding scheme, studies with 4-year-olds conducted in the United States and Australia have reported positive associations between representational MM and parents' sensitivity (McMahon & Meins, 2012), interactional attunement (Lundy, 2013), autonomy support (Lundy & Fyfe, 2016), and reduced observed hostility (Lok & McMahon, 2006). However, in a recent study of Danish 6-year-olds, representational MM—indexed by parents' free-text descriptions of children (coded according to Meins & Fernyhough, 2015), was unrelated to parents' acknowledging behaviors and was only associated with parents' use of mental state talk among more educated parents (Svane et al., 2024). This contrast suggests that relations between representational MM and parenting behaviors may be culturally specific, confirming the need (identified in a review of this field conducted by McMahon & Bernier, 2017) for researchers to expand the geographical and cultural scope of MM research.

Further to this, parenting can take on different forms and functions across distinct cultural contexts—and different forms can also serve the same function (Lansford, 2022). Consistent with a "universality without uniformity" model of parenting (Bornstein, 2012), key psychological processes appear to have both universal and context-specific features. For example, a survey of 751 mothers from 26 cultural groups in 15 countries (with children aged 6 months to 6 years) demonstrated that while sensitivity and responsiveness are universally viewed as ideal parental qualities, the strength of this belief varied with contextual factors (e.g., parental education, rural vs. urban residence; Mesman et al, 2016). Likewise, although experiences of autonomy and relatedness hold similar functional importance for child development across contexts, the nature of parental support for children's autonomy and relatedness may vary in expression across sites (Soenens et al., 2015).

Given the culturally embedded processes of parenting and the importance of capturing how such processes unfold in real time, our use of a novel online observational tool to capture parent–child interaction during a goal-directed drawing task (the Etch-a-Sketch Online; Oliver & Pike, 2021) is notable for two reasons. First, direct observations circumvent well-documented limitations of self-report/questionnaire measures of parenting quality, such as social desirability bias and the inability of such measures to capture nonconscious processes or moment-to-moment dynamics (King & Bruner, 2000). As highlighted above, this is particularly salient when examining parenting across cultural contexts, as normative practices may differ substantially and yet not be fully articulated or endorsed by parents themselves (Lansford, 2022). Second, although widely regarded as the "gold standard" assessment of parent–child interactions, logistical demands (e.g., travel for lab/home visits) make it difficult to apply observational methods at scale. By obviating these challenges, the online interaction drawing task enabled us to assess whether representational MM showed similar associations with direct observational ratings of parenting behavior/affect across three culturally distinct sites.

Family Adversity and Parenting: Are Associations Similar Across Sites?

Existing literature supports the need to consider multiple dimensions of family adversity in relation to parenting. For example,

findings from large national studies such as the Millennium Cohort Study challenge traditional deficit-based views of the association between family income and parenting (Cooper, 2021). Rather than forming a discrete group characterized by economic disadvantage and poor parenting, responses from 14,595 parents of 5-year-olds indicated that parenting behaviors varied across a broad socioeconomic gradient, with some low-income mothers demonstrating more positive parenting practices than their middle-income counterparts. A related strand of research shows that caregiving quality moderates the association between poverty and child outcomes (Smith & Mazure, 2021) and is often shaped by parental mental health and access to social support. While parenting under conditions of stress or scarcity may affect children's development, risks can be mitigated by protective factors like social networks or parental education. A large-scale survey study in Uganda involving 4,874 mother–child dyads (M_{age} = 47.7 months) demonstrated positive causal effects of maternal education on parenting quality, with increased schooling linked to greater maternal involvement in home learning activities and reduced use of harsh discipline (Cuartas, 2022).

Contemporary evidence also implicates a wide range of psychosocial and situational influences on parenting. In particular, the COVID-19 pandemic has highlighted the impact of chronic stress on family functioning (Achterberg et al., 2021). Recent work linked increased parental stress, economic hardship, and social isolation to a heightened risk of harsh parenting across different countries and contexts (Calvano et al., 2022). Drawing on family stress theory (Patterson, 2002), pandemic-related disruptions have been conceptualized as part of a cascading risk process in which demands exceed available resources, contributing to the accumulation of stress across family systems. Taken together, these findings emphasize the need to examine influences on parenting within a broader ecological framework. The present study built on this work by examining parenting within the context of both structural and situational stressors, including those linked to the COVID-19 pandemic. We constructed a multidimensional family adversity index including parent education, subjective social standing, psychological distress, depression, anxiety, negative life events, and COVID-related stress. Our second goal was to examine the across-site universality of an aggregate of distal and proximal influences on parenting behavior and affect.

Does MM Attenuate the Association Between Family Adversity and Parenting?

Despite evidence that MM underpins sensitive caregiving (McMahon & Bernier, 2017), relatively few studies have examined MM as a potential moderator of the link between family adversity and observed parenting. This is a critical omission, as studies of young children exposed to early life adversity show that greater caregiving sensitivity leads to improved child outcomes (Miller-Graff et al., 2020). Further, parental stress is consistently linked to lower levels of parenting sensitivity (McMahon & Meins, 2012). Importantly, even in the absence of overtly negative parenting behaviors, heightened stress can influence children indirectly, via the emotional climate of the home or through children's observation of parents' dysregulated affect (Morris et al., 2017). These findings suggest that both distal and proximal family risk factors, such as low SES and parental depression, increase the likelihood that children may be exposed to forms of threat to their development or

deprivation of resources, while sensitive caregiving may mitigate these risks.

Empirical support for this theoretical model of MM as a moderator comes from longitudinal studies of MM, which have shown significant buffering effects in the context of family adversity. In a study of 171 families, maternal MM in infancy predicted fewer child behavioral difficulties at ages 3 and 5, with effects particularly evident in families experiencing low SES (Meins et al., 2013). In a British sample of 206 families, appropriate mind-related comments at 8 months predicted children's reading and mathematics attainment at ages 7 and 11, but only among families from low-SES backgrounds (Meins et al., 2019). In another British sample of 116 children tracked from ages 6 to 12, maternal MM predicted reduced disruptive behavior in preadolescence, even after accounting for maternal positivity and family adversity (Hughes et al., 2017). Yet few studies have examined whether MM moderates the effect of adversity on observable parenting behavior and affect during parent–child interactions—this was the third aim of the present study.

The Present Study

To our knowledge, the present study is the first to examine parental speech samples alongside direct observations of parent–child dyads across more than two sites. To go beyond the simple east–west binary model that is prevalent in cross-cultural research, we applied a single-paper meta-analytic design to compare the magnitude of associations between representational MM and observed parenting across three sites. This approach provides an efficient means of summarizing information to examine cross-site effects (McShane & Böckenholt, 2017). We hypothesized that direct observational measures of parenting behavior/affect would, across the three sites (England, Hong Kong, mainland China), show similar: (a) positive associations with MM and (b) negative associations with family adversity. We also hypothesized that the association between family adversity and parenting behavior/affect would be attenuated in the context of high parental MM.

Method

Participants

We report how we determined our sample size, all data exclusions (if any), all manipulations, and all study measures. Participants were recruited through the community, social media, and schools in England, Hong Kong, and mainland China. A total of 895 parent–dyads completed both the FMSS and the online interactive drawing task. We excluded 63 parent–child dyads from our final analyses based on predetermined criteria. This included confirmed or suspected developmental delay ($n = 27$) or inconsistent parent participation ($n = 28$). Parent–child dyads were also excluded on the basis of task disruptions due to either technical difficulties ($n = 2$) or human interference ($n = 6$; e.g., interruption by another sibling or family member during tasks). The final sample size was 832, including 245 English parent–child dyads, 256 Hong Kong dyads, and 331 mainland Chinese dyads (for full demographic information, see Table 1). The three subsamples were matched in child gender composition, $\chi^2(2) = 1.48$, $p = .478$; but differed in child age, $F(2, 807) = 38.48$, $p < .001$; parent age, $F(2, 792) = 58.99$, $p < .001$; and parent gender composition,

$\chi^2(2) = 9.18$, $p = .010$. Child and parent demographics (age and gender) were therefore included as covariates in our analyses.

Procedure

The study design was preregistered (https://osf.io/4tg5a; Heng et al., 2025). Data were drawn from a larger research project in which remote visits (via *Zoom* or *Tencent Meeting*) took place between June 2021 and December 2022 in England, Hong Kong, and mainland China. Using collaborative and iterative translation methods to maintain conceptual equivalence, bilingual researchers translated the study measures into Cantonese and Mandarin Chinese. All procedures received approval from the Research Ethics Committees at the University of Cambridge, University of Birmingham, and Tsinghua University. During an initial interview, parental consent was obtained, and parents completed the FMSS (Magaña et al., 1986) and a demographic survey. All interviews were recorded for later transcription and coding. In a second session, parents and children completed the online interactive drawing task (Oliver & Pike, 2021) and other assessments of children's cognitive, behavioral, and social skills (not reported in the present study), lasting 45–60 min. Recordings of the drawing task were double-coded for parenting behavior and affect by graduate researchers trained in the parent–child interaction system (Deater-Deckard et al., 1997).

Measures

Parental Mind-Mindedness

Parents were given 5 min to describe their child and how they get along, using their native language. Specifically, parents were told

> I'd like to hear your thoughts and feelings about [CHILD], in your own words. When I ask you to begin, I'd like you to speak for five minutes, telling me what kind of a person [CHILD] is and how the both of you get along. I won't interrupt you except to tell you when time is up.

If parents stopped speaking before the 5-min point, they were given a standardized prompt: "You have another X minutes. Can you say anything else about [CHILD]?" Across sites, these speech samples were audio-recorded, transcribed verbatim, anonymized, and coded for MM (Meins & Fernyhough, 2015). This protocol differs in a minor respect from the MM interview coding procedure, in which this standardized prompt is omitted in the parent has already provided an extensive answer. To verify that this deviation did not lead to inflated scores, we reviewed 20% ($n = 170$) and showed that only a minority of these ($n = 38$) elicited further speech from parents; parents typically reported nothing further to say, and just three transcripts included postprompt mentalistic descriptions. Coding rules were identical across sites and conducted by researchers who were native speakers of each language. Then, all child-focused attributes were coded as either mental (e.g., including cognitions, emotions, desires, such as "she is a joyful child" or "he loves solving puzzles") or nonmental (e.g., including general descriptors or physical and behavioral attributes such as "she's very tall" or "he's 5 years old"). Exact repetitions were counted only once toward the frequency of mental or nonmental attributes. To control for variation in parental fluency or verbosity, we calculated proportion scores by dividing the number of mental attributes by the total number of child-focused

Table 1
Participant Demographic Information

Participant characteristic	ENG ($n = 245$)	HK ($n = 256$)	MC ($n = 331$)	Effect size for group difference
Child				
Age (M, SD)	5.26 (0.35)	4.95 (0.36)	5.29 (0.64)	$\eta^2 = 0.09$
Gender (% female)	126 (51%)	119 (47%)	156 (47%)	Cramér's $V = 0.04$
Parent				
Age (M, SD)	38.35 (4.42)	37.87 (3.93)	34.93 (3.93)	$\eta^2 = 0.13$
Gender (% female)	230 (94%)	226 (88%)	313 (95%)	Cramér's $V = 0.11$

Note. ENG = England; HK = Hong Kong; MC = mainland China.

attributes. The proportion scores in this study resemble those reported by previous empirical work using the FMSS (e.g., Fujita & Hughes, 2021; McMahon & Meins, 2012). Across all sites, we established interrater reliability by double-coding a random subset of 20% of the English transcripts ($n = 49$) and 30% of transcripts from the Hong Kong ($n = 77$) and mainland Chinese samples ($n = 100$; the higher percentage in the latter two sites was for training purposes). Intraclass correlations (ICC) were significant, all $ps < .001$, indicating good interrater reliability (England: $ICC_{mental} > .70$; $ICC_{nonmental} > .70$; Hong Kong: $ICC_{mental} > .90$, $ICC_{nonmental} > .90$; mainland China: $ICC_{mental} > .80$, $ICC_{nonmental} > .80$).

Observed Parenting

Parents were observed interacting with their children using an online drawing task (Etch-a-Sketch Online; Oliver & Pike, 2021), which has been previously examined for face, convergent and predictive validity with a similar age group. Mirroring the traditional interface of the Etch-a-Sketch task where one controls a dial to draw horizontal lines and another dial for vertical lines, the online version requires players to press the keyboard buttons "A" (to go left) and "D" (to go right) to draw horizontal lines, and "O" (upwards) and "M" (downwards) to draw vertical lines. Dyads were given 5 min to copy a drawing that was shown onscreen (e.g., an envelope or a house), where each player could only touch the keys controlling either the horizontal lines or the vertical lines. Recordings were coded according to the parent–child interaction system (Deater-Deckard et al., 1997) on a 7-point scale from 1 (*no occurrence*) to 7 (*continual occurrence*). The codes used reflect parental positive control (use of praise, explanation, and open-ended questions), negative control (use of physical control and criticism), positive affect (verbal and nonverbal expressions of happiness such as smiling, affection), and negative affect (frowning, using a cold or harsh tone). The lead authors acted as senior coders and trained a group of graduate researchers. Each video was double coded, including at least one senior coder. Across sites, interclass correlations for each code were high (.80–.97).

Family Adversity

To capture diverse aspects of family adversity, we used a data-driven approach to create a seven-measure index by aggregating dummy-coded variables (parent education, social standing, family stress, negative life events, nonspecific psychological distress, depression, and anxiety) based on site-specific lower and upper quartiles. Internal consistency was acceptable, Cronbach's αs = .66–.73. Supplemental Table S1 presents descriptive statistics for

each of the seven measures. Parental education was dummy coded as 1 = *for risk* (no degree-level education) and 0 = *for no risk* (undergraduate degree or higher). Parental social standing was measured using the ladder of subjective social status (Singh-Manoux et al., 2003), a 10-rung ladder denoting the lowest to highest levels of perceived educational qualification, employment, and income status. Ratings below the lower quartile in each site were coded as 1 = *for risk* and 0 = *for no risk*. Parents' experience of family stress during the pandemic was measured using the COVID-19 Family Stressor Scale (Prime et al., 2021), with 24 items rated on a 3-point scale (1 = *not true*, 2 = *somewhat true*, 3 = *very true*). Item scores were summed to generate a total score, with higher values indicating greater COVID-19-related family stress; total scores above the upper quartile in each site were coded as 1 = *for risk* and 0 = *for no risk*. Parents' experience of negative life events over the past year was measured using 18 selected items from the Recent Life Events Questionnaire (Brugha et al., 1985), where each item was rated as 0 = *no* or 1 = *yes*. Item scores were summed, with higher values indicating greater exposure to negative life events; total scores above the upper quartile in each site were coded as 1 = *for risk* and 0 = *for no risk*. Parental nonspecific psychological distress was measured using the 10-item Kessler Psychological Distress Scale (Kessler et al., 2002), with items rated on a 5-point scale (0 = *none of the time*, 4 = *all the time*); total scores above the upper quartile in each site were coded as 1 = *for risk* and 0 = *for no risk*. Depressive symptoms over the past 2 weeks were measured using the nine-item Patient Health Questionnaire (Kroenke et al., 2010), and anxiety symptoms over the past 2 weeks via the seven-item Generalized Anxiety Disorder Scale (Spitzer et al., 2006); both were rated on a 4-point scale (0 = *not at all*, 3 = *nearly every day*). For each of these three mental health measures, total scores above the upper quartile in each site were coded as 1 = *for risk* and 0 = *for no risk*.

Analytic Plan

Following initial screening of the data, zero-order and partial correlations were computed to examine associations among main study constructs. To explore convergence in the associations between observed parenting, MM, and family adversity, we employed the single-paper meta-analysis (McShane & Böckenholt, 2017) with a random-effects model using *R* packages *robumeta* (Fisher & Tipton, 2015), *metafor* (Viechtbauer, 2010), and *dplyr* (Wickham et al., 2019). Finally, we performed moderation analyses and tests of simple slope using *R* packages *rempsyc* (Thériault, 2023) and *interactions* (Long, 2024).

Results

Descriptive Statistics

Table 2 presents the descriptive statistics for the key study measures obtained from parental speech samples and the parent–child interactional drawing task respectively. English parents provided a greater total number of child attributes (including both mental and nonmental descriptions) than Chinese parents, but MM proportion scores were comparable across sites. English parents also displayed higher levels of positive control and positive affect toward their child than parents in Hong Kong or mainland China. All three groups showed similarly low average levels of negative control and negative affect. These patterns held when child and parent characteristics (age and gender), and family adversity were considered.

Does Observed Parenting Show Similar Associations With MM and Family Adversity Across Sites?

Figure 1 presents a heatmap correlation matrix of the main study constructs in each site (for full bivariate correlations with corresponding statistical inferences, see Supplemental Table S2). With respect to parenting affect, negative affect was significantly correlated with MM only in mainland China, $r(331) = -.14$, $p = .013$, although the correlations in England and Hong Kong were in the expected direction, $rs = -.06$, $ps > .05$. With respect to parenting behavior, positive control was significantly and positively correlated with MM in both England, $r(245) = .19$, $p = .003$, and Hong Kong, $r(256) = .13$, $p = .043$. In mainland China, the correlation was marginally significant, $r(331) = .10$, $p = .084$. When child and parent demographics (age and gender) were taken into account, these positive associations remained significant in England, partial correlation, $pr(216) = .18$, $p = .006$, and marginally significant in both Hong Kong, $pr(238) = .11$, $p = .093$, and mainland China $pr(316) = .10$, $p = .079$. Moreover, parental positive control was significantly and negatively correlated with family adversity in mainland China, $r(329) = -.22$, $p < .001$. The negative correlations were marginally significant in England, $r(235) = -.12$, $p = .072$, and in Hong Kong, $r(250) = -.12$, $p = .069$. These associations held after controlling for child and parent demographics (age and gender), with partial correlations of $pr(216) = -.12$, $p = .081$ in England; $pr(238) = -.11$, $p = .085$ in Hong Kong; and $pr(316) = -.24$, $p < .001$ in mainland China.

To evaluate the universality and consistency of the associations between parental positive control, MM, and family adversity, we conducted single-paper meta-analyses (SPM). As shown in Figure 2, the SPM indicated that partial correlations between parental positive control and MM were largely homogeneous across sites, $Q(2) = 1.06$, $p = .590$, $I^2 = 0\%$, suggesting that the observed variability in estimates is likely due to sampling/measurement errors rather than true heterogeneity. The SPM further demonstrated that this statistically significant positive association was highly consistent in each site, with a summary estimate of 0.13, $p = .001$, 95% CI [0.06, 0.20].

As shown in Figure 3, the SPM revealed low heterogeneity in the strength of partial correlation between parental positive control and family adversity after accounting for child and parent demographics, $Q(2) = 3.12$, $p = .210$. However, a low-to-moderate proportion ($I^2 = 37.52\%$) of the observed variability in estimates might reflect true heterogeneity. Despite this, the SPM demonstrated a statistically significant and consistent inverse association across sites, with a summary estimate of -0.16, $p < .001$, 95% CI [-0.25, -0.07].

Does MM Moderate the Link Between Family Adversity and Parenting?

To examine how MM and family adversity interact in predicting observed parenting behavior (positive control, negative control) and affect (positive affect, negative affect) within each site, we conducted separate linear regression analyses for each parenting outcome. Each regression model included MM, family adversity, and their interaction (MM × Adversity) as factors, while controlling for variation in child and parent demographics (age and gender). Both predictor variables were mean-centered before computing the interaction term. Across all three sites, MM did not significantly moderate the association between adversity and parental control (all $ps > .05$; for full results, see Supplemental Table S3). However, as shown in Figure 4, the analyses revealed a significant interaction

Table 2

Site Contrasts in Representational Mind-Mindedness and Observed Parenting

Context	ENG ($n = 245$)		HK ($n = 256$)		MC ($n = 331$)		F ratio	p	η^2	Group comparison
	M	SD	M	SD	M	SD				
Parental speech samples										
Total attributes[a]	34.34	16.13	29.21	11.14	20.28	8.95	75.98	<.001	.163	ENG > HK > MC
Mental attributes[a]	13.85	8.18	11.36	6.37	8.16	4.62	42.60	<.001	.098	ENG > HK > MC
Nonmental attributes[a]	20.49	10.91	17.86	7.71	12.12	5.42	62.04	<.001	.137	ENG > HK > MC
Mind-mindedness[b]	0.40	0.15	0.38	0.15	0.39	0.12	0.71	.492	.002	ENG ≈ MC ≈ HK
Parent–child interactions										
Positive control	4.47	1.31	4.02	1.26	2.34	1.11	189.84	<.001	.327	ENG > HK > MC
Negative control	1.37	0.64	1.55	0.87	1.52	0.89	2.32	.099	.006	HK ≈ MC ≈ ENG
Positive affect	4.07	1.49	3.71	1.43	2.54	1.03	85.96	<.001	.181	ENG > HK > MC
Negative affect	1.24	0.51	1.25	0.62	1.19	0.57	1.06	.349	.003	ENG ≈ HK ≈ MC

Note. Group comparison results are based on analyses of covariance, controlling for child covariates (age and gender), parent covariates (age and gender), and family adversity. ENG = England; HK = Hong Kong; MC = mainland China.
[a] Amount. [b] Proportion.

Figure 1

Heatmap Correlations Between Key Study Variables

(A) England   (B) Hong Kong   (C) Mainland China
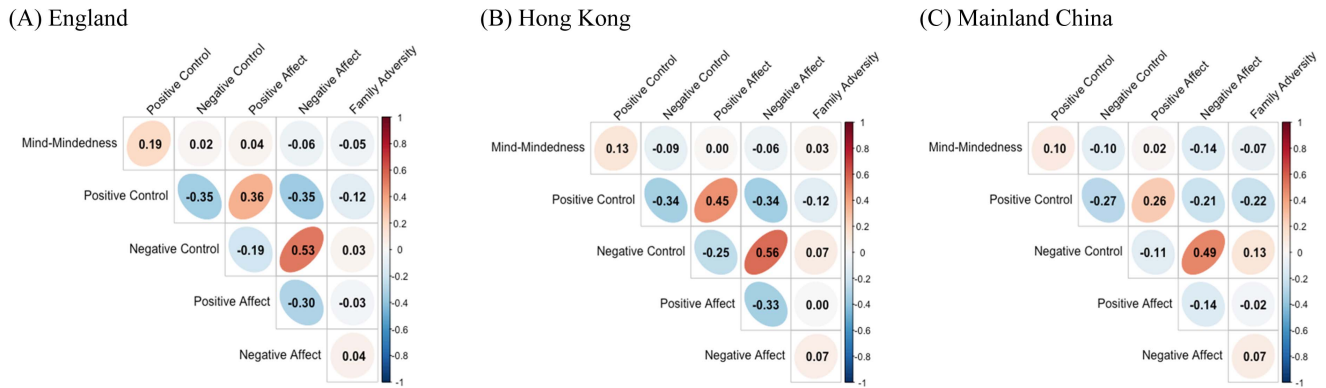
Note. The color gradient legend on the right represents the strength and direction of correlation coefficients. Blue shades represent positive correlations; red shades represent negative correlations. Deeper colors reflect stronger correlations, while lighter shades reflect weak or no correlation. Ellipses oriented toward the right indicate positive correlations; those oriented toward the left indicate negative correlations. From left to right: Heatmap correlations correspond to England, Hong Kong, and mainland China sites, respectively. See the online article for the color version of this figure.

effect in the mainland Chinese subsample only, where MM moderated the association between family adversity and parental negative affect, $b = -0.12$, $t = 2.22$, $p = .027$ (for full regression results, see Supplemental Table S2). Follow-up simple slope analyses indicated that family adversity was significantly associated with increased parental negative affect only at low levels of MM ($-1\ SD$), $b = 0.19$, $t = 2.46$, $p = .015$ (for full results, see Supplemental Table S4). These findings highlight the moderating role of MM in this cultural context, suggesting that parents with lower levels of MM

appeared more vulnerable to the negative emotional impact of family adversity in their interactions with children in the mainland Chinese subsample.

Discussion

The present study, involving 832 families from three distinct geographical sites, included measures of three core constructs: (a) parental representational MM, indexed by parental descriptions of their child; (b)

Figure 2

Forest Plot Displaying Effect Sizes for the Association Between Observed Parental Positive Control and Mind-Mindedness Across the Three Sites
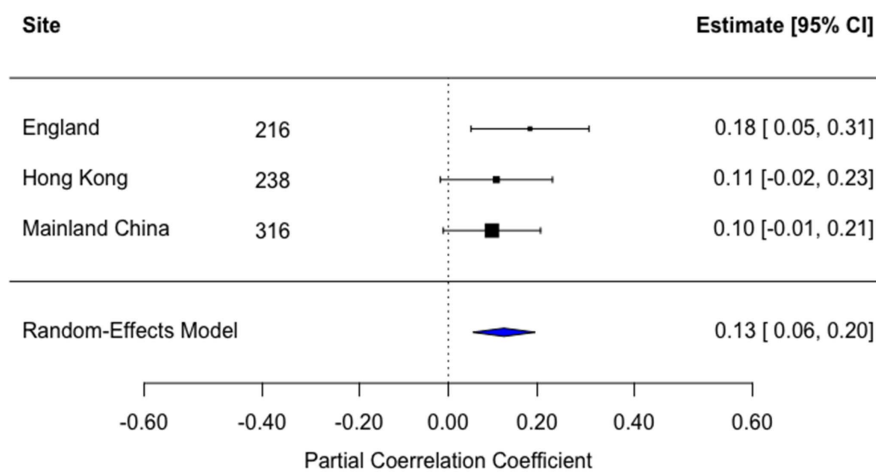
Note. Bars represent 95% confidence intervals (CIs); square sizes reflect relative sample sizes; the diamond represents the overall effect estimate under the random-effects model. See the online article for the color version of this figure.

Figure 3

Forest Plot of Partial Correlation Coefficients Linking Observed Parental Positive Control and Family Adversity Across the Three Sites
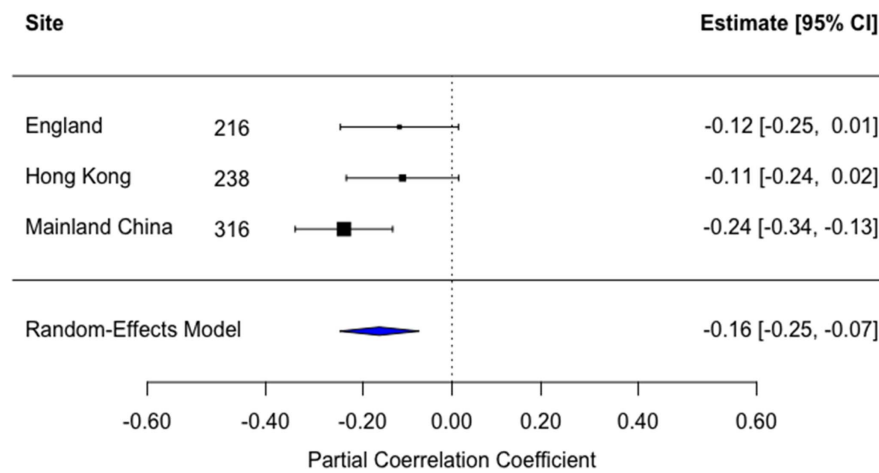
Note. Bars represent 95% confidence intervals (CIs); square sizes reflect relative sample sizes; the diamond represents the overall effect estimate under the random-effects model. See the online article for the color version of this figure.

parental control and affect, coded from remote observations of parent–child interactions during an online interactive drawing task (Oliver & Pike, 2021); and (c) family adversity, indexed by an aggregate of seven indicators. Our results partially supported the first two hypotheses on

associations between positive parenting, MM and family adversity, showing that across sites, positive parenting was consistently associated (in the expected directions) with both MM and with family adversity. Findings also partially supported our third hypothesis: high MM

Figure 4

Visual Representation of the Interaction Between MM and Family Adversity on Parental Negative Affect in Mainland China
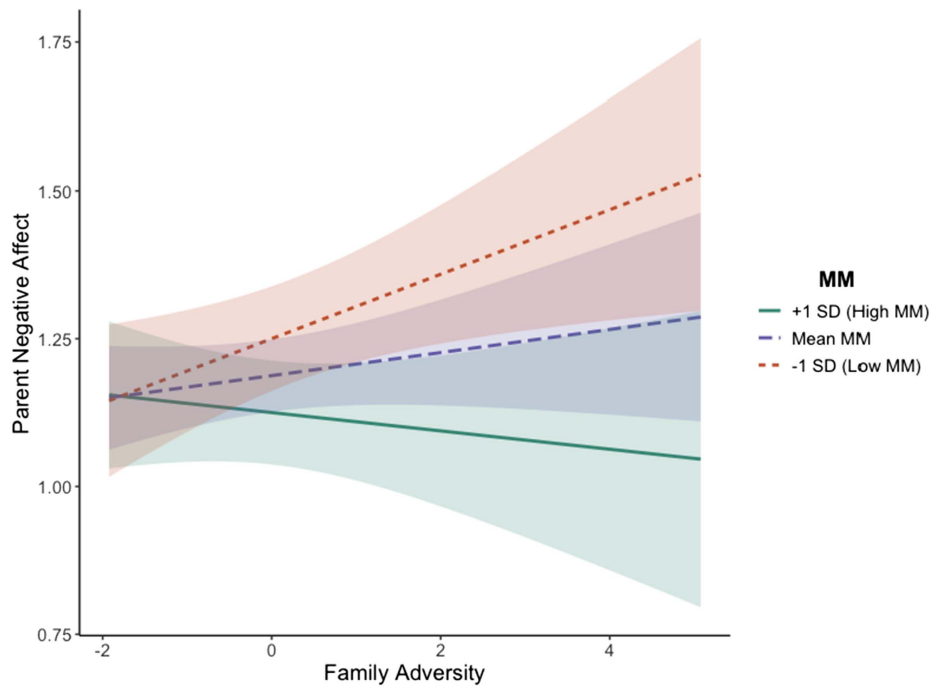
Note. Shaded areas represent 95% confidence intervals. MM = mind-mindedness. See the online article for the color version of this figure.

attenuated the association between family adversity and parental negative affect in mainland China, but not in England or Hong Kong. Below, we discuss these findings in turn.

Associations Between Parental Representational MM and Parenting Behavior Are Universal

While our first hypothesis was only partially supported, our findings strengthen the evidence for a robust association between representational MM and positive control across diverse contexts. In contrast, no consistent association emerged between MM and parental affect, suggesting that affective expressions may be less tightly linked to representational MM, or may be more influenced by situational or temperamental factors.

This pattern of findings falls in line with the "universality without uniformity" principle, wherein what parents say *about* their children appears to show a culturally universal association with how parents interact *with* their children (Shweder & Sullivan, 1993). This conclusion aligns with the view that mindreading, or tuning in to mental states, is a universally available resource, such that different levels of implementing MM in social contexts are more context-specific than culturally determined (Barrett & Saxe, 2021). Here, it is worth noting that our study was relatively unusual in observing parent–child interactions during a goal-directed shared drawing task (as opposed to shared picture-book reading or unstructured interactions). The problem-solving nature of this online shared drawing task enabled us to simulate a teaching and learning scenario that commonly occurs across cultures, offering an opportunity to assess how parents collaborate with children and scaffold their learning in a sensitive and responsive manner during a problem-solving task. In a recent study of 101 Israeli 8-year-olds and their primary caregivers that also involved a goal-direct context (homework), a parallel measure of parental mentalizing (self-reported and interview-based ratings of reflective functioning—Fonagy & Target, 1997) showed associations with aspects of parenting that were distinct from those associated with poor emotion regulation (Cohen et al., 2024). Specifically, low mentalization was associated with controlling behavior, while emotional dysregulation was linked with negative and hostile parental behaviors—echoing the findings reported by Weston et al. (2017). Our results confirm this specificity, as the index of parental mentalizing (representational MM) showed significant, similarly sized associations with positive control in all three sites but was only significantly linked with negative affect in the mainland Chinese subsample.

Family Adversity Is Associated With Parenting Control but Not Affect Across Sites

In partial support of our second hypothesis, across all sites, family adversity showed a modest but significant inverse association with parental positive control (summary estimate = −0.16), but not positive affect. We offer two possible interpretations for this null finding. First, affective displays may be more resistant to contextual stressors than behavioral control. For example, in line with "affect contagion" theory (West & Mendes, 2023), parental affect may have been particularly susceptible to children's affect during the moment-to-moment dynamics of the observed interactions. Second, our observational context of a goal-directed task (copying a picture onscreen) may have elicited more effortful regulation of affect than of parental control, thereby masking potential associations.

Family adversity was indexed through a multidimensional lens, incorporating parents' educational attainment, perceived social standing, mental health and well-being indicators, as well as exposure to family stress and negative life events. Our findings align with a substantial body of literature documenting the adverse impact of contextual stressors on parenting quality (e.g., Lansford, 2022) and support the ecological validity of our parenting measures. Importantly, our study extends previous work by employing the ladder of subjective social status (Singh-Manoux et al., 2003) in lieu of conventional SES indicators such as household income or occupational status. This measure offers a culturally grounded proxy for families perceived relative position within their respective societies, which is a particularly salient consideration in cross-cultural work where material indices (e.g., income level) may not directly reflect lived experience. By including COVID-19-related family stress, we also captured the proximal effects of a global event on family well-being. These findings highlight how both chronic and acute adversity shape parenting, supporting models that view caregiving as embedded in broader ecological systems (e.g., Bronfenbrenner, 1992). Similar cross-site associations linking family adversity to parental control points to the potential universality of these processes and highlight culturally specific ways families experience and interpret adversity, a topic we explore in our final aim.

MM Moderates Associations Between Family Adversity and Parental Affect in Mainland China

Partially supporting our third hypothesis, we found that MM moderated the association between family adversity and parental negative affect, but only in mainland China: Family adversity was only associated with increased parental negative affect in the context of low levels of MM (−1 *SD*). Drawing on the concept of "good enough parenting" (Winnicott, 1958), there may be a threshold level of MM that buffers the negative impact of adverse family experiences on parenting affect; rather than needing to perfectly attune to their children's needs at all times, a moderate level of responsiveness may be sufficient to support positive caregiving behaviors when situated within a secure and trusting relationship.

The site-specific moderation effect may also reflect greater variability in family adversity within the mainland Chinese sample. Sociostructural conditions differ significantly across the sites in our study. According to the Human Development Index (HDI), which measures national levels of health, education, and income, both Hong Kong (HDI = 0.956) and the United Kingdom (HDI = 0.940) are classified as highly developed, whereas mainland China is rated lower (HDI = 0.788; United Nations Development Programme, 2022). While not the central focus of our study, parents from the mainland Chinese subsample reported lower perceived social standing and greater exposure to negative life events relative to their English and Hong Kong counterparts. These overarching socioeconomic disparities may partially explain why the effects of adversity on parenting affect are more visible and thus more contingent on individual resources like MM in settings where structural supports are less readily available.

Further, within-site sociocultural dynamics may also contribute to the discrepant results regarding cross-site differences in the

moderation results. In mainland China, rapid economic development and urbanization have led to a shift in parenting values and expectations toward more autonomy-supportive and child-centered approaches, and away from the hierarchical or obedience-focused practices adopted by previous generations (Liu et al., 2020). Aligning with Greenfield's (2018) theory of social change, individualistic skills such as autonomy, self-expression, and assertiveness are crucial for adapting to this new "market-oriented" environment characterized by opportunity and competition, particularly in urban contexts. This was reflected in a qualitative study in which 28 out of 30 Chinese mothers reported prioritizing their children's psychological well-being more than their own parents did, reflecting a growing attention toward children's internal states, over and above prioritizing social cohesion (Bian et al., 2022). These rapid shifts may influence the salience of MM in its function as a moderator in parenting as parents become more attuned to their children's mental and emotional lives. The current findings underscore the need to understand MM as a skill set that may be cultivated and expressed differently across contexts.

Note that our finding of comparable MM scores across sites differs from contrasts reported in cross-cultural studies of maternal MM (e.g., Fujita & Hughes, 2021; Hughes et al., 2018). Importantly, data for these previous studies were collected over a decade ago in 2013, a period during which substantial changes in parenting practices and values may have occurred. Increased globalization and digital connectivity have facilitated the global dissemination of parenting frameworks (e.g., through social media, international schooling, and early childhood policy), potentially leading to a convergence in parenting beliefs and practices, particularly in urbanized contexts. While speculative, this "global convergence" of ideologies align with emerging literature on evolving parental beliefs (Bian et al., 2022), which may explain the current diminished cross-site differences in MM.

Practical Implications

Our findings have implications for intervention. A key challenge of parenting programs is cross-cultural adaptability (Lee et al., 2025). The universal link between MM and parenting practices demonstrated here lays a foundation for adaptable programs targeting parenting mentalization. Parental mentalization is recognized as a factor that supports caregiving during adversity (Camoirano, 2017). For example, a home-visiting intervention (*Minding the Baby*) showed effects on infant attachment, maternal sensitivity, and mental health outcomes in high-risk families (Sadler et al., 2013). Similar effects have been documented in families raising children with neurodevelopmental disorders, where brief, relationship-focused interventions enhanced parental reflective functioning within a 12-week timeframe (Sealy & Glovinsky, 2016). These studies support the notion that MM is both a measurable and modifiable target for intervention.

Limitations and Future Directions

Reflecting the different measurement approaches for infants and toddlers (e.g., direct observation) versus older children (e.g., parent interviews), research on parental MM often focuses on specific developmental periods. While this study supported a culturally universal association between representational MM and positive

parenting during the school transition period, further longitudinal work should explore how this link evolves across childhood. A second limitation concerns our outcome measures, which focused on parental behavior and affect. Future work should examine children's engagement and coconstructed dyadic interactions. The study used a single observational paradigm to assess parenting quality. Moreover, the remote design limited task selection to those suitable for screen-based administration; screen-time concerns further constrained session length, affecting children's sustained engagement. For a fuller assessment of parenting behavior and affect across contexts, future studies should use multiple paradigms (e.g., shared book reading, free play).

Conclusion

This study extended work on parental MM by examining its associations with parenting behavior and affect across three culturally distinct sites, using interview and observational data. As in prior research, we found that higher levels of parental MM were associated with more positive parenting practices, while family adversity was related to lower parenting quality. The site-specific moderation effect of MM in mainland China underscores the importance of considering contextual and cultural variability in mentalizing capacities and highlights the need for grounded assessments of caregiving resources and challenges. Our findings support the utility of interventions aimed at enhancing parental mentalization, particularly in settings where structural stressors are less buffered by external systems. Our multimethod, cross-cultural approach contributes to a more nuanced understanding of how parental mentalizing interacts with adversity and parenting practices across diverse contexts.

References

Achterberg, M., Dobbelaar, S., Boer, O. D., & Crone, E. A. (2021). Perceived stress as mediator for longitudinal effects of the COVID-19 lockdown on wellbeing of parents and children. *Scientific Reports*, *11*(1), Article 2971. https://doi.org/10.1038/s41598-021-81720-8

Adkins, T., Luyten, P., & Fonagy, P. (2018). Development and preliminary evaluation of family minds: A mentalization-based psychoeducation program for foster parents. *Journal of Child and Family Studies*, *27*(8), 2519–2532. https://doi.org/10.1007/s10826-018-1080-x

Barrett, H. C., & Saxe, R. R. (2021). Are some cultures more mind-minded in their moral judgements than others? *Philosophical Transactions of the Royal Society B*, *376*(1838), Article 20200288. https://doi.org/10.1098/rstb.2020.0288

Bian, Q., Chen, Y., Greenfield, P. M., & Yuan, Q. (2022). Mothers' experience of social change and individualistic parenting goals over two generations in urban China. *Frontiers in Psychology*, *12*, Article 487039. https://doi.org/10.3389/fpsyg.2021.487039

Bornstein, M. H. (2012). Cultural approaches to parenting. *Parenting*, *12*(2–3), 212–221. https://doi.org/10.1080/15295192.2012.683359

Bornstein, M. H., Putnick, D. L., & Suwalsky, J. T. D. (2018). Parenting cognitions → parenting practices → child adjustment? The standard model. *Development and Psychopathology*, *30*(2), 399–416. https://doi.org/10.1017/S0954579417000931

Bronfenbrenner, U. (1992). Ecological systems theory. In R. Vasta (Ed.), *Six theories of child development: Revised formulations and current issues* (Vol. 6, pp. 187–249). Jessica Kingsley Publishers. https://awspntest.apa.org/record/1992-98662-005

Brugha, T., Bebbington, P., Tennant, C., & Hurry, J. (1985). The list of threatening experiences: A subset of 12 life event categories with

considerable long-term contextual threat. *Psychological Medicine*, *15*(1), 189–194. https://doi.org/10.1017/S003329170002105X

Bullock, B. M., & Dishion, T. J. (2007). Family processes and adolescent problem behavior: Integrating relationship narratives into understanding development and change. *Journal of the American Academy of Child & Adolescent Psychiatry*, *46*(3), 396–407. https://doi.org/10.1097/chi.0b013e31802d0b27

Calvano, C., Engelke, L., Di Bella, J., Kindermann, J., Renneberg, B., & Winter, S. M. (2022). Families in the COVID-19 pandemic: Parental stress, parent mental health and the occurrence of adverse childhood experiences—Results of a representative survey in Germany. *European Child & Adolescent Psychiatry*, *31*(7), 1–13. https://doi.org/10.1007/s00787-021-01739-0

Camoirano, A. (2017). Mentalizing makes parenting work: A review about parental reflective functioning and clinical interventions to improve it. *Frontiers in Psychology*, *8*, Article 14. https://doi.org/10.3389/fpsyg.2017.00014

Cohen, R., Gershy, N., & Davidov, M. (2024). Why things can go wrong when parents try to help children with their homework: The role of parental emotion regulation and mentalization. *Journal of Educational Psychology*, *116*(6), 921–935. https://doi.org/10.1037/edu0000873

Cooper, K. (2021). Are poor parents poor parents? The relationship between poverty and parenting among mothers in the U.K. *Sociology*, *55*(2), 349–383. https://doi.org/10.1177/0038038520939397

Cuartas, J. (2022). The effect of maternal education on parenting and early childhood development: An instrumental variables approach. *Journal of Family Psychology*, *36*(2), 280–290. https://doi.org/10.1037/fam0000886

Dai, Q., McMahon, C., & Lim, A. K. (2020). Cross-cultural comparison of maternal mind-mindedness among Australian and Chinese mothers. *International Journal of Behavioral Development*, *44*(4), 365–370. https://doi.org/10.1177/0165025419874133

Deater-Deckard, K., Pylas, M., & Petrill, S. (1997). *Parent–child interactive system (PARCHISY)*. Institute of Psychiatry, King's College London.

Devine, R. T., & Hughes, C. (2019). Let's talk: Parents' mental talk (not mind-mindedness or mindreading capacity) predicts children's false belief understanding. *Child Development*, *90*(4), 1236–1253. https://doi.org/10.1111/cdev.12990

Fisher, Z., & Tipton, E. (2015). *Robumeta: A R-package for robust variance estimation in meta-analysis*. arXiv. https://doi.org/10.48550/arXiv.1503.02220

Fonagy, P., & Target, M. (1997). Attachment and reflective function: Their role in self-organization. *Development and Psychopathology*, *9*(4), 679–700. https://doi.org/10.1017/S0954579497001399

Fujita, N., & Hughes, C. (2021). Mind-mindedness and self–other distinction: Contrasts between Japanese and British mothers' speech samples. *Social Development*, *30*(1), 57–72. https://doi.org/10.1111/sode.12454

Garon-Bissonnette, J., Bailes, L. G., Kwasneski, K., Lempres, S., Takemoto, S., Li, L., DeLuca, J., Salo, V. C., & Humphreys, K. L. (2025). Caregivers' cognitions about infants' mental and emotional states. *Child Development Perspectives*, *19*(3), 146–155. https://doi.org/10.1111/cdep.12537

Greenfield, P. M. (2018). Studying social change, culture, and human development: A theoretical framework and methodological guidelines. *Developmental Review*, *50*(A), 16–30. https://doi.org/10.1016/j.dr.2018.05.003

Heng, J., Wang, Z., Chen, L. L., Hughes, C., & Xu, C. (2025, August 3). *Mind-mindedness and positive parenting: Does congruence vary by culture?* Open Science Framework. https://osf.io/4tg5a

Hughes, C., Aldercotte, A., & Foley, S. (2017). Maternal mind-mindedness provides a buffer for pre-adolescents at risk for disruptive behavior. *Journal of Abnormal Child Psychology*, *45*(2), 225–235. https://doi.org/10.1007/s10802-016-0165-5

Hughes, C., Devine, R. T., & Wang, Z. (2018). Does parental mind-mindedness account for cross-cultural differences in preschoolers' theory of mind? *Child Development*, *89*(4), 1296–1310. https://doi.org/10.1111/cdev.12746

Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mroczek, D. K., Normand, S. L., Walters, E. E., & Zaslavsky, A. M. (2002). Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychological Medicine*, *32*(6), 959–976. https://doi.org/10.1017/S0033291702006074

King, M. F., & Bruner, G. C. (2000). Social desirability bias: A neglected aspect of validity testing. *Psychology & Marketing*, *17*(2), 79–103. https://doi.org/10.1002/(SICI)1520-6793(200002)17:2<79::AID-MAR2>3.0.CO;2-0

Kroenke, K., Spitzer, R. L., Williams, J. B., & Löwe, B. (2010). The Patient Health Questionnaire somatic, anxiety, and depressive symptom scales: A systematic review. *General Hospital Psychiatry*, *32*(4), 345–359. https://doi.org/10.1016/j.genhosppsych.2010.03.006

Lansford, J. E. (2022). Annual research review: Cross-cultural similarities and differences in parenting. *Journal of Child Psychology and Psychiatry*, *63*(4), 466–479. https://doi.org/10.1111/jcpp.13539

Lee, Y., Meins, E., & Larkin, F. (2025). Parental mentalization across cultures: Mind-mindedness and parental reflective functioning in British and South Korean mothers. *Infant Mental Health Journal*, *46*(2), 133–147. https://doi.org/10.1002/imhj.22151

Liu, J. L., Harkness, S., & Super, C. M. (2020). Chinese mothers' cultural models of children's shyness: Ethnotheories and socialization strategies in the context of social change. *New Directions for Child and Adolescent Development*, *2020*(170), 69–92. https://doi.org/10.1002/cad.20340

Lok, S. M., & McMahon, C. A. (2006). Mothers' thoughts about their children: Links between mind-mindedness and emotional availability. *British Journal of Developmental Psychology*, *24*(3), 477–488. https://doi.org/10.1348/026151005X49854

Long, J. A. (2024). *Interactions: Comprehensive, user-friendly toolkit for probing interactions* [Computer software]. https://doi.org/10.32614/CRAN.package.interactions

Lundy, B. L. (2013). Paternal and maternal mind-mindedness and preschoolers' theory of mind: The mediating role of interactional attunement. *Social Development*, *22*(1), 58–74. https://doi.org/10.1111/sode.12009

Lundy, B. L., & Fyfe, G. (2016). Preschoolers' mind-related comments during collaborative problem-solving: Parental contributions and developmental outcomes. *Social Development*, *25*(4), 722–741. https://doi.org/10.1111/sode.12176

Magaña, A. B., Goldstein, J. M., Karno, M., Miklowitz, D. J., Jenkins, J., & Falloon, I. R. H. (1986). A brief method for assessing expressed emotion in relatives of psychiatric patients. *Psychiatry Research*, *17*(3), 203–212. https://doi.org/10.1016/0165-1781(86)90049-1

McMahon, C. A., & Bernier, A. (2017). Twenty years of research on parental mind-mindedness: Empirical findings, theoretical and methodological challenges, and new directions. *Developmental Review*, *46*, 54–80. https://doi.org/10.1016/j.dr.2017.07.001

McMahon, C. A., & Meins, E. (2012). Mind-mindedness, parenting stress, and emotional availability in mothers of preschoolers. *Early Childhood Research Quarterly*, *27*(2), 245–252. https://doi.org/10.1016/j.ecresq.2011.08.002

McShane, B. B., & Böckenholt, U. (2017). Single-paper meta-analysis: Benefits for study summary, theory testing, and replicability. *Journal of Consumer Research*, *43*(6), 1048–1063. https://doi.org/10.1093/jcr/ucw085

Meins, E., Centifanti, L. C. M., Fernyhough, C., & Fishburn, S. (2013). Maternal mind-mindedness and children's behavioral difficulties: Mitigating the impact of low socioeconomic status. *Journal of Abnormal Child Psychology*, *41*(4), 543–553. https://doi.org/10.1007/s10802-012-9699-3

Meins, E., & Fernyhough, C. (2015). *Mind-mindedness coding manual* (Version 2.2) [Unpublished manuscript]. Department of Psychology, University of York.

Meins, E., Fernyhough, C., & Centifanti, L. C. (2019). Mothers' early mind-mindedness predicts educational attainment in socially and economically disadvantaged British children. *Child Development*, *90*(4), e454–e467. https://doi.org/10.1111/cdev.13028

Meins, E., Fernyhough, C., Russell, J., & Clark-Carter, D. (1998). Security of attachment as a predictor of symbolic and mentalising abilities: A longitudinal study. *Social Development*, 7(1), 1–24. https://doi.org/10.1111/1467-9507.00047

Meins, E., Fernyhough, C., Wainwright, R., Clark-Carter, D., Das Gupta, M., Fradley, E., & Tuckey, M. (2003). Pathways to understanding mind: Construct validity and predictive validity of maternal mind-mindedness. *Child Development*, 74(4), 1194–1211. https://doi.org/10.1111/1467-8624.00601

Mesman, J., Van IJzendoorn, M., Behrens, K., Carbonell, O. A., Cárcamo, R., Cohen-Paraira, I., de la Harpe, C., Ekmekçi, H., Emmen, R., Heidar, J., Kondo-Ikemura, K., Mels, C., Mooya, H., Murtisari, S., Nóblega, M., Ortiz, J. A., Sagi-Schwartz, A., Sichimba, F., Soares, I., … Zreik, G. (2016). Is the ideal mother a sensitive mother? Beliefs about early childhood parenting in mothers across the globe. *International Journal of Behavioral Development*, 40(5), 385–397. https://doi.org/10.1177/0165025415594030

Miller-Graff, L. E., Scheid, C. R., Guzmán, D. B., & Grein, K. (2020). Caregiver and family factors promoting child resilience in at-risk families living in Lima, Peru. *Child Abuse & Neglect*, 108, Article 104639. https://doi.org/10.1016/j.chiabu.2020.104639

Morris, A. S., Robinson, L. R., Hays-Grudo, J., Claussen, A. H., Hartwig, S. A., & Treat, A. E. (2017). Targeting parenting in early childhood: A public health approach to improve outcomes for children living in poverty. *Child Development*, 88(2), 388–397. https://doi.org/10.1111/cdev.12743

Oliver, B. R., & Pike, A. (2021). Introducing a novel online observation of parenting behavior: Reliability and validation. *Parenting*, 21(2), 168–183. https://doi.org/10.1080/15295192.2019.1694838

Patterson, J. M. (2002). Integrating family resilience and family stress theory. *Journal of Marriage and Family*, 64(2), 349–360. https://doi.org/10.1111/j.1741-3737.2002.00349.x

Prime, H., Wade, M., May, S. S., Jenkins, J. M., & Browne, D. T. (2021). The COVID-19 Family Stressor Scale: Validation and measurement invariance in female and male caregivers. *Frontiers in Psychiatry*, 12, Article 669106. https://doi.org/10.3389/fpsyt.2021.669106

Roubinov, D. S., & Boyce, W. T. (2017). Parenting and SES: Relative values or enduring principles? *Current Opinion in Psychology*, 15, 162–167. https://doi.org/10.1016/j.copsyc.2017.03.001

Sadler, L. S., Slade, A., Close, N., Webb, D. L., Simpson, T., Fennie, K., & Mayes, L. C. (2013). Minding the baby: Enhancing reflectiveness to improve early health and relationship outcomes in an interdisciplinary home visiting program. *Infant Mental Health Journal*, 34(5), 391–405. https://doi.org/10.1002/imhj.21406

Sealy, J., & Glovinsky, I. P. (2016). Strengthening the reflective functioning capacities of parents who have a child with a neurodevelopmental disability through a brief, relationship-focused intervention. *Infant Mental Health Journal*, 37(2), 115–124. https://doi.org/10.1002/imhj.21557

Sher-Censor, E. (2015). Five minute speech sample in developmental research: A review. *Developmental Review*, 36, 127–155. https://doi.org/10.1016/j.dr.2015.01.005

Sher-Censor, E., & Yates, T. M. (2015). Mothers' expressed emotion and narrative coherence: Associations with preschoolers' behavior problems in a multiethnic sample. *Journal of Child and Family Studies*, 24(5), 1392–1405. https://doi.org/10.1007/s10826-014-9946-z

Shweder, R. A., & Sullivan, M. A. (1993). Cultural psychology: Who needs it? *Annual Review of Psychology*, 44(1), 497–523. https://doi.org/10.1146/annurev.ps.44.020193.002433

Singh-Manoux, A., Adler, N. E., & Marmot, M. G. (2003). Subjective social status: Its determinants and its association with measures of ill-health in the Whitehall II study. *Social Science & Medicine*, 56(6), 1321–1333. https://doi.org/10.1016/S0277-9536(02)00131-4

Smith, M. V., & Mazure, C. M. (2021). Mental health and wealth: Depression, gender, poverty, and parenting. *Annual Review of Clinical Psychology*, 17(1), 181–205. https://doi.org/10.1146/annurev-clinpsy-071219-022710

Soenens, B., Vansteenkiste, M., & Van Petegem, S. (2015). Let us not throw out the baby with the bathwater: Applying the principle of universalism without uniformity to autonomy-supportive and controlling parenting. *Child Development Perspectives*, 9(1), 44–49. https://doi.org/10.1111/cdep.12103

Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine*, 166(10), 1092–1097. https://doi.org/10.1001/archinte.166.10.1092

Svane, R. P., Væver, M. S., Højen, A., Bleses, D., & Pedersen, I. E. (2024). How does representational mind-mindedness translate into observable parenting behaviors among parents of six-year-olds? *Scandinavian Journal of Psychology*, 66(2), 231–240. https://doi.org/10.1111/sjop.13081

Thériault, R. (2023). rempsyc: Convenience functions for psychology. *Journal of Open Source Software*, 8(87), Article 5466. https://doi.org/10.21105/joss.05466

United Nations Development Programme. (2022). *Country insights*. Human Development Reports. https://hdr.undp.org/data-center/country-insights#/ranks

Viechtbauer, W. (2010). Conducting meta-analysis in R with the metafor package. *Journal of Statistical Software*, 36(3), 1–48. https://doi.org/10.18637/jss.v036.i03

West, T., & Mendes, W. B. (2023). Affect contagion: Physiologic covariation and linkage offer insight into socially shared thoughts, emotions, and experiences. In B. Gawronski (Ed.), *Advances in experimental social psychology* (Vol. 67, pp. 73–129). Academic Press. https://doi.org/10.1016/bs.aesp.2022.11.002

Weston, S., Hawes, D. J., & Pasalich, D. S. (2017). The five minute speech sample as a measure of parent–child dynamics: Evidence from observational research. *Journal of Child and Family Studies*, 26, 118–136. https://doi.org/10.1007/s10826-016-0549-8

Wickham, H., Averick, M., Bryan, J., Chang, W., McGowan, L. D. A., François, R., Grolemund, G., Hayes, A., Henry, L., Hester, J., Kuhn, M., Pedersen, T., Miller, E., Bache, S., Müller, K., Ooms, J., Robinson, D., Seidel, D., Spinu, V., … Yutani, H. (2019). Welcome to the Tidyverse. *Journal of Open Source Software*, 4(43), Article 1686. https://doi.org/10.21105/joss.01686

Winnicott, D. W. (1958). Transitional objects and transitional phenomena. In D. W. Winnicott (Ed.), *Collected papers: Through paediatrics to psychoanalysis* (pp. 229–242). Tavistock.