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Maternal parenting practices and behavioural tendencies among toddlers in Tirana, Albania: Maternal warmth as a potential moderator

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Abstract
The aims of this article are to explore the links between maternal parenting practices and child behavioural outcomes, as well as to investigate maternal warmth as a potential moderator of the relationship between mother-reported child maltreatment and child problematic behavioural outcomes specifically. Cross-sectional data were obtained from a representative sample of 328 mothers and 59 nursery teachers of two-to-three-year-old children recruited through eight randomly selected public nurseries in Tirana. Results from the multiple regressions showed that mother-reported total child behavioural difficulties were positively associated with child maltreatment and negatively associated with maternal warmth. Mother-reported child prosociality was further positively associated with positive parenting. Contrastingly, there were no significant effects of either mother-reported child maltreatment or maternal warmth on nursery teacher assessed behavioural problems, as well as no significant effect of mother-reported positive parenting on nursery teacher-reported child prosociality. The results further showed that high levels of maternal warmth enhanced the effect that child maltreatment had on child behavioural problems, as assessed by both mothers and nursery teachers. These findings suggest the need for the implementation of parent training programmes in the Albanian society to help mothers develop consistent, positive parenting practices.

Keywords Parenting · Child maltreatment · Warmth · Toddlers · Mothers · Tirana · Albania

Introduction

Ample evidence demonstrates that problematic behaviour in adulthood has its developmental roots in the early years (Huesmann et al., 2009; Murray et al., 2018; Glenn, 2019; Galán et al., 2020; Farrington et al., 2023). Studies have shown that early childhood behaviour problems are linked with delinquency, crime, violence, substance use, mis-conduct, school failure, as well as cognitive and psycho-social impairment during adolescence and early adulthood (Nagin & Tremblay, 1999; Connor, 2002; Broidy et al., 2003; Widom et al., 2006; Odgers et al., 2008; Dodge et al., 2009; Smith et al., 2014; Augustyn et al., 2019; Arslan et al., 2021). Not only is early-onset problematic behaviour associated with detrimental developmental outcomes, but it is also tied with high costs for families, the healthcare system, the education system, the penal system, and the wider society (Vostanis et al., 2003; Foster et al., 2005; Romeo et al., 2006; Raaijmakers et al., 2011; Rissanen et al., 2022). For these reasons, the development of problematic behaviour in children during the first few years after birth is considered a major public health concern (Tremblay, 2000; Tremblay et al., 2004; Rivenbark et al., 2018; Augustyn et al., 2019; Swift et al., 2024).

Previous studies suggest that patterns of parenting play a salient role in the development of behavioural problems, particularly during early childhood (Shaw et al., 1994; Waller et al., 2015; Marcone et al., 2020; Frosch et al., 2021). One of the most robust findings in developmental research on behavioural problems is the correlation between ineffective parenting practices and the onset and continuation of aggressive and antisocial behaviours (Shields & Cicchetti, 2001; Beyers et al., 2003; Thomas, 2004; Côté et al., 2007; Cullerton-Sen et al., 2008; Pinquart, 2017; Roskam, 2019; Berthelon et al., 2020; Heilmann et al., 2021). Researchers

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underscore that the patterns of parenting displayed in the toddlerhood years have the most influence on a child's moral internalisation and behavioural problems prevention (Kochanska et al., 2007; Shaffer, 2008; Winston & Chicot, 2016; Jeong et al., 2021). For example, mothers' spanking at age 3 has been found to be associated with age 5 aggressive behaviour even after controlling for initial levels of aggressive behaviour and other confounding variables, such as parents' characteristics and family demographics (Taylor et al., 2010). However, child maltreatment does not necessarily lead to negative outcomes (Widom, 2017). The growing literature on resilience estimates that 16–33% of maltreated children are resilient (Topitzes et al., 2013). There are several potential factors that might buffer or protect maltreated children from developing negative outcomes. These include social support (Muller et al., 2000; DuMont et al., 2007), school performance and IQ (Allwood & Widom, 2013; Nikulina & Widom, 2019), as well as genetic factors (Caspi et al., 2002; Yu et al., 2022).

Evidence suggests that externally manipulating parenting behaviours can prevent child behavioural problems (Waller et al., 2013; Grolnick et al., 2019; Marcone et al., 2020). Two of the most important groups of parenting risk factors are (1) harsh and inconsistent parental discipline and (2) a lack of parental warmth (e.g., Loeber & Hay, 1997; Olson et al., 2011; Waller et al., 2015; Cano-Lozano et al., 2020). Parental warmth refers to parents' expressions of emotional support, affection, and respect towards their children – it is thought to support skills such as security, autonomy, self-efficacy, and prosocial behaviour (Lugo-Gil & Tamis-LeMonda, 2008; Putnick et al., 2015; Pastorelli et al., 2016). While parental warmth is usually considered to be a protective factor in the development of aggression (Malti et al., 2013; Klevens & Hall, 2014; Rothenberg et al., 2020), a large number of meta-analyses and longitudinal studies have led to a consensus that inconsistent and harsh parenting are among the best and strongest correlates of aggression and delinquency in children and adolescents (e.g., Hoeve et al., 2009; Taylor et al., 2010; Eisner & Malti, 2015; Pinquart, 2021). These mixed findings suggest that parental warmth may buffer the impact of maltreatment, including the possibility that children who experience more parental warmth will be more resilient than those who experience less warmth (Lau et al., 2006; Ungar, 2013; Meng et al., 2024).

Nevertheless, rarely has parental warmth been considered as a moderator of the cycle of parent-child maltreatment and coercion that leads to the development of problematic behaviour. Only a handful of studies have been identified that approximate this model. Kochanska and others (2009) looked at attachment security as moderating the trajectory from parental power assertion, to child resentful opposition, to child antisocial conduct. Lansford and colleagues (2014) investigated whether the association between corporal punishment and child adjustment problems (anxiety and aggression) was moderated by maternal warmth in a diverse set of countries. Fagan (2020) examined whether the relationship quality between parents and children accounts for the variation in the impact of parent-to-child maltreatment on child aggression.

Moreover, even though 80% of the world's population and 90% of the world's 2.2 billion children live in low-and-middle-income countries (LMICs), most behavioural research has been conducted in Western societies (Henrich et al., 2010). The link between child maltreatment and child behavioural challenges in LMICs is not yet fully examined (Lansford & Deater-Deckard, 2012). Located in the South-Western portion of the Balkans, Albania is one of the poorest countries in Europe with a gross domestic product (GDP) per capita at purchasing power parities of US$ 15,646 (World Bank, 2021). Even though violence against children in Albania is unlawful, evidence shows that nearly 77% of children aged 2–14 in Albania experience physical punishment and/or psychological aggression as a form of 'discipline' at home, and many parents still believe that physical punishment is a necessary method in childrearing (INSTAT, 2018; Mijatović, 2018). Data from UNICEF (2014) demonstrates that toddlers are particularly affected by this phenomenon, with 72% of Albanian 2–4-year-olds having experienced a form of physical or psychological violent discipline in the past month.

Research has also shown that the prevalence rates of both direct and indirect aggression among Albanian adolescents is quite high, and it has experienced an increasing trend during the past two decades (Kruti & Melonashi, 2015; Cara, 2018). There is however no data on the prevalence of problematic behaviour among toddlers in Albania. Moreover, there is no evidence on how parenting practices might be related to behavioural development among children in Albania. The implementation of preventive and interventive policies informed by data has been proven to contribute to the reduction of violence against children and to its individual and social consequences (World Health Organisation, 2010; Fazel et al., 2024). Even though LMICs, such as Albania, are disproportionately affected by domestic violence and its consequences when compared to high income countries (HICs), they generally lack the knowledge and capacity to tackle it (Ward et al., 2016; Cyr & Alink, 2017; de Ribera et al., 2019). Scientific debate on family and children in Albania is very recent and remains isolated, with the mechanism of transmission from family to children not yet considered an issue (Sado et al., 2018). UNICEF (2018) further claims that there are few attempts of evidence-based policy-making in Albania.

The aim of the current article is hence twofold. First, it presents novel data on preliminary links between toddler behavioural tendencies and parenting practices within the context of Albania and LMICs more broadly. Second, it investigates the potential role of maternal warmth as a moderator between maternal child maltreatment and child behavioural problems. It is hypothesised that negative parenting practices are positively linked with child behavioural problems given the hypothesised universality of this link, and that maternal warmth lowers the impact that maltreatment has on undesirable child behavioural outcomes. Maternal warmth was chosen as a potential protective factor given that while violence against children tends to be widespread in Albania (Mijatović, 2018), Albanian parents are also known to be self-sacrificing and protective towards their children, with mothers playing a central role in providing their children with love, affection, care, attention, guidance, and emotional support particularly during a child's early years of life.

In high-quality developmental research, it is standard that researchers collect data on child behaviour from multiple sources (Eisner & Malti, 2015; Society for Research in Child Development, 2019). That is because combining information from different sources results in more valid and reliable estimates of the underlying behaviour and allows for a better understanding of children's adjustments (Sternberg et al., 2006; Whitcomb, 2013). Since child development entails adaptation across a wide range of settings and children may display different behaviours in different contexts, multiple informants can provide a more thorough insight into socio-emotional competence than a single informant. For children that are more engaged with others outside the family, childcare providers and educators become key informants about children's behaviours and experiences, using questionnaires that parallel those for parents (Brownwell et al., 2015; Ritoša et al., 2023). For these reasons, the article study assesses children's behaviour both via primary caregivers (mothers in this case) and nursery teachers. The outcome models are also presented both for mother-reported and nursery-reported child behaviour. This article forms part of a larger PhD study examining the pathways between maternal exposure to violence and early child behavioural development (see Ramaj, 2023a, b; Ramaj, 2024; Ramaj & Eisner, 2025).

Methods

Study design and procedures

This is a cross-sectional study which took place in Tirana, the capital and most populous city in Albania (INSTAT, 2018). With an area of 41,8 square kilometres, it is located in the centre of the country, and it is the leading economic and political centre in Albania. Its population in 2020 amounted to 850,530 inhabitants (Bashkia Tiranë, 2020). The Municipality of Tirana has 34 public nurseries and 11 administrative units. Public nurseries in Albania are state-funded and provide early childhood education and care for children aged 0–3 years. They are under the responsibility of Municipalities (Eurydice, 2022). Since 2015, administrative units (also known as 'communes') are the third-level administrative divisions of Albania, which serve as its local governance. There are 12 counties and 61 municipalities above the total 373 administrative units in Albania and 2,972 villages below them (INSTAT, 2014; UNDP, 2020). Using data from the Albanian '2011 Census of the Living Standard Measurement Survey', Dumani and others (2018) performed cluster analysis to group Tirana's 11 administrative units into four categories, which are ranked based on overall socio-economic status (SES). Ten variables were taken into consideration when grouping the administrative units – these variables have demographic (the average number of members in the family, the ratio of youth dependence), economic (average consumption per inhabitant, unemployment, poverty level, the severity of poverty, number of residents per room), and social dimensions (average years of schooling for 21 year olds and over, percentage of persons 21 years old and over with a university degree, inequality in education). Public nurseries were the location of participant recruitment. Eight out of the 34 public nurseries in Tirana were selected to participate in the study. The sample consists of a representative sample of 328 mothers and 59 nursery teachers of two-to-three-year-old toddlers, who were registered in Tirana's public nurseries.

When deciding on the final sample size of mothers, a compromise had to be made between what is feasible within the restricted time and resources available as well as what would be ideal for conducting regression models. Sample size is one of the key determinants that guides the number of independent variables that can be entered into a multiple linear regression analysis. A practical rule is to include one independent variable for every ten observations (see Kleinbaum et al., 2013, pp. 389–390). Since each regression model has around 25 independent variables each, it was deemed that 300 participants would be more than enough for conducting the planned analyses. In line with these guidelines as well as given the limitations of how many participants one can recruit as a single individual under time constraints, it was decided that the sample size of 300 mothers would be a realistic target sample size and sufficient for carrying out the initially planned data analyses. A further advantage of the current study that justifies the choice of the target sample of 300 mothers is the fact that the obtained

data are a good representation of neighbourhoods with different socio-economic developmental levels in Tirana.

The nurseries were the unit of randomisation, and they were randomly selected based on the socio-economic status of the geographical area in which they were located. Three main steps were followed to select the final target sample of eight nurseries. First, all the 34 public nurseries in Tirana were grouped by the 11 administrative units. Second, the nurseries were allocated the developmental cluster score of the administrative unit they were located in. Each developmental cluster was given a number from one to four. Third, two nurseries per cluster were selected through systematic random sampling, with the sampling fraction per cluster being calculated by dividing two with the total number of nurseries in each respective cluster. Mothers of two-to-three-year-old children were contacted in each of the chosen nurseries based on convenience and availability, with the number of participants per nursery ranging from 38 to 45. No sampling strategy was followed for the nursery teachers.

Four inclusion criteria guided the recruitment of mothers: (1) They had to live in the same administrative unit as the nursery at hand; (2) They had to have at least one child aged two-to-three years old; (3) Their toddler had to be registered in the nursery at hand; (4) The mother had to be older than 18 years of age. Four inclusion criteria also guided the recruitment of nursery teachers: (1) They had to be a nursery teacher at the nursery at hand; (2) They had to be in charge of the age-group of two-to-three-year-olds; (3) They had to have been the caretaker of the index toddler for at least one month; (4) They had to be older than 18 years of age. The overall participation rate for mothers was 84% and for nursery teachers was 100%, implying that teacher assessment was obtained for all 328 toddlers. Table 1 presents details on the participation rate for mothers in each nursery, both in numbers and percentages. No sampling strategy was used for nursery teachers. Each mother who agreed to participate in the study was asked if data could also be obtained by one of her child's nursery teachers. The ratio nursery teacher to child in Tirana's public nurseries ranges from 1:5 to 1:10. There were three nursery teachers in charge of groups of 15 to up to 30 two-to-three-year-old children, depending on nursery location and size. Each nursery had three to five groups of two-to-three-year-old children. For each child whose mother had agreed to participate in the study, one of the three nursery teachers in charge of the child was asked to complete the child questionnaire, based on nursery teacher availability and equal distribution of workload. It was not possible to develop a sampling strategy for nursery teachers in advance given that the nursery teachers' participation would largely depend on which mother would agree to participate. Hence, the recruitment of nursery teachers in the study was done on an ad-hoc basis.

Table 1 Mother participation rate

Administrative Unit	Nursery (Nr.)	Nr. of mothers contacted	Nr. of mothers who participated	Response Rate
1	14	46	45	98%
2	10	50	42	84%
3	26	40	40	100%
5	57	61	38	62%
6	4	48	43	90%
9	23	49	41	84%
10	8	53	39	74%
11	30	44	40	91%
Total		**391**	**328**	**84%**

Ethical approval and institutional access were obtained from the Institute of Criminology, University of Cambridge and the General Directory of Nurseries and Kindergartens at the Municipality of Tirana. Permission to conduct the study was also obtained by each director of the eight nurseries selected to participate in the study. Before starting the data collection process, all participating mothers and nursery teachers were given information sheets and asked to sign an informed consent form, on behalf of themselves and the toddler being studied.

Instruments and measures

Dependent variables

Child Behavioural Tendencies The behavioural tendencies of the toddler were measured through selected items from the Strengths and Difficulties Questionnaire (SDQ) for 2–4-year-olds (Goodman, 1997; Croft et al., 2015). The parent version was administered to mothers and the teacher version to the nursery teachers. The questionnaire has a total of 25 items (out of which 20 were included in the current study) and five sub-scales: Emotional problems, Conduct problems, Hyperactivity, Peer problems, and Prosociality. In the current study, each sub-scale constitutes of four items instead of five items, as is the case in the original version of the SDQ questionnaire. Only some items were selected for several scales to keep the overall questionnaire within reasonable lengths, while at the same time capturing as many constructs of interest as possible. A longer questionnaire could have led to participant fatigue and reluctance to participate in the study. When choosing the items, factor loading (based on previous studies, such as Croft et al., 2015) and representation from all the five sub-scales were prioritised. All items are rated on a 3-point Likert scale: Not true = 0; Somewhat true = 1; Certainly true = 2. Mean scores were calculated to build the composite measure of each sub-scale, as measured by both mothers and nursery teachers. The total behavioural problems of the toddler were generated by averaging the means of the four SDQ difficulties

sub-scales, as reported by mothers and nursery teachers (see Table 2 for a list of the Cronbach's Alphas for each composite measure). Possible scores for each composite measure range from 0 to 2 with higher scores indicating higher levels of the behaviour at hand.

The SDQ questionnaire has previously been used in the Albanian society with children aged 2 to 17 years old as well as their parents (see Alikaj et al., 2011) and teachers of children aged 4 to 17 (see Allkoja, 2018). It is however of worth to note that while the second study found satisfying reliability of the SDQ questionnaire based on internal consistency coefficients, the factor structure was not held for the 'Hyperactivity' and 'Conduct Problems' sub-scale.

Independent variables

Positive Parenting Positive parenting was measured via five items selected out of 12 items from the sub-scale 'Positive Parenting' of the Alabama Parenting Questionnaire Preschool Version (Clerkin et al., 2007; de la Osa et al., 2014). The main criteria for choosing the items were the items' factor loadings as presented in the study conducted by de la Osa and others (2014). The items that scored highest in the 'Positive Parenting' factor were selected to measure 'Positive Parenting' in the current study. Items are ranked on a 5-point Likert scale: Never=1; Almost never=2; Sometimes=3; Often=4; Always=5. Mean scores were calculated to build the 'positive parenting' composite measure (α=0.58). Possible scores range from 1 to 5 with higher scores indicating higher levels of positive parenting. The Alabama Parenting Questionnaire has been previously translated in Albanian and administered to an Albanian sub-sample as part of a larger criminological survey carried out in Switzerland (see Eisner & Ribeaud, 2007). While the psychometric properties of the Alabama Parenting Questionnaire have not been investigated in the Albanian society before, they have been tested in many countries in Southern Europe, such as in Italy (Esposito et al., 2016), in Spain (Donovick & Rodríguez, 2008), and in Greece (Kypriotaki et al., 2023).

Child Maltreatment 15 adapted items out of the 45 items of the ISPCAN Child Abuse Screening Tool Parent Version (ICAST-P) were used to capture maternal abusive behaviour towards her toddler (see Runyan et al., 2009). Parents are asked about omissions in care and about acts of discipline or violence towards the index child. The present study only focuses on physical discipline (4 items), psychological discipline (8 items), and neglect (3 items) throughout the toddler's life-course. All items in this survey are ranked on a 5-point Likert scale: Never=0; Once or twice=1; Three to five times=2; Six to ten times=3; More than 10 times=4. Mean scores were calculated to build the 'child maltreatment' composite measure (α=0.66). Possible scores range from 0 to 4 with higher scores indicating higher levels of child maltreatment. While ICAST-P has three sub-dimensions, this study makes use of a single 'child maltreatment' measure, an approach also taken by other authors (see for example Lakhdir et al., 2021). The ICAST questionnaire has been previously translated in Albanian and tested with an Albanian population (see Longobardi et al., 2017). Multigroup factor analysis has been further carried out to assess the configural, metric, and scalar invariance of the ICAST questionnaire in nine Balkan countries, including Albania (Meinck et al., 2020).

Table 2 Cronbach's alphas for each SDQ sub-scale

Child Behaviour	α_{Mothers}	$\alpha_{\text{Nursery Teachers}}$
Emotional Problems	0.58	0.66
Conduct Problems	0.54	0.65
Hyperactivity	0.49	0.60
Peer Problems	0.36	0.52
Total Behavioural Problems	0.62	0.81
Prosociality	0.50	0.80

Moderator variable

Maternal Warmth The warmth that the mother expressed towards her toddler was measured through six adapted items selected from the Child Rearing Practices Questionnaire (Paterson & Sanson, 1999). The Child Rearing Practices Questionnaire captures various aspects of bringing up children from two-to-six years old. There are 30 items in total, grouped into five factors: Warmth, Punitiveness, Inductive Reasoning, Power Assertion (Explanation), and Obedience. Only the items in the Warmth factor were employed in the current study. All the six items measuring maternal warmth are rated on a 5-point Likert scale: Never=1; Rarely=2; Sometimes=3; Often=4; Always=5. Mean scores were calculated to build the 'maternal warmth' composite measure (α=0.72). While the Child Rearing Practices Questionnaire has never been tested in the Albanian society, its validity and reliability have been established in a Turkish sample (see Yagmurlu & Sanson, 2009). Previous research has found that the Albanian culture is very similar to the Turkish one (Rao Vajjhala & Strang, 2014).

Control variables (Both mothers and nursery teachers)

Control variables included in the regression models of both mothers and nursery teachers involved the following: gender of the child (categorical variable; 1=male, 2=female with 'male' being the reference category), age of the child in months (open answer, continuous), child's position in the family (0=not an only child; 1=only child), whether the child was planned (0=no; 1=yes), whether the mother

experienced birth complications (0 = no; 1 = yes), mother's age in years (open answer, continuous), mother's educational level (0 = below undergraduate degree; 1 = undergraduate degree or above), mother's employment status (0 = not employed; 1 = employed), mother's marital status (0 = not married; 1 = married), household income (ordinal, but treated as continuous), whether the mother had suffered from post-natal depression (0 = no; 1 = yes), lifetime maternal substance use [0 = no; 1 = yes; measured via four adapted items taken from the Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST), a brief screening questionnaire developed by the World Health Organisation (2002)], maternal support from friends and family [measured by nine out of 12 items of the Multidimensional Scale of Perceived Social Support (MSPSS), developed by Zimet and others (1988), using a 5-point Likert-type scale. The composite measure was calculated through mean scores ($\alpha = 0.75$), with higher scores indicating higher levels of support from friends and family], maternal support from the partner [measured via the Partner Supportiveness Scale (Goldberg & Carlson, 2014), a five-item survey, each rated on a 5-point Likert scale. The composite measure was calculated through mean scores ($\alpha = 0.84$), with higher scores indicating higher levels of support from the partner].

Control variables (mothers only)

Control variables included in the regression models of mothers only, related to the mode of questionnaire delivery. The mode of questionnaire delivery to mothers was measured by two dummy variables. The first variable was coded as 0 = self-completed, 1 = face-to-face interview; the second variable was coded as 0 = self-completed, 1 = online interview.

Control variables (nursery teachers only)

Control variables included in the regression models of nursery teachers only, involved the nursery teachers' years of work experience (open answer, continuous), number of toddlers under supervision (open answer, numeric), the number of months spent taking care of the index child (open answer, continuous).

Translation and data collection

The instruments were translated in whole by four individuals, who were native Albanian speakers, proficient in English, and who were familiar with psychometrics as well as the health sector. The translators were provided with a document defining the measured constructs and the concrete items used to measure each construct. Additionally, they were given guidance to use wording that was simple, clear, concise, and to try to be sensitive to the gender, age, and characteristics of the participants. Translators were further advised to aim for conceptual equivalence that is socio-culturally valid, more than literal translation. The translators also received an Excel sheet where they could record the main translation, alternative possibilities, and their comments.

After engaging in individual work, myself and the three other translators met via Teams on September 10th 2020, to discuss all the four translated versions. We went through a consensus-building process and arrived at a final version of the questionnaire. The whole process of translation was documented in detail, in order for it to be traceable at later stages. The final translated version of the questionnaire was pre-tested with a convenience sample of 10 mothers via cognitive interviews. Participants were first administered the instrument and then probed with follow-up questions to learn how they understood the questions. They were asked to critique the instruments, pointing out confusion or misunderstanding, and perhaps suggesting more proper wording or issues to be explored. Results from cognitive interviews were used to improve the survey design and implementation plans.

Three modes of questionnaire delivery to mothers were employed to collect the data for the main study: face-to-face interview ($N = 170$), self-completed ($N = 116$), and online interview ($N = 42$). The category 'online interview' consists of one WhatsApp video-call and 41 telephone interviews. While the initial plan was to only conduct face-to-face interviews with all mothers, adaptations had to be made due to the COVID-19 pandemic as well as the participating mothers' availability. Even though it is not ideal to have heterogenous modes of data collection, this approach might be valuable insofar that it helps us better understand how different modes of data collection may affect response levels. All surveys were self-completed by nursery teachers. The data collection process was carried out by the author and lasted from September 2020 to May 2021.

Data analysis

Characteristics of the study population were described using counts and percentages for categorical variables and means (SD) for continuous variables. Some continuous variables were also transformed into dummy variables to get a better understanding of prevalence rates. Twelve ordinary least square (OLS) linear regression models were built to examine the associations between the six dependent variables measuring child behavioural difficulties (child emotional problems, conduct problems, hyperactivity, peer problems, total behavioural problems) and child behavioural

strengths (prosociality) as reported by both mothers and nursery teachers, as well as all the independent variables and the interaction term. The interaction term was a product of maternal child maltreatment and maternal warmth, and was included as a predictor only in the models whereby the outcome related to child behavioural problems. To avoid issues with multicollinearity, all variables that were part of the interaction terms were transformed in advance, using a z standardisation (Kohler & Kreuter, 2009, p. 277).

When running the regression models, multiple imputation was used as a method of handling missing data (see Acock, 2005). Twenty imputations were run to primarily address the missing values in the 'household income' (n_{miss} = 37) variable. The reason behind the high level of missingness in this variable was related to the fact that 35 mothers preferred not to answer the question regarding household income. Although five imputed datasets have been suggested to be sufficient on theoretical grounds (Goldstein et al., 2009), a larger number of imputations (at least 20) may be preferable to reduce sampling variability from the imputation process (Horton & Lipsitz, 2001). All analyses were conducted using STATA IC Release16. Materials and analysis code for this study are available by emailing the corresponding author.

Results

Sample description

Table 3 presents descriptive statistics of the study sample based on the variables included in the regression models. The mothers' mean age was 32.3 years (SD = 4.24), with a range between 22 and 46 years. Most mothers were married (87.50%), had not experienced birth complications (79.88%), had finished undergraduate studies or above (83.54%), were employed (89.02%), had not suffered from post-natal depression (71.34%), and had used at least one type of substance – tobacco products, alcoholic beverages, drugs, sedatives or sleeping pills – once in their lifetime (82.26%). The majority of mothers had a monthly household income of 60,000–100,000 ALL (34.15%), which is the equivalent of USD 600 – USD 995.

The target toddlers had a mean age of 31.2 months (SD = 5.77). The gender among toddlers was balanced, with only a slightly higher representation from females (50.3%). Most toddlers were an only child (51.22%) and a planned child (76.83%). As far as nursery teachers are concerned, they had a mean age of 39.33 years (SD = 10.60), had an average of 8.96 years (SD = 7.81) of work experience, had an average of 7 toddlers under supervision (SD = 1.13), and had spent an average of 8.45 months taking care of the index toddler (SD = 7.43).

Mother-reported outcomes

Almost 89% of mothers had used at least one type of child maltreatment towards their toddler. 32.11% had used physical abuse, 84.4% had used psychological abuse, and 34.86% had neglected their toddler at least once or twice. However, mothers also reported high levels of warmth (M = 4.92; SD = 0.20) and positive parenting (M = 4.72; SD = 0.30) towards their toddlers. It is of worth to note that the left-skewness of the 'maternal warmth' and 'positive parenting' variables raise concerns regarding a ceiling effect. This suggests that the results of the regression and moderation analyses should be interpreted with caution. Highly skewed variables may not be robust against different model specifications.

Mothers vs. nursery teachers

As far as child behaviour is concerned, in all comparisons across all SDQ sub-scales, mothers reported more difficulties than nursery teachers (see Table 3). Table 4 displays differences in mean scores between mothers and nursery teachers for all five sub-scales of the SDQ scale. Significant mean differences were present for Emotional Problems ($t = 4.42$, $p < .001$, Cohen's d = 0.34), Conduct Problems ($t = 9.62$, $p < .001$, Cohen's d = 0.71), and Hyperactivity ($t = 7.52$, $p < .001$, Cohen's d = 0.53). In all comparisons across all subscales, mothers reported more difficulties than nursery teachers. Pearson's correlations were further conducted to examine inter-rater agreement between mothers and nursery teachers on child behaviour outcomes as measured by the five sub-scales of the SDQ scale. Significant small to moderate correlations were present for the following sub-scales: Hyperactivity [$r(327) = 0.20$, $p < .001$], Peer Problems [$r(326) = 0.18$, $p < .001$], and Prosociality [$r(325) = 0.25$, $p < .001$]. Insignificant correlations at the 1% level were found for: Emotional Problems [$r(327) = 0.02$, $p = .64$] and Conduct Problems [$r(327) = 0.12$, $p = .03$]. These findings suggest that mothers' and nursery teachers' assessments of child behavioural outcomes are similar for toddlers' hyperactivity, peer problems, and prosociality, while they differ for toddlers' emotional problems and conduct problems.

Regression models

Table 5 depicts the results from the twelve multiple regression models, whereby the outcomes scrutinised were child behavioural tendencies as reported by mothers and nursery teachers. For child behavioural problems, the goodness-of-fit

Table 3 Descriptive data of the variables inserted in the regression models

Characteristics		Number (*n*)	Percentage (%)	Skewness/Kurtosis Values
Dependent Variables				
Child Emotional Problems	Mean (SD) – Mothers	0.35 (0.38)		1.19/ 4.28
	Mean (SD) – N. Teachers	0.22 (0.34)		1.89/ 7.23
	Possible Scale Range	0 – 2		
Child Conduct Problems	Mean (SD) – Mothers	0.58 (0.38)		0.56/ 3.59
	Mean (SD) – N. Teachers	0.31 (0.37)		1.03/ 3.19
	Possible Scale Range	0 – 2		
Child Hyperactivity	Mean (SD) – Mothers	0.70 (0.38)		0.48/ 3.11
	Mean (SD) – N. Teachers	0.49 (0.41)		1.05/ 4.27
	Possible Scale Range	0 – 2		
Child Peer Problems	Mean (SD) – Mothers	0.23 (0.28)		1.27/ 4.47
	Mean (SD) – N. Teachers	0.20 (0.29)		1.70/ 5.96
	Possible Scale Range	0 – 2		
Child Behavioural Problems (Total)	Mean (SD) – Mothers	0.46 (0.25)		0.73/ 3.69
	Mean (SD) – N. Teachers	0.31 (0.28)		1.48/ 5.88
	Possible Scale Range	0 – 2		
Child Prosociality	Mean (SD) – Mothers	1.48 (0.38)		−0.53/ 2.64
	Mean (SD) – N. Teachers	1.44 (0.54)		−0.78/ 2.66
	Possible Scale Range	0 – 2		
Independent Variables				
Positive Parenting	Mean (SD)	4.72 (0.30)		−1.4/ 5.65
	Possible Scale Range	1 – 5		
Child Maltreatment	Mean (SD)	0.39 (0.32)	88.99	1.16/ 4.72
	Physical Abuse	0.13 (0.24)	32.11	
	Psychological Abuse	0.59 (0.49)	84.40	
	Neglect	0.23 (0.42)	34.86	
	Possible Scale Range	0 – 4		
Moderator Variable				
Maternal Warmth	Mean (SD)	4.92 (0.20)		−4.68/ 34.95
	Possible Scale Range	1 – 5		
Control Variables (Both)				
Gender of the Child	Male	163	49.7	
	Female	165	50.3	
Age of the Child (Months)	Mean (SD)	31.2 (5.77)		0.16/ 2.03
	Median [Min, Max]	36 [21, 45]		
Child's Position in the Family	Not an Only Child	160	48.78	
	Only Child	168	51.22	
Whether the Child was Planned	Yes	252	76.83	
	No	75	22.87	
Mother Experienced Birth Complications	Yes	66	20.12	
	No	262	79.88	
Maternal Age (years)	Mean (SD)	32.3 (4.24)		0.36/ 3.14
	Median [Min, Max]	32 [22, 46]		
Mother's Education Level	Below Undergraduate Degree	54	16.5	
	Undergraduate Degree or Above	274	83.54	
Paid work in the last 12 months	Yes	292	89.02	
	No	36	10.98	
Mother's Marital Status	Married	287	87.50	
	Not Married	41	12.50	
Household Monthly Income (ALL)	<30,000	16	4.88	
	30,000 – 60,000	71	21.65	
	60,000 – 100,000	112	34.15	
	100,000 – 200,000	77	23.48	
	>200,000	15	4.57	
Maternal Post-Natal Depression	Yes	93	28.35	
	No	234	71.34	
Maternal Substance Use (Lifetime)	Yes	269	82.26	
	No	58	17.74	

Table 3 (continued)

Characteristics		Number (*n*)	Percentage (%)	Skewness/Kurtosis Values
Mother's Support from Friends and Family	Mean (SD) Possible Scale Range	4.40 (0.61) 1 – 5		−0.49/ 2.99
Mother's Support from the Partner	Mean (SD) Possible Scale Range	4.33 (0.63) 1 – 5		−1.71/ 7.17
Control Variables (Mothers Only)				
Questionnaire Mode of Delivery	Face-to-Face Interview Self-Completed Online Interview	170 116 42	51.83 35.37 12.80	
Control Variables (N. Teachers Only)				
Years of Work Experience	Mean (SD) Median [Min, Max]	8.96 (7.81) 5 [0.25, 36.5]		1.66/ 5.38
Number of Toddlers under Supervision	Mean (SD) Median [Min, Max]	7.39 (1.13) 7 [5, 10]		0.47/ 3.51
Number of Months Spent Taking Care of the Index Child	Mean (SD) Median [Min, Max]	8.45 (7.43) 12 [1, 36]		1.34/ 4.87

Table 4 Differences in child behavioural tendencies – mothers vs. nursery teachers

Child Behaviour	Mean (SD) Mothers	Mean (SD) Nursery teachers	Mean difference (SE)	T-statistic	*P*-value	Cohen's d
Emotional Problems	0.35 (0.38)	0.22 (0.34)	0.12 (0.28)	4.42	0.00	0.34*
Conduct Problems	0.58 (0.38)	0.31 (0.37)	0.26 (0.27)	9.62	0.00	0.71*
Hyperactivity	0.70 (0.38)	0.49 (0.41)	0.21 (0.03)	7.52	0.00	0.53*
Peer Problems	0.23 (0.28)	0.20 (0.29)	0.32 (0.20)	1.58	0.12	0.11
Prosociality	1.48 (0.38)	1.44 (0.54)	0.51 (0.03)	1.57	0.12	0.11

*$p < .001$

(R^2) and model fit (F) were higher among the regression models of mothers than of nursery teachers, while the opposite was true for child behavioural strengths. It is of worth noting however that the model fit (F) was statistically significant in all the regression models.

High levels of child maltreatment were associated with high levels of total child behaviour problems as reported by the mothers only ($\beta = 0.29$, $p < .001$), with positive association also specifically detected for mother-reported child emotional problems ($\beta = 0.28$, $p < .001$), conduct problems ($\beta = 0.28$, $p < .001$), and hyperactivity ($\beta = 0.16$, $p < .05$). Positive parenting was positively associated solely with child prosociality as reported by mothers ($\beta = 0.16$, $p < .05$). The child being female as compared to being male was negatively correlated with conduct problems as reported by nursery teachers, ($\beta = -0.11$, $p < .05$), hyperactivity as reported by both mothers ($\beta = -0.14$, $p < .01$) and nursery teachers ($\beta = -0.15$, $p < .01$), total behavioural problems as reported by nursery teachers ($\beta = -0.14$, $p < .01$), and positively associated with prosociality as reported by both mothers ($\beta = 0.18$, $p < .01$) and nursery teachers ($\beta = 0.22$, $p < .01$). This means that female toddlers were less likely than male toddlers to have conduct problems, hyperactivity, and total behavioural problems, while they were more likely to engage in prosocial behaviour when compared to male toddlers.

The age of the child was negatively associated with child peer problems ($\beta = -0.15$, $p < .01$) and total child behavioural difficulties ($\beta = -0.10$, $p < .05$) as reported by mothers, and positively associated with prosociality as reported by nursery teachers ($\beta = 0.15$, $p < .05$). Interestingly, the child being an only child was a consistent positive high significant predictor of all types of behavioural problems as reported by nursery teachers, and a significant negative predictor of prosociality as reported by both mothers ($\beta = -0.13$, $p < .05$) and nursery teachers ($\beta = -0.15$, $p < .01$). Moreover, there were very few to no effects of the child being planned, the mother experiencing birth complications, maternal age, maternal education level, the mother being employed, the mother being married, the mother having suffered from post-natal depression, maternal lifetime substance use, mother's support from friends and family, and mother's support from her partner. The mode of delivery had inconsistent impact on maternal reporting of child behaviour. For some constructs, mothers reported significantly higher values in the face-to-face interview and in the online interview when compared to the self-reported questionnaire (see child emotional problems and child prosociality). For child peer problems, mothers reported significantly lower levels in the online interview when compared to the self-completed questionnaire. For other child behaviour constructs, the

Table 5 Multiple regression results for child behavioural outcomes as reported by mothers and nursery teachers

	Difficulties										Strengths	
	Emotional Problems		Conduct Problems		Hyperactivity		Peer Problems		Total		Prosociality	
Independent Variables	Mothers[a]	Nursery Teachers[b]	Mothers[c]	Nursery Teachers[d]	Mothers[d]	Nursery Teachers[e]	Mothers[f]	Nursery Teachers[g]	Mothers[h]	Nursery Teachers[i]	Mothers[j]	Nursery Teachers[k]
Maternal Parenting Practices												
Child Maltreatment	0.28***	−0.008	0.28***	−0.01	0.16*	−0.02	0.04	0.05	0.29***	0.001	−0.05	0.03
Positive Parenting	−0.02	−0.07	−0.06	0.03	−0.06	−0.14	−0.07	−0.13	−0.07	−0.10	0.16*	0.03
Moderator Variable												
Maternal Warmth	−0.008	−0.03	−0.20**	0.07	−0.14*	0.05	−0.07	0.02	−0.15*	0.04	0.12*	−0.09*
Child Maltreatment x Maternal Warmth	0.05	0.16**	0.16*	0.006	0.13	0.10*	0.08	0.06	0.15**	0.10*	---	---
Control Variables (Both)												
Gender of the Child (Female)	0.003	−0.09	−0.02	−0.11*	−0.14**	−0.15**	−0.03	−0.10	−0.07	−0.14**	0.18**	0.22***
Age of the Child (Months)	−0.08	−0.04	−0.08	−0.09	0.01	−0.06	−0.15**	−0.08	−0.10*	−0.09	−0.02	0.15*
Child's Position in the Family (Single Child)	−0.02	0.18**	−0.07	0.18**	0.10	0.23***	0.09	0.13*	0.03	0.23***	−0.13*	−0.15**
Whether the Child was Planned	0.03	−0.06	−0.02	−0.08	0.0005	−0.01	−0.01	0.01	0.002	−0.04	0.09	0.06
Whether the Mother Experienced Birth Complications	0.11	0.04	0.04	0.09	0.08	0.03	0.08	−0.05	0.12*	0.04	0.02	−0.11*
Maternal Age	−0.04	0.14	0.08	0.10	0.07	0.12	0.03	0.06	0.05	0.13*	−0.13*	−0.04
Maternal Education Level (Undergraduate Degree or Above)	0.05	0.03	0.06	0.03	−0.02	−0.03	0.07	0.009	0.06	0.01	−0.02	−0.11*
Whether the Mother was Employed	−0.003	−0.16*	0.02	0.04	−0.05	−0.02	−0.10	−0.11	−0.04	−0.07	−0.04	0.02
Maternal Marital Status (Married)	0.01	0.01	0.01	−0.06	0.07	−0.06	0.009	−0.01	0.04	−0.04	−0.02	0.03
Household Income	−0.18	−0.02	−0.17**	−0.004	−0.11	0.01	−0.08	−0.08	−0.20**	−0.02	0.006	0.10
Whether the Mother Suffered from Post-Natal Depression	0.03	0.03	0.01	−0.03	−0.0006	0.09	−0.03	0.02	0.01	0.04	−0.01	0.01
Maternal Substance Use (Lifetime)	0.03	−0.02	0.10	0.04	0.01	−0.06	0.03	−0.04	0.07	−0.03	0.01	0.04
Mother's Support from Friends and Family	0.07	−0.07	−0.01	−0.15*	−0.05	−0.04	−0.04	−0.04	−0.006	−0.10	0.07	−0.04
Mother's Support from the Partner	−0.08	−0.008	−0.05	0.009	−0.12	−0.04	−0.10	−0.02	−0.13*	−0.02	0.03	0.12*
Control Variables (Mothers Only)												
Mode of Delivery (Face-to-face interview)	0.25***		0.04		0.04		−0.04		0.12*		0.14*	
Mode of Delivery (Online interview)	0.22**		−0.03		−0.08		−0.17**		−0.01		0.17**	
Control Variables (Nursery Teachers Only)												
Years of Work Experience		0.006		−0.09		0.12*		0.02		0.02		−0.09
Number of Toddlers under Supervision		−0.04		0.06		−0.07		0.16**		0.02		−0.16**
Number of Months Spent Taking Care of the Index Child		0.03		0.09		0.06		−0.01		0.06		−0.007

Table 5 (continued)

	Difficulties										Strengths	
	Emotional Problems		Conduct Problems		Hyperactivity		Peer Problems		Total		Prosociality	
Independent Variables	Mothers[a]	Nursery Teachers[b]	Mothers[c]	Nursery Teachers[d]	Mothers[d]	Nursery Teachers[e]	Mothers[f]	Nursery Teachers[g]	Mothers[h]	Nursery Teachers[i]	Mothers[j]	Nursery Teachers[k]
R^2	0.29	0.09	0.22	0.11	0.18	0.13	0.11	0.10	0.31	0.11	0.15	0.19
F	6.46***	2.05**	4.54***	1.68*	3.52***	2.47***	1.82*	2.12**	6.96***	2.30**	3.27***	3.75***

All the regression coefficients presented are standardised beta coefficients (β)

Robust standard errors were specified when building the models to account for the fact that the data is clustered

*indicates $p<.05$.; ** indicates $p<.01$.; *** indicates $p<.001$

[a] $n = 327$ [b] $n = 327$ [c] $n = 327$ [d] $n = 327$ [e] $n = 327$ [f] $n = 327$ [g] $n = 327$ [h] $n = 327$ [i] $n = 328$ [k] $n = 328$

questionnaire mode of delivery had no impact on maternal reporting of child behaviour.

High household income was correlated with low levels of child conduct problems ($\beta = -0.17$, $p<.01$) and total child behavioural problems ($\beta = -0.20$, $p<.01$) as reported by mothers. The questionnaire being delivered through face-to-face interviews to mothers as compared to self-completed was positively correlated with mother-reported child emotional problems ($\beta=0.25$, $p<.001$), total child behavioural problems ($\beta=0.12$, $p<.05$), and child prosociality ($\beta=0.14$, $p<.05$). The questionnaire being delivered through online interviews as compared to self-completed was positively associated with mother-reported child emotional problems ($\beta=0.22$, $p<.01$) and child prosociality ($\beta=0.17$, $p<.01$), while it was negatively associated with mother-reported peer problems ($\beta = -0.17$, $p<.01$). Among the control variables relevant to nursery teachers only, the nursery teachers' years of work experience were positively correlated with nursery teacher-reported child hyperactivity levels ($\beta=0.12$, $p<.05$). Moreover, nursery teachers' number of toddlers under supervision was positively associated with nursery teacher- reported child peer problems ($\beta=0.16$, $p<.01$) and negatively associated with nursery teacher- reported child prosociality ($\beta = -0.16$, $p<.01$).

As far as the moderator variable is concerned, we see that on its own, high levels of maternal warmth were negatively correlated with mother-reported child conduct problems ($\beta = -0.20$, $p<.01$), child hyperactivity levels ($\beta = -0.14$, $p<.05$), total child behavioural problems ($\beta = -0.15$, $p<.05$), and nursery-reported child prosociality ($\beta = -0.09$, $p<.05$). Maternal warmth further was further positively associated with mother-reported child prosociality ($\beta=0.12$, $p<.05$). The interaction term was significant for the outcomes of nursery-reported child emotional problems ($\beta=0.16$, $p<.01$, $\Delta R^2=0.018$), mother-reported child conduct problems ($\beta=0.16$, $p<.05$, $\Delta R^2=0.075$), nursery teachers-reported child hyperactivity levels ($\beta=0.10$, $p<.05$, $\Delta R^2=0.014$), mother-reported total child behavioural problems ($\beta=0.15$, $p<.01$, $\Delta R^2=0.069$), and nursery teachers-reported total behavioural problems ($\beta=0.10$, $p<.05$, $\Delta R^2=0.013$), thus suggesting that maternal warmth significantly moderates these child behavioural outcomes.

Five margins-plots at the 25th, 50th, and 75th percentile of the 'child 'maltreatment' independent variable and at the 25th and 50th /75th percentile of the 'maternal warmth' moderator variable were ran to better understand the significant association between maternal warmth and the relationship between child maltreatment and child behavioural outcomes (see Fig. 1). Figure 1 shows that the association of child maltreatment with child emotional problems, child hyperactivity levels, and total child behavioural problems as reported by nursery teachers is positive for high levels

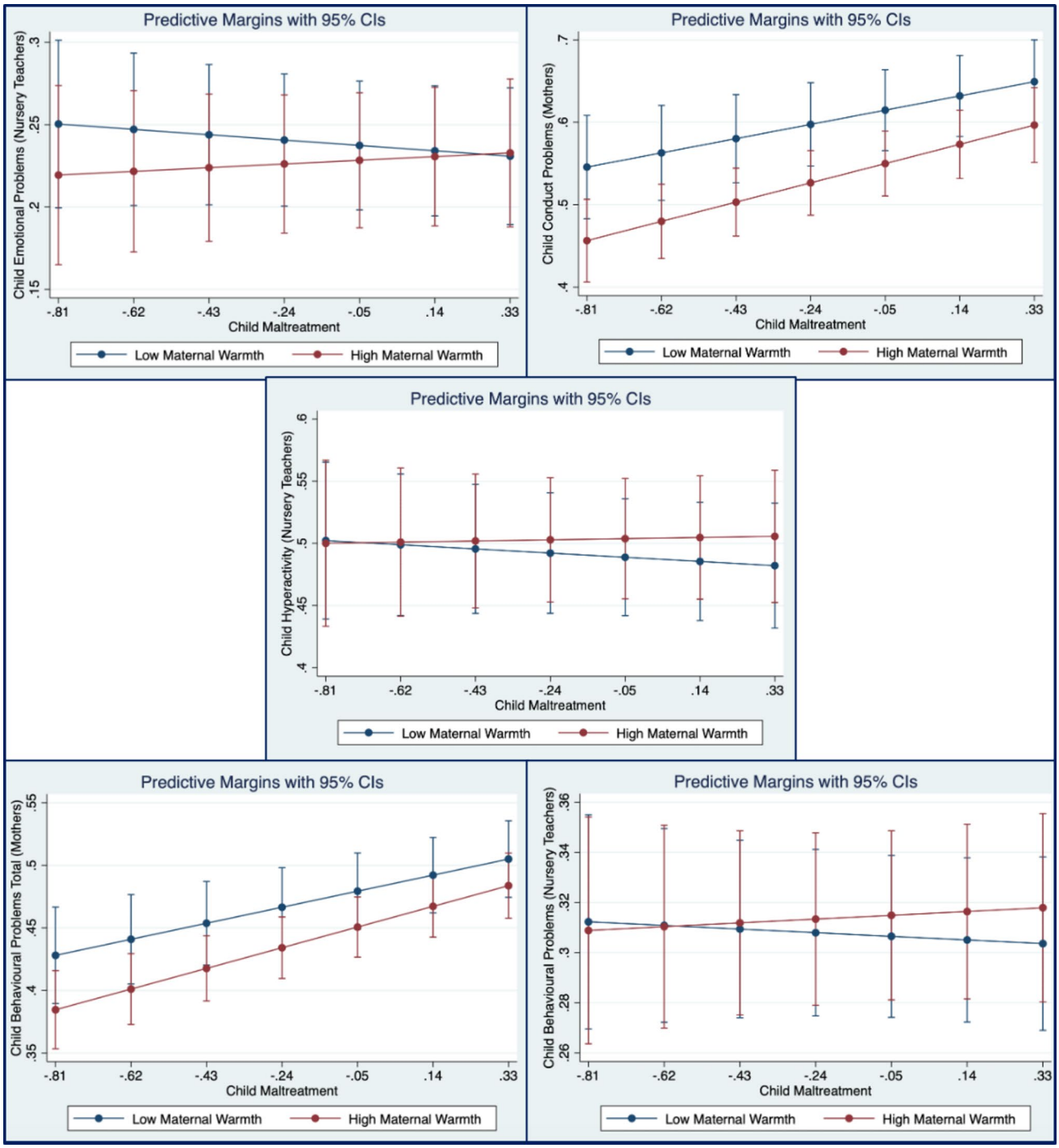

Fig. 1 Margins plots of significant interaction terms

of maternal warmth and negative for low levels of maternal warmth. The figure further suggests that the association between child maltreatment and child conduct problems as well as child maltreatment and total child behavioural problems as reported by mothers was positive for both levels of maternal warmth, however it was more enhanced for high levels of maternal warmth when compared to low levels of maternal warmth. It can be thus inferred from these findings that the pattern of associations between maternal warmth and the relationship between child maltreatment and child negative behavioural outcomes differed based on whether the reporting source was the mother or the nursery teacher.

Discussion

This study examined the cross-sectional associations between mother-reported child maltreatment, maternal warmth, and child behavioural tendencies as assessed by both mothers and nursery teachers, while controlling for other relevant variables. It further tested the potential moderating role of maternal warmth in the relationship between child maltreatment and toddler behavioural difficulties while accounting for a range of control variables. In line with what the literature suggests (Loeber & Hay, 1997; Olson et al., 2011; Waller et al., 2015; Marcone et al., 2020; Cano-Lozano et al., 2020; Frosch et al., 2021), mother-reported total child behavioural difficulties were positively related to child maltreatment and negatively related to maternal warmth. Moreover, similar to previous studies (e.g., Pastorelli et al., 2016; Wong et al., 2021), mother-reported child prosociality was positively associated with positive parenting. Contrastingly, there were no significant effects of either mother-reported child maltreatment or maternal warmth on nursery teacher assessed behavioural problems, as well as no significant effect of mother-reported positive parenting on nursery teacher-reported child prosociality. The discrepancies between mother-reported and nursery teacher-reported behavioural outcomes can also be discerned in the differences in model fit and goodness-of-fit of the mother and nursery teacher regression models, in the differences in mean behavioural outcomes, as well as in the inter-rater disagreement for child emotional problems and conduct problems.

Disagreements between parents' and teachers' ratings of child psychopathology are common and often reveal systematic differences (e.g., Brown et al., 2006; Stone et al., 2010; Yeguez & Sibley, 2016; Carneiro et al., 2021). Two of the main reasons that might explain differences in parents and teacher ratings are: (1) differences between informants, and (2) disparities in the rating context (see De Los Reyes & Kazdin, 2005; De Los Reyes et al., 2015). Regarding the first point, it might be that parents and teachers have dissimilar understandings of behavioural problems. While parents may be vulnerable to over-stating conduct problems, teachers probably have different perceptions of what is considered problematic behaviour and rate children relative to other children in the group (Kristoffersen & Smith, 2013). When it comes to emotional problems, it might be that teachers are less likely than parents to notice internalised struggles of individual children given their divided attention among the large number of children they have to manage. Regarding the second point, the special demands that nurseries places on toddlers might be an example for the influence of environmental context on behavioural rating. To illustrate, since a child has to share the attention of the nursery teacher with other children, a higher degree of self-regulatory skills is required in the nursery (Rogge et al., 2018).

Among the control variables, the gender of the child being female was in general negatively related to problematic behavioural outcomes and positively related to prosocial outcomes. Previous studies have corroborated the finding that boys tend to engage more in early problematic behaviour when compared to girls (e.g., Kaiser et al., 2002; Baillargeon et al., 2007; Steinberg, 2008; Maguire et al., 2016). One of the explanations behind this phenomenon might be the social cognitive theory of gender development (Bussey & Bandura, 1999; Coyle & Fulcher, 2022). According to this theory, gender development is a complex process that is shaped by two mechanisms. The first is *modelling*, whereby children learn gendered behaviour by watching others, including parents, peers, teachers, and the media. The second is *direct tuition*, in which children are encouraged and rewarded for engaging in behaviours considered appropriate for their sex and are discouraged from gender-inappropriate activities. Indeed, studies have found that adherence to strict gender roles in Albania is still common and widespread (Dauti & Zhllima, 2016; UN Women, 2018; Byrne et al., 2021; Tahsini et al., 2024). Another explanation in addition to the social cognitive theory of gender development might be the 'expectancy effect' or the expectations that caretakers might have towards how girls tend to and should behave when compared to boys (Eccles et al., 1990), which may then in turn impact caretakers' evaluation and perception of children's behaviour. This could also tie to the finding that mother-reported child maltreatment is significantly associated with child behavioural problems, even when gender as a control variable is accounted for.

Another finding of interest relates to the fact that being a single child was positively associated with behavioural problems, as reported by nursery teachers, and negatively related to prosociality, as reported by both mothers and nursery teachers. This finding is in contrast to studies which have found that increases in family size are linked to decreases in parental investment and increases in child behavioural problems (Liu et al., 2010; Juhn et al., 2015; Marsh et al., 2019). Nevertheless, other studies have shown that children without siblings are overprotected and self-centred, which may have a negative effect on their psychological development, and thus lead to more behavioural problems (see Sui et al., 2015). Indeed, the literature suggests that siblings offer opportunities related to social understanding, conflict management, and differential status through cooperation, collaboration, teasing, or conflict (Bornstein, 2015). The null effect of maternal education, maternal employment status, and only slight negative effect of household income on child behavioural problems as reported by mothers is a further finding that partially contradicts most of the studies to date,

given the well-established link between poverty and child behavioural problems (Mazza et al., 2017).

The effect of maternal warmth on child behaviour was generally similar to what the literature suggests (Eiden et al., 2007; Olson et al., 2011; Malti et al., 2013; Klevens & Hall, 2014; Rothenberg et al., 2020), with it being positively associated with child prosociality and negatively related to child behavioural problems as reported by mothers. Moreover, maternal warmth significantly moderated the child behavioural outcomes of nursery teacher-reported child emotional problems, mother-reported child conduct problems, nursery teacher-reported child hyperactivity levels, mother-reported total child behavioural problems, and nursery teacher-reported total behavioural problems. Further investigations showed that the effect of child maltreatment on child emotional problems, on child hyperactivity levels, and on total child behavioural problems as reported by nursery teachers was positive for high levels of maternal warmth and negative for low levels of maternal warmth. On the other hand, the effect of child maltreatment on child conduct problems and on total child behavioural problems as reported by mothers was positive for both levels of maternal warmth, however it was more enhanced for high levels of maternal warmth when compared to low levels of maternal warmth. Despite the differences in the direction of the results between mother-reported and nursery teacher-reported outcomes, these findings imply that high levels of maternal warmth enhanced the effect that child maltreatment had on child behavioural problems.

Even though this finding is in contrast with much of the existent literature which suggests that parental warmth buffers the relationship between child maltreatment and aggressive behaviour (e.g., Kiang et al., 2004; Kochanska et al., 2005; Kochanska et al., 2013; Fagan, 2020), it is rather similar to the study conducted by Waller and others (2015) who found that in young children, affective aspects of parenting appear to be related to emerging problems, regardless of the presence of early problematic behaviour. It can be argued that the experience of both maltreatment and warmth by the same caregiver might instigate more confusion and irritation for the child rather than the experience of maltreatment alone. Another explanation of the finding in the current study might be related to the fact that the 'maternal warmth' variable was a highly left skewed variable and this lack of variation in the moderator might have influenced the outcomes of the interaction models. The left skewness of the 'maternal warmth' variable could be related to cultural factors. For example, studies have shown that Turkish mothers display warmth at high levels and this does not vary significantly with SES (Sen et al., 2014). While there are no studies on maternal warmth in Albania, it has been found that Albanian culture, as indicated by national beliefs, norms, and values, is the most similar to its Turkish and Balkan neighbours (Rao Vajjhala & Strang, 2014).

Strengths and limitations

The main strengths of this study are related to the fact that it makes use of a probabilistic rather than a convenience sampling method, to the relatively high overall participation rate (84%), to all the data being collected by the author, to obtaining toddler behavioural assessment from two independent sources, and to it presenting novel data on the link between parenting practices and child behavioural outcomes in Albania. The limitations are concerned with the limited sample size, the delivery of the questionnaire through three different modes of data collection, the restricted possibility of generalising the findings to all Albanian mothers and toddlers, the parenting outcomes being self-reported, as well as with the fact that this is a cross-sectional rather than a longitudinal study, which thus prevents one from drawing causal conclusions about the data. The low Cronbach's alpha values of several sub-dimensions of the SDQ instrument and the left skewness of the 'maternal warmth' variable can be considered as two further limitations of this study. It is of worth to note that few to no studies have evaluated the psychometric properties, the reliability, the internal consistency, and the retest stability of the main scales used in the current study in their Albanian version. This drawback is considered as a further a limitation of the present study. Given the scarcity of studies on the mother-child relationship in Albania, comparisons with studies in Turkey were made in the discussion section, which could be construed as an additional limitation.

Conclusions

This study aimed to explore the links between maternal parenting practices and child behavioural outcomes, as well as to investigate maternal warmth as a potential moderator of the relationship between mother-reported child maltreatment and child problematic behavioural outcomes specifically. Results from the multiple regressions showed that mother-reported total child behavioural difficulties were positively associated with child maltreatment and negatively associated with maternal warmth. Mother-reported child prosociality was further positively associated with positive parenting. Contrastingly, there were no significant effects of either mother-reported child maltreatment or maternal warmth on nursery teacher assessed behavioural problems, as well as no significant effect of mother-reported positive parenting on nursery teacher-reported child prosociality.

With regards to implications for practice, these findings suggest a need for the implementation of parent training programmes in the Albanian society to help mothers and caregivers more broadly develop consistent, positive parenting practices. These programmes focus on improving child behavioural outcomes by changing problematic parenting behaviour (Welsh & Farrington, 2012; Piquero et al., 2016). According to McFarland (1999, p. 209) "helping mothers and young children is the most cost-effective form of economic development known." Parenting support programmes and social services more broadly are unfortunately either in their infancy or still lacking in Albania (see Dai et al., 2018; Dhembo et al., 2020). Given the endorsement and high prevalence rates of child maltreatment in Albania, parental support groups starting from when the mother is pregnant and/ or during the child's early years of life are integral in preventing long-term violence and aggressive behaviour. This should be coupled with education initiatives that foster independent thinking, autonomy, self-empowerment, and creativity from an early age, and lobby against the use of violence as a conflict resolution strategy.

As far as methodological implications are concerned, future studies should consider implementing a longitudinal rather than a cross-sectional design. Without a clear temporal order in the research design of data collection, it is not possible to draw causal conclusions regarding the impact that variables can have on each other. It is further advisable to future studies to employ a single mode of questionnaire delivery and/ or to further examine the impact that the mode of questionnaire delivery can have on self-reported sensitive information, such as child maltreatment. An additional suggestion for future research would be to increase the sample size and to conduct a power analysis before agreeing on the targeted sample size. An additional issue that could be addressed in future research concerns representativeness. It is recommended for future similar research on child development in Albania to aim for a population sample that is representative of all two-to-three-year-old children and not only of toddlers registered in public nurseries. Moreover, it would be useful to consider expanding the study in other Albanian cities in addition to the capital city Tirana.

Author contributions Not applicable as this manuscript has a single author. The author collected the data, performed the analyses, prepared the figures and tables, and wrote the manuscript text.

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Data availability Materials and analysis code for this study are available by emailing the corresponding author.

Declarations

Ethical approval Ethical Approval was received from the General Directory of Nurseries and Kindergartens at the Municipality of Tirana and from the Institute of Criminology, University of Cambridge. The Belmont principles of ethics involving human subjects – such as privacy, confidentiality, anonymity, honesty, and transparency – were rigorously followed during each step of the data collection process (see Commission for the Protection of Human Subjects, 1978). Additional guidelines followed were the ones set forth by the British Society of Criminology Code of Ethics.

Consent to participate Informed consent was obtained from all individual participants included in the study.

Consent to publish Consent to publish was obtained from all individual participants included in the study.

Additional notes While the author conducted this study while being a PhD student at the University of Cambridge, the author currently works for and is affiliated with Manchester Metropolitan University.

Competing interests No conflict of interest to declare.

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