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Maternal psychological distress and appraisal of parenting experience predict social-emotional development of Kenyan infants

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ABSTRACT

This study investigated whether higher maternal psychological distress, lower provision of psychosocial stimulation and a negative appraisal of parenting experience were associated with lower cognitive, motor, social-emotional and adaptive behaviour development in children under 3 years of age in Kenya. A cross-sectional design was used, with 81 caregiver–child dyads recruited through convenience sampling. The mean age of these infants was 8.5 months ($SD = 5.6$ months, range 23 days to 25.5 months). Higher maternal psychological distress was associated with lower social-emotional development, but not cognitive, motor and adaptive development of a child. Psychosocial stimulation provided by mothers was not related to any developmental outcomes. Maternal psychological distress and appraisal of parenting experience were significant, unique predictors of child social-emotional development. Findings suggest that interventions designed to promote social-emotional development of young children in Kenya should target maternal mental health and enhance confidence and experience of parenting.

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KEYWORDS

Child development; maternal psychological distress; low- and middle-income countries; parenting experience

Background

Over 18 million children live in Kenya, a low-income country,¹ and it is known well known that children living in low- and middle-income countries (LMICs) are likely to have their development potential compromised (World Bank, 2014; Walker et al., 2011). In Kenya, almost half of the population live in poverty and at least 16.1% of children are moderately to severely underweight (UNICEF, 2013; World Bank, 2014); yet other factors beyond poverty and nutritional deficiencies are also implicated in negatively influencing early child development, with high levels of maternal psychological distress and a lack of cognitive stimulation identified as important factors (Walker et al., 2007; Walker et al., 2011). Although the prevalence rates of compromised maternal psychological well-being are not known for Kenya, a systematic review of the prevalence of common mental disorders in mothers in 17 LMICs found a higher prevalence of mental disorders in LMICs compared to high-income countries (Fisher et al., 2012). There is not any data published on the rates of cognitive stimulation provided by Kenyan mothers to their children; yet a study of 28 other LMICs found that mothers from LMICs infrequently provided cognitive stimulation, irrespective of their psychological well-being, or the child's risk profile (Bornstein, Putnick, Lansford, Deater-Deckard, & Bradley, 2015; Bornstein & Putnick, 2012). While the provision of psychosocial stimulation, including enhancing the

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provision of cognitive stimulation, improves child development in at-risk populations, such as children who are malnourished, HIV infected or iron-deficient (Walker et al., 2011), it is less clear whether this stimulation influences child development outcomes in children living in a low-income country where other risks to development, such as higher rates of maternal psychological distress, may be present. If it does, population-based public health interventions may need to take into account a range of child presentations.

While the relationship between high rates of maternal psychological distress and compromised child development has been well documented in high-income countries (Kingston, Tough, & Whitfield, 2012), there have been few published studies conducted in LMICs on this topic. Table 1 summarizes the five studies conducted in LMICs examining the relationship between maternal mental health and one or more areas of child development. The term child development can be conceptualized to include cognitive (thinking), motor (movement) and social-emotional (relationships and emotions) development. Although the majority of studies in high-income countries have shown a clear relationship between maternal mental health and infant cognitive outcomes (Sohr-Preston & Scaramella, 2006), the findings are less consistent in the few studies conducted in LMICs. Four studies found maternal psychological distress to be associated with poorer cognitive development outcomes after adjusting for confounds (Ali, Mahmud, Khan, & Ali, 2013; Black et al., 2007; Hadley et al., 2008; Patel, DeSouza, & Rodrigues, 2003). Risks to social-emotional development have been examined less frequently, yet also show a significant relation between maternal psychological distress and social-emotional development in studies conducted in Pakistan, Bangladesh and Ethiopia (Ali et al., 2013; Black et al., 2007; Hadley et al., 2008). However, one study found no association between maternal psychological distress and child cognitive or motor development (child social-emotional development was not assessed) (Servili et al., 2010). Servili and colleagues (2010) proposed that methodological differences may account for the discrepancy with previous findings from LMICs such as different timings of assessments and using a cross-sectional design.

Subsequently, the primary aim of the current study was to learn whether maternal psychological distress – as an index of maternal mental health – and psychosocial stimulation was associated with infant development outcomes in Kenya. The present study also examined the relationship between maternal psychological distress and psychosocial stimulation and an infant's adaptive behaviour, or daily functional skills, as this has not been described in LMICs. Based on the research of Walker and colleagues (2007, 2011), the World Health Organization has called for urgent development and

Table 1. Studies examining maternal mood and its relation to child development characteristics in the LMICs

Study	Country	World Bank classification	Maternal psychological symptoms	Child development domain	Results
Ali et al. (2013)	Pakistan	(Lower) middle	Depressive anxiety	Cognitive social-emotional language gross motor fine motor	Maternal depression and anxiety related to all child development domains.
Black et al. (2007)	Bangladesh	(Lower) middle	Depressive	Cognitive social-emotional motor	Maternal depression related to all child development domains.
Hadley et al. (2008)	Ethiopia	Low	Depressive anxiety	Social-emotional language gross motor fine motor	Maternal depression and anxiety related to all child development domains, except language.
Patel et al. (2003)	India	(Lower) middle	Depressive	Cognitive motor	Maternal depression related to all child development domains.
Servili et al. (2010)	Ethiopia	Low	Depressive	Cognitive motor language	Maternal depression not related to any child development domains.

testing of interventions designed to promote child psychosocial stimulation (Walker et al., 2007; Walker et al., 2011). Given limited funding for interventions in LMICs, and calls for the integration of interventions targeting maternal mental health and promoting psychosocial stimulation (Rahman, Surkan, Cayetano, Rwagatare, & Dickson, 2013), interventions need to be cost effective and take account of the relationship between maternal psychological distress and child development. For example, child development may be most at risk when mothers experience high levels of psychological distress. Given that the most critical period of child development is a child's first three years of life (Grantham-McGregor et al., 2007), the current study focused on children under three years of age.

The secondary aim of this study was to examine relations between mother's appraisal of her parenting experience and development outcomes, as mothers from high-income countries who negatively appraise their parenting experience are more likely to have children with lower development outcomes (Levy-Shiff, Dimitrovsky, Shulman, & Har-Even, 1998). Based on the reviewed literature, we formulated three hypotheses. First, we expected higher maternal psychological distress to be related to lower scores on measures of infant development. Second, we hypothesized that lower use of psychosocial stimulation would be related to lower developmental skills. Third, we hypothesized that infants of mothers who reported a less positive appraisal of their parenting experience would attain lower developmental skills, and that this effect would be heightened in mothers with higher psychological distress.

Materials and methods

This study had ethical approval from Kenyatta National Hospital/University of Nairobi Ethics and Research Committee and The University of Sydney, Human Research Ethics Committee.

Participants

Study inclusion criteria were (i) infants: born at > 38 weeks' gestation, with the absence of neurological disability, aged between 16 days and 36 months at the time of examination, (ii) maternal caregiver: English speaking and aged between 18 and 45 years. The data from these mothers were also used in another study examining maternal motives and challenges when caregiving (Watts, Oburu, Lah, Hunt, & Rhodes, 2016). Convenience sampling was used; a local Kenyan psychology student approached mothers in community settings (e.g. health centres or a hospital), outlined the aims of the study, invited participation and obtained consent.

Measures

Anthropometry measurements (height, weight and head circumference) were employed to determine child malnourishment (World Health Organisation, 2008). Infants were classified as malnourished if their weight was 1 standard deviation or more below the norm for their height and gender. A brief health background questionnaire including history of malaria, seizure or other serious illness was administered to obtain core health history. A standardized measure was utilized to assess child development; the Bayley Scales of Infant and Toddler Development 3rd edition ([The Bayley Scales] Bayley, 2006), which involves child testing (of cognitive and motor development) and parental questionnaires (of social-emotional and adaptive behaviour). The Bayley Scales assess cognitive, motor skills (fine and gross), social-emotional and adaptive development; composite scores were used in the analyses. Composite scores were classified into below average (40–84), average (85–115) and above average (116–160). Scaled scores were obtained on Bayley subtests that measured fine and gross motor development. Scaled scores were classified as below average (1–7), average (8–12) and above average (13–19). Unless indicated otherwise, motor development refers to combined gross and fine motor development. The Bayley Scales has been previously

used in Kenya (and other parts of sub-Saharan Africa) and the World Bank has recommended it as the 'gold standard' for use in the assessment of child development in LMICs (Fernald, Kariger, Engle, & Raikes, 2009; Servili et al., 2010; Sigman et al., 1988).

Socio-demographic data gathered included maternal age, marital status and level of educational attainment. The Kessler 10-item Psychological Distress Scale ([K-10] Kessler et al., 2002) was used to measure non-specific psychological distress covering the previous 30 days. Scores range from 10 to 50, with higher scores indicating higher distress. A score of 20 or less indicates the person is likely to be well, 20–24 suggests the person is likely to have a mild mental disorder, 25–29 indicates the person is likely to have a moderate disorder and ≥ 30 shows the person is likely to have a severe mental disorder (Andrews & Slade, 2001). The K-10 has adequate psychometric properties and has been used previously with sub-Saharan African mothers (Baggaley et al., 2007; Spies et al., 2009; Tesfaye, Hanlon, Wondimagegn, & Alem, 2010). We examined mothers' perceptions of their parenting experience using a previously validated 5-item scale (Sanders, Markie-Dadds, Rinaldis, Firman, & Baig, 2007) that required mothers to rate the extent to which they perceived parenting to be rewarding, fulfilling, demanding, stressful and depressing using five-point Likert scales (1 = not at all, 2 = slightly, 3 = moderately, 4 = very and 5 = extremely). The coding of responses to negative questions (demanding, stressful and depressing) was reversed; the higher scores on the scale reflected a more positive experience. Caregiving practices were assessed using the six items from the Multiple Index Cluster Survey (MICS) developed by UNICEF in 2005. Three items formed the social-emotional caregiving scale (playing with the child, singing songs and taking the child outside) and three items comprised the cognitive caregiving scale (telling a story, reading or naming, and counting objects). An item was scored as 0 if the mother did not endorse the item, or 1 if the mother endorsed the item; items were summed to generate scores for each of the two scales. The scores on each scales ranged from 0 to 3. These scales have been used in 28 LMICs including sub-Saharan Africa (Bornstein & Putnick, 2012).

Procedure

All child measurements were conducted by one investigator (SW) who was blind to the mothers' health status. Children were tested in a quiet room in a single session with their mother present. Assessments were scheduled when the child was most alert and not feeling tired or hungry. Following testing, all mothers were provided with a one-page handout describing activities, alongside pictures, to promote child development adapted from a UNICEF resource (Evans, 2007).

Data analysis

T-tests examined whether Bayley scores differed significantly from norms. A repeated measure one-way analysis of variance (ANOVA) tested for significant differences across an infant's cognitive, motor, social-emotional and adaptive behaviour composite scores and *post hoc* contrasts with Bonferroni corrections were run. A Greenhouse-Geisser correction corrected for sphericity, which can be a problem in repeated measures analyses. Relationships between continuous variables were assessed with correlations. Multiple regressions predicted child social-emotional development using items that were significantly correlated with the Bayley Scale; interaction effects were also tested within these models.

Results

Eighty-one caregiver–child dyads were recruited. Six percent ($n = 5/81$) of the infants were undernourished. Separate analyses were run with and without the undernourished children. No differences in the patterns of results were found; thus, results from the full sample are reported below. The mean age of the infants was 8.5 months ($SD = 5.6$ months, range 23 days to 25.5 months), with 59.3% female. Over half the sample (51%) had malaria in their lifetime; of these malaria cases, 3.5% had

experienced a seizure. A series of independent sample *t* tests showed that there were no significant differences between infants who had malaria or not on their Bayley cognitive ($t(73) = -.18, p = .85$), motor ($t(71) = .56, p = .58$), social-emotional ($t(71) = 1.31, p = .19$) and adaptive development ($t(70) = .22, p = .82$) composite scores.

The mean age of the mothers was 25.5 years (SD 4.3 years; range 18–44 years), most were married (81.3%; single: 16.3%, divorced: 1.3%, widowed: 1.3%), approximately half had completed high school (53.8%), some had completed primary school only (21.3%) and some had attended college or university (25%). On the K-10 mothers reported on average *mild* psychological distress ($X = 23.4; SD = 67.01$), with 65% ($n = 51/81$) likely to meet the criteria for a mental disorder. Of these 51 participants, 17, 19 and 15 mothers identified as likely to have a mild, moderate or severe mental disorder, respectively. Using the Parents' Perceptions of the Positive and Negative Aspects of their Parenting Roles Scale over the last two weeks, mothers reported experiencing on average parenting as very fulfilling ($X = 4.26, SD = 0.91$), moderately rewarding ($X = 4.15, SD = 0.98$), very demanding ($X = 4.10, SD = 1.07$), moderately stressful ($X = 2.71, SD = 1.32$) and slightly depressing ($X = 2.02, SD = 1.03$). Mothers also reported feeling moderately to very confident to undertake their parenting responsibilities ($X = 3.88, SD = 0.93$).

Scores obtained on the Bayley Scales are reported in Table 2 alongside *post hoc* contrasts with Bonferroni corrections. A one-sample *t* test showed the Bayley cognitive ($t(77) = -8.03, p < .01$), motor ($t(75) = -6.84, p < .01$) and adaptive development ($t(74) = -4.02, p < .01$) composite scores were significantly lower than published norms, but the social-emotional ($t(75) = -.61, p = .54$) composite score did not differ. The percentage of children who scored below, within or above average is shown in Figure 1. A repeated measure one-way ANOVA with a Greenhouse-

Table 2. The Bayley Scales of infant and toddler development (3rd edition): composite, scaled scores (SS) and *post hoc* contrasts obtained on cognitive, fine motor, gross motor, social-emotional and adaptive scales.

Scale	Composite score mean (SD)	Scaled score mean (SD)	Below average (SS = 1–7) <i>n</i> (%)	Average (SS = 8–12) <i>n</i> (%)	Above average (SS = 13–19) <i>n</i> (%)	<i>Post hoc</i> contrasts using Bonferroni corrections
Theoretical norms from a standard sample			25%	50%	25%	
Cognitive	85.9 (16.3)	7.1 (3.3)	47 (60.3)	27 (34.6)	4 (5.1)	Cognitive < Social-emotional (mean difference = -14.45, $SE = 2.79, p < .001$) Cognitive < Adaptive behaviour (mean difference = -8.69, $SE = 2.29, p = .002$) Cognitive = Motor (mean difference = -2.82, $SE = 1.46, p = .35$).
Fine motor	##	8.4 (2.8)	31 (39.2)	43 (54.4)	5 (6.3)	##
Gross motor	##	7.7 (2.8)	32 (42.1)	40 (52.6)	4 (5.3)	##
Motor*	88.7 (14.6)	##	##	##	##	Motor < Social-emotional (mean difference = -11.63, $SE = 2.52, p < .001$) Motor < Adaptive behaviour (mean difference = -5.87, $SE = 1.79, p = .01$).
Social-emotional	100.4 (15.6)	9.8 (3.2)	19 (25.0)	43 (56.6)	14 (18.4)	##
Adaptive Behaviour	94.6 (11.2)	##	##	##	##	Adaptive Behaviour < Social-emotional (mean difference = -5.73, $SE = 1.76, p = .01$).

Note: SS: Scaled score.

*Motor Composite Score comprised fine and gross motor subtests.

Value was not able to be calculated as per the Bayley Scale scoring guidelines.

Geisser correction determined that mean Bayley composite scores were statistically different across the cognitive, motor, social-emotional and adaptive scales ($F(1.9, 138.63) = 17.72, p < .001$). As reported in Table 2, the *post hoc* contrasts indicated that the cognitive composite scores were lower than the social-emotional and adaptive behaviour scores, but were no different from the motor scores. Furthermore, both the composite motor scores and the adaptive behaviour composite scores were lower than the social-emotional scores.

Bayley Scales scores of cognition, fine motor and gross motor skills, and the K-10 scores were not correlated: $r(75) = -.06, p = .58, r(76) = -.18, p = .09; r(74) = -.12, p = .27$, respectively. There was a significant correlation between the K-10 and social-emotional development, $r(74) = -.29, p = .01$, but not adaptive behaviour $r(76) = -.130, p = .26$. Higher distress was associated with lower social-emotional development. Significant correlations were found between the Bayley social-emotional scaled score and mothers' parenting perceptions. These included experiencing parenting as fulfilling ($r(77) = .24, p = .03$), depressing ($r(76) = -.23, p = .04$) and having confidence in parenting ($r(77) = .27, p = .01$). The remaining three aspects of parenting perceptions did not correlate with the Bayley social-emotional scale (rewarding $r(77) = .12, p = .29$; demanding $r(77) = .08, p = .48$ and stressful $r(77) = -.06, p = .60$).

Almost all mothers (98.7%) reported providing social-emotional stimulation in the previous three days; however, only just over half the sample (55.27%) reported providing cognitive stimulation. There were no significant relationships between the cognitive stimulation scale and the Bayley cognitive $r(76) = .02, p = .84$, motor $r(74) = .02, p = .88$, social-emotional $r(74) = .05, p = .68$ and adaptive behaviour composite scores $r(73) = .14, p = .23$, or between the social-emotional stimulation scale and the Bayley cognitive $r(76) = -.22, p = .06$, motor $r(74) = .13, p = .26$, social-emotional $r(74) = -.01, p = .90$ and adaptive behaviour composite scores $r(73) = .10, p = .36$.

To investigate the relative contribution of maternal psychological distress and the three parenting perception items that were significantly correlated with social-emotional development at the bivariate level (fulfilling, depressing and parenting confidence), multiple linear regressions were run to predict a child's social-emotional development, and these are presented in Table 3. The interaction between maternal psychological distress and parenting appraisal was also tested within these models (see also Table 3). Observation of the mean scores for high and low maternal psychological distress and appraising parenting as depressing showed that mothers who appraised parenting as less depressing had infants with higher Bayley social-emotional composite scores overall, but that those who also had lower K-10 scores had infants with even higher Bayley social-emotional composite scores. Thus, there is an interactive effect between being both psychologically distressed and depressed about the parenting role in their impact on the infant's social-emotional development.

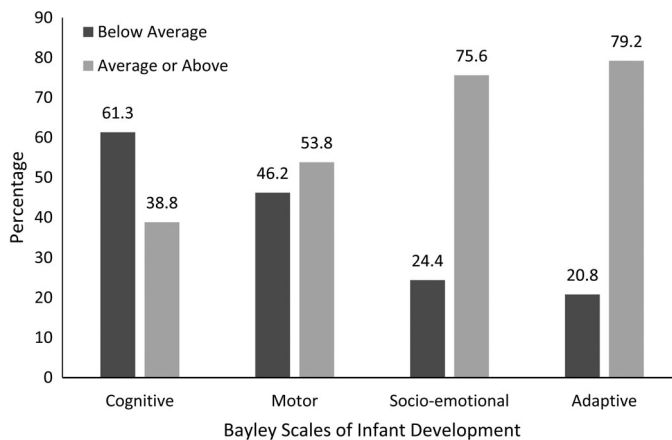


Figure 1. Percentage of children with composite scores in the below average or average and above range on the Bayley Scales of infant and toddler development (3rd edition).

Table 3. Results of the multiple regression analyses using the K-10 and three items from the parents' perceptions of the positive and negative aspects of their parenting roles scale to predict an infant's social-emotional development (Bayley social-emotional composite score).

	<i>t</i>	<i>p</i>	<i>B</i>	<i>F</i>	<i>df</i>	<i>p</i>	<i>R</i> ²
Overall model	26.60	<.001	9.61	2.48	7,65	.025	0.21
K-10	-1.53	.129	-.55	3.49	3,70	.020	.13
Parenting is fulfilling	2.08	.040	.79				
Interaction K-10 and parenting is fulfilling	-.16	.10	-.67				
K-10	-.97	.332	-.37	3.67	3,69	.015	.13
Parenting is depressing	-1.73	.088	-.62				
Interaction K-10 and parenting is depressing	2.00	.049	.88				
K-10	-2.02	.047	-.69	4.27	3,70	.008	.15
Parenting confidence	2.37	.020	.80				
Interaction K-10 and parenting confidence	-1.23	.219	-.50				

Note: B: Unstandardized coefficients reported.

Discussion

The primary aim of the current study was to understand whether maternal psychological distress and psychosocial stimulation caregiving were associated with infant development outcomes in Kenya. Greater maternal psychological distress was associated with lower social-emotional development in children under three years of age. This finding is consistent with studies conducted in other LMICs including Ethiopia, Bangladesh and Pakistan (Ali et al., 2013; Black et al., 2007; Hadley et al., 2008). Our findings are consistent with research conducted in high-income countries showing a negative impact of maternal psychological distress upon infant social-emotional development (Kingston et al., 2012). Cognitive, motor and adaptive behaviour development were not related to maternal psychological distress, consistent with research in another low-income country in Africa (Servili et al., 2010); yet elsewhere, a positive relationship between maternal psychological distress and these developmental domains has been reported (Ali et al., 2013; Black et al., 2007; Hadley et al., 2008; Patel et al., 2003). In future studies it would be worthwhile to investigate stimulation provided by other caregivers involved, which may possibly act as a protective factor against a mother's level of psychological distress.

There was no relation between the amount of psychosocial stimulation provided by mothers and infant cognitive, motor, social-emotional and adaptive behaviour outcomes. This finding is generally inconsistent with earlier studies that have shown psychosocial stimulation is necessary to promote cognitive development in children (Walker et al., 2007). One possible explanation for these results may be the brevity of the scale used to measure psychosocial stimulation. Although the scale had evidence of validity and had been used previously in sub-Saharan Africa, it provided only an account of the last three days. Cultural differences may provide an alternative explanation as it is well known that culture shapes the beliefs and practices of parents and how they care for their offspring (Bornstein, 2012); and given families in Kenya have been described as having strong family relationships (Plummer & Njuguna, 2009), it may be a possibility that other family members are involved in the provision of psychosocial stimulation.

A mother's appraisal of her parenting experience as less fulfilling and more depressing, and reporting lower confidence in parenting was related to lower child's social-emotional outcome, supportive of earlier studies from high-income countries (Levy-Shiff et al., 1998). Mothers more likely to negatively appraise their parenting experience have been shown to also be more likely to have less social support (Sanders et al., 2007), and mothers who reported perceived higher levels of positive social support reported less depressive symptoms, and as such was an important mediator on maternal depressive symptoms in mothers involved in a psychosocial stimulation intervention that improved infant development outcomes (Singla, Kumbakumba, & Aboud, 2015). The current results suggest that maternal psychological distress and appraisal of parenting experience may reflect a cluster of factors that predict child social-emotional development.

Variables that signified mothers who were psychologically distressed, and who were more likely to feel less confident in their parenting skills and appraise their parenting experience as more depressing and less fulfilling, accounted for 21% of the explained variability in child social-emotional development. The significant interaction demonstrates that maternal psychological distress moderated the impact of having a depressive appraisal of the parenting role, and is associated with lower children's social-emotional development scores. Given that there were mothers with high maternal psychological distress and low appraisal of parenting as depressing (and vice versa), these two measures are likely assessing a different, albeit overlapping, phenomenon. Consequently, the support of maternal mental health, including mothers' experience of parenting, appears necessary to ensure reduced vulnerability to poor child development outcomes.

A high proportion of infants in the current sample were below normative expectations of child development, consistent with earlier studies conducted in Kenya (Abubakar et al., 2008; Sigman, Neumann, Jansen, & Bwibo, 1989). Over 50% of infants were below average in cognitive development, approximately one-third were below average in fine and gross motor development, one in four was below average in social-emotional development and one in five was below average in adaptive behaviour. This compares to approximately one in four (or 25%) reported in the theoretical normal population that would be classified as below average in any one of the four developmental domains (Bayley, 2006). These results provide further support for the growing movement in promoting development in addition to addressing the nutritional needs of children in LMICs (Chan, 2013; Walker et al., 2011).

The current study provides unique data from Kenya in the measurement of both maternal psychological distress and infant development, particularly adaptive behaviour, as this has not been reported in other studies of infant development in LMICs. However, there are a number of limitations that require discussion. For example, an at-risk population (such as malnourished, HIV-infected) sample was not studied, however, the sample used provides information that is useful for a public health approach. The measures of maternal psychological distress, of the mothers' provision of psychosocial stimulation to the child and of child social-emotional development were based on self-report measures, as such, it is acknowledged that there may have been some bias or error in reporting; in future studies observational methods, alongside more detailed clinical interviews, are recommended. Furthermore, we used a Western developed measure of infant development, and it may not have been the most culturally valid assessment. Moreover, the comparison with a normative population based in developed countries limits the interpretation of the results. Yet despite these limitations, the Bayley Scales have been used in a previous study of infant development in Kenya (Sigman et al., 1989) and remain the recommended 'gold standard' in the measurement of infant development in LMICs (Fernald et al., 2009).

The current findings extend our understanding of the relations between maternal psychological distress and child development in a low-income country. Poor maternal psychological well-being is associated with lower social-emotional development, but not with other areas of child development. Specifically, maternal psychological distress and appraisal of parenting experiences predict child social-emotional development. Interventions designed to promote children's social-emotional development in Kenya should include strategies that will support maternal mental health and enhance confidence and experience of parenting. For example, increased monitoring of maternal mental health by primary care providers during the antenatal and perinatal periods, and the provision of psychoeducation on ways to provide psychosocial stimulation are examples of practical and economic ways to enhance parental mental health and infant development. Furthermore, monitoring and educational interventions could be integrated into existing maternal care provided during the post-natal period, such as adherence to an immunization schedule. During these visits, local community health workers may be able to assess and monitor maternal mental health and provide support to enhance parenting confidence and skills in the provision of psychosocial stimulation, and thereby enhance the social-emotional development of children.

Note

1. Kenya was defined as a low-income country at the time of data collection in March–April 2013 (World Bank, 2014).

Disclosure statement

No potential conflict of interest was reported by the authors.

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Paul Rhodes is a senior lecturer at the School of Psychology, University of Sydney, Australia. As a researcher, he has been engaged in qualitative inquiry in a variety of ways. Much of his research to date has been in family therapy, family-based treatment for anorexia nervosa, intellectual disability or autism, and network-oriented supervision for those working with multi-stressed families. He has also conducted research in other fields, working with refugees, hearing voices, reflective practice, psychodynamic models of supervision, health psychology, organisational cultures in mental health and more.

Caroline J. Hunt is the Associate Head (Clinical) at the School of Psychology, University of Sydney, Australia. She has worked in the field of anxiety disorders for over 20 years. She is an author of a leading international reference book on the treatment of adult anxiety disorders, which is now in its second edition, and has been translated into several languages. She has developed significant experience and expertise in the conduct of intervention programmes for child and adolescent anxiety, often involving the supervision of post-graduate clinical psychology interns in the delivery of such programmes. She is a Member of the University of Sydney's Clinical Training Advisory Committee and Deputy Chair, Australian Psychology Accreditation Council.

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