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MOTHERS' AND FATHERS' PARENTING PRACTICES WITH THEIR DAUGHTERS AND SONS IN LOW- AND MIDDLE-INCOME COUNTRIES

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States Parties shall use their best efforts to ensure recognition of the principle that both parents have common responsibilities for the upbringing and development of the child. Parents or, as the case may be, legal guardians, have the primary responsibility for the upbringing and development of the child. The best interests of the child will be their basic concern.

Article 18.1, Convention on the Rights of the Child
General Assembly resolution 44/25, 20 November 1989.

PARENTAL CAREGIVING

Although parenting is an adult stage of development, parenting is also a job whose primary object of attention and action is the child. Beyond their children's survival, parents are fundamentally invested in their children's education and socialization. Healthy human children do not and cannot grow up without competent and engaging caregivers, as in early childhood children first learn how to express and read basic human emotions, forge their first social bonds, and first make sense of the physical world. Normally, parents lead young children through these developmental firsts. Thus, mothers' and fathers' cognitions and practices contribute in important ways to the course and outcome of child development (Bornstein, 2002, 2015; Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2001). Moreover, parents (among others) socialize and educate children in ways that, appropriate to their stage of childhood, prepare children to adapt to the life roles and contexts they will occupy as they grow.

Caregiving blends intuition and tuition. Parents sometimes act on their intuitions about caregiving. For example, almost everywhere parents speak to their newborns even though they know that babies cannot yet understand language. However, parents also acquire knowledge of what it means to parent, and generational, social, and media images of

caregiving, children, and family life play significant roles in helping parents formulate their caregiving cognitions and guide their caregiving practices (Bornstein & Lansford, 2010). All societies prescribe certain expected characteristics of their members and proscribe certain others (Harkness & Super, 2002). Some prescriptions and proscriptions are essentially universal, such as the requirement for parents to nurture and protect their offspring. Others vary across societies: For example, parents in some societies play with their children and see children as interactive partners, whereas parents in other societies think that adult play with young children falls outside their purview (Bornstein, 2007). Thus, parents from different places vary in their caregiving, and caregiving from very early in life varies in terms of opinions about the significance of different specific competencies for children's successful adjustment, the ages expected for children to reach developmental milestones, when and how to care for children, and so forth (Bornstein, 2010). Indeed, socially constructed beliefs are so powerful that parents sometimes act on them more than on what their senses tell them about their own children (Ochs, 1988), and national origins shape parental expectations and interactions with children (Goodnow, Cashmore, Cotton, & Knight, 1984).

How does caregiving vary across low- and middle-income countries (LMIC)? How do mothers and fathers caregive with their daughters and sons? The present study addresses these questions using items from the Multiple Indicator Cluster Survey (MICS3), a nationally representative and internationally comparable household survey of LMIC (UNICEF, 2006). The MICS3 asks about parents' taking children to accompany them outside the home, playing with children, singing songs, naming, counting, and drawing, telling stories, and reading with young children.

PARENTAL CAREGIVING X GENDER

Gender shapes parent-child relationships in multiple ways. Parenting influences and is influenced by parent gender and by child gender.

Mothers and fathers

Traditionally, mothers have been cast as caregivers and home managers embedded in the family, whereas fathers are seen as more powerful and separated from the family (Bird, 1997; Goldman & Goldman, 1983; Weisner, Garnier, & Loucky, 1994). Thus, mothers and fathers have different relationships with their children (Barnard & Solchany, 2002; Parke, 2002; Pleck, 2012) beginning with initial childcare. In nearly 100% of mammalian species, including human beings, females take responsibility for early childcare, whereas males have little direct investment in offspring (Clutton-Brock, 1989, 1991). Analyzing data from 186 societies worldwide, Weisner and Gallimore (1977) found that in the vast majority mothers (and female adult relatives and female children) served as the primary caregivers of infants and young children. In high-income countries (HIC), women's and men's roles have undergone a major transformation. Women work more outside the home, and men are more involved with childcare. However, egalitarian parenting is still not the norm and parents with egalitarian attitudes still treat their girls and boys differently (Gelman, Taylor, & Nguyen, 2004). Even in the United States, where fathers may provide more care to their infants and young children, fathers still do considerably less baby tending than mothers (Pleck, 2012).

Observations of parental care in preindustrial traditional societies, such as the !Kung San (Botswana), where social customs center on equality among group members, reveal the same pattern found in modern and Western nations (Flinn, 1992; Griffin & Griffin, 1992; West & Konner, 1976). In another hunter–gatherer society, the Aka (Central African Republic), fathers provide more direct care to their children than do fathers in any other society that has been studied (Hewlett, 1988, 1992). Nevertheless, during the course of the day, “the father would on average hold his infant for a total of 57 minutes while the mother would hold the infant 490 minutes” (Hewlett, 1988, p. 268).

These differences cannot be attributed to a general inability of males to care for young children. When fathers interact with infants and children, they show many of the same child-centered characteristics as mothers (e.g., they switch to child-directed speech), and fathers can provide competent routine care (Parke, 2002; Pleck, 2012). These gender differences cannot be attributed to father absence either (because fathers tend to be away hunting or working outside of the home). When both parents are present, for example, U.S. American mothers spontaneously engage their infants and provide routine care more frequently than do fathers (Belsky, Gilstrap, & Rovine, 1984; even if these differences may have narrowed somewhat at least for some men; see Pleck, 2012).

Evolutionary psychology attributes these consistent differences in mothering and fathering principally to maternal internal gestation and obligatory postpartum suckling (Clutton-Brock, 1989). Gender differences in the relative costs and benefits of producing versus maintaining offspring are argued to play a key part in understanding the evolution of gender differences not only in reproductive strategies but also in parental investment (Trivers, 1972). The gender with the lower potential rate of reproduction invests more in parenting efforts (Clutton-Brock & Vincent, 1991; Trivers, 1972).

In overview, in almost all mammalian species and in human beings in all regions of the world, across a wide diversity of activities and ideologies, studies indicate more maternal than paternal obligatory caregiving of young children. We do not know, however, if the same division of labor holds for discretionary parenting activities, such as playing and reading. We know that mothers tend to hold more implicit gender stereotypes and are less concerned with gender role conformity and fathers more explicit gender stereotypes and are more concerned with gender role conformity (Endendijk et al., 2013; Leaper, 2002). We do not know what divisions of labor in these respects are common across LMIC. And we do not know how that labor is divided between girls and boys.

Daughters and sons

Parents are widely believed to construe and to interact with children differently by gender. Classic “Baby X” studies (where the gender of the infant is not known to study participants) in the United States have shown that unidentified infants are judged more frequently to be male and that parents conceive of and behave toward infants differently depending on whether they think they are interacting with a girl or a boy (Seavey, Katz, & Zalk, 1975; Sidorowicz & Lunney, 1980). Even before birth, after finding out their child’s gender via ultrasound, parents begin to describe their girls and boys differently (Sweeney & Bradbard, 1989). After birth, adults rate newborn girls softer, more finely featured, and “beautiful,

pretty, and cute" more frequently than newborn boys, even when the infants do not differ in weight, length, or Apgar score (Rubin, Provenzano, & Luria, 1974). Parents then purchase gender-stereotyped toys for their children prior to when children could express gender-typed toy preferences themselves (Pomerleau, Bolduc, Malcuit, & Cossette, 1990), and later parents encourage gender-typed play (Eisenberg, Wolchik, Hernandez, & Pasternack, 1985; Fisher-Thompson, 1993; Robinson & Morris, 1986). Thus, gender differences encourage different parental expectations and behaviors (girls talked to and boys touched: Lewis, 1972; Seavey et al., 1975), and adults' gender labeling of children relates to how development is organized (Money & Erhart, 1965; Seavy et al., 1975).

Indeed, parents' cognitions and practices communicate to children about gender in many convergent ways. Parents socialize, model, and scaffold gender, they reinforce gendered beliefs and behaviors, and they also organize children's activities and environments within and outside the family in relation to gender. One direct avenue of influence flows through parents' differential treatment of daughters and sons. For example, parents hold different cognitions, beliefs, and expectations for their girls and boys. Mothers underestimate their toddler girls' motor skills and overestimate those of their boys, even when objective tests show no gender differences in children's motor performance (Mondschein, Adolph, & Tamis-LeMonda, 2000). Another type of differential treatment occurs through parenting practices. Mothers teach daughters how to cook a meal, fathers teach sons how to build a fence. Parents also model different roles. To the extent that mothers and fathers are important and powerful figures in children's lives, often to be emulated or feared, they shape children's impressions of what it means to be a woman or a man simply by acting like a woman or a man (Bussey & Bandura, 1999). Mothers and fathers tend too to scaffold girls' and boys' participation in different activities in anticipation of adult gender role differences (Goodnow, 1988; Leaper, 2000a, b). Parents also reinforce children's conformity to expected or desired gender norms, as when adults compliment a girl when she tends to a younger sibling and a boy for his building skills, and children's tendencies to engage in different behaviors often reflect rewards or injunctions associated with their outcomes. For example, gender-differentiated patterns of parent reinforcement in the domain of emotions may contribute to girls learning to express versus boys learning to mute their emotions (Eisenberg, Cumberland, & Spinrad, 1998). Finally, parents treat daughters and sons differently through the types of opportunities they provide or promote (Bussey & Bandura, 1999; Lytton & Romney, 1991). For example, parents tend to assign household chores along gender stereotyped lines (Antill, Goodnow, Russell, & Cotton, 1996). Access to certain settings gives children chances to develop corresponding conceptions of themselves and to engage in particular activities as well as to receive encouragement for repeating those activities (Lott & Maluso, 1993). For example, feminine-stereotyped toys tend to induce caregiving behaviors (e.g., feeding a doll), whereas masculine-stereotyped toys tend to generate instrumental behaviors (e.g., building a fence; Martin & Dinella, 2002). Parents further influence gender in their children by tending to place girls and boys in gender-distinctive contexts (e.g., rooms with gender-stereotyped furnishings; Pomerleau et al., 1990). To the extent that gender-differentiated situations are customary in their lives, children's gender-related knowledge, expectations, abilities, and activities are likely to be refined. Effecting these kinds of controls over children's opportunity structures also means

that parents do not need to differentially socialize, model, scaffold, or reinforce gendered beliefs or behaviors in their children because contexts alone may elicit or establish desired gendered outcomes in children.

Mothers and fathers, daughters and sons

Insofar as parent and child gender exert powerful and pervasive influences on relationships within the family, it follows that individual parent–child dyad combinations might display distinct gendered dynamics. Considering gender alone reveals four parent–child dyad types: mother–son, mother–daughter, father–son, and father–daughter (Collins & Russell, 1991; Cowan, Cowan, & Kerig, 1993; Starrels, 1994). However, reviewing the literature, Russell and Saebel (1997) could find only one study (Noller & Callan, 1990) that clearly showed that the four dyads differ from each other. In actuality, mothers are involved in the caregiving of sons and daughters, whereas fathers tend to be more involved with sons (Rohner & Rohner, 1982) and promote sex-typed activities more than mothers (Lytton & Romney, 1991). Fathers are more likely to hold children to stereotypical norms than mothers, and fathers encourage and reinforce gender stereotypes (Chaplin et al., 2005), including rewarding girls' negative emotions and punishing boys' negative emotions (Garside & Klimes-Dougan, 2002). Therefore, mothers and fathers vary in the ways they explicitly socialize children based on their child's gender (Brody, 2000; Chaplin et al., 2005; Garside & Klimes-Dougan, 2002; Zahn-Waxler, 2000).

In summary, parenthood and childhood are both gendered. Parents differ in their parent investment strategies by their own gender, and they parent their children differently relative to their child's gender. The result is a four-fold taxonomy of possibly gender-distinctive intrafamilial relationships. Overall, differences in how mothers and fathers caregive to girls and boys might vary as a function of parent gender, child gender, domain of caregiving, and place.

PARENTAL CAREGIVING X GENDER X CONTEXT

Many factors influence caregiving, child development, and parent–child relationships. In the prevailing bioecological model of human development (Bronfenbrenner & Morris, 2006), these spheres of influence range from the distal macrosystem to the proximal microsystem. Factors that define a society, such as its economy, political structure, traditions, and laws, constitute the macrosystem of caregiving and child development.

Mothers and fathers follow many macrosystem customs in differentially rearing daughters and sons. Every context is characterized (and distinguished from others) by thoroughgoing, deep-seated, and consistent themes that inculcate what one needs to know, to feel, and to behave as a well-functioning participant in that context. Gender is one major domain of this thematicity (the repetition of the same cultural idea across mechanisms and in diverse circumstances). Context therefore has profound effects on gender-related beliefs and behaviors, prescribing how children are socialized and by whom, which behaviors are considered adaptive and which maladaptive, which tasks children are taught, and what roles as mature women and men they will adopt (Best & Williams, 1997; Whiting & Edwards,

1988). Caregiving reflects adaptations by parents meant to help prepare children for success in their specific societal context.

Context shapes gendered caregiving and gender in children pervasively and in both subtle and overt ways. For this reason, we studied mothering and fathering of daughters and sons in 39 distinct societal contexts. Those contexts consisted of LMIC across the developing world.

COUNTRY-LEVEL GENDER EQUITY AND ECONOMIC FACTORS AND CAREGIVING

Countries vary greatly in whether and how they promote gender equality. For example, in nations where it is normative for women to be less educated and work outside the home less than men, parents may perpetuate these patterns by promoting cognitive tasks (e.g., reading, learning numbers) less with girls than boys. Another way national gender inequality may “trickle down” is that limiting the education of a mother can have a profound impact on her parenting and her children. Gakidou, Cowling, Lozano, and Murray (2010) estimated that over half of the reduction in child mortality from 1970 to 2009 could be attributable to gains in maternal education across the same period. Less educated mothers are less likely to understand their child’s capabilities (Ertem et al., 2007) and parent in an effective manner (Valenzuela, 1997).

Challenging even in optimal circumstances, successful caregiving is rendered even more difficult when family, societal, and national resources are inadequate (Edin & Lein, 1997). The stresses on poor parents stemming from the day-to-day struggles to find resources, and the stresses of trying to cope with living in deteriorated dangerous circumstances, undermine effective caregiving (McLoyd, Aikens, & Burton, 2006). Compared to middle-SES parents, low-SES parents (even in developed countries) are less likely to provide children with stimulating learning experiences, such as reading (Feitelson & Goldstein, 1986) or appropriate play materials in the home (Gottfried, 1984). Lower-SES mothers converse less with their children, and in systematically less sophisticated ways, than middle-SES mothers do with their children (Hart & Risley, 1995; Hoff, Laursen, & Tardif, 2002).

To explore country-level correlates of mothers’ and fathers’ caregiving of girls and boys, we evaluated relations of gender differences in six common caregiving practices with national indicators of gender equality and economic development.

THIS STUDY

With these several considerations in mind, the present study documents mothers’ and fathers’ caregiving of daughters and sons in more than 170,000 families with children under 5 years of age in 39 LMIC around the world. We build on a previous study of country differences in mothers’ cognitive and socioemotional caregiving in 28 LMIC (Bornstein & Putnick, 2012) by exploring the differences between mothers’ and fathers’ caregiving of their daughters and sons in 39 LMIC. This work was guided by two main questions. First, what are the prevalences of 6 caregiving practices in mothers and fathers of girls and boys in each country, and how do mothers and fathers and girls and boys compare on each? Second,

how are gender differences in each caregiving practices related to country-level indicators of the nations' gender equity and economy?

METHOD

Participants

This study evaluates mothers' and fathers' caregiving to daughters and sons in 171,456 families in 39 LMIC (Table 4.1). Across countries, the average number of children under 5 in the family was 1.32 ($SD = .54$, range = 1–8). The target children averaged 28.79 months of age ($SD = 16.72$, range = 0–59), and 48.9% were girls. Girls and boys were similar in age, $M = 28.74$, $SD = 16.72$, for girls and $M = 28.84$, $SD = 16.72$, for boys, $t(171,448) = -1.26$, *ns*. Questions were usually answered by the child's biological mother (94.8%). Of the 5.2% of questionnaires that were completed by another female mother figure, 94.2% had no biological mother living in the household. Mothers averaged 29.66 years ($SD = 8.40$, range = 15–95), and the highest level of education she had completed was none or preschool for 32.4%, primary school/non-standard curriculum/religious school for 30.3%, secondary/vocational/tertiary school for 31.9%, and higher for 5.4%. Mothers of girls were slightly but not meaningfully older ($M = 29.72$, $SD = 8.47$) and less educated ($M = 1.10$, $SD = .92$) than mothers of boys ($M = 29.60$, $SD = 8.33$, and $M = 1.11$, $SD = .92$, respectively), $t(170,523.19 \text{ and } 171,278) = 3.00 \text{ and } -3.28$, $ps < .01 \text{ and } .001$, respectively.

Procedures

We use the Multiple Indicator Cluster Survey (MICS3), the Gender Relative Status Index (GRS; Beneria & Permanyer, 2010; Permanyer, 2010), the Gender Inequality Index (GII; UNDP, 2011), and the Human Development Index (HDI; UNDP, 2008). Additional information about the MICS3, GRS, GII, and HDI is available in Chapter II (Bornstein et al., 2016).

MICS3—This study included only the responses from female caregivers about the caregiving mothers and fathers did with their children in the past 3 days. Six MICS3 items for each parent were each coded as 0 = mother/father did not take outside/play/sing songs/name, count, draw/tell stories/read books with the child, 1 = mother/father took outside/played/sang songs/named, counted, drew/told stories/read books with the child.

Analytic Plan

To assess how mothers and fathers compare on 6 caregiving practices, first, we explored whether mothers' and fathers' caregiving was correlated across countries. Next, to determine whether mothers and fathers parent their girls and boys similarly across countries, the 6 caregiving items were explored with binomial generalized estimating equations (GEE) with logit link functions. Parent gender (mother-father) was treated as a within-subjects factor to account for shared family variance, and child gender and country were treated as between-subjects factors. We modeled main effects and all two- and three-way interactions between and among parent gender, child gender, and country. Because country had 39 levels and the models were complex, the GEE models would not converge when country was included as a factor (Allison, 2008). Consequently, we split the file by country and computed Parent

gender by Child gender models within countries. Finally, to assess how each caregiving practice in mothers and fathers of girls and boys related to country-level indicators of nations' gender equity and economy, the effect sizes for parent gender and child gender for each country (odds ratios) were correlated with the country's Gender Relative Status Index and Gender Inequality Index (with and without controlling for the country's Human Development Index) and with the Human Development Index.

For all analyses except correlations with the country-level gender indices, we used child age, number of children under 5 in the family, and maternal education as covariates. Parents were slightly more likely to take older than younger children outside, $r(342,524) = .04, p < .001$, name, count, or draw with them, $r(342,278) = .12, p < .001$, tell stories, $r(342,253) = .17, p < .001$, and read to them, $r(341,980) = .20, p < .001$. However, parents were slightly less likely to play with, $r(342,588) = -.02, p < .001$, and sing songs to, $r(342,384) = -.01, p < .001$, older than younger children. Parents with more children under 5 were slightly less likely to engage in all caregiving practices, $r(341,980 \text{ to } 342,588) = -.03 \text{ to } -.07, ps < .001$. Finally, parents from families where mothers had higher education were more likely to engage in all caregiving practices, $r(341,650 \text{ to } 342,248) = .12 \text{ to } .29, ps < .001$. There were large differences in maternal education across countries, $F(38, 171,246) = 2,710.48, p < .001, \eta^2 = .376$, and controlling for maternal education accounts for across-country as well as within-country differences.

RESULTS

Overall, we found that within families, mother and father caregiving practices were correlated in most countries. Furthermore, there were robust, consistent differences by parent gender with mothers generally more likely than fathers to engage in caregiving practices, and there were only small, inconsistent differences in caregiving activities by child gender.

Mother-Father Agreement

Taking children outside for mothers and fathers was positively correlated overall ($\phi = .23, p < .001$) and in 32 of 39 countries ($\phi = .02 \text{ to } .48, ps < .001$), negatively correlated in Laos, Macedonia, Tajikistan, and Uzbekistan ($\phi = -.06 \text{ to } -.10, ps < .001$), and unrelated in Albania, Georgia, and Kazakhstan (Supplemental Table 4.1). Play for mothers and fathers was positively correlated overall ($\phi = .35, p < .001$) and in 37 of 39 countries ($\phi = .06 \text{ to } .47, ps < .05-.001$) but unrelated in Laos and Tajikistan (Supplemental Table 4.2). Singing for mothers and fathers was positively correlated overall ($\phi = .25, p < .001$) and in 34 of 39 countries ($\phi = .07 \text{ to } .39, ps < .001$), negatively correlated in Laos and Tajikistan ($\phi = -.06 \text{ to } -.11, ps < .01-.001$), and unrelated in Albania, Georgia, and Uzbekistan (Supplemental Table 4.3). Naming, counting, and drawing for mothers and fathers were positively correlated overall ($\phi = .33, p < .001$) and in 37 of 39 countries ($\phi = .08 \text{ to } .48, ps < .001$), negatively correlated in Laos ($\phi = -.14, p < .001$), and unrelated in Albania (Supplemental Table 4.4). Storytelling for mothers and fathers was positively correlated overall ($\phi = .28, p < .001$) and in 34 of 39 countries ($\phi = .04 \text{ to } .59, ps < .05-.001$), negatively correlated in Georgia, Laos, and Tajikistan ($\phi = -.07 \text{ to } -.09, ps < .001$), and unrelated in Albania and

Uzbekistan (Supplemental Table 4.5). Finally, reading for mothers and fathers was positively correlated overall ($\phi = .35, p < .001$) and in 37 of 39 countries ($\phi = .06$ to $.51, ps < .001$), and negatively correlated in Laos and Tajikistan ($\phi = -.06$ to $-.07, ps < .01-.001$; Supplemental Table 4.6).

Group Differences by Parent Gender and Child Gender

Take outside—Overall, 59% of mothers and 30% of fathers reportedly took their children outside the yard, compound, or enclosure in the past 3 days (Figure 4.1; see Supplemental Table 4.1). More mothers than fathers reportedly took their child outside in 36 countries, more fathers than mothers in 1 country (Guinea-Bissau), and mothers and fathers did not differ in 2 countries (Djibouti and Iraq; but see the interaction for Iraq). Parents reportedly took more boys than girls outside in 15 countries, and parents of girls and boys did not differ in the other 24 countries. Finally, there were significant parent gender by child gender interactions in 14 countries. Post-hoc tests indicated that more fathers of boys took their child outside than fathers of girls in Bangladesh, Bosnia and Herzegovina, Burkina Faso, Central African Republic, Côte d'Ivoire, Iraq, Nigeria, Somalia, and Syria. More mothers of girls took their child outside than mothers of boys in Iraq, Nigeria, and Yemen, and more mothers of boys took their child outside than mothers of girls in Guinea-Bissau.

Play—Overall, 57% of mothers and 27% of fathers reportedly played with their children in the past 3 days (Figure 4.1; see Supplemental Table 4.2). More mothers than fathers reportedly played with their children in all 39 countries. Furthermore, parents reportedly played with more boys than girls in 7 countries (Bangladesh, Bosnia and Herzegovina, Burkina Faso, Côte d'Ivoire, Iraq, Serbia, and Thailand), and there were no differences by child gender in the other 32 countries. Finally, there were Parent gender by Child gender interactions for Iraq and Thailand. Post-hoc tests indicated that more fathers of boys reportedly played than fathers of girls in Iraq and Thailand, but similar proportions of mothers of boys and girls played with their children in both countries.

Sing songs—Overall, 50% of mothers and 13% of fathers reportedly sang songs to their children in the past 3 days (Figure 4.1; see Supplemental Table 4.3). More mothers than fathers reportedly sang songs in 38 of 39 countries; parents did not reportedly differ in Laos. Parents sang to more girls than boys in Macedonia, and to more boys than girls in Thailand. Finally, there were Parent gender by Child gender interactions in Bosnia and Herzegovina, Iraq, and Thailand. More fathers of boys reportedly sang than fathers of girls in Thailand, but mothers and fathers in Bosnia and Herzegovina and Iraq reportedly sang to approximately equal proportions of girls and boys (despite the significant interactions).

Name, count, draw—Overall, 44% of mothers and 17% of fathers reportedly named, counted, and drew with their child in the past 3 days (Figure 4.1; see Supplemental Table 4.4). More mothers than fathers reportedly had named, counted, and drawn in all 39 countries. There were also main effects of gender in 5 countries, with more parents reportedly naming, counting, and drawing with boys than girls in Bosnia and Herzegovina, Côte d'Ivoire, Ghana, Iraq, and Thailand. Finally, there were significant Parent gender by Child gender interactions in the same 5 countries, indicating that the main effects of gender

were driven by fathers' interactions because more fathers of boys reportedly named, counted, and drew than fathers of girls, but mothers of girls and boys did not differ.

Tell stories—Overall, 32% of mothers and 12% of fathers reportedly told their child stories in the past 3 days (Figure 4.1; see Supplemental Table 4.5). More mothers than fathers reportedly told their children stories in 37 of 39 countries, more fathers told stories than mothers in Guinea-Bissau, and mothers and fathers did not differ in Laos. There was a main effect of gender in Iraq, with stories being told more to boys than girls. There were also parent gender by child gender interactions for Guyana, Iraq, and Mozambique. Mothers reported that more mothers of girls told stories than mothers of boys in Guyana, more fathers of boys told stories than fathers of girls in Iraq, and there were no differences between mother and father storytelling to girls and boys in Mozambique.

Read books—Overall, 22% of mothers and 9% of fathers reportedly read to their child in the past 3 days (Figure 4.1; see Supplemental Table 4.6). More mothers than fathers reportedly read to their child in 32 of 39 countries, and the percentages of mothers and fathers who read to their children in the past 3 days did not differ in the other 7 countries (2 of 20 medium-HDI countries and 5 of 10 low-HDI countries). In Iraq, there was a significant interaction between Parent gender and Child gender and a main effect of gender. In Sierra Leone and Thailand, there were also main effects of child gender. For all 3 countries with child gender effects, mothers reported that more boys had been read to than girls. In Iraq, mothers reported that more fathers of boys had read to their child than fathers of girls, but mothers of boys and girls did not differ.

Relations with National Indexes of Gender Equality and Economy

To assess whether differences between mothers' and fathers' caregiving with girls and boys reflected national gender or economic well-being disparities, we computed correlations of the effect sizes for parent gender and child gender derived from the models above for each country with national level GRS, GII, and HDI scores (Table 4.2). For parent gender, a larger effect size indicated that more mothers reportedly practiced that caregiving than fathers and a smaller effect size that fathers and mothers were more equal (or, rarely, slightly more fathers practiced that caregiving than mothers). For child gender, a larger effect size indicated that more parents reportedly practiced that caregiving with girls than boys, and a smaller effect size that more parents reportedly practiced that caregiving with boys than girls.

Neither the GRS, GII, nor HDI related to taking the child outside, playing, or singing songs by parent or child gender, with the exception of the child gender effect size for taking the child outside with the HDI. Countries in which more mothers practiced caregiving than fathers on naming, counting, and drawing, storytelling, and reading had higher gender equality on the GRS and/or the GII and human development on the HDI. For child gender, countries in which more parents of boys reportedly practiced caregiving than parents of girls on naming, counting, and drawing, and reading had higher gender inequality on the GII. However, countries with lower gender equality tended to have lower overall human development, and in the countries with lower gender equality, both mothers and fathers

tended to caregive less with their children (e.g., fewer than 10% of mothers and fathers in low-HDI countries had read to their child) and therefore the difference between mothers and fathers was smaller. To remove the variance in the gender indices associated with overall economic level of the country, we controlled the GRS and GII correlations (first 2 columns of Table 4.2) for the HDI, and all effects attenuated to nonsignificance except for mother-father naming, counting, and drawing with the GII (but see Table 4.2 note).

DISCUSSION

Parents are responsible for developmentally important caregiving as children under 5 have limited agency. We studied six caregiving practices in mothers and fathers of girls and boys in over 170,000 families in 39 underresearched LMIC.

Mother and Father Caregiving of Girls and Boys in LMIC

Parents' practices are directed to meet the biological and physical needs as well as socioemotional and cognitive requirements of children. The six caregiving practices we studied are prominent, active, and enriching parental responsibilities that vary globally. In most countries, more mothers than fathers reportedly engaged in six caregiving activities. The few significant differences in the parenting of young girls and boys were very small. There was some evidence of differential treatment of girls and boys by mothers and fathers (i.e., an interaction between Parent gender and Child gender), but these effects tended to be small. Overall, taking a child outside the home was the most prevalent form of caregiving, followed by playing, singing, naming, telling stories, and finally reading books.

In most mammalian species females engage in more childcare, such as carrying the infant and foraging for food. In fact, actual male parenting is observed in less than 5% of mammal species (Moller, 2003). Anthropological evidence indicates that mothers are the primary caregivers of children in the vast majority of cultures. Despite dramatic increases in maternal labor force participation, mothers invest more hours in parenting, and they continue to outpace fathers. While married fathers make greater investments in parenting, their investment, relative to mothers', has not increased since the 1990s. One study found that 55% of fathers and 64% of mothers reported that mothers were mainly responsible for basic childcare (Clutton-Brock, 1991; see also Coltrane, 1996).

The scattered and small differences in the treatment of young girls and boys were somewhat surprising. In these LMIC there is often evidence that adult women have fewer opportunities and rights than men. Perhaps in this young age group, girls and boys are reared similarly but differential treatment begins later in life. The few gender differences might also be an indication that this cohort of parents has shifted their ideologies to include similar treatment for their female and male children. Perhaps gender gaps will narrow even further as this cohort of children ages.

Country-Level Gender Equality and Economic Factors and Caregiving

What accounts for country-level differences in gendered caregiving in LMIC? To begin to address this question, we explored the GRS, GII, and HDI. Gender differences in parenting were largely unrelated to national measures of gender equality but were sometimes related to

a national measure of socioeconomic development. Country-level HDI related to gender differences in naming, counting, and drawing, storytelling, and reading. Notably, Halle et al. (2009) identified significant disparities in cognitive development as early as 9 months of age in a nationally representative U.S. sample based on low income and low maternal education.

Limitations

This study has limitations that raise additional questions about caregiving and gender in LMIC. Some general and specific limitations associated with the MICS are addressed in Chapter VII (Bornstein, Putnick, Bradley, Deater-Deckard, & Lansford, 2016). In addition, here we compare mothers' reports about themselves with their reports of their perceptions of their husbands/children's fathers. Reports on fathers must be understood in this light.

The MICS uses a limited number of specific and presumably universal (etic) items to quantify caregiving. This limitation has two consequences. First, it is useful to simply tally the different ways mothers and fathers stimulate their girls and boys, but their sum does not represent the broader dimension of stimulation. The MICS items are important and helpful indicators, but they are nowhere near representative of the full range of caregiving practices. Second, caregivers in different countries may engage in other country-specific (emic) forms of caregiving that adequately substitute for specific MICS items. For example, among the Bengali of northern India, a mother peeling an orange for her child is a high expression of socioemotional caring (Rohner, 1994). Moreover, next to quantitative aspects of caregiving, qualitative aspects matter a great deal. In addition to considering the form and level of caregiving, it is critical to consider the content and timing of caregiving with respect to children's ongoing activities and development.

Conclusions and Implications

Caregiving varies among mothers and fathers and in small degree daughters and sons in LMIC. Caregiving has benefits as well as costs for offspring. Positive caregiving in terms of socialization and education promotes children's social and cognitive competencies and improves success in managing their lives. However, compromised caregiving jeopardizes optimal child development, especially among parents who lack the resources, knowledge, investment, or competencies to rear their young so as to augment individual and common good (Bugental & Grusec, 2006). Stereotypes can be powerful.

Caregiving matters. Consider book reading, a caregiving practice that was engaged in at a fairly low frequency. Of course, in these LMIC caregiving is often distributed socially, and so many caregivers (other than mothers and fathers) may be reading to children. In this sense (and in others) the MICS data set may underestimate actual caregiving experience of children. Moreover, as pointed out later, who reads with the child and the quality of their interaction may well outstrip quantity. Governments and NGOs alike inspire parents to read to children and expose them to books from early in life as early reading exposure provides a foundation for subsequent educational achievement in the school years. Shared book reading stimulates children's interest and provides opportunities for parents to create an interactive learning environment with their child. The frequency with which adults read to children in English or Spanish and the frequency of maternal labeling questions (e.g., "What do you call

this little animal?) while reading books together correlate positively with children's vocabulary in both languages (Quiroz, Snow, & Zhao, 2010). In HIC as well as LMIC, long-term benefits from high-quality early intervention programs to improve parenting in these domains include better health outcomes for children, higher verbal and mathematics achievement, greater success at school, improved employment and earnings, less welfare dependency, and lower crime rates (Adair, 1999; Deaton, 2001; UNESCO, 2005). Throughout the world, mothers and fathers are the first and primary individuals entrusted with caring for girls and boys and the central task of rearing children to become competent members of their society. Child survival is achieved through parental protection and provision, but child thriving is attained through caregiving that involves inculcating interpersonal competencies through socialization and sharing information through education. Mothers and fathers who engage their daughters and sons in caregiving activities also gain access to their own children's emotional competence, social style, and learning potential, and they learn about their children's proclivities, capabilities, and limits. Such knowledge can lead to more appropriate and beneficial interactions with the salutary result of enhanced child development and well-being.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Figure 4.1.

Percentages of mothers and fathers who had engaged in each caregiving practice in the past 3 days. Standard errors were all $< .13$.

TABLE 4.1

SAMPLE DESCRIPTIVE STATISTICS

Country	n	Child age		Mother education ^d		Number of children under 5	
		M	SD	M	SD	M	SD
High HDI							
Trinidad & Tobago	918	30.24	17.04	1.91	.53	1.20	.45
Montenegro	814	32.31	16.95	1.93	.65	1.30	.55
Serbia	2868	29.84	17.06	1.66	.82	1.31	.54
Belarus	2810	30.52	16.52	2.28	.45	1.09	.29
Macedonia	3225	33.39	16.01	1.27	.75	1.41	.56
Albania	944	32.22	17.53	2.43	.57	1.15	.39
Kazakhstan	3536	28.68	16.83	2.24	.45	1.25	.48
Bosnia and Herzegovina	2704	31.04	16.35	1.76	.61	1.18	.40
Medium HDI							
Thailand	8312	29.29	17.12	1.58	.79	1.12	.34
Jamaica	1168	30.05	16.89	2.08	.44	1.20	.46
Belize	585	30.12	17.29	1.37	.72	1.35	.56
Suriname	1732	30.97	17.04	1.49	.79	1.29	.52
Georgia	1683	30.17	17.21	2.18	.73	1.21	.42
Syrian Arab Republic	7553	28.92	15.95	1.32	.79	1.46	.62
Guyana	1812	30.52	17.03	1.73	.60	1.36	.56
Mongolia	3040	28.20	17.09	2.19	.60	1.16	.39
Viet Nam	2302	29.89	16.86	1.54	.78	1.15	.39
Uzbekistan	3876	28.95	16.91	2.09	.29	1.29	.49
Kyrgyzstan	2353	30.17	17.53	2.22	.43	1.27	.49
Vanuatu	1278	28.08	16.56	1.29	.65	1.27	.50
Tajikistan	3136	29.50	17.02	2.05	.37	1.36	.55
Laos	3020	28.46	16.73	.80	.71	1.36	.55
Yemen	2409	27.48	16.78	.47	.72	1.56	.67
Mauritania	5889	26.96	15.88	.82	.66	1.45	.61
Ghana	2624	28.80	16.71	.85	.90	1.31	.52

Country	Child age			Mother education ^a			Number of children under 5		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Bangladesh	26206	31.07	16.85	1.03	.87	1.20	.43		
Cameroon	4450	27.37	16.41	1.05	.78	1.42	.59		
Djibouti	1547	29.95	15.77	.52	.78	1.45	.64		
<i>Low HDI</i>									
Nigeria	12220	27.50	16.15	.75	.91	1.35	.56		
Togo	3151	27.42	16.36	.61	.74	1.29	.49		
Gambia	4886	25.52	16.01	.51	.77	1.33	.52		
Côte d'Ivoire	6541	27.16	16.61	.46	.69	1.30	.52		
Guinea-Bissau	4485	26.96	16.14	.40	.66	1.29	.51		
Burkina Faso	4160	27.12	15.98	.17	.47	1.27	.47		
Mozambique	8148	27.62	16.78	.83	.63	1.39	.56		
Central African Republic	6565	26.47	16.76	.67	.69	1.42	.60		
Sierra Leone	4066	28.27	16.35	.31	.66	1.23	.46		
<i>HDI N/A</i>									
Iraq	10587	28.01	16.98	1.11	.72	1.55	.69		
Somalia	3853	28.36	17.11	.41	.56	1.63	.71		
TOTAL	171456	28.79	16.72	1.10	.92	1.32	.54		

Note.

^aMother education is rated as 0 = none or preschool, 1 = primary school, nonstandard curriculum, religious school, 2 = secondary, vocational, tertiary school, and 3 = higher education.

Table 4.2

Correlations of parent gender and child gender effect sizes with country-level gender equality and economic development

	GRS	GII	HDI
Parent gender			
Take Outside	.01	.30	-.05
Play	-.12	.19	-.07
Sing Songs	.17	-.36	.19
Name, Count, Draw	.22	-.58***/- .49** ^a	.40*
Tell Stories	.33*/-.08	-.47*/-.06	.53**
Read	.58***/.18	-.64***/- .15	.70***
Child Gender			
Take Outside	.24	-.29	.35*
Play	-.13	-.06	.08
Sing Songs	.06	-.21	.20
Name, Count, Draw	.21	-.48**/- .34	.37*
Tell Stories	-.15	-.15	-.10
Read	.18	-.47*/-.11	.50**

Note. GRS = Gender Relative Status Index. GII = Gender Inequality Index. HDI = Human Development Index. Correlations after the slash control for the Human Development Index.

^aFor this analysis Macedonia emerged as an influential outlier. When Macedonia was removed, the raw correlation between Naming, counting, and drawing and GII was $r(25) = -.43$, $p < .05$, and the partial correlation controlling for HDI was $r(24) = -.25$, *ns*.