

Cultural Influences on Toddlers' Prosocial Behavior: How Maternal Task Assignment Relates to Helping Others

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This cross-cultural study investigates how maternal task assignment relates to toddlers' requested behavior and helping between 18 and 30 months. One hundred seven mother-child dyads were assessed in three different cultural contexts (rural Brazil, urban Germany, and urban Brazil). Brazilian mothers showed assertive scaffolding (serious and insistent requesting), whereas German mothers employed deliberate scaffolding (asking, pleading, and giving explanations). Assertive scaffolding related to toddlers' requested behavior in all samples. Importantly, assertive scaffolding was associated with toddlers' helping in rural Brazil, whereas mothers' deliberate scaffolding related to toddlers' helping behavior in urban Germany. These findings highlight the role of caregivers' socialization practices for the early ontogeny of helping behavior and suggest culture-specific developmental pathways along the lines of interpersonal responsibility and personal choice.

Young children's engagement in daily tasks has been ascribed a key role in the development of prosocial behavior (Dahl, 2015; Hammond & Carpendale, 2015; Rheingold, 1982). Furthermore, anthropological studies suggest that the way in which caregivers involve their children in household chores differs markedly between cultural contexts, providing children with very different learning experiences (Ochs & Izquierdo, 2009; Whiting & Edwards, 1992). Building on these findings, this study systematically investigated how mothers in three different cultural contexts assign tasks to their children and how this relates to requested behavior and helping behavior of 18- to 30-month-old toddlers. More specifically, the way in which mothers structure occasions for toddlers' social responsiveness may have important implications

for the cultural roots of toddlers' socially responsive behavior and, possibly, the motivation underlying prosocial behavior.

In a previous cross-cultural study, Callaghan et al. (2011) found that toddlers' helping behavior was similar for 18- and 24-month-olds across different cultural contexts. The authors interpreted their results as evidence for the idea that human natural prosocial tendencies are only modulated by socialization experiences beyond this age (see also, Warneken & Tomasello, 2006, 2009). However, the comparison of absolute levels of toddlers' helping behavior does not rule out possible influences of culture-specific socialization experiences per se. That is, although developmental outcomes may look similar in different cultural contexts, the learning processes and motivational factors underlying these developmental outcomes might differ (Keller & Kärtner, 2013). As a consequence, early helping behavior, even if at a similar level across cultures, might be associated with culture-specific learning

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experiences. Contrary to a late-emergence perspective, we propose that culture-specific socialization experiences influence toddlers' natural prosocial tendencies from early on.

More generally, previous research has shown that several developmental attainments in the 1st and 2nd years are sensitive to the cultural background in which they occur, including the 2-month shift (Kärtner, 2015), attachment (Keller, 2013), and self-recognition (Kärtner, Keller, Chaudhary, & Yovsi, 2012). Regarding toddlers' empathically motivated prosocial behavior, a cross-cultural study by Kärtner, Keller, and Chaudhary (2010) found that comforting behavior in 19-month-olds depends on toddlers' sense of themselves as autonomous intentional agents (as indexed by mirror self-recognition) in Western urban middle-class families but not in a non-Western context, indicating culture-specific mechanisms underlying early comforting behavior.

Concerning helping behavior, cross-cultural research suggests considerable variation in the way social responsiveness is conceptualized across cultures (Miller & Bersoff, 1992; Miller, Bersoff, & Harwood, 1990). According to US-American folk theories, helping behavior is only considered prosocial if it is shown deliberately, that is, based on personal choice or guided by a value that has personal significance (Miller & Bersoff, 1992). In the case that helping behavior is requested, referred to as requested behavior in the following, prosocial behavior is typically discounted as obedience or conformity. Intuitions are very different for Hindu Indian children and adults. Already 8-year-old Hindu Indians ascribe a strong motivating force to obligations derived from interpersonal relationships and social norms. Importantly, for Hindu Indians, acting in accordance with social obligations does not discount prosociality, indicating a less clear distinction between the concepts of requested and prosocial behavior. Thus, there are profound cultural differences in the degree to which being responsive to others' requests and needs is interpreted: either as a matter of deliberate choice or interpersonal obligation.

As a consequence, there are cultural differences in the way individuals perceive situations in which other individuals require help (Miller et al., 1990). This has important implications for the motivation underlying prosocial behavior: For US-Americans to count as prosocially motivated, helping others has to be self-referential, intrinsic, and free of external constraints or enforcements. Thereby, prosocial behavior is unrelated to requested behavior in

terms of underlying motivations. For Hindu Indians, being socially responsive to others who are either in need or request something is closely associated, as both are motivated by interpersonal obligations. Thereby, prosocial behavior and requested behavior should be related in terms of underlying motivations. Here, we address the questions of how different concepts of helping behavior translate into parenting behavior and to what extent these socialization practices relate to toddlers' requested behavior and helping.

In many subsistence-based farming ecologies, obedient behavior and the fulfillment of interpersonal responsibilities are primary socialization goals (SGs) and are seen as key indicators of social competence and optimal development (Kärtner et al., 2012; Keller, 2007; Lancy, 2012 chore curriculum; LeVine et al., 1994; Nsamenang, 1992). In these contexts, toddlers are typically expected to engage in daily tasks from early childhood on (Nsamenang, 1992) and are assigned more responsible tasks as they get older, such as sibling care (Whiting & Edwards, 1992) and domestic work (Ochs & Izquierdo, 2009). Many authors describe the socialization toward responsibility and the involvement in household chores as the cradle for prosocial behavior (Lancy, 2012; Ochs & Izquierdo, 2009). In contrast, toddlers' interpersonal responsibility and the involvement in household chores are of lower significance in Western urban middle-class samples (Ochs & Izquierdo, 2009; Whiting & Whiting, 1975), where parents emphasize children's individuality and autonomy (Keller, 2007).

These cultural differences regarding concepts of helping behavior and ethnotheories on the role of task assignment for child development should have implications for the way in which parents scaffold task assignment and completion. In this study, the ecosocial model of child development (Keller, 2007; Keller & Kärtner, 2013) is used as a heuristic to systematize and interpret these cultural variations. According to this framework, cultural models (defined as shared meanings and practices) have evolved as adaptations to the ecosocial context (i.e., the ecological and sociostructural constituents of the environment, such as the mode of subsistence, family composition, degree of formal education). In particular, the ecosocial model of development describes two prototypical ecosocial contexts, which give rise to specific cultural models (i.e., caregivers' SGs, ethnotheories, and parenting behavior). In relational ecosocial contexts (i.e., subsistence-based farming ecologies in non-Western societies with extended family systems and low levels of formal

education), caregivers show a high emphasis on SGs associated with hierarchical relatedness, such as respect, obedience, and taking on responsibilities associated with social roles (Kärtner et al., 2008; Keller, 2007). Conversely, caregivers' from autonomous ecosocial contexts, that is, urban middle-class families in Western societies that live as nuclear families and have high levels of formal education, emphasize SGs associated with psychological autonomy, such as individuality, independence, and personal choice (Kärtner et al., 2008; Keller, 2007). Notably, these cultural orientations correspond closely to the different conceptualizations of helping behavior and the cultural differences in task assignment outlined above, namely, being a matter of interpersonal responsibility or personal choice. With regard to culture-specific developmental pathways, it is assumed that caregivers' socialization practices act as the proximate mechanisms of cultural transmission. By providing the primary learning context for the interpretation of different situations and the role of the child within the social environment, caregivers shape toddlers' motivation and behavior from early childhood on (e.g., Kärtner, 2015; Keller, 2007; LeVine et al., 1994).

Besides the two prototypical ecosocial contexts described here, there are many other ecosocial contexts that afford very different cultural models. In this study, we chose one other often-studied context, namely, educated urban middle-class families from a non-Western society. In these contexts, cultural models are often composed of elements of both prototypes described above and thus referred to as autonomous-relational (Kağitçibaşı, 2007; Keller, 2007).

The overarching goal of the present study was to investigate how maternal socialization practices during task assignment vary across cultures and how they relate to toddlers' requested behavior and helping in the three ecosocial contexts. Maternal scaffolding during task assignment and completion was assessed in a standardized situation, that is, asking the toddler to put objects on a table. Furthermore, we evaluated toddlers' requested behavior in the same task and toddlers' helping behavior toward an experimenter who was unable to reach objects in a second task. Thus, helping behavior differed from requested behavior in two important ways: First, there was no explicit request to help but rather a situation that afforded spontaneous engagement, and, second, the recipient was not the mother of the child but an unfamiliar adult.

We hypothesized that caregivers' cultural models inform their scaffolding strategies during task

assignment. In particular, we predicted that mothers in relational cultural contexts emphasize toddlers' interpersonal responsibility by assigning tasks in a serious and insistent manner (assertive scaffolding). We further predicted that mothers in autonomous cultural contexts emphasize toddlers' autonomy and personal choice by asking, pleading, and providing explanations when assigning tasks (deliberate scaffolding). We expected a combination of both scaffolding styles for the autonomous-relational context. Furthermore, we hypothesized that maternal scaffolding relates to toddlers' requested behavior and helping in culture-specific ways. More specifically, we predicted that in the relational cultural context, assertive scaffolding is associated with requested behavior and, due to the conceptual link between both types of behavior in this cultural context, also relates to toddlers' helping. Because the assignment of routine tasks is described as an important learning context of socially responsive behavior in these cultures, we hypothesized that toddlers' requested behavior in response to maternal requests mediates the relation between maternal scaffolding and toddlers' help. In autonomous contexts, we expected that maternal deliberate scaffolding is related to toddlers' prosocial behavior. That is, structuring being responsive to others' needs as a matter of personal choice may influence toddlers' interpretation of and motivation in situations affording helping behavior. Furthermore, we explored how the two types of scaffolding relate to requested behavior in the autonomous context. Because in autonomous-relational contexts cultural models often combine elements of both prototypes, we explored how maternal scaffolding relates to toddlers' requested behavior and helping in one of these cultural contexts.

Method

Participants

We assessed 107 mother-child dyads in three different cultural contexts selected for their ecosocial profiles. Thirty-four families lived in small agricultural villages near Belém (Amazon region, rural Brazil, relational context), hereafter referred to as Belém; 38 were middle-class families from Münster (urban Germany, autonomous context); and 35 were middle- to upper-middle-class families from São Paulo (urban Brazil, autonomous-relational context). In villages near Belém, families were recruited in cooperation with local health offices. In Münster and São Paulo, mothers were contacted

via nursery schools, databases from the university, and private contacts of local research assistants. All complete data assessments were included in the analysis. Ten additional data assessments were not included in the analysis, because toddlers' were unwilling to participate (São Paulo: $n = 1$), nannies instead of mothers participated in the study (São Paulo: $n = 4$), or the first experimenter was male (Belém: $n = 5$). The study was approved by the local ethics committee and informed written consent was obtained from all mothers. Data were collected from November 2011 through June 2013.

Toddlers were 18–30 months old and there were no significant mean differences between samples ($M = 24.2$ months, $SD = 3.9$ in Belém; $M = 24.2$ months, $SD = 3.7$ in Münster; and $M = 23.1$ months, $SD = 3.6$ in São Paulo), $F(2, 104) = 0.87$, $p > .10$, $\eta_p^2 = .02$. Furthermore, there were similar proportions of girls and boys in the three samples (50.0% girls in Belém, 55.3% girls in Münster, and 54.3% girls in São Paulo), $\chi^2 = 0.22$, $p > .10$. The primary caregiver of each child, referred to as mothers throughout the text, participated in the study. This was the mother in most families (98.1%), except for two grandmothers in Belém. The age of the mothers differed significantly between contexts, $F(2, 104) = 16.70$, $p < .001$, $\eta_p^2 = .24$. On average, mothers from Münster ($M = 33.6$ years, $SD = 4.8$) and São Paulo ($M = 31.8$ years, $SD = 6.3$) were older than those from Belém ($M = 25.1$ years, $SD = 8.2$), $t(70) = 5.45$, $p < .001$, $d = 1.28$, and $t(67) = 3.83$, $p < .001$, $d = 0.92$, respectively.

Agricultural villages in the Amazon region near Belém (more precisely, the villages of Boa Vista, Pacuquara, and St. Teresina) were settlements of around 50–300 families, living in simple houses made of wood or brick stone. Mothers were mainly housewives, whereas fathers were mostly occupied in the agricultural sector, for example, the cultivation and processing of local plants. Material possessions were few. However, villages were connected to the power supply system, many households had a television, and a few daily bus services connected the villages to the urban region of Castanhal (approximately 30–60 min). Most children received basic school education at local schools. In contrast, Münster is an urban center in a postindustrial Western society and São Paulo a metropolitan city in a newly industrialized country. In both urban samples, families had a high level of formal education, and most parents worked in jobs requiring a professional qualification.

The nuclear family was the dominant family type in the urban samples (Münster 94.7%, São

Paulo 88.6%), whereas the home environment of toddlers from Belém showed more variability, that is, living in extended families with the grandparents (38.2%) and/or without their father (23.5%), $\chi^2 = 21.33$, $p < .001$. Across contexts, the majority of toddlers were the only child (Belém 47.1%, Münster 68.4%, São Paulo 65.7%), $\chi^2 = 3.93$, $p > .10$. On average, household sizes were 4.4 ($SD = 1.3$) people per household in Belém, 3.3 ($SD = 0.9$) in Münster, and 3.5 ($SD = 1.1$) in São Paulo, $F(2, 104) = 9.44$, $p < .001$, $\eta_p^2 = .15$, with higher household sizes in Belém than in Münster and São Paulo, $t(70) = 4.07$, $p < .001$, $d = 0.99$, and $t(67) = 3.13$, $p < .01$, $d = 0.75$. Regarding educational attainments, mothers in both urban samples had received more formal education (Münster: $M = 16.1$ years, $SD = 2.9$; São Paulo: $M = 16.5$ years, $SD = 1.9$) than those in rural villages near Belém ($M = 9.3$ years, $SD = 2.5$), $F(2, 104) = 91.00$, $p < .001$, $\eta_p^2 = .64$, with $t(70) = 10.53$, $p < .001$, $d = 2.51$, and $t(67) = 13.47$, $p < .001$, $d = 3.25$, respectively.

Procedure and Coding

Two experimenters visited families at home for one experimental session. The first experimenter (E1), a local, female research assistant at all three sites, administered questionnaires and conducted the behavioral tasks, while the second experimenter (E2) prepared behavioral assessments and videotaped the behavior of mother and child during the tasks. Sessions started with the administration of questionnaires by E1, while E2 prepared the behavioral assessments. During a subsequent warm-up phase, E1 and the child played with a standardized set of toys for about 10–15 min. The warm-up phase was followed by the behavioral assessments and ended with a sociodemographic questionnaire. Tasks analyzed in this study were part of a more extensive data assessment.

Inter rater agreement for behavioral measures was calculated between the first author and a research assistant for a random sample of 18 videos for each task. Cohen's kappa was used to quantify inter rater agreements. To maximize objectivity, maternal scaffolding styles and toddlers' behavior were coded independently by two different research assistants.

Socialization Goals

To examine caregivers' cultural models, maternal autonomous and relational SGs were assessed using a modified version of the questionnaire by Keller

(2007). The autonomous SGs scale refers to toddlers' self-confidence and assertiveness (eight items; e.g., during the first 3 years of life, children should develop a sense of self-esteem), whereas the relational SGs scale refers to toddlers' sociability and obedience (nine items; e.g., learn to behave in accordance with social norms). To account for differences in reading skills and the familiarity with fine-grained responses between samples, questionnaires were administered as standardized interviews and a 4-point Likert scale was visualized with circles of different sizes (Cronbach's $\alpha > .76$, for both scales in all three contexts).

Maternal Scaffolding

Maternal scaffolding during task assignment was assessed with a task adapted from previous studies (e.g., Keller et al., 2004). Mothers were instructed to ask their child to pick up a cup and a pen, one after another, and to put them on a table. Specifically, mothers were told:

We are interested to find out if your child is already able to understand and follow simple instructions. Please ask your child to bring these objects over to the table. Please give the instruction in the same way that you would usually do, if you wanted your child to bring you something. Please do not directly pass over the cup to your child.

E1 instructed the mother out of toddlers' earshot and without providing a model of what to say. E2 previously placed the objects at locations the child could easily see and access, and assured that the table was easily accessible. The task was stopped when the child had fulfilled the requests or the mother stopped instructing her child. Maternal scaffolding in this task was evaluated by two scores representing the two strategies introduced above, namely assertive and deliberate scaffolding.

Assertive scaffolding. For mothers' assertive scaffolding, we analyzed maternal emphasis on toddlers' fulfillment of the task. We rated maternal scaffolding with regard to seriousness (indicated by the tone of the voice, facial expressions, and gestures) and insistence, if toddlers' showed hesitant or irrelevant behaviors (indicated by repeated requesting). Specifically, assertive scaffolding was rated on a scale from 0 to 3: Toddlers' fulfillment of the task was either *very important* (3 points; i.e., serious requests and insistent repetition of requests), *rather important* (2 points; i.e., less serious or less insistent repetition of requests), *rather unimportant*

(1 point; i.e., barely serious requests or very few repetitions of requests), or *unimportant* to the mother (0 points; i.e., no serious requesting and no repetitions of requests). Overall, toddlers' compliance seemed irrelevant to the mother). Inter rater agreement was high ($\kappa = .91$).

Deliberate scaffolding. For mothers' deliberate scaffolding, we defined a composite score that consisted of three categories that capitalize on personal choice and commitment to help, resulting in scale from 0 to 6. First, mothers were given two points if the first request was given as a *question* (only one point for a tag question). Second, mothers were given two points if the first request was delivered as a *plea*, for example, "Peter, could you please take the pen over there and put it on this table?" (only one point for the use of "please" in a statement, e.g., "Put the pen over there on this table, please!"). Third, mothers were given two points if they gave at least one *explanation for the request*, for example, "I need the pen to write something." Here, statements like "Because I said so" were not included because they do not constitute logical reasons that may foster insight. Each of the three categories was given 0–2 points such that they equally contributed to the composite score. Raters showed high inter-rater agreement for the three categories (question, $\kappa = .82$; plea, $\kappa = .87$; explanation, $\kappa = 1.00$).

Requested Behavior

We further coded toddlers' responsiveness to maternal task assignment in the same task (see previous section). Thus, both measures capture different aspects of the same dyadic interaction. We rated whether toddlers followed maternal requests to put both objects on a table and the promptness of toddlers' compliance. For each object, toddlers' requested behavior was rated on a scale from 0 to 3: *immediately* (3 points; i.e., complied immediately, kept attentional focus on the fulfillment of the task), *a little hesitantly* (2 points; i.e., did not help immediately or did not keep focused on the task continuously), *hesitantly* (1 point; i.e., only after the engagement in other activities or great efforts of the mother), or *not successfully* (0 points; i.e., the object was not put on the table). We computed the mean score across the two objects, resulting in a score from 0 to 3. Inter rater agreement was good ($\kappa = .71$).

Helping Behavior

Toddlers' help was assessed in an out-of-reach task, adapted from Warneken and Tomasello

(2006): E1 hanging up three towels using clothespins. For each towel the experimenter dropped one clothespin and reached for it unsuccessfully, grasping over the clothesline. While reaching, E1 kept her gaze on the clothespin (first 30 s), before she alternated her gaze between clothespin and child (30 s), and finally, addressed the child by calling his or her name three times (last 30 s). If the child did not help, E1 picked up the clothespin and continued with the next towel. For each clothespin, toddlers' helping behavior was rated on a scale from 0 to 3 as *immediately* (3 points; i.e., the clothespin was picked up and handed over immediately), *a little hesitantly* (2 points; i.e., waiting a little while before helping), *hesitantly* (1 point; i.e., engagement in other activities before helping or keeping possession of the clothespin before passing it over), or *not successfully* (0 points; i.e., the clothespin was not picked up or given to E1). The mean scores of the three objects, resulting in a score from 0 to 3, were used for the analyses. Inter rater agreement was very good ($\kappa = .96$).

Results

Cross-Cultural Differences in Maternal SGs, Maternal Scaffolding, and Toddlers' Behavior

Cross-cultural differences in maternal SGs, maternal scaffolding, and toddlers' behavior were analyzed using analyses of variance (ANOVAs) and post hoc *t* tests. Reported effect sizes are partial eta squared (η_p^2) for ANOVAs and Cohen's *d* for *t* tests. Mean values and SDs are displayed in Table 1.

Maternal SGs revealed significant main effects for the factors Scale, $F(2, 104) = 7.95$, $p < .01$, $\eta_p^2 = .07$, and Culture, $F(2, 104) = 13.84$, $p < .001$, $\eta_p^2 = .21$, further explained by the interaction between both factors, $F(2, 104) = 92.47$, $p < .001$, $\eta_p^2 = .64$. Between contexts, mothers from Belém and São Paulo valued relational SGs significantly higher than mothers from Germany, $t(70) = 5.43$, $p < .001$, $d = 1.28$, and $t(71) = 7.04$, $p < .001$, $d = 1.65$. Regarding autonomous SGs, mothers from the urban samples showed higher emphasis on autonomy than those from rural villages, $t(70) = 7.10$, $p < .001$, $d = 1.67$, and $t(67) = 6.77$, $p < .001$, $d = 1.62$, for Münster and São Paulo, respectively. Within samples, mothers from Belém and São Paulo prioritized relational over autonomous SGs, $t(33) = 10.40$, $p < .001$, $d = 1.652$, and $t(34) = 2.30$, $p < .05$, $d = 0.36$, whereas mothers from Münster put more emphasis on autonomous SGs, $t(37) = 7.97$, $p < .001$, $d = 1.27$. Altogether, these patterns of

Table 1
Maternal Socialization Goals (SGs), Maternal Scaffolding Styles, and Toddlers' Behavior

	Belém	Münster	São Paulo	<i>p</i>
Maternal SGs				
Relational SGs	3.31 (0.45)	2.67 (0.54)	3.47 (0.42)	***
Autonomous SGs	2.48 (0.55)	3.30 (0.43)	3.31 (0.47)	***
Maternal scaffolding styles				
Assertive scaffolding	2.38 (0.65)	1.89 (0.73)	2.25 (0.82)	*
Deliberate scaffolding	0.35 (0.69)	3.53 (1.37)	0.97 (0.95)	***
Toddlers' behavior				
Requested behavior	2.25 (0.91)	2.76 (0.65)	2.17 (1.04)	**
Helping behavior	2.32 (1.05)	2.02 (1.22)	2.13 (1.02)	

Note. Means and SDs are displayed. *p* values indicate the mean differences between cultural groups (results of univariate analyses of variance). * $p < .05$. ** $p < .01$. *** $p < .001$.

SGs fit very well with the cultural models expected in the three different ecosocial contexts.

Maternal behavior revealed significant differences between cultural groups for both assertive, $F(2, 104) = 4.32$, $p < .05$, $\eta_p^2 = .08$, and deliberate scaffolding, $F(2, 104) = 92.62$, $p < .001$, $\eta_p^2 = .64$. Mothers' from Belém and São Paulo samples showed higher degrees of assertive scaffolding than German mothers, $t(70) = 2.98$, $p < .01$, $d = 0.71$, and $t(71) = 2.01$, $p < .05$, $d = 0.48$. On the contrary, deliberate scaffolding was much higher in Münster than in Belém and São Paulo, with $t(70) = 12.18$, $p < .001$, $d = 2.91$, and $t(71) = 9.17$, $p < .001$, $d = 2.19$. Furthermore, mothers from São Paulo showed higher deliberate scaffolding than those from rural Brazil, $t(67) = 3.08$, $p < .01$, $d = 0.75$, where this scaffolding style was almost absent. To substantiate the idea that cross-cultural variation in maternal scaffolding styles are related to maternal cultural models, that is, their SGs, we entered maternal preference for autonomous over relational SGs (i.e., the difference between both measures) as a covariate into the one-factorial (culture) ANOVAs (van de Vijver & Leung, 1997). Compared to the results of the analysis of variance reported above the main effects of culture on maternal scaffolding styles were reduced for assertive scaffolding, $F(2, 103) = 1.623$, $p > .10$, $\eta_p^2 = .03$, and deliberate scaffolding, $F(2, 103) = 32.803$, $p = .001$, $\eta_p^2 = .38$. Thus, maternal SGs explained more than half of the cross-cultural variation in assertive scaffolding and more than a third of the large cross-cultural variation in deliberate scaffolding.

Toddlers' requested behavior differed between ecosocial contexts, $F(2, 104) = 5.75$, $p < .01$,

$\eta_p^2 = .10$, with significantly higher levels of requested behavior in toddlers from Germany as compared to Belém and São Paulo, $t(70) = 2.76$, $p < .01$, $d = 0.65$, and $t(71) = 2.94$, $p < .01$, $d = 0.70$, respectively. Toddlers' instrumental help toward E1 was at similar levels across samples, $F(2, 104) = 0.70$, $p > .10$, $\eta_p^2 = .01$.

We further tested whether behavioral measures of mother and child were correlated with toddlers' age and gender, maternal education, and the number of siblings and family size. Toddlers' age was positively correlated with maternal deliberate scaffolding in Münster ($r = .40$, $p < .05$). Furthermore, toddlers' age was associated with higher levels of helping behavior in Belém ($r = .39$, $p < .05$) and São Paulo ($r = .37$, $p < .05$). This indicates that the level of prosocial behavior increased between 18 and 30 months in the Brazilian samples but not in the German sample. We thus controlled for toddlers' age in all further analyses. On the other hand, toddlers' gender, maternal education, and the number of siblings and family size were not correlated with behavioral measures in any of the three contexts (all $p > .05$).

Relations Between Maternal Scaffolding and Toddlers' Requested Behavior and Helping Behavior

Partial correlations, controlling for toddlers' age, were used to quantify the relations between behavioral measures of mother and child (see Table 2). In rural Brazil, maternal assertive scaffolding was correlated with both toddlers' requested behavior and helping behavior. Furthermore, requested behavior and helping correlated positively. Deliberate scaffolding was not significantly correlated with other behaviors. In urban Germany, maternal deliberate scaffolding was correlated with helping but not with requested behavior. Maternal assertive scaffolding was related to toddlers' requested behavior ($p = .06$) but not to helping behavior. In São Paulo, maternal scaffolding was not related to toddlers' helping behavior. As with both of the other samples, assertive scaffolding was correlated with requested behavior. Furthermore, deliberate scaffolding correlated negatively with toddlers' requested behavior. Finally, in São Paulo, maternal scaffolding styles were correlated negatively.

In addition, path analyses were used to estimate the direct, indirect, and total effects of maternal scaffolding styles on toddlers' requested behavior and helping behavior, when considering all relevant variables simultaneously. One path analysis per context was conducted in IBM SPSS Amos 22 (Armonk, NY) for the estimation of standardized

Table 2
Partial Correlations Between Maternal Scaffolding Styles and Toddlers' Requested Behavior and Helping Behavior

	1	2	3	4
Villages near Belém				
1. Maternal assertive scaffolding	—			
2. Maternal deliberate scaffolding	-.24	—		
3. Toddlers' requested behavior	.45**	-.17	—	
4. Toddlers' helping behavior	.40*	-.17	.41*	—
Münster				
1. Maternal assertive scaffolding	—			
2. Maternal deliberate scaffolding	.00	—		
3. Toddlers' requested behavior	.31(*)	-.03	—	
4. Toddlers' helping behavior	-.03	.40*	.03	—
São Paulo				
1. Maternal assertive scaffolding	—			
2. Maternal deliberate scaffolding	-.51**	—		
3. Toddlers' requested behavior	.60***	-.36*	—	
4. Toddlers' helping behavior	.06	.11	-.07	—

Note. All values indicate partial correlations *pr*. Age of the toddler was partialled out of all variables. (*) $p = .06$. * $p < .05$. ** $p < .01$. *** $p < .001$.

path coefficients (direct effects), total effects, and indirect effects. Standardized residuals, controlling for toddlers' age, were used for all variables.

Figure 1 illustrates the results of the path analyses. In Belém, maternal assertive scaffolding predicted toddlers' requested behavior and helping. The path from toddlers' requested behavior to helping behavior was marginally significant. More specifically, although the total effect and the partial correlation between assertive scaffolding and toddlers' help was significant, the direct effect was nonsignificant in the path model, including requested behavior as a potential mediator. However, the indirect path from assertive scaffolding on toddlers' help, which would indicate a mediation, did also not reach significance ($\beta_{ind} = .12$, $p > .10$). Hence, the significant relation between assertive scaffolding and toddlers' helping behavior is composed of both the direct and indirect effect (via requested behavior) that each are nonsignificant in itself. The regression model for the data from Münster confirmed the effects found in the correlation analysis: Maternal deliberate scaffolding was a significant predictor of toddlers' helping behavior. Furthermore, deliberate scaffolding did not relate to toddlers' requested behavior. As in the Belém sample, requested behavior was predicted by assertive scaffolding. In São Paulo, toddlers' helping behavior was not predicted by maternal scaffolding styles. As with both other samples, maternal

assertive scaffolding predicted toddlers' requested behavior. Also confirming the correlation analyses, maternal scaffolding styles were correlated negatively. However, contrary to the correlation analysis, deliberate scaffolding did not relate to toddlers' requested behavior. Thus, the negative correlation was rather due to the negative relation between maternal scaffolding styles and the positive relation between assertive scaffolding and requested behavior, and is not further discussed.

Furthermore, *z* tests were used to test the cross-cultural differences in the relation between maternal scaffolding on toddlers' behavior between cultures (Paternoster, Brame, Mazerolle, & Piquero, 1998). The relation between assertive scaffolding and toddlers' help was higher in Belém than in Münster, for the total effect, $z = 1.87, p = .06$, but not for the direct effect, $z = 1.33, p > .10$. Conversely, the relation between deliberate scaffolding and toddlers' help was higher in Münster compared to Belém, for the total effect and the direct effect, $z = 1.93, p = .05$, and $z = 2.23, p < .05$, respectively. There were no differences in the relations between maternal scaffolding and helping between São Paulo and both of the other samples, all $z < .96$, all $p > .10$, or the relations between maternal scaffolding and toddlers' requested behavior between any of the three contexts, all $z < 1.46$, all $p > .10$.

Discussion

Consistent with our hypotheses, maternal scaffolding during task assignment differed between cultural contexts and was related to toddlers' requested behavior and helping behavior in culture-specific ways. As outlined in the following paragraphs, these findings support our assumption that socialization practices influence toddlers' natural predisposition to help others from early on and suggest culture-specific developmental pathways underlying early helping behavior.

Brazilian mothers showed high levels of assertive scaffolding, whereas deliberate scaffolding was relatively low in São Paulo and almost absent in Belém. Conversely, German mothers employed deliberate scaffolding strategies and lower levels of assertive scaffolding than Brazilian mothers. These cultural differences in maternal scaffolding during task assignment were partly explained by the different cultural models in these contexts, that is, an emphasis on relational SGs in Brazilian samples and an emphasis on autonomous SGs in the German sample. Differences between SGs and scaffolding styles

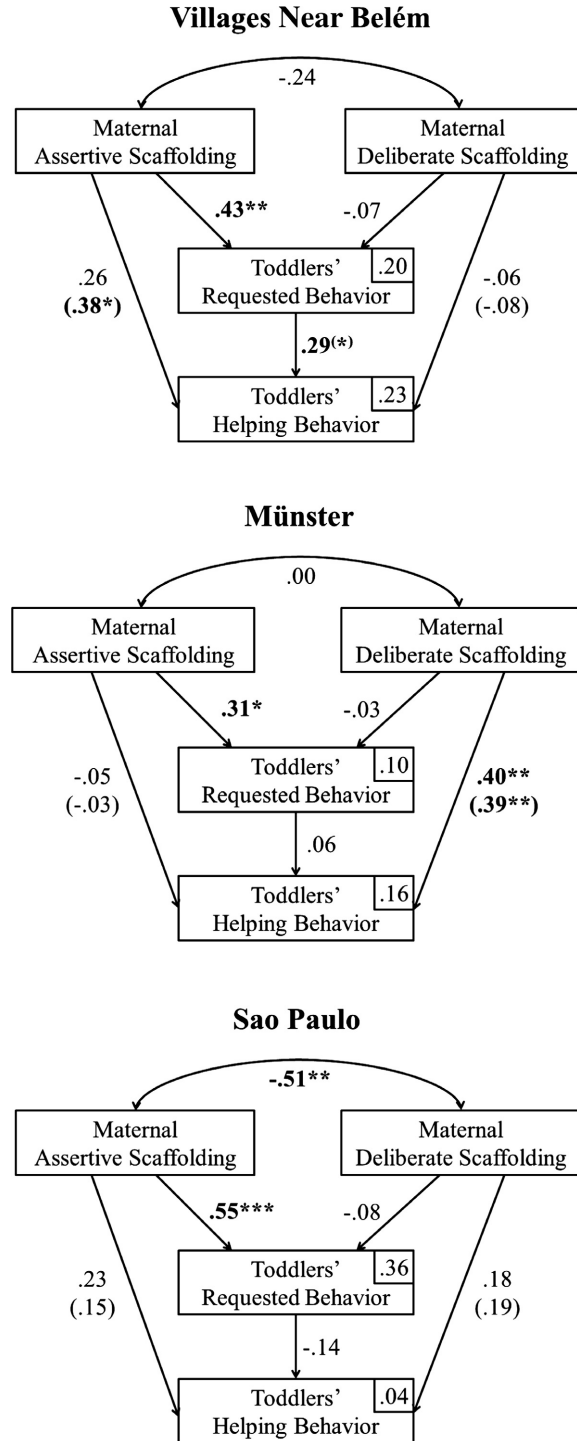


Figure 1. Path analyses of maternal scaffolding styles and toddlers' requested behavior and helping behavior. Paths are labeled with standardized direct β and total effects β_{tot} in parentheses. Relevant regression weights are boldfaced. Dependent variables are tagged with the corresponding squared multiple correlation coefficient R^2 . Note that standardized residuals, controlled for age and gender, were used for all variables and error terms were included for the dependent variables. $(^*)p < .10$. $^*p < .05$. $^{**}p < .01$. $^{***}p < .001$.

were most pronounced between the samples from Belém and Münster. This is consistent with former studies, showing that a high emphasis on toddlers' compliance is reflected in maternal SGs and parenting strategies (Keller, 2007; Nsamenang, 1992; Whiting & Whiting, 1975) in many subsistence-based ecologies, whereas toddlers' autonomy is emphasized and fostered in industrialized urban contexts (Kärtner et al., 2008; Keller, 2007).

In this study, levels of requested behavior were higher in the German as compared to the Brazilian sample. This is contrary to previous studies reporting higher levels of requested help in subsistence-based ecologies as compared to urban, Western contexts (Keller et al., 2004; Whiting & Whiting, 1975). However, mean differences are often difficult to interpret in cross-cultural studies due to manifold cross-cultural and interindividual differences in learning experiences. For this reason, the analysis in the present study focused on the correlations between scores. These are particularly informative, because they allow us to identify relevant learning experiences underlying toddlers' development. Analyses of the immediate relation between maternal scaffolding and toddlers' requested behavior revealed that, across cultural contexts, assertive scaffolding was associated with higher levels of requested behavior, whereas maternal deliberate scaffolding was not related to toddlers' requested behavior. This is consistent with the general finding that children are more responsive if this is emphasized and clearly communicated in the mother-child interaction (e.g., Nsamenang, 1992; Ochs & Izquierdo, 2009).

Toddlers' helping behavior was at similar levels across cultures, which supports the results of a former cross-cultural study (Callaghan et al., 2011). Interestingly, maternal scaffolding was related to toddlers' helping behavior in culture-specific ways. In the sample from rural Brazil, toddlers' helping behavior was significantly related to mothers' assertive scaffolding. Deliberate scaffolding strategies were very rare in this context and were not related to toddlers' help. In the urban middle-class sample from Münster, maternal deliberate scaffolding was closely related to toddlers' helping behavior. These findings are in support of the assumption that caregivers' socialization practices build on toddlers' natural prosocial tendencies from early on (see also, Dunfield, Kuhlmeier, O'Connell, & Kelley, 2011; Hastings, Utendale, & Sullivan, 2007; Hay, 2009; Kärtner et al., 2010). However, the São Paulo sample revealed a less clear picture. Although none of the scaffolding styles predicted toddlers' helping

behavior, we found a significant negative correlation between assertive and deliberate scaffolding in this sample. This may indicate that the São Paulo sample is more heterogeneous concerning maternal socialization strategies, with some mothers being closer to the relational model and some mothers being closer to the autonomous cultural model. However, the investigation of subgroups would require larger sample sizes.

Overall, the present findings support the idea that maternal scaffolding during task assignment provides an important learning context for different forms of socially responsive behavior in different ecosocial contexts. With regard to toddlers' helping, we assume that the way in which caregivers structure the assignment of tasks fosters children's understanding of their own social role in situations in which another individual is in need (cf. Köster, Ohmer, Nguyen, & Kärtner, 2016) and, as a consequence, their motivation in these situations. In particular, in relational cultural contexts, assertive scaffolding, emphasizing toddlers' compliance and responsibility, may foster an understanding of these situations in terms of interpersonal responsibilities. On the other hand, in autonomous cultural contexts, deliberate scaffolding may foster toddlers' ability to take into account the need of another individual and their personal choice in these situations. Thus, we interpret the culture-specific relations between maternal scaffolding and toddlers' helping behavior as a maturing cultural understanding and motivation along the lines of interpersonal responsibility or personal choice.

Concerning toddlers' requested behavior, assertive scaffolding was related to toddlers' immediate responsive behavior in all three contexts. In the rural Brazilian sample, the close association between assertive scaffolding and both forms of toddlers' responsive behavior support the more general idea that the motivations underlying requested behavior and helping are closely related in relational contexts, namely, being a matter of interpersonal responsibility. Because the assignment of routine tasks is ascribed a key role for toddlers' early prosocial development, we tested whether the relation between assertive scaffolding and helping behavior was mediated by toddlers' requested behavior. However, despite the close association between the three measures, this mediation effect was nonsignificant, possibly due to the relatively small sample size. Interestingly, the Münster sample revealed very specific relations between maternal scaffolding and toddlers' behavior. Although assertive parenting strategies were only related to

toddlers' responsiveness, mothers' deliberate scaffolding was only related to toddlers' helping toward another individual. This pattern fits well with the general idea that requested behavior and helping are guided by different concepts in autonomous cultural contexts, that is, being obedient or prosocial.

Generally, there are different possibilities in which maternal scaffolding styles during task assignment might relate to toddlers' helping behavior: Either both scaffolding styles are effective in the sense that any socialization effort leads to more prosocial behavior or, as soon as deliberate scaffolding occurs, this may set the course for the further development of prosocial behavior along the line of personal choice. The results of the present study suggest the latter: Although assertive scaffolding is associated with toddlers' requested behavior in direct mother-child interactions across cultures, the relations between assertive scaffolding and helping behavior disappear in contexts where mothers use deliberate scaffolding strategies. This suggests that, across cultural contexts, serious and insistent requesting directly motivates toddlers' behavior in situations in which mothers assign tasks directly, whereas toddlers' motivation to help, that is, responsive behavior outside direct mother-child interaction depends on the way in which caregivers structure task assignment, namely, primarily as an obligation or personal choice. Embedding the present findings in a broader context, the moderating role of culture may also be understood in terms of the different social norms and self-concepts in autonomous and relational ecosocial contexts (Keller, 2007). These guide the social interactions of caregivers and children in a variety of situations and may thus lead to culture-specific relations between maternal socialization strategies and toddlers' social development. In particular, maternal assertive scaffolding may affect toddlers' helping behavior in relational contexts, where toddlers' hierarchical status and social responsibility are emphasized in social interactions due to a relational conceptualization of the self, but not in autonomous contexts, where the caregivers emphasize individual needs and a development toward autonomy due to an autonomous self-concept.

This study links ecosocial contexts to caregivers' cultural models, including SGs and parenting behavior. This is consistent with the idea that culture-specific beliefs and practices (including concepts of helping and helping routines) are adaptations to the ecological and social environment. In relational contexts, mothers value

relational over autonomous SGs, emphasizing toddlers' obedience, conformity with social norms, and caring for others. Socialization toward these ends is thought to serve the fulfillment of communal goals and obligations associated with prescribed social roles (Keller & Kärtner, 2013). These cultural norms have functional relevance in subsistence-based ecologies, where caring for a large number of siblings, weak and elderly people, as well as the subsistence of the family (e.g., harvesting or fishing) has to be taken over by those family members who are capable of doing so, already at an early age. The close relation between assertive scaffolding and toddlers' requested behavior and helping in rural Brazil supports this assumption. Furthermore, high levels of requested behavior were observed in similar ecosocial contexts (Keller *et al.*, 2004; Ochs & Izquierdo, 2009; Whiting & Edwards, 1992) and are assumed to index an internalization of these social norms (Ogunnaike & Houser, 2002). In postmodern societies, with retirement plans, health care systems and smaller family sizes, these social role obligations are less substantial for the survival of the family. In these environments, cultural practices revolve around independence and self-actualization, which may be functional for later professional competences. Prosocial behavior, seen from this perspective, is conceptualized as an issue of personal choice (see Köster, Schuhmacher, & Kärtner, 2015; there are similar ideas concerning other key concepts; for instance, culture-specific conceptions of close relationships, see also Rothbaum, Pott, Azuma, Miyake, & Weisz, 2000).

More generally, the possibility of different conceptualizations underlying prosocial behavior contributes to a theoretical debate that revolves around the question of the relation between requested behavior and helping behavior. Whereas in the anthropological literature the conceptual link between both types of behavior is very close and requested behavior is often not discriminated from helping behavior (e.g., Whiting & Whiting, 1975; Lancy, 2012 chore curriculum), there is less consensus in the psychological literature. Although many would conceive requested and prosocial behavior as opposites—because following requests, that is, being compliant or obedient, cannot, by definition, be prosocial, because it is not voluntary (e.g., Eisenberg, Fabes, & Spinrad, 2006)—others would treat requested behavior as one potential manifestation of a more general type of social responsiveness that later in ontogeny differentiates into a set of more fine-tuned responses, such as voluntary prosocial behavior, taking on responsibilities, and so forth

(e.g., Hay & Cook, 2007; Kochanska, 2002). The present study adds an interesting piece of the puzzle to this debate. Our cultural roots do not only seem to influence the way we conceptualize prosocial behavior in late childhood and beyond but also our prosocial acts, from early childhood on.

It has to be noted that the results of this study are correlational. Hence, the directional considerations regarding influences of maternal scaffolding and toddlers' behavior are based on theoretical grounds, that is, caregivers' socialization practices having consequences for child development. Thus, the present findings should be further substantiated applying longitudinal approaches. Furthermore, the measures of maternal scaffolding styles and toddlers' requested behavior stem from the same dyadic episode of maternal assignment of a daily task. Thus, one could argue that both maternal and toddler behavior in this task are dyadic rather than individual measures that characterize mothers' scaffolding strategy or toddlers' compliance in isolation. In particular, one may assume that the less compliant the child, the more assertive or insistent the mother would have to be. However, we found the opposite, namely, a positive correlation between both measures, which does not suggest this confound. Regarding deliberate scaffolding, this measure was uncorrelated with toddlers' requested behavior, indicating that there was no interdependency between both measures. Nevertheless, it would be desirable for future studies to assess both maternal scaffolding and toddlers' requested behavior in independent tasks.

Conclusion

The present work further substantiates the key role of task assignment for early prosocial development and supports the idea of culture-specific developmental pathways underlying early helping behavior. Overall, the results support the assumption that structuring opportunities for responsive behavior as either an interpersonal responsibility or a matter of personal choice affects helping behavior and, possibly, underlying appraisal structures and motivational processes.

References

- Callaghan, T., Moll, H., Rakoczy, H., Warneken, F., Liszkowski, U., Behne, T., & Tomasello, M. (2011). Early social cognition in three cultural contexts. *Monographs of the Society for Research in Child Development*, 76(Serial No. 299), vii–viii, 1–142. doi:10.1111/j.1540-5834.2011.00603.x
- Dahl, A. (2015). The developing social context of infant helping in two US samples. *Child Development*, 86, 1080–1093. doi:10.1111/cdev.12361
- Dunfield, K., Kuhlmeier, V. A., O'Connell, L., & Kelley, E. (2011). Examining the diversity of prosocial behavior: Helping, sharing, and comforting in infancy. *Infancy*, 16, 227–247. doi:10.1111/j.1532-7078.2010.0041.x
- Eisenberg, N., Fabes, R. A., & Spinrad, T. L. (2006). Prosocial development. In N. Eisenberg, W. Damon, & R. M. Lerner (Eds.), *Handbook of child psychology: Vol. 3, social, emotional, and personality development* (6th ed., pp. 646–718). Hoboken, NJ: Wiley.
- Hammond, S. I., & Carpendale, J. I. (2015). Helping children help: The relation between maternal scaffolding and children's early help. *Social Development*, 24, 367–383. doi:10.1111/sode.12104
- Hastings, P. D., Utendale, W. T., & Sullivan, C. (2007). The socialization of prosocial behavior. In J. E. Grusec & P. D. Hastings (Eds.), *Handbook of socialization: Theory and research* (pp. 638–664). New York, NY: Guilford.
- Hay, D. F. (2009). The roots and branches of human altruism. *British Journal of Psychology*, 100, 473–479. doi:10.1348/000712609X442096
- Hay, D. F., & Cook, K. V. (2007). The transformation of prosocial behavior from infancy to childhood. In C. Brownell & C. B. Kopp (Eds.), *Socioemotional development in the toddler years: Transitions and transformations* (pp. 100–131). New York, NY: Guilford.
- Kağitçibaşı, Ç. (2007). *Family, self, and human development across countries. Theory and applications* (2nd ed.). Mahwah, NJ: Erlbaum.
- Kärtner, J. (2015). The autonomous developmental pathway: The primacy of subjective mental states for human behavior and experience. *Child Development*, 86, 1298–1309.
- Kärtner, J., Keller, H., & Chaudhary, N. (2010). Cognitive and social influences on early prosocial behavior in two sociocultural contexts. *Developmental Psychology*, 46, 905–914. doi:10.1037/a0019718
- Kärtner, J., Keller, H., Chaudhary, N., & Yovsi, R. D. (2012). The development of mirror self-recognition in different sociocultural contexts. *Monographs of the Society for Research in Child Development*, 77(Serial No. 4), vii–viii, 1–87.
- Kärtner, J., Keller, H., Lamm, B., Abels, M., Yovsi, R., & Chaudhary, N. (2007). Manifestations of autonomy and relatedness in mothers' accounts of their ethnotheories regarding childcare across five cultural communities. *Journal of Cross-Cultural Psychology*, 38(5), 613–628.
- Keller, H. (2007). *Cultures of infancy*. Mahwah, NJ: Erlbaum.
- Keller, H. (2013). Attachment and Culture. *Journal of Cross-Cultural Psychology*, 44, 175–194. doi:10.1177/0022022112472253
- Keller, H., & Kärtner, J. (2013). Development—the cultural solution of universal developmental tasks. In M. J.

- Gelfand, C. Chiu, & Y. Hong (Eds.), *Advances in culture and psychology* (Vol. 3, pp. 63–116). New York, NY: Oxford University Press. doi:10.1093/acprof:oso/9780199930449.003.0002
- Keller, H., Yovsi, R., Borke, J., Kärtner, J., Jensen, H., & Papaligoura, Z. (2004). Developmental consequences of early parenting experiences: Self-recognition and self-regulation in three cultural communities. *Child Development, 75*, 1745–1760. doi:10.1111/j.1467-8624.2004.00814.x
- Kochanska, G. (2002). Mutually responsive orientation between mothers and their young children: A context for the early development of conscience. *Current Directions in Psychological Science, 11*, 191–195.
- Köster, M., Ohmer, X., Nguyen, T. D., & Kärtner, J. (2016). Infants understand others' needs. *Psychological Science, 27*(4), 542–548. doi:10.1177/0956797615627426
- Köster, M., Schuhmacher, N., & Kärtner, J. (2015). A cultural perspective on prosocial development. *Human Ethology Bulletin, 30*, 71–82.
- Lancy, D. F. (2012). The chore curriculum. In G. Spittler & M. Bourdillion (Eds.), *Working and learning among Africa's children* (pp. 23–57). Berlin, Germany: Lit Verlag.
- LeVine, R. A., Dixon, S., LeVine, S., Richman, A., Leiderman, P. H., Keefer, C. H., & Brazelton, T. B. (1994). *Child care and culture: Lessons from Africa*. New York, NY: Cambridge University Press.
- Miller, J. G., & Bersoff, D. M. (1992). Culture and moral judgment: How are conflicts between justice and interpersonal responsibilities resolved? *Journal of Personality and Social Psychology, 62*, 541–554. doi:10.1037/0022-3514.62.4.541
- Miller, J. G., Bersoff, D. M., & Harwood, R. L. (1990). Perceptions of social responsibilities in India and in the United States: Moral imperatives or personal decisions? *Journal of Personality and Social Psychology, 58*, 33–47.
- Nsamenang, B. A. (1992). Perceptions of parenting among the Nso of Cameroon. In B. S. Hewlett (Ed.), *Father-child relations: Cultural and biosocial contexts* (pp. 321–343). Hawthorne, NY: de Gruyter.
- Ochs, E., & Izquierdo, C. (2009). Responsibility in childhood: Three developmental trajectories. *Ethos, 37*, 391–413. doi:10.1111/j.1548-1352.2009.01066.x.392
- Ogunnaike, O. A., & Houser, R. F. (2002). Yoruba toddlers' engagement in errands and cognitive performance on the Yoruba Mental Subscale. *International Journal of Behavioral Development, 26*, 145–153. doi:10.1080/01650250042000708
- Paternoster, R., Brame, R., Mazerolle, P., & Piquero, A. (1998). Using the correct statistical test for the equality of regression coefficients. *Criminology, 36*, 859–866.
- Rheingold, H. (1982). Little children's participation in the work of adults, a nascent prosocial behavior. *Child Development, 53*, 114–125.
- Rothbaum, F., Pott, M., Azuma, H., Miyake, K., & Weisz, J. (2000). The development of close relationships in Japan and the United States: Paths of symbiotic harmony and generative tension. *Child Development, 71*, 1121–1142. doi:10.1111/1467-8624.00214
- van de Vijver, F., & Leung, K. (1997). *Methods and data analysis of cross-cultural research*. Thousand Oaks, CA: Sage.
- Warneken, F., & Tomasello, M. (2006). Altruistic helping in human infants and young chimpanzees. *Science, 311*, 1301–1303. doi:10.1126/science.1121448
- Warneken, F., & Tomasello, M. (2009). Varieties of altruism in children and chimpanzees. *Trends in Cognitive Sciences, 13*, 397–402. doi:10.1016/j.tics.2009.06.008
- Whiting, B., & Edwards, C. (1992). *Children of different worlds: The formation of social behavior*. Cambridge, MA: Harvard University Press.
- Whiting, B. B., & Whiting, J. W. (1975). *Children of six cultures: A psycho-cultural analysis*. Cambridge, MA: Harvard University Press.