MERIT IS NOT MERITORIOUS EVERYWHERE: FAIRNESS IN FIRST AND THIRD-PARTY TASKS AMONG KOGI CHILDREN

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This is a preprint of an article whose final and definitive form will be published as a research report in the Journal of Cognition and Culture. The Journal of Cognition and Culture is available online at: https://brill.com/view/journals/jocc/jocc-overview.xml

ABSTRACT:

Experimental research has studied the emergence of fairness criteria such as merit and equality at increasingly younger ages. How much does the recognition and practice of these principles depend on the influence of central aspects of Western educated and industrialized societies? In an attempt to answer these questions, this research report provides evidence regarding the choices of children in the Kogi indigenous community of the Sierra Nevada de Santa Marta, a small-scale society living in the mountains of Northern Colombia that practices swidden agriculture, cattle-raising, and enjoys a special cultural status granted by the Colombian Constitution. Two groups of 6-7 and 10-11 year olds (N=104) were tested on a modified dictator game and several scenarios from a resource distribution task including different fairness criteria. Our results point to the lack of focality of the idea of merit among Kogi children at these ages when deciding on third-party allocation tasks, even when the experimental design prevented equal distribution.

Keywords: **Equity; Gini inequality; Distributive justice; Egalitarianism; Kággaba; Small-scale society;**

Introduction

Across different societies and situations, equality and merit are criteria that are central to resource allocation (Kelly, 2013; Noh, 2019; Turiel et al, 2016). Although philosophical debates have raged for centuries on the specific form that these criteria ought to take (Sen, 1980), in essence, rewarding merit is based on handing over a larger fraction of the surplus to the person who produced the most in cooperative labor, whereas a preference for equality of outcome involves not giving privilege to other characteristics such as effort, merit or need, among those deserving of the goods to be distributed. These moral principles have been studied from perspectives as varied as anthropology, which has focused on verifying the central characteristics of egalitarian societies (Gardner, 1991; Silberbauer, 1981; Woodburn, 1979; 1980 and 1982); developmental psychology, which has been interested in capturing the moment in which these moral preferences emerge; and social psychology, which has focused on investigating social influences on these preferences (Carson and Banuazizi, 2008).

Pioneering studies of these fairness criteria include those of Piaget (1965), Kohlberg (1969), and Damon (1975; 1977), who located a series of stages of moral development related to the recognition and practice of equality and merit. Subsequently, new methods were developed that have made it easier to account for the recognition and practice of equality and merit at increasingly younger ages. This has allowed the comparison of findings across different age groups and the use of different measuring protocols: middle-childhood (Forsé et al, 2016; Jennings, 2019; Lutz, 1988; Noh, D'Esterre and Killen, 2019); comparisons between middle-childhood and early or late childhood (Fehr et al, 2008 and 2013; House et al, 2013a and 2013b; Kienbaum and Wilkening, 2009); preschool-age children in first-party tasks, in which the child can benefit directly from the distribution (Hamann et al, 2011 and 2014; Ulber, Hamann and Tomasello, 2017; Warneken et al, 2010), or third-party tasks, in which the child participates as an impartial judge of a story (Baumard et al, 2012; Chernyak et al, 2016 and 2019; Chevallier et al, 2015; Kenward and Dahl, 2011; Liénard et al, 2013). Finally, methodological innovations have even prompted the study of the prevalence of these preferences in the second year of life (Geraci and Surian, 2011; Schmidt and

Sommerville, 2011; Sloane et al, 2012; Sommerville et al, 2013, Surian and Franchin, 2017).

The majority of studies regarding the emergence of distributive justice in children have been carried in so-called WEIRD societies (Western, educated, industrialized, rich, and democratic societies), human groups that represent around only 12% of the world's population (Henrich et al, 2010a; 2010b; Rad et al, 2018; Vitriol et al, 2020). In recent years, experimental work on distributive justice in children has incorporated non-WEIRD populations, both in large-scale (Blake et al, 2015; Huppert et al, 2018; Paulus, 2016; Rao and Stewart, 1999, and Samek et al, 2020) and small-scale societies (Aknin et al, 2015; House et al, 2013a; and Schäfer et al, 2015).

Despite this recent upsurge, studies conducted outside of WEIRD populations remain rare. Moreover, the results of such studies are sometimes interpreted in seemingly paradoxical ways. They tend to focus, for the most part, on either first-party choices, where the child has a stake in the final distribution and can profit from the distributed tokens, or third-party choices, where the child distributes the surplus to other people, often hypothetical characters in a story. These studies, however, seldom delve into the conjunction of the two points of view (Robbins et al, 2015 and Rochat et al, 2009, for exceptions to this rule). Studies that use third-party perspectives have tended to suggest psychological universalism concerning merit (Baumard et al, 2012; Liénard et al, 2013 and Chevallier et al, 2015); while studies that have focused on first-party tasks have emphasized the impact of cultural differences on the ontogenesis of those intuitions (Schäfer et al, 2015). Further, little attention has been given to criteria of distributive justice other than merit (Wong and Nunes, 2003). For instance, distributive principles antithetical to the WEIRD notion of justice, such as physical strength or formidability (Nietzsche, 1989 [1887]), have not been systematically included.

The present research report examines the criteria of distributive justice in middle-childhood Kogi children, who live in the Sierra Nevada de Santa Marta (Colombia), a peripheral mountain system not far from the Caribbean coast and considered by the Kogi to be the heart of the world. The first census carried out in 1807

established the existence of 674 people (Reichel-Dolmatoff, 1950-1951), whilst the most recent census (DANE, 2019), revealed that the Kogi consists of just over 15,000 people, representing 0.8% of Colombia's indigenous people. The Kogi organize themselves as a small-scale society through both the physical closeness in the social relationships of its members (Gurven, 2004), and by distancing themselves from central aspects that shape Western societies such as the world market, world religions, and Western penal institutions (Henrich et al, 2010). They produce goods — for their direct consumption and exchange — on small farms of diversified crops, permanent or semi-permanent, and through a direct symbolic relationship with ancestral laws directed towards the protection and care of the land (Brettes, 1903; Coronado, 1993; Parra, 2018; Preuss, 1993 [1926]; Reichel-Dolmatoff, 1950, 1951 and 1975, and Uribe, 1990).

Due to their cultural configuration, they are considered as both a hierarchical and egalitarian society with a gender-based division of labor. The hierarchy is expressed in the recognition of three social levels: *Mamas* (religious authorities), commissioners (political authorities), and Kogi people (ordinary people); the commissioners, appointed by the *Mamas* through divination, are in turn classified into majors (*makú*), minors (*kuishbangi*), and corporals (*mushuchi*). Equality is expressed in the possibility of equal access to spiritual, political, and economic benefits. As an expression of equality, the political authority assigns each family a portion of the common land to grow food. Some rituals and activities of daily life require work that is exclusively based on gender. Thus, only men can cut the maguey, the raw material of their woven bags, but only women can knit them. And only adult women, who are not in their menstrual period, can collect the *jañú* (the leaf of coca), but only men can cook and eat it.

Our study focused on several objectives. First, we aimed to examine a small-scale society, whose participation in studies on cultural cognition is very limited (Rad et al, 2018; Vitriol et al, 2020; Winking and Koster, 2020). Second, we wanted to study the emergence and development of intuitions surrounding merit and fairness; hence we focused on the application of fairness intuitions in different age groups around middle childhood. Third, in order to measure the nature of preferences towards distributive justice, our study included a first-party task in the form of a modified dictator

game together with third-party tasks that included distribution criteria other than merit, such as physical formidability and need (criteria which, to our knowledge, have not been compared in allocation exercises with children of small-scale societies).

Methods

Ethics approval

All procedures were approved by the Ethics Committee on Scientific Research at the Industrial University of Santander (CEINCI-UIS). In addition, the study was approved by the local ancestral authority. Hypotheses, sample size determination, and exclusion criteria were pre-registered at *aspredicted.org*

Participants

Children were recruited based on age from a rural school in the Sierra Nevada de Santa Marta. The school is characterized as following the 'ethnoeducational' model that mixes 'Western' instruction with Kogi ancestral practices[1]. In addition, children from the same age group might be at different educational stages in the school system, a variable that could help to disentangle the effects of age vs. cognitive ability, which we also subsequently recorded. Based on pre-registered hypotheses and an estimation of available cohort sizes at the school, we initially settled on a sample recruitment size of 145 children.

Kogi children begin to actively collaborate in cultural group activities at a very young age. For instance, girls begin to knit bags from two years old, whilst boys, together with their fathers and older brothers, engage in group activities to collect food. Enculturation into these small tasks is reinforced by the learning of myths and stories that accompany them. Children start to study in local schools between the age of 6 and 10 years. In the school, they receive instruction in Western contents as well as in local traditional Kogi knowledge. Thus, it is common for a child to go from the Spanish class

[1]The 'ethnoeducative' model is not exclusive to the Kogi, since it is also followed by many of the other indigenous people from Colombia. The SEIP, as it is called, enjoys a special constitutional rank: it is derived from article 329 of the Political Constitution of 1991 as well as decree 1953 of October 7th, 2014.

to the Kogi Culture class and later go to perform traditional activities with the *Mama*.

Measures

Our study followed a within-subjects design consisting of two counterbalanced blocks of measures. One block included the third-party allocation tasks, and the other block included the first-party allocation task (dictator game*)* (See materials at https://osf.io/qfk7r/). Each one of the measures included in the study was preceded by simple comprehension questions. Failure to adequately answer those questions resulted in switching to the next question without recording the variable. All data were collected by R. Angarita in November 2019 and registered manually on a spreadsheet. In addition, for verification purposes, each interview was also recorded on video[2].

Third-party allocation tasks. Two slightly different gender-specific cooperation scenarios involving hypothetical Kogi children (as characters in a story) were presented as part of the third-party allocation task in a counterbalanced order. We employed a repeated measures 2 x 2 design with gender-appropriate/gender-different and equally-divisible/non-equally divisible as the conditions. Children were asked how they would distribute the produced goods in one condition in which the goods were equally divisible (6 tokens for 3 characters in a story) and another one in which they were not. Participants were presented with PowerPoint slides on a tablet depicting the various characters and elements of the story (character's names, their left-right position, the color of their necklace and their woven bags were all counterbalanced across participants).

- Own gender/Different gender scenarios: Both stories included culturally gender-specific cooperative occupations with which Kogi children at that age would already be familiar. The boys-specific story involved a group of three boys collecting maguey leaves (a type of monocotyledon plant of the agave family used by the Kogi in the production of fabrics employed for their woven bags), whereas the girls-specific story involved a group of three girls cooking plantains. In the traditional activities of the Kogi, the masculine and feminine tend to be

[2]Two interviews suffered from unexpected technical problems and were only partially recorded.

simultaneously present to guarantee complementarity. Thus, the man collects the maguey, and the woman weaves bags; the man grows the food (e.g., the plantains), and the woman cooks it. For both scenarios, one of the members of the group ends up working alone and producing all the picked magueys/cooked plantains while the other two went to play. Similar scenarios but which included non-culturally familiar tasks (e.g., baking cookies) — and thus that were regarded as inappropriate for inclusion in this study— have been employed previously to demonstrate the emergence of early intuitions surrounding merit (e.g., Baumard et al., 2012).

- *Equally-divisible condition*. Children had to distribute all the produced tokens in the own gender/different gender scenarios among 3 different characters in a hypothetical scenario. In the equally-divisible condition, the children were asked to allocate 6 produced tokens (maguey/cooked plantains) among the three children in the story. They were told that among the other two children in the story who did not cooperate in the task, one of them was very much in need of magueys/cooked plantains that morning, and the other one was a very strong girl/boy. Hence, we coded the number of tokens allocated to each one of the children as the variables '*Merit*', '*Need'*, or '*Strength*', denoting the relative degree of preference for these fairness criteria.
- *Non-egalitarian condition*. Children had to distribute 8 tokens among 3 different characters in each of the two hypothetical scenarios, thus precluding egalitarian distributions. The number of tokens allocated to each one of the criteria ('*Merit'/'Need'/'Strength'*) was also coded. The ranking of preference among those criteria (which criteria were ranked first and which second, e.g., as a result of giving more to the meritorious child but less to the physically formidable child, or vice versa) was also coded and subsequently analyzed.

Base-rate sensitivity task: As a measure for controlling individual differences, the dictator game was always preceded by 4 different questions aimed at measuring children's intuitive understanding of base rates, a variable previously found to be strongly linked to children's analytical thinking and reflexivity (Young et al., 2018).

Statistical and anecdotal evidence were presented to children who were subsequently asked a practical question. For example, (while pointing to different places on a picture of a map): "*Almost all people find crabs in this part of the river. However, the other day, one man who was very needy found a crab in this other part of the river. If you want to find crabs, where should you search for them?*".

Dictator game. As a first-party allocation task, the children were presented with a dictator game. The children were thanked for taking part in this study and for answering so many questions. They were given 8 animal stickers (a highly valued commodity at this age) and this was highlighted as a reward for their meritorious collaboration (having worked so hard). They were also told that another child at the school (same gender as the participant) had not been able to participate in the study and they were offered the option of giving away a number of those stickers that could later be distributed to that child. The number of donated stickers was measured, and the donated stickers were later left with the school officials to distribute among the other children.

Results

Participants

Due to the fact that a number of children were absent from school during the two-week data collection period, a total of 104 middle-childhood Kogi children finally took part in the study. There were two age-groups, the first age group represented those children in their first year of school (6-7 years N = 45, M_{age} = 6.5) and the second age group represented those children who would usually be in their final year of primary school (10-11 years. N=59, M_{age} = 10.2). Girls were underrepresented and accounted for 29% of the 6-7-year-olds and 28% of the 10-11-year-olds. Age and educational stage were not always in synchrony. Among the children at those ages in the ethnoeducational school, some attended classes at a different educational stage to that expected for their cohort.

Third-party allocation task

Regarding the **equally-divisible allocation condition**, for the girls cooking plantains

scenario (N= 97 after exclusion) 86% percent of responses favored the egalitarian distribution (two tokens for each one of the characters in the story, the meritorious child, the needy child, and the strong child). A one-proportion Z-test conducted to test whether this pattern of responses deviated from a null or a random allocation of items, revealed that these results were highly statistically significant (z=48.2, p<.001, two-sided). Among the 14% of children who did not favor the egalitarian distribution, only 3 chose merit as the exclusive first criterion for a fair distribution of the cooked plantains. For the boys picking maguey leaves scenario (N= 91 after exclusion), 84% of the children chose to allocate the egalitarian distribution (z=45.6, p<.001, two-sided). Of those few children who did not favor the egalitarian distribution, 5 chose merit as the first criterion for distributing the goods, rewarding the child who had worked the hardest with more tokens.

For the **non-egalitarian allocation condition**, the most frequent choice involved distributing the less unequal allocation. That is, of the 8 produced tokens, distributing 3 tokens to one child, 3 tokens to another child, and two to the other child was both the modal response and the one with the lowest Gini coefficient. For the boys picking maguey leaves scenario, 46% of the children ranked ‘strength’ and ‘need’ first (giving 3 maguey leaves for the needy child and 3 for the strong child), 32% of children chose ‘strength’ and ‘merit’ as the two first criteria, and 22% of children chose ‘merit’ and ‘need’ (See Table 1). Only 7 children chose one exclusive criterion above the other two (thus increasing Gini inequality), merit and need being chosen as the most frequent exclusive criteria (3 children chose each). The results of a Cochran's Q test revealed a statistically significant difference in preference among the distribution criteria ranked first ($X2(2) = 6.68$, p =.035). Applying a pairwise comparison using McNemar's Chi-squared test with Bonferroni correction suggested that the preference of strength over the other fairness criteria in the boys picking maguey scenario was not merely due to chance ($X2(1)= 6.2241$, $p= 0.037$).

Regarding the girls cooking plantains scenario, 37% of the children chose strength and merit as joint first criteria in the non-egalitarian condition, 36% of children chose merit and need as the two first criteria, and 27% of children chose strength and

need (See Table 1). Only 9 children chose one exclusive criterion, which increased Gini inequality, merit being the most frequent exclusive criteria (5 children), followed by need (3 children). A Cochran's Q test showed that there was no significant difference in the preference among the criteria ranked first $X2(2) = 2.127$, $p = 0.34$.

Table (1) Ranking of justice principles in the non-equally divisible condition. Frequencies represent the number of total responses in the sample which favored the given criteria for each one of the scenarios.

	Female characters		Male characters	
	Frequency	%	Frequency	%
Strength and Merit	33	34%	28	31%
Strength and Need	23	24%	38	42%
Merit and Need	32	33%	19	21%
Strength	1	1%	1	1%
Merit	5	5%	2	2%
Need	3	3%	3	3%
Total	97	100%	91	100%

Contrary to our expectations, there was no effect of age group on the choice of the egalitarian distribution in the equally-divisible allocation condition [$F(1, 95) = 2.04$, $p = .15$] for the girls cooking plantains scenario [$F(1, 95) = 2.04$, $p = .15$], or for the boys picking maguey scenario [$F(1, 89) = 0.99$, $p = .32$]. Modeling the choice of an egalitarian distribution as a binary dependent variable in a mixed effects logistic regression with

‘participant’ as random factor and ‘scenario’ and ‘age group’ as fixed factors also failed to obtain any significant predictive effect for the age group variable (z=-.35, p=.72).

Was assessment of a gender appropriate scenario, as opposed to an opposite gender scenario, related to an increased preference for merit in distributions? A repeated measures linear mixed-effects model was constructed using participant and allocation condition as random effects, and age group, gender, gender appropriateness of the scenario (same gender/different gender) and order of presentation of third-party allocation task as fixed effects. The model was fitted in R using maximum likelihood with the package lme4 (Bates et al., 2020). Contrary to our expectations, when participants were asked to make a decision on same gender scenarios, they favored merit slightly less. Gender appropriateness of the scenario and presenting the task before the dictator game were both associated with decreased preference for merit in the third-party allocation task, although each one of these effects were small, accounting for less than 3% of the variance (See Table 2). Educational stage in school (as a variable different from age) or number of correct responses in the base-rate task were also not associated with an increased reward of merit (r_s=.06, p=.56; r_s=.07, p=.52).

Table 2. Mixed effects model with number of produced tokens given to reward merit as dependent variable.

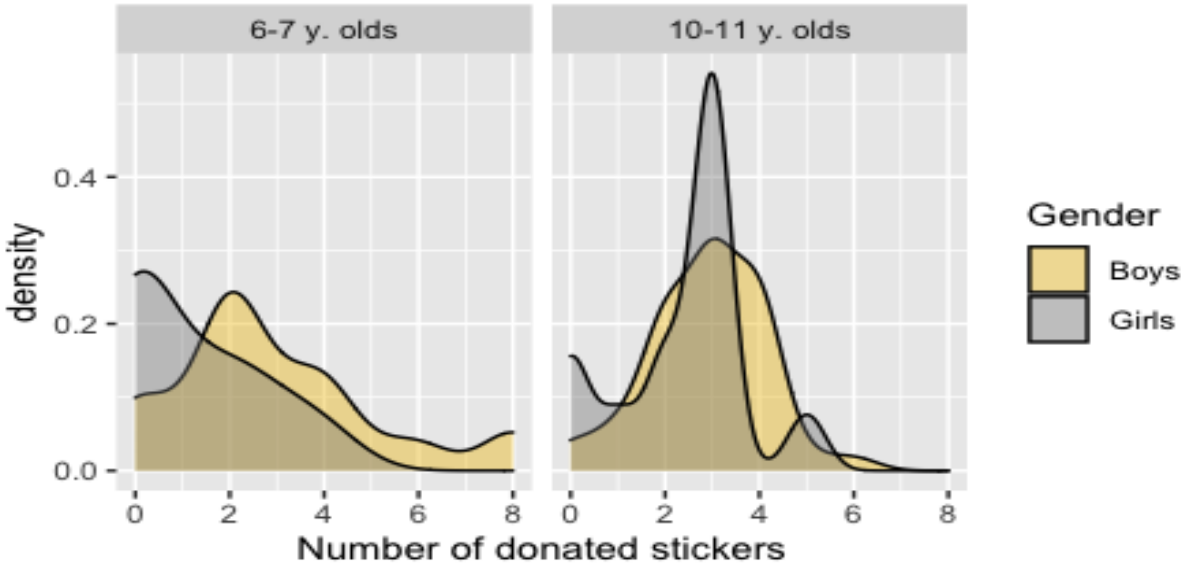
Fixed effects	**Est.**	**S.E.**	***t* val.**	***p***
(Intercept)	2.45	0.27	9.06	0.00 ***
Same gender	-0.11	0.05	-2.08	0.04 *
Order (Before DG)	-0.17	0.08	-2.25	0.03 *
Age Group (older)	0.11	0.07	1.69	0.09 .
Gender (boys)	-0.10	0.08	-1.28	0.20

Note: Observations = 369; Pseudo-R^2 (fixed effects) = 0.03; Pseudo-R^2 (total) = 0.36; p values calculated using Satterthwaite d.f.

Dictator game

The modal response in the dictator game was either 3 or 2 stickers (27 children gave either of these responses), with responses ranging from 0 stickers (14 children) to 8 stickers (3 children). The results of a Wilcoxon test indicated no significant difference among age groups (z=-1.54, p=.12). An unexpected effect of gender emerged, however, with the boys' offer being more generous on average than that of the girls [M_{girls} = 1.87, M_{boys} = 2.91; z=2.41, p=.01]. A linear regression using the number of donated stickers as the dependent variable suggested that this gender difference was robust (β= 1.01, t val= 2.58, p=.01) when including other covariates such as age or educational stage. Were more generous children in the dictator game somehow more sensitive to the value of *need* or *equality* in the fair distribution of the third-party task? When included as an explanatory variable, the preference for equality in the third-party allocation task did not reach statistical significance and did not substantially increase model fit as a predictor of the number of donated stickers in the linear regression (β= 0.38, t val=0.89, p=.38). Further, choosing the highest reward for the needy child in the two non-equally divisible allocation scenarios did not improve model fit (β= 0.25, t val=0.72, p=.48).

Fig 1. Density plots for age group showing the distribution of the participants' donations (out of eight) in the dictator game according to gender.



Discussion

Previous research has identified the Kogi as representatives of a small-scale society with a distinctive mix of hierarchical and egalitarian motives simultaneously present in their cultural beliefs and form of organization (Preuss, 1993 [1926]; Reichel-Dolmatoff, 1950, 1951 and 1975; Uribe, 1990, and Parra, 2018). We wanted to identify which fairness criteria regarding resource distribution are favored among the Kogi by middle childhood. The focus on such an understudied population and the inclusion of different measures of fairness preferences involving a (self-interested) first-party task and a hypothetical third-party task was an attempt to address a gap in our current understanding of the development of the intuitions surrounding merit among small-scale societies. We included various conditions in the third-party task involving gender-appropriate culturally specific scenarios in order to identify the possible factors that could explain children's decisions when it comes to distributing a resource among various people.

Results of dictator games such as the one employed in our first-party task are sometimes difficult to interpret if the norms which govern the interpretation of the game are severely underspecified. In our case, we presented the results of the distribution of stickers in the game as the reward for a meritorious participation in the study for the children, and also as an opportunity to attend to the needs of another child who had not been able to enter the study. The median response was not too far from equality but clearly did not reach it. Other times children only felt compelled to make a minimally generous offer (2 out of 8 stickers). And stingy offers (1 or 0 stickers) were not too rare. Equality in this first-party task seems to fade if compared with the results of the third-party allocation task, where outcome equality was overwhelmingly the preferred choice when possible. What is the explanation for this disconnect? It has already been observed that intuitions about fairness in a hypothetical scenario involving third parties are more sensitive to inequality than the intuitions that can be evoked in a task where the self is an interested party (Dunham et al., 2018). More specifically, whilst

disadvantageous inequity aversion (when the peer receives more than the self) has been shown to reliably appear in middle childhood across a diverse range of cultural groups, *advantageous inequity aversion* (when the self receives more than the peer) is considerably more rare across cultural groups at this age (Blake et al., 2015).

We might have expected sensitivity to need or equality in the third-party task to be linked, if only marginally, to more generous offers in the dictator game - something that we did not observe in our data. One possible interpretation of this phenomenon could be that the interest that was truly driving the children's responses in the third-party task was the eagerness to embrace equality of outcome, a passion so strong among Kogi children at that age that it would have precluded other preferences from being predictive factors. Another possibility is that actual sensitivity to the needs of others, when self-interest is at play, is something which, at this age, is still largely disconnected (rather independently of cultural upbringing) from the abstract idea of a duty to attend to other people's needs, as manifested in hypothetical scenarios. In the equally divisible condition of the third-party task, equality was the choice made by the vast majority of children. When faced with protagonists of a story who represented fairness criteria as diverse as need, merit or physical formidability, Kogi children, even in the 10-11-year age group, opted to share equally among the protagonists in the story, a decision that was made independently of their individual characteristics. There was no detectable difference between the two age groups in relation to the rank ordering of justice criteria. And even in the non-equally divisible condition, children still overwhelmingly chose the least unequal distribution, not favoring merit or need over the other criterion of sheer physical strength.

We might also have expected to find that increased familiarity with the cooperative setting described in the third-party allocation task would have facilitated the triggering of the merit intuition. After all, children may have found themselves, or seen slightly older peers, already in such a cooperative setting, picking maguey leaves, cooking plantains, and may have experienced themselves or vicariously the effects of some of the team members defecting. This is one of the reasons why we included the gender-specific scenarios, finding a small but statistically significant effect in the

opposite direction. Was this small effect of a decreased preference for rewarding merit due to an increased preference for equality in relation to same gender activities? Or was it due to an increased preference for rewarding need, or an increased preference for rewarding sheer strength? Our data do not allow us to answer these questions.

To sum up, merit was barely salient for Kogi children as old as 11 years, in spite of the fact that our stories were devised in order to trigger this intuition. Why was merit so unattractive as a criterion for sharing cooperatively produced resources? The responses of the Kogi children studied here clearly differed from the results reported in previous studies. In a classical study which included allocation tasks solved by US children aged 5 and 9 years, Carol Sigelman and Kara Waitzman (1991) found that children at those ages already allocated more rewards to the most productive character in a hypothetical story involving market oriented cooperation; however, performance-based equity was not the predominant fairness principle in their other scenarios involving rules for voting or charity. Other studies conducted with children aged 3 to 5 years old, first among French preschool children (Baumard et al, 2012), and then replicated in different cultural groups (Lienard et al, 2013; Chevallier et al, 2015), also yielded different results. The methodology included the distribution of 3 products (cookies) for two characters in a single story, and two distribution phases. In the first phase, the children chose equality: the participants gave a product to each character. In the second phase, the participants chose merit. More recently, Forsé and colleagues (2016) examined 6 to 10-year old French children. The methodology included the distribution of 12 products (cookies) to 4 characters in a story incarnating different principles of justice (arbitrary, utility, merit and need). If the child opted for equal distribution (equality), they added a second distribution phase: they provided him/her with an extra cookie to distribute to one of the characters. In the first phase, most of the children chose equality whilst in the second phase, need and merit emerged as the most common choices. Our methods differed primarily in terms of the choice of culturally appropriate scenarios and also in the use of different, and emotionally neutral, pictures to describe the characters of the story (whose identities were also counterbalanced).

In addition, our method included physical formidability as a distributive principle,

which, to our WEIRD eyes might appear as purely arbitrary but not entirely so in Kogi children's eyes. Mythical stories and everyday behavior support the focality of strength as an object of esteem and reward among the Kogi. In one prominent Kogi story, the world is supported on the shoulders of four men who join forces so that the world does not perish; following this emic logic, the day the men lack strength will be the end of the world. Moreover, muscular strength is regarded as an element of notoriety among Kogi men, to such an extent that it is common to observe large rocks on the side of the roads that passers-by can attempt to lift. It is commonly observed that when trying to lift the largest and heaviest rocks, young people refer to the names of the men who have achieved such feats.

Is rewarding those who produce the most in cooperative labor something on which children from industrialized societies have been particularly sensitized or rather something more psychologically primitive from which Kogi children have been diverted by the operation of active cultural norms? Could it be both? Kogi cultural beliefs are famous for conveying a specific form of ethics of care where individuality is relegated and where protection and care of the environment (which includes the group, conceived as a family where Earth is the mother and humans its children) is ranked as the foremost duty. A better understanding of the distinct developmental pathways by which these beliefs and intuitions might affect their day-to-day cooperation would be, at least in our eyes, a meritorious achievement, indeed.

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