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Pile sorting innovations: Exploring gender norms, power and equity in sub-Saharan Africa

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Understanding gender norms, power and equity is important for developing successful sexual and reproductive health interventions. However, little attention has been given to how to capture the gender ideals and imbalances that inform these relationships in low resource settings. Pile sorting exercises were conducted in four gender-segregated focus groups in Ethiopia and Kenya. Each group received cards illustrated with a man, woman and man and woman together and cards labelled with duties and decisions. Participants discussed and decided together whether men, women or both performed each duty and decision and assigned the cards accordingly. Participants then reflected on and physically manipulated the piles to challenge gender norms, investigate role flexibility and identify agents of social change. Data collected included photographs of the pile sorts and recordings of the discussions. Conducting pile sorting within focus group discussions enabled comparative analyses of gender norms, while enriching data by focusing discussions and encouraging consensus building. Innovative applications facilitated participants' abilities to engage abstract concepts, reflecting on issues of gender norms, power and equity.

Keywords: gender; qualitative methodology; pile sorting; equity; decision making

Introduction

Gender-based inequalities that place women at a distinct health disadvantage re-emerged as a focus following the Platform for Action of the Fourth World Conference on Women in Beijing (1995) (Moss 2002). Initial research focused on the role of gender relations in shaping sexual and reproductive health by investigating issues of spousal communication surrounding sex, reproduction and family planning (Biddlecom and Fapohunda 1998, Hogan *et al.* 1999, Feyisetan 2000, Gupta 2000, Yue *et al.* 2010) and male opposition to family planning (Collumbien and Hawkes 2000, Bawah 2002). More recently, research has focused on issues of power within relationships and the extent to which inequalities in power emerge from gender norms and expectations.

Power within sexual relationships is a combination of 'power to' and 'power over' and refers to the ability of one partner to dominate decision-making, control the other partner, engage in actions against the other partner's wishes and effectively act independently of the relationship (Riley 1997, Pulerwitz *et al.* 2000, Blanc 2001).

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In the context of sexual and reproductive health, research on power specifically focuses on comparative power because imbalances within a relationship may enable one partner to assert his or her sexual and reproductive health goals, potentially leading to negative outcomes, such as unwanted pregnancy, for the other partner. Studies have examined how individual perceptions of control within relationships are linked to sexual and reproductive health outcomes, arguing that women who feel they have less control in their relationships have less ability to negotiate for successful achievement of their sexual and reproductive goals (Li 2004, Pettifor *et al.* 2004, Langen 2005, Boer and Mashamba 2007).

Studies also have focused on the relationship between power and gender norms, arguing that social and structural support for inequitable gender norms negatively influences sexual and reproductive health behaviours by supporting male dominance of the female partner (Cohen and Burger 2000, Pulerwitz and Baker 2008). As these imbalances may arise from social and cultural expectations around male and female roles and behaviours (Gupta 2000, Blanc 2001), they often are deeply embedded in cultural ideals around gendered behaviours. However, limited quantitative tools are available to support analysis of gender norms, roles and responsibilities, and few studies illustrate how to describe gender norms without applying stereotypes (Kostick *et al.* 2011). The application of stereotypes, which are preconceived notions of gender attributes and roles, inhibits contextual and nuanced analyses of gendered behaviours and relationships.

Identifying qualitative methods that enable nuanced descriptions of cultural ideals, gendered behaviours and gender imbalances in low resource settings is important for developing culturally informed, evidence-based reproductive health interventions, especially as nuanced descriptions may reveal both continuity within the community and intra-cultural or community differences that affect how interventions are received (Kostick *et al.* 2011). In addition, as there is currently no standardised measurement of power in relationships, these methods also may assist in the development of quantitative tools and facilitate the qualitative evaluation of interventions. This study uses data from pile sorting exercises conducted in four gender-segregated focus groups in Ethiopia and Kenya to suggest a potential method for capturing gender ideals and imbalances, illustrating how the combination of pile sorting and focus group discussions can facilitate data collection.

Background

Derived from cognitive anthropology, pile sorting is a qualitative methodology designed to elicit how participants evaluate their social experiences (Spradley 1979, Nastasi and Berg 1999). Commonly used in the social sciences (Trotter and Potter 1993, Ryan and Bernard 2000) and various health disciplines (Morse and Field 1995), the technique engages participants in sorting cards with words or pictures into piles that represent how they think about and categorise elements of interest. *Applications* of pile sorting in public health literature have included capturing local definitions of disease (Brieger 1994, Bolton 2001, Peltzer *et al.* 2006), relationships between symptoms and disease severity (Binh *et al.* 2002) and perceptions of behaviour-risk association (Caballero-Hoyos and Villasenor-Sierra 1996, Carlson *et al.* 2004, Singer *et al.* 2011); comparing local and biomedical treatment models (Calvet-Mir

et al. 2008); and investigating the acceptability of interventions (Chang *et al.* 2005, Dongre *et al.* 2009). Applications specific to the role of gender relations in shaping sexual and reproductive health have included evaluating spousal communication and sexual decision-making in a low-income community in Mumbai (Maitra and Schensul 2002) and exploring sexual behaviours and partner communications among minority communities in Hartford, Connecticut and Philadelphia, Pennsylvania (Hock-Long *et al.* 2005).

Practically, pile sorting includes a range of variations. The facilitator may provide participants labelled cards or may ask participants to label blank cards (Borgatti 1999). Pile sorting may be constrained, in which participants organise cards according to categories determined by the facilitator, or, unconstrained, in which participants organise cards according to categories that they determine (Borgatti 1999). Cards may be sorted a single time, or successive pile sorts may be performed in which participants apply new criteria to further divide previously defined categories (Albert *et al.* 2009).

Data generated include visual representations of relationship. Less commonly, participants are asked to verbalise their thought processes and rationales concurrent with or after sorting the cards, and narrative data are elicited (Borgatti 1999). For example, Chang *et al.* (2005) asked women to sort interventions for intimate partner violence based on their likelihood of using them and subsequently describe their reasoning. These explanations elicited their interpretations of each pile sorting category and enabled them to elaborate on their definitions of terms (Chang *et al.* 2005).

Although the technique may be used with groups, individual applications dominate the literature. In this case, each respondent completes the tasks independently and the results are aggregated across respondents, frequently using specialised software such as ANTHROPAC. In contrast, studies that have used pile sorting in focus groups are limited. Examples in the public health literature include a formative study evaluating survey questions about food insecurity in rural Bangladesh (Frongillo *et al.* 2003). For expediency, participants worked together, first ranking village households according to their understanding of food insecurity and then rearranging the piles to reflect similarities and dissimilarities by food security status (Frongillo *et al.* 2003). Howard *et al.* (2010) used pile sorting and ranking exercises to investigate malaria knowledge and insecticide-treated net purchasing prioritisation in focus group discussions in Afghanistan. Participants ranked household assets, including insecticide-treated nets, in the order they would purchase them if they had extra money or goods for bartering (Howard *et al.* 2010). However, the studies' aims were not methodological and, considering the significance and potential benefits of conducting pile sorting in focus groups, were peripheral to the papers.

Studies have noted innovative benefits of pile sorting, including that it may evoke emotional content, serving as a catalyst for participants to reflect on their feelings (Neufeld *et al.* 2004) and may provide a platform for education (e.g., educating participants on low and high-risk behaviours for HIV transmission that were sorted incorrectly) (Quintiliani *et al.* 2008, Singer *et al.* 2011). However, the authors are not familiar with studies that consider how pile sorting can deliberately facilitate reflection and generalisation by helping participants visualise and interact with the relationships they depict.

Study setting

This analysis uses data from the Results Initiative Baseline Data (RIBD), collected by CARE and Emory University in 2009. The RIBD was collected to provide measures of fertility, contraceptive use, and fertility intentions and attitudes among samples of rural men and women (aged 18–45 years) in Ethiopia and Kenya. Study settings in which CARE had pre-existing community-based projects were selected based on perceived programmatic needs.

In Ethiopia, data were collected in East and West Hararghe, 2 of the 17 zones in Oromiya region. Significant gender inequalities, high fertility rates, early childbearing and low contraceptive use characterise the region (Table 1). In Kenya, data were collected in Siaya, 1 of the 12 divisions in Nyanza Province. Although Nyanza Province has the greatest prevalence of poverty in Kenya (64.2%) (Central Bureau of Statistics [Kenya] 2005), several measures, including education and employment, suggest greater gender equity than in the Ethiopian context. Reproductive health indicators, however, remain unfavourable relative to the broader Kenyan context; the total fertility rate and prevalence of unmet need for family planning and teenage pregnancy are among the highest in Kenya, and the province has the lowest median age at first birth (Kenya National Bureau of Statistics and ICF Macro 2010).

Methods

Staff members from Emory University, CARE USA, and in-country CARE offices collaboratively selected categories for the pile sorting exercises. The categories – duties (physical tasks) and decisions (cognitive tasks) – were chosen to elicit the behaviours proscribed by gender norms and to facilitate discussion of underlying cultural ideals and gender imbalances.

Table 1. Select demographic and reproductive health characteristics, Oromiya Region, Ethiopia (Central Statistical Agency [Ethiopia] and ORC Macro 2006) and Nyanza Province, Kenya (Central Bureau of Statistics [Kenya] 2005).

	Oromiya men	Oromiya women	Nyanza men	Nyanza women
School attendance (%)				
No education	36.7	64.4	0.8	2.1
Primary	43.0	25.7	56.1	64.8
Secondary or higher	20.3	9.9	43.1	33.2
Employment, current (%)	84.1	32.0	83.2	65.6
Total fertility rate (# of births)		6.2		5.4
Median age at first birth: women aged 25–49 years (%)		19.2		19.0
Teenage pregnancy: women 15–19 years who have begun childbearing (%)		19.0		27.0
Contraceptive prevalence rate, modern methods (%)		12.9		32.9
Unmet need for family planning: currently married women with unmet need for spacing or limiting (%)		41.4		31.7

In both countries, in-country CARE staff familiar with the study setting worked together to identify contextually relevant tasks. On the basis of questions about the main duties and decisions performed in the study setting, each staff member attempted to generate an exhaustive list of duties and decisions. After aggregating individual responses and briefly describing each duty and decision, responses were consolidated to eliminate overlap. The final list was selected through discussion: guiding criteria included that the selected tasks were relevant, easily understood by community members, and contributed to understanding gender norms and equity. In Ethiopia, staff members chose eight duties and seven decisions; Kenyan staff members chose eight duties and decisions. Although the duties and decisions selected in each country had elements in common, differences were retained so that elements were contextually appropriate and meaningful to participants.

Pile sorting exercises were conducted in two gender-segregated focus groups in Ethiopia and Kenya. Local health workers were used to recruit participants because they were familiar with the study setting, trusted by community members, and spoke the local language. Two groups of 812 participants were selected from one district or village in each country. All participants were currently married (although no couples were recruited) and were 18 years or older. Levels of educational attainment varied; the majority of both men and women in Ethiopia had received no formal education, whereas approximately half of Kenyan participants had received at least a primary education. No nulliparous women were included in the sample; parities between one and six were represented.

Members of CARE USA, Emory University, and CARE in-country offices chose facilitators, who were trained extensively on qualitative interview techniques using role-play exercises. Each facilitator began by obtaining informed consent and introducing rules for the group, after which he or she introduced three illustrated cards. The group established a common understanding that these cards represented a man, a woman and a man and women together (a couple). After laying these cards on the ground, the facilitator introduced a card labelled with one duty, read the card and asked participants to discuss and decide together whether the duty was the responsibility of men, women or both. The participants indicated their decision by laying the card on the ground below the appropriate illustration. This process was repeated for all duties.

When participants finished allocating the cards, they were asked to consider equity by looking at the cards to determine whether men or women had the greater burden of responsibilities. The facilitator also directed participants to consider role flexibility and challenge normative gender roles by rearranging the cards to reflect a more equitable allocation of duties or, when additional probing was necessary, by considering the movement of specific duties from one pile to another. Following this, women were challenged to consider designating as shared those tasks that they delegated to men or women in their representation of equity. This process was repeated for the cards labelled with decisions. When participants completed this task for decisions, they again were asked whether they thought the piles reflected an equitable allocation.

Data collected included photographs of the pile sorts and recordings of the discussions. Discussions were translated and transcribed verbatim by in-country translators known to CARE. The authors coded the resulting transcripts in Microsoft Word, developing inductive codes for salient methodological themes. For example,

text was marked when participants explicitly referred to the cards and secondarily when these references elicited statements of concordance or dissent with what had been discussed previously. One author had primary responsibility for developing the codes; a second author reviewed the codes for salience and accuracy during development and prior to analysis. The Emory University Institutional Review Board provided ethical approval for the study.

Results

Pile sorting and focus group discussion: enabling comparisons

Applying pile sorting to focus group discussions generated visual representations of how men and women from communities in Ethiopia and Kenya perceive gender norms in relation to duties and decisions. These representations facilitate analysis of how participants classified elements by enabling comparisons between genders and communities (Figure 1).

For example, comparisons of how men and women perceive duties in the Ethiopian context reveal a high level of agreement between men and women. Both men and women indicated that duties are highly segregated by gender and that women are responsible for more duties, including cleaning, cooking, childcare, collecting firewood and fetching water: that is, duties that centre on the home environment. Men and women similarly agreed that men are responsible for the primary economic activity of farming, whereas men and women share responsibility for the minor economic activity of selling 'chat', a local stimulant.

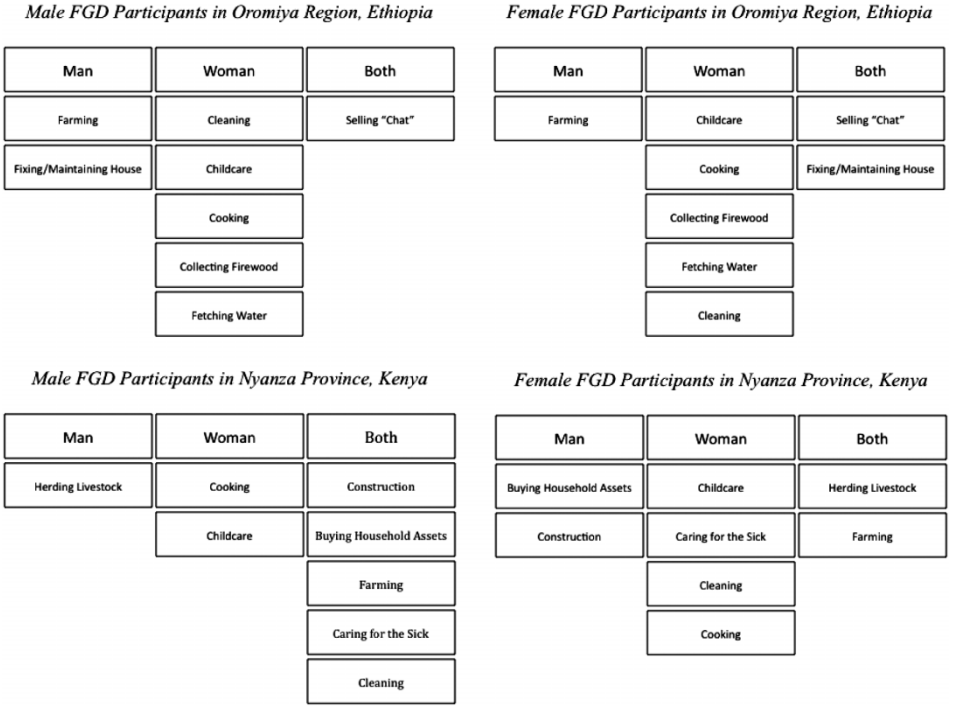

Figure 1. Ethiopian and Kenyan participants' perceptions of duties.

In contrast, pile sorts of duties in the Kenyan context suggest that men and women perceive the allocation of duties differently from one another. Women documented both greater gender segregation and responsibility for a greater number of tasks than men, who indicated that the majority of responsibilities are shared. Specifically, women evenly split the tasks among men (household assets and construction) and women (caring for the sick and cleaning) that men indicated are shared.

Similarly, pile sorts of decisions reveal that Ethiopian men and women generally agree on the allocation of decision-making. Differences arise only where women perceive that men make decisions about being socially active, but men believe that this decision is shared, and where women perceive that decisions about sending children to school are shared, but men believe that they are responsible (Figure 2).

In contrast, data from Kenya do not show the same level of agreement; men and women agree only that men are responsible for deciding bride price. With one exception (using family land), men recorded greater collaboration through shared decision-making, whereas women more often ascribed decision-making to a single gender. Parallel to perceptions of duties, women evenly split between men (sex and money) and women (family planning and the number of children) the responsibilities that men indicated are shared. Notably, men did not ascribe any decisions solely to women.

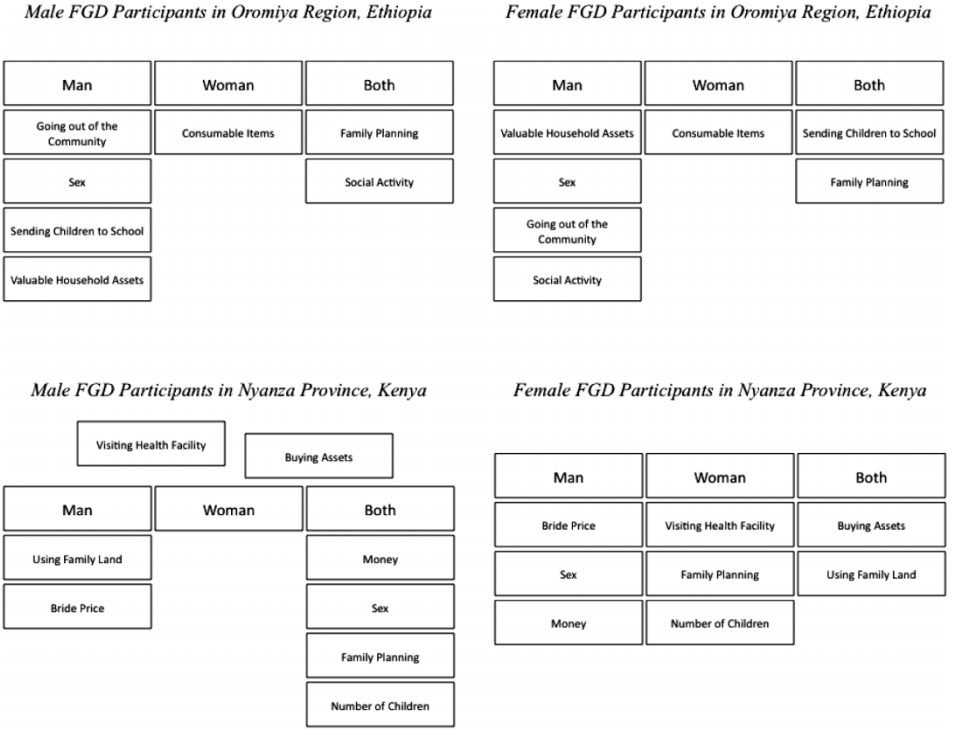

Figure 2. Ethiopian and Kenyan participants' perceptions of decisions.
Note: Men could not agree whether to attribute the decision to buy assets to men or both men and women. The decision to visit a health facility was omitted.

Pile sorting and focus group discussions: eliciting explanations

Applying pile sorting to focus group discussions also facilitated the collection of narrative data. Pile sorting exercises provided an anchor for discussions, eliciting rich and nuanced narrative explanations that facilitate analysis of how participants perceive gender norms and help to explain differences.

First, discussions provided context where participants could not agree on which pile to assign a card. Whereas Kenyan men could not agree whether men or both men and women are responsible for decisions about buying assets, discussions revealed that diverse norms motivated disagreement. Some men considered themselves singly responsible; others reported collaborative decision-making. Significantly, several men indicated that the decision is the responsibility of the person with money, a practice that may serve to empower women as owners of financial assets. As one man suggested, 'Deciding is now upon the person who will be holding the money at that time of conversation. If it is . . . the wife, she will say, let us go and buy this'.

Discussions also contextualised and nuanced comparisons, revealing instances in which men and women assigned duties differently but described their allocation identically. Although Kenyan men assigned caring for the sick to both men and women and women assigned it to themselves, discussions revealed that men and women consider caring for the sick primarily to be the responsibility of women. Women emphasised the primacy of their role, saying, while 'a man can look after a sick person', the duty should be assigned to women because 'it is mostly the women'. Men corroborated this but emphasised their participation, indicating, 'If the woman is away, I remain behind to take care'.

Pile sorting and focus group discussions: eliciting meaning

In addition to facilitating the collection of narrative data, providing a single set of cards ensured that participants worked collaboratively, discussing not only the gender norms that inform behaviours but also the meaning of elements in the pile sorting exercise. That is, discussions elicited contextual meanings, improving data quality by ensuring shared meanings or revealing important conceptual differences between men and women that further contextualise the pile sorting data.

The initiation of the pile sorting exercise illustrates how negotiation assured common understanding among participants. The facilitator introduced participants to three illustrated cards, intended to individually depict a man, a woman and a man and women together. As illustrated by the following discussion among men in Kenya, participants discussed and came to agree on the meaning that should be assigned to these representations:

> Facilitator: And this would be what kind of a person?
> Respondent 1: That is a man or a boy.
> Facilitator: My friend you, you are so quiet.
> Respondent 2: That is a man.
> Respondent 3: As for me I am seeing it differently, that it is a scarecrow that is sometimes put in the shamba (garden).
> Facilitator: As for you it just looks like a scarecrow. But if it is a scarecrow that looks like this, because they are always made in such a figure, now what is it called?
> Respondent 3: Now that resembles a male scarecrow; it stands for a man.

Where the facilitator did not guide participants towards intended meanings but allowed them to assign meanings they perceived to be appropriate, discussions also revealed differences in how men and women conceptualise duties and decisions. For example, women in Ethiopia indicated that the decision to send children to school is shared, whereas men in Ethiopia suggested that it is their decision. Men described that men and women 'discuss and do it together' because they live together, but 'the majority of the decision is that of the husband'. Women, however, did not discuss the conditionality of their participation or corroborate that men possess more power to influence the outcome of decision-making. Instead they implicitly suggested that decision-making not only encompasses the ability to influence outcomes through verbal negotiations but also through economic support. Indicating that they 'help them together', women highlighted that they leverage their willingness and ability to provide financial assistance to influence the decision to send children to school.

Pile sorting innovations: enabling reflection

In addition to combining pile sorting and focus group discussions, the present study advanced innovative pile sorting methods that exploited the pile sorts as visual representations that allowed participants to see their own attitudes and tangible representations that concretised abstract relationships. Through these techniques, pile sorting provided a framework for participants to reflect on gender norms, investigate role flexibility and identify agents of social change.

Reflecting on gender norms

After sorting the cards, participants were guided to look at the piles they created and consider gender equity by judging who has the greater burden of responsibility in relation to duties and the greater influence in relation to decision-making.

In relation to duties, pile sorting helped participants analyse broad community dynamics; all participants who referred to the cards indicated that women have more duties than men. Ethiopian men counted the cards, indicating that women 'undertake five duties' whereas men 'perform two kinds'. Ethiopian and Kenyan women also uniformly indicated that women perform more work and provided descriptive data to support their view. As one woman elaborated: 'Ours in the morning, day, or night; it is endless. If the night comes, they come home saying that we do it tomorrow. But ours, we work even after they have gone to bed'. Although Kenyan men disagreed among themselves which gender has the greater burden of responsibility, those who referred to the cards also argued that women perform more work. One man summarised: 'You find the woman has a lot more workload than the man because you find that, after working and maintaining the cleanliness together, still the woman wants to cook for you and take care of the baby'.

Applied to decision-making, the same technique elicited rich descriptions of power among women in Ethiopia and Kenya. Both groups looked at the cards and concluded that men dominate decision-making. However, their explanations of what the cards reflect differed. For Ethiopian women, the perception that men are responsible for more decisions was unequivocal and decisive: men make more

decisions and decide the 'life and tasks of [humans]'. Kenyan women, in contrast, agreed that men are responsible for more decisions because men control the link between decision and action. As one women indicated: 'We . . . discuss with him everything; only it reaches a certain stage of implementation that I get ''overwhelmed'' because he is the head of the household'.

Challenging gender norms

Participants also were asked to rearrange the cards to reflect a more equitable allocation of responsibilities, or when additional prompting was necessary, to consider the movement of specific duties from one pile to another. They were encouraged to physically manipulate the cards as they considered role flexibility and challenged gender norms.

In both the Ethiopian and Kenyan settings, manipulating the cards elicited attitudinal differences, adding descriptive data relevant to promoting gender equity. Notably, Ethiopian and Kenyan women responded differently when asked to re-allocate tasks to reflect greater equity. Although men in Ethiopia expressed a lack of social stigmatisation for sharing duties such as childcare, gathering firewood, fetching water and caring for the sick, Ethiopian women defended gender segregation: 'They work outside and bring to us, what is wrong with our grinding, baking and bringing forward for consumption what they have brought to us?' In contrast, Kenyan women argued for increased role flexibility and collaboration. They re-sorted the cards, indicating that men and women would share many tasks, including farming, childcare, cleaning, buying household assets and herding livestock (Figure 3).

Considering social change

As Kenyan women indicated that only construction, cooking and caring for the sick would not be shared, they were further challenged to move these duties to the pile representing shared responsibilities. Their discussions revealed scepticism about the necessity and enduring nature of cultural practices and identified potential agents of social change.

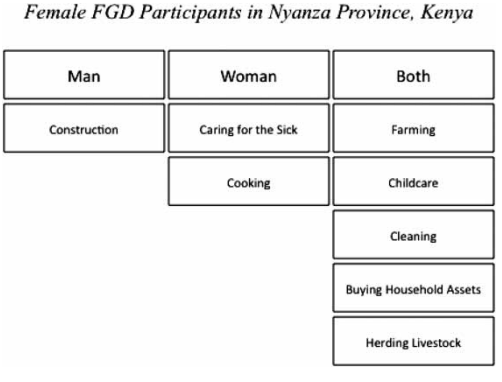

Figure 3. Kenyan participants' perceptions of equity in the allocation of duties.

When asked about construction, women denied that the task could be shared, indicating that it 'has never been witnessed' and that they would 'be the topic of village gossip'. When asked why women could not participate in construction, however, they highlighted the role of tradition in shaping gender ideals. As one woman indicated: 'We just follow that tradition because our grandmothers did not also build'.... But if my grandmother would have climbed a pole, I would also do that'.

While women also denied that cooking and caring for the sick could not be shared, they indicated that men might participate in both tasks within two years. Identifying agents of social change, they spoke of seminars that encouraged role flexibility: 'It [is] said that men should be holding cooking sticks so that they also know how to make ugali (maize meal)'. They also spoke of education, indicating: 'If we get the right information (education) and I take it to him (the husband) in the house, it will make him change'. Furthermore, they discussed the power of example, suggesting that if a woman's husband 'sees his brother take care of a sick person then he will ask himself why not him'.

Discussion

These data suggest a range of benefits emerged from the combination of pile sorting and focus group discussions and the application of innovative pile sorting methods. Pictorial and narrative data suggest that pile sorting facilitated the collection of narrative data, and the collection of narrative data facilitated interpretation of pictorial pile sorting data. In addition, observation suggested potential benefits. Whereas initial test anxiety (anxiety about performing the exercise correctly) has been noted conducting pile sorting with individuals (Neufeld *et al.* 2004), observation suggested that conducting pile sorting with a group might reduce this limitation. Situated within a focus group discussion, pile sorting became an interactive experience that shifted focus from individual completion to collaboration. Similarly, pile sorting conducted with individuals may ask participants to 'think aloud' in order to generate narrative data and, therefore, retain multidimensional characteristics (Caulkins 1998, Borgatti 1999), but participants may have difficulty immediately articulating the rationale for their decisions in this format (Neufeld *et al.* 2004). Completing pile sorting as a group appeared to minimise this limitation and enrich narrative data collection by using conversations to elicit these thought processes.

Overall, the findings, including differences between communities in Ethiopia and Kenya, support available quantitative data, and data specificity, including explanations for intra-community differences, corroborates the contribution of qualitative methods to sexual and reproductive health programme design (Castle *et al.* 2002, Lovell 2010, Gonzalez Block *et al.* 2011). However, cautious interpretation of specific findings regarding gender norms, relationship power and equity is warranted. Significant study limitations include that data saturation was not reached. As previously noted, these exercises were part of a larger baseline evaluation; findings should be interpreted in tandem with the larger data set.

Methodologically, this study was intended to explore innovations, and findings are limited to illustrating potential applications. Studies that apply these techniques to more focus groups and in different contexts are suggested to explore the consistency of these benefits across groups and cultures. Potential limitations also should

be explored, particularly as individual pile sorting exercises may reveal more intercommunity variation than focus group discussions (Stanton *et al*. 1993). Similarly, studies that reach data saturation and comparative studies are needed to determine whether the reliability and validity found in individual pile sorting applications are present in focus group applications.

Conclusion

The results presented here illustrate how innovative applications of pile sorting may be incorporated to provide nuanced and informative data on gender norms, relationship power, and gender equity in low resource settings. Using pile sorting within focus groups may elicit data for descriptive and comparative analyses, while enriching data by focusing discussions. Strategies to exploit pile sorts as visible and tangible representations of social experience and community dynamics also may help participants see and reflect on their experiences, including facilitating participants' abilities to engage abstract concepts. By supporting the analysis of gender norms and inequalities, these techniques may contribute to sexual and reproductive health programmes, ranging from sexual health and HIV prevention to family planning and maternal-child health.

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