

# Measuring Women's Agency

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## Abstract

Improving women's agency, namely their ability to define goals and act on them, is crucial for advancing gender equality and the empowerment of women. Yet, existing frameworks for women's agency measurement—both disorganized and partial—provide a fragmented understanding of the constraints women face in exercising their agency, restricting the design of quality interventions and evaluation of their impact. This paper proposes a multidisciplinary framework containing the three critical dimensions of agency: goal-setting, perceived control and ability ("sense of agency"), and acting on goals. For

each dimension, the paper (i) reviews existing measurement approaches and what is known about their relative quality; (ii) presents new empirical evidence from Sub-Saharan Africa: validating vignettes as a measurement tool for goal-setting, examining gender and regional discrepancies in response to sense-of-agency measures, and investigating what information spousal disagreement over decision-making roles can provide about the intra-household process of acting on goals; and (iii) highlights priorities for future research to improve the measurement of women's agency.

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## Measuring Women's Agency

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# 1 Introduction

Improving gender equality is a critical component for the development of countries and communities. Not only does gender equality impact women's individual well-being, resulting in gains such as increased labor force participation or improved health outcomes, gender equality also imparts benefits to future generations as women and their children become more educated or have access to more resources, such as health services (World Bank 2012).

Despite gains in gender equality in recent decades, there are still disparities in economic, health, and social domains between men and women across countries. Improving women's agency is crucial for shrinking these gender disparities and advancing gender equality and the empowerment of women. Agency is important intrinsically (Fernandez et al. 2015) as well as having instrumental value for other dimensions of empowerment, including the transformation of resources into well-being outcomes. For instance, the literature has documented linkages between women's agency and family planning, health care utilization, child nutritional status and agricultural productivity, among others (Do and Kurimoto 2012; Furuta and Salway 2006; Quisumbing 2003; Shroff et al. 2008). However, our understanding of women's agency and how it influences women's well-being and development outcomes is complicated by differences in conceptualization and measurement across studies.

In a review of how women's agency is conceptualized across studies that we conducted in preparation for this paper, the majority of studies that emerged discussed women's agency through a normative lens or through qualitative research rather than empirical quantitative measurement. Most commonly, quantitative assessments captured agency via decision-making alone. Other studies have used proxy indicators such as women's education and exposure to media in addition to decision-making. However, education or other demographic variables are more accurately conceptualized as 'resources', and do not explicitly parse out agency as a unique process in empowerment. For example, a recent systematic review of women's agency as it relates to children's immunization status (Thorpe et al. 2016) found that agency was often termed interchangeably with autonomy or empowerment, and was most commonly measured through decision-making modules, freedom of movement questions, or other items such as control over spending. Moreover, the measurement of agency was also found to vary *within* given conceptualizations. For example, women's participation in household decision-making - the most commonly operationalized construct of agency - is measured and ranked differently across studies.

Another major limitation is that commonly used conceptualizations and measures fail to comprehensively capture all components of the definition of agency, in particular its psychological dimension, or examine how they relate to the decision-making arrangements women themselves regard as

personally valuable. Moreover, they do not account for how decision-making processes may vary across time, with organic changes in personal goals, as well as across spaces, such as the home or community (Campbell and Mannell 2016; Ibrahim and Alkire 2007). The existing state of women’s agency measurement – both disorganized and partial - results in a reduced understanding of constraints women face in exercising agency and a diminished ability to design interventions and understand intervention success or failure.

This paper examines the measurement of agency through the lens of how women arrive at different decisions, based on their own preferences and goals, and proposes a framework for the constructs needed to measure agency. In order to address the challenges in current measurement, we propose a unified, multi-disciplinary conceptualization, including three crucial elements of agency: goal-setting, ability to achieve goals, and acting on goals. We then provide insight into how each component of agency has been measured, what we know about the relative quality of these existing measurement methods and their adaptation to Sub-Saharan African contexts, and provide an overview for future research. Ultimately, improvement in the measurement of women’s agency will provide greater understanding of when and how women have the ability to influence their own lives, and those of their families and communities, across different spheres.

## 2 Conceptualizing Agency

### 2.1 Definition of agency and related concepts

Following Kabeer (1999), we define agency as the “ability to define one’s goals and act on them.” This stems from Sen’s (1985) capabilities approach, which defines “‘agency freedom’ as the freedom to achieve whatever the person, as a responsible agent, decides he or she should achieve.” The individual may not actually act, or create an underlying shift in power relations, but is able, through direct decision-making processes or indirect means, to step out of routine behaviors and try to change her environment or outcomes. Following Sen (1999), these can span economic, social, and political actions; empirically (and from a policy perspective) these actions would vary across contexts. Agency can also be exercised at the individual, household, and community levels.

Our definition of agency is therefore the same as the main definitions in the literature; since Sen’s and Kabeer’s work, there have been several additional, albeit very similar, definitions of agency.<sup>2</sup> This

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<sup>2</sup> These include, for example, Ibrahim and Alkire (2007) (based on Malhotra, 2003): “agency is the ability to act on behalf of what you value *and have reason to value*”; World Development Report (WDR) (2012): “agency is an individual’s (or group’s) ability to make effective choices and to transform those choices into desired outcomes”; World Bank Voice and Agency (2014) report: “agency is the capacity to make decisions *about one’s own life* and act on them to achieve a desired outcome, *free of violence*,

definition of agency requires the understanding of three concepts: (1) the person's ability to set goals in accordance with their values regarding a particular issue or decision, (2) whether they perceive themselves as able to achieve these goals, and (3) whether they are able to act towards achieving these goals. Understanding the respondent's goals, or preferences relative to specific decisions and decision-making roles, is therefore fundamental. Agency can involve decisions related to an individual's own activities, such as deciding to work outside of the household. It can also relate to others' activities, particularly in the home, such as household savings or children's education. Agency can be transformative (ability to act towards changing the existing decision-making structure to suit the respondent's preferences, even if he/she is not successful),<sup>3</sup> or non-transformative (the ability to make one's own choices within existing decision-making hierarchies).<sup>4</sup>

Agency is closely related to empowerment, although the latter is a broader concept, typically associated in the literature with improvements in wellbeing across health, education, economic opportunities, public life, and security.<sup>5</sup> It has been previously argued that while empowerment includes components such as resources (pre-conditions) and achievement (outcomes), agency is the process that binds the former to the latter, although well-being outcomes and resources themselves affect agency (Kabeer 1999). For example, women's ability to define and act upon their health care choices (agency), is likely to depend on resources such as their education and employment, access to health care facilities as well as potentially unobserved characteristics such as assertiveness. The relationship between agency and empowerment is further complicated as agency may be associated with declines in *other* aspects of well-being, particularly in the short run.<sup>6</sup> Several studies have discussed how changes in the existing decision-making hierarchy or power relations might lead to increased tension and violence towards groups that begin

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*retribution, or fear*"; and Trommlerová, Klasen and Leßmann (2015) (which also gives a helpful review of previous work on agency and empowerment): "agency is *having the freedom* to act in line with one's own values and to pursue one's goals."

<sup>3</sup> Sen's (1985) concept of "agency achievement" considers a person's success in terms of the pursuit of the whole of their goals as compared to whether he or she is actually successful in doing so. Sen (2002) also discusses agency as a process freedom; "the procedure of free decision by the person himself (no matter how successful the person is in getting what he would like to achieve) is an important requirement of freedom" (p. 585).

<sup>4</sup> Kabeer (1999) discusses transformative and non-transformative agency in more detail. Agency can result in the power to make one's own choices, and have negative manifestations such as power over others – but agency can also exist in a more passive way within a social or cultural situation. Where there is a clear authority figure and decision-making structure, those who do not have a decision-making role can still achieve their goals through other indirect means. Transformative agency, which involves an underlying shift in power relations, can therefore be distinguished from non-transformative agency. Again however, this would vary by context and be addressed empirically by the choice of specific issues to examine.

<sup>5</sup> Kabeer (1999) defines empowerment as "the expansion in people's ability to make strategic life choices in a context where this ability was previously denied to them."

<sup>6</sup> Sen (1985) provides the example of someone who is enjoying lunch on the banks of a river and becomes aware of a second person who is drowning in the river. Sen writes that the awareness of the drowning person may diminish other aspects of the picknicker's wellbeing, but increases the picknicker's agency through the opportunity to act in the service of a goal in line with their "conception of the good".

to exhibit greater agency — for example, women who begin earning income could face backlash from men who feel threatened and wish to reassert their authority (Smith et al. 2003; Heath 2014).

Agency is also often associated with autonomy (in the psychology literature) and bargaining power (in the economics literature). Within psychology and philosophy, autonomy relates to being a causal agent over one’s life. Specifically, a person is autonomous when her behavior is experienced as willingly enacted and when she fully endorses the actions in which she is engaged and/or the values expressed by them. Along these lines, an autonomous individual is “able to act on one’s values and goals”, although individuals’ ability to initiate transformative changes in their environment is usually not discussed in the autonomy literature. Autonomy is distinguishable from “independence” (the absence of external influences); people can depend on others who support their autonomy, for example. Bargaining power is the relative ability of parties in a situation to exert influence over each other, and can manifest as the weight given to each spouse’s utility in the household welfare function when bargaining. Bargaining power clearly overlaps with agency in terms of respondents’ ability to influence decisions and act on their preferences, although a key difference between the two is that bargaining power is relational by definition (as it orders the relative power between two or more individuals).

Agency is thus distinct from (though related to) empowerment and well-being. It is conceptually closely aligned with autonomy as defined in the psychology literature, and bargaining power in the economics literature. For this reason, we incorporate an overview of ways they have been measured in our review of agency measurement in Sections 3-5 below.

## 2.2 Our conceptual framework

Three key dimensions are needed to fully capture individual agency:

(1) *Individuals need to define goals that are in line with their values.* This dimension of agency assesses whether for a given issue, individuals reflect on and develop well-defined goals, and whether these goals stem from an individual’s own values and preferences. Determining whether an individual’s goals are indeed guided by their own values has mostly been explored by psychologists in the context of motivational autonomy, notably those working on the theory of motivation known as Self-Determination Theory (Ryan and Deci 2000). Within Self-Determination Theory (SDT), the motivations behind an individual’s actions are classified according to whether they are regulated and endorsed by the self (i.e., are autonomous), driven by fear of coercion or retribution by others, or conditioned by internalized social norms. The ability to engage in self-reflection and set well-defined goals more generally has been studied in a range of literatures, following work in psychology on how goal-setting is linked to increased task performance (Locke 1968). In Section 3 below, we review measurement tools from both these literatures.

- (2) ***Individuals need to perceive a sense of control and ability.*** Also defined as “having a sense of agency”, this construct is a crucial pre-requisite for agency to be exercised (Kabeer 1999). This dimension has been mostly explored in social learning theory and social cognitive theory through the constructs of locus of control and self-efficacy. Perceiving a sense of control and ability to initiate actions is a definitional requirement of agency. Moreover, in order for individuals to act on their goals purposefully, they need to believe (to some degree) that they can achieve them; Cicchetti (2016) describes self-efficacy as a self-observation about one’s sense of agency. Measures used to capture sense of agency are reviewed in Section 4.
- (3) ***Individuals need to act on goals.*** The final dimension of agency is an individual’s ability to enact their goals, and can involve a range of different actions. The individual can choose the extent of participation in relevant decision-making processes to achieve her goals – whether through actively pushing to be a final decision-maker, or other means of negotiation or bargaining to achieve these goals. Whereas the first two dimensions of agency are regulated internally, acting on goals is usually a relational process. Direct measures have been mostly operationalized through decision-making questions across a variety of disciplines. We review these, as well as other tools used to capture individuals’ ability to act, in Section 5 below.

These three key dimensions of agency can be related to each other, though they are conceptually distinct. For example, an individual’s sense of self-efficacy can determine whether she decides to set goals, and her role in decision-making can also affect her sense of self-efficacy. Moreover, although these are the three crucial dimensions for the fulfillment of agency, the exercise of agency will depend on what resources are available to the individual, and how the individual interacts with them. While we acknowledge the importance of opportunity structure for the exercise of agency, tools to measure resources and individuals’ control over them are beyond the scope of this review. Two important areas that are challenging to measure, asset ownership and control over time, are covered by Doss et al. (2017) and Seymour et al. (2017).

## **3 Defining Goals**

### **3.1 How has this been measured?**

An individual’s ability to define goals that are in line with her values is the first crucial component of agency. Without knowing what an individual’s own goals and preferences are, it is difficult to understand and measure agency, as observed choices may be consistent with multiple sets of expectations and preferences (Manski 2004). Is there coercion to have certain goals or be involved in a particular activity? Is the respondent not involved in a specific decision or decision-making process because they do not care,

or because they face restrictions in participating? Alternatively, does the respondent's nonparticipation in decision-making in fact constitute a manifestation of agency (e.g., she prefers not to be engaged in certain aspects of household decision-making, or has delegated the task to someone else)?

Sen's work on capabilities discusses how the absence of protest on the part of household members could reflect adaption to the situation (adaptive preferences), or be related to the costs of speaking out (Agarwal 1997). For example, a woman might not work outside the home because of the cultural norms she has internalized or because her partner will not allow her to do. However, she might also have reflected on her preferences and autonomously decided she would rather not work outside the household. Understanding underlying goal-setting and preferences therefore allows us to interpret whether observed actions correspond to an exercise of agency, or not. Without knowing whether an individual has well-defined and internally regulated goals in mind when engaging in certain actions, we cannot know to what extent they are engaged in the process of agency. Moreover, by definition, agency is about more than observable action: it is about the motivation and purpose which individuals assign to their actions.

Due to its centrality in generating purpose-driven behavior, the ability to define value-based goals has been studied in social determination theory as well as social psychology (and more recently, behavioral economics). While social determination theory has focused on determining whether an individual's goals and actions are indeed guided by their own values, the latter disciplines have explored individuals' inclination and cognitive ability to define goals more generally. We review measurement tools across these disciplines below.

### **3.1.1 Motivational Autonomy**

The most common measurement of whether an individual's actions are "regulated by self" is the Relative Autonomy Index (RAI), developed in psychology studies (Ryan and Deci 2000). The RAI attempts to assess to what extent the motivation behind actions are driven by an individual's own goals ("intrinsic motivation"), or externally regulated through internalized social pressure or coercion. First developed for late-elementary and middle school children to measure individual differences in types of motivation concerning school work and prosocial behavior (Ryan and Connell 1989), it has since been used to measure motivational autonomy in adults across a variety of areas (or 'domains'). Unlike most tools created by psychologists for use in Western countries, the cultural applicability of the RAI has been explored in cross-country work (Chirkov et al. 2011), although few of the validations have occurred in Sub-Saharan Africa.

The RAI has been incorporated in the 2012 Women's Empowerment in Agriculture Survey Index (WEAI) module, the result of a partnership between Feed the Future, IFPRI, USAID, and the Oxford Poverty and Human Development Initiative (OPHI), in order to measure men and women's relative autonomy in agricultural production. This version of the RAI tool is presented in Box 1, below.

**Box 1**  
**The Relative Autonomy Index (RAI)**

The RAI, a measure of motivational autonomy developed in psychology studies, is based on self-determination theory, and measures an individual's ability to act on what he or she values.

RAI is constructed from answers to the following:

- (1) "My actions in [activity area] are partly because I will get in trouble with someone if I act differently,"
- (2) "Regarding [activity area] I do what I do so others don't think poorly of me," and
- (3) "Regarding [activity area] I do what I do because I personally think it is the right thing to do."

Each of the three questions mentioned above is aimed at capturing a different kind of motivation: **external** (coerced), **introjected** (trying to please), and **autonomous** (own values), respectively. The standard weighting structure for a RAI incorporating these three types of motivation is -2 for external motivation, -1 for introjected motivation and +3 for autonomous motivation.

A small-scale pilot of this tool conducted in Uganda showed relatively high RAI scores for both men and women, which was likely driven by poor respondent understanding of the questions (Sproule and Kovarik 2014).<sup>7</sup> A larger-scale validation was recently conducted by Vaz et al. (2016) in Chad with men and women in over 4,000 households.<sup>8</sup> While the WEAI uses only one statement for each of the three motivational states described in Box 1 above, Vaz et al. (2016) used multiple (e.g., "because I will get in trouble if I don't" and "because that is what other people tell me to do" to measure external motivation). As a result, they were able to conduct several validation tests of the scale, including factor and cluster analysis, and evaluate how well different parts of the scale measured the same concept or idea.

Vaz et al.'s conceptual validation of the RAI rested on two main hypotheses: (1) there are three main "dimensions" in the autonomy data, with each reflecting one of the following motivations (from least to most autonomous): external (undertaking a goal because of external pressure or potential reward), introjected (undertaking an activity because you 'ought' to do it), and identified (autonomous); (2) since the subscales correspond to a *continuum* of autonomy, the adjacent subscales (e.g., external and introjected motivations) are expected to correlate more strongly than subscales at opposite ends of the continuum (e.g., external and autonomous motivations). While Vaz et al. (2016) were able to corroborate (2), as well as the separation between controlled and autonomous motivations, they were *not* able to distinguish between external and introjected motivations. Internal consistency was measured by the Cronbach alpha, which captures how closely related a set of items are as a group (specifically, the inter-correlation among scale

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<sup>7</sup> In Uganda, between 7-14 percent said they found the questions difficult, and 29-60 percent said they thought others would find the questions difficult.

<sup>8</sup> Among selected households, both the head of household and any women aged 15 or older were interviewed.

items). The authors found that the RAI had good but variable reliability, ranging from  $\alpha=0.6$  to  $\alpha=0.9$  among women. Within the domain of household purchases for women and the domain of employment for men, the RAI had poor to unacceptable reliability.

Most recently, to address concerns about poor respondent understanding, the RAI was adapted in the newer 2015 WEAI version as anchoring vignettes and re-piloted in Uganda. Anchoring vignettes are short descriptions of hypothetical individuals or situations meant to convey complicated concepts and ensure that different respondents understand questions similarly across cultures and contexts. They have been generally shown to increase ease of response (Martin 2006). The respondents were read the vignette stories about different types of farmers and their situations (corresponding to autonomous, introjected or external motivation) regarding different agricultural activities, and were asked how similar they are to the farmer in the story. Cognitive testing showed that the vignettes were generally well-understood by respondents (Sproule and Kovarik 2014).

#### **Box 2**

##### **Motivational Autonomy Vignettes in Uganda (2015 WEAI)**

Example: the respondent is asked about livestock raising, and presented with different stories.

“Asma [Amin] raises the types of livestock she does because her spouse, or another person or group in her community tell her she must use these breeds. She does what they tell her to do.”

“Alyea [Omor] buys the kinds of livestock that her family or community expect. She wants them to approve of her as a good livestock raiser.”

“Afyee [Anis] chooses the types of livestock that she personally wants to raise and thinks are good for her family and business. She values raising these types. If she changed her mind, she could act differently.”

*Responses: Are you like this person? (Yes/No) Are you completely the same or somewhat the same?  
Are you completely different or somewhat different?*

Further insight into how the anchoring vignettes helped to better capture motivational autonomy can be gained by comparing summary statistics from the RAI vignette pilot and the original RAI adaptation. The original WEAI was conducted in five spatially dispersed rural districts in the northern region (Amuru and Kole), central region (Luwero and Masaka), and eastern region (Iganga). The second pilot was conducted to develop and test a revised version of WEAI in the same districts as the original pilot; sample villages were randomly assigned to receive either the original (1.1) or revised (2.0) versions of the questionnaire. Below, we analyze the Uganda WEAI data and present three key results:

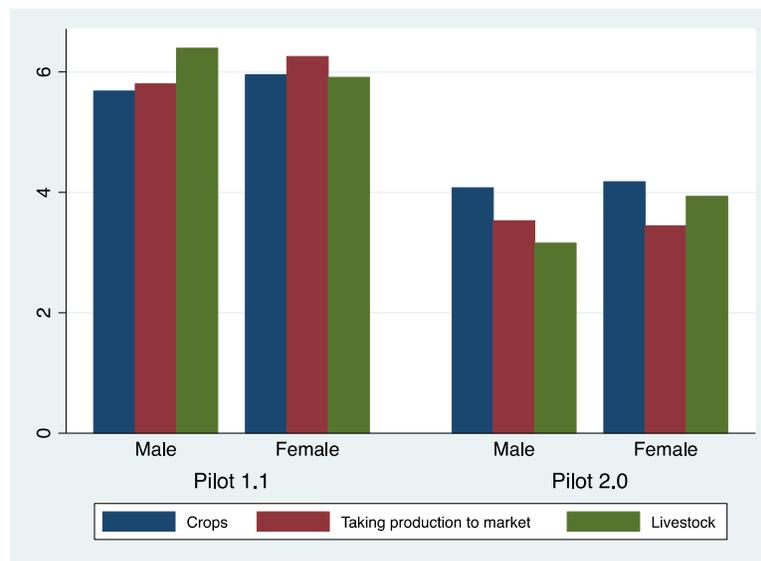
- i. First, the average RAI values are substantially lower in the second (vignettes) pilot.
- ii. Second, we find an ordered correlation pattern within responses in the second pilot, a key test to conceptually validate the vignettes RAI. Specifically, we find a positive relationship

between external and introjected motivation and a more tentative negative relationship between autonomous motivation and both external and introjected motivation, which varies by gender. Moreover, the ordered correlation pattern is stronger in the second pilot than in the first pilot.

- iii. Third, there is a positive relationship in relative autonomy scores across domains (types of crops to grow, taking crops to the market and livestock raising). This is in line with previous findings from other settings, which show that different domains of autonomy are moderately related (Agarwala and Lynch 2006; Balk 1994).

Figure 1 presents average RAI values across the two Uganda pilots for the three domains covered in the WEAI by gender. The average scores were not significantly different across men and women, and were similar across domains. Scores fell significantly in the vignettes pilot and, following the discussion in Sproule and Kovarik (2014), this may reflect that respondents understood autonomy-related questions better as a result of these vignettes.

**Figure 1. Average RAI values across pilots, by gender and domain of work**



Within each of the three domains of agricultural work, Table 1 presents Spearman correlation matrices to investigate the degree of association between external, introjected and autonomous motivation in the vignettes pilot and to test the ordered correlation pattern hypothesis from Vaz et al. (2016). For both men and women, we find a sizable and significant association between external and introjected motivation. While we generally see a negative association between autonomous motivation and both external and introjected motivation, the first set of correlations is stronger for women, while the second is stronger for men. Overall, the ordered correlation pattern we observe in the data is an improvement over the first pilot.

While in the first pilot the positive relationship between external and introjected motivations is also sizable and significant - with even larger correlation coefficients - the negative association between autonomous motivation and both external and introjected motivation is not observed. Indeed, the only significantly negative association observed is between female autonomous and external motivation within the buying/raising livestock domain (results available upon request).

**Table 1. Matrix of correlation between motivation subscales, Uganda vignettes pilot**

	Women			Men			
<b>Growing crops</b>							
	External	Introjected	Obs.		External	Introjected	Obs.
Introjected	0.277***			Introjected	0.428***		
Autonomous	-0.379***	-0.029	187	Autonomous	-0.140*	-0.157**	145
<b>Taking crops to market</b>							
	External	Introjected	Obs.		External	Introjected	Obs.
Introjected	0.512***			Introjected	0.487***		
Autonomous	0.094	0.119*	185	Autonomous	-0.031	0.068	140
<b>Buying/raising livestock</b>							
	External	Introjected	Obs.		External	Introjected	Obs.
Introjected	0.452***			Introjected	0.506***		
Autonomous	-0.152**	-0.013	176	Autonomous	-0.078	-0.168**	133

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

In addition, we find a significant positive correlation in RAI scores across domains, reflected in Table 2 below. For women and men, the highest correlation emerges between growing crops and raising livestock (about 0.60). In the case of women, the next highest correlation is between growing and taking crops to market (0.54), whereas this is only 0.45 for men. Given that all domains included in the vignettes related to agricultural activities, the fact that correlation coefficients are not higher suggests that motivational autonomy is action-specific, and that generalizing results across actions or activities should be done with caution, especially when they span more varied domains (such as deciding on asset purchases and health care decisions).

**Table 2. Matrix of correlation between RAI scores across domains, Uganda vignettes pilot**

	Domain	
	Growing crops	Taking crops to market
<b>Women (obs=168)</b>		
Taking crops to market	0.54***	
Buying/raising livestock	0.60***	0.44***
<b>Men (obs=129)</b>		
Taking crops to market	0.45***	
Buying/raising livestock	0.59***	0.57***

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Overall, our results show that relative autonomy vignettes are a promising tool for measuring women's ability to set goals that are in line with their values. The vignettes improved both respondent understanding and the ordered correlation pattern between motivational states. Priorities for future research in the measurement of whether an individual's goals are guided by their own values, including further refinement of the relative autonomy vignettes, are summarized in Part B below.

### 3.1.2 Capacity to Set Goals

The ability to set goals also depends on a process of self-reflection, and having the cognitive space to fully reflect on goals and associated decisions. While crucial for women's agency, the study and measurement of goal-setting ability has principally taken place outside of the empowerment literature. This ability was first studied within Locke's (1968) goal-setting theory of motivation, and was since shown to matter for task performance across a range of settings (Locke and Latham 2006). Goal-setting capacity has mostly been studied and measured within industrial and organizational psychology, using structured questionnaires and scales aimed at uncovering how to improve performance outcomes within a given domain. Specifically, they are used to assess a respondent's goal-setting strategy based on factors like goal-setting frequency, goal-setting effectiveness, goal commitment and preference for goal difficulty.

Locke and Latham's 53-item Goal-Setting Questionnaire (GSQ), validated by Lee et al. (1991), was the first of these tools and formed the basis for future adaptations. It focuses on employees' goal-setting strategies and determining core goal attributes that might be impeding employee performance. Selected items have been included in Box 3 below.

**Box 3****Locke and Latham (1984) Goal-Setting Questionnaire**

1. I understand exactly what I am supposed to do on my job.
2. I have specific, clear goals to aim for in my job.
6. If I have more than one goal to accomplish, I know which ones are most important and which ones are least important.
21. Usually feel that I have a suitable or effective action plan or plans for reaching my goals.
37. I find working toward my goals to be very stressful.
41. I have too many goals on this job (I am overloaded)

Response Options: Five-point Likert scale ranging from (1) “strongly disagree” to (5) “strongly agree”.

Although these types of questionnaires go beyond just measuring the ability for setting well-defined goals, scales from adaptations of goal-setting questionnaires, especially streamlined versions developed within education and even sports psychology, could be useful for this purpose. For example, Stout (1999) validates a scale that includes questions such as “How often have you set goals for what you want to accomplish?” and “How often have you developed specific plans to help you achieve your goals?” (Ranked 1-9, from “Not Often at All” to “Very Often”), while Earley et al.’s (1987) goal-setting scale asks questions such as “How would you characterize your own objectives for performance?” (Ranked from 1 = my goals are general (e.g., "do my best") to 5 = my goals are specific (e.g., make 20 sales calls)) and “How often do you set specific goals for [X]?” (Ranked from 1 = not at all often to 5 = extremely often). To our knowledge, these standardized goal-setting questionnaires and scales have not been used in research in Sub-Saharan Africa.

Nevertheless, attention to the importance of this aspect of agency within development settings has recently increased due to research on its role in poverty perpetuation (Mullainathan and Shafir 2014). Specifically, an individual’s capacity to set goals – and thus achieve outcomes – is limited by the scarcity of attention and mental resources, which is itself exacerbated by poverty. For example, the World Development Report on *Mind, Society and Behavior* describes how financial concerns and associated stress resulting from a lack of financial resources may deplete cognitive bandwidth, and hinder the capacity of an individual to develop well-defined goals and improve their financial situation (World Bank 2015). While the link between scarcity and goal-setting capacity highlights the importance of measuring this dimension of agency, it also underscores the need to assess the stability of goal-setting over time, since measures of this construct might be particularly susceptible to economic shocks or seasonal patterns.

Within studies conducted in Sub-Saharan Africa, goal-setting capacity has most commonly been measured by simple questions on what the respondent’s goals are in a certain domain, which are then assessed on their specificity and level of detail. Johnson (2015) uses this strategy in Kenya through in-depth

interviews with 42 respondents, who were asked to describe their savings goals for the future. She found that overall, men – and in particular younger men – were more articulate than older people and young women about their goals and strategies for achieving them. Frese et al. (2007) ask small-scale business owners in South Africa, Zimbabwe, and Namibia to describe their two most important goal areas, and then identify the goals in these two areas that they actually pursued. These were then rated based on their elaborateness and proactivity by two independent raters using 5-point Likert scales. Campos et al. (forthcoming), in the context of an entrepreneurial skills program evaluation, ask respondents a number of questions on their sales, profits and staffing goals for the following one-year and two-year period. Questions on goals for the future – particularly regarding income or educational attainment – are also frequently utilized in studies on the relationship between aspirations, achievement outcomes and well-being (e.g., Stutzer 2004).

Lastly, elicitation of respondents' goals beyond specific activities, capturing their preferences as to their overall decision-making role or involvement within a particular domain, are starting to be incorporated in surveys as part of questions on decision-making. For example, Peterman et al. (2015) ask who respondents feel would be the ideal decision-maker for each domain.<sup>9</sup> As discussed further below, measuring women's goals regarding participation in a particular domain or activity should complement questions on their ability to act in that activity or domain. Peterman et al. (2015)'s results show that any construction of an "agency index" that uniformly chooses a particular response (such as having sole decision-making power in a certain domain) as constituting agency may not necessarily align with women's desired voice in decision-making, and thus their own assessment of their agency.

### **3.2 Where are we headed?**

Understanding women's ability to define value-based goals is critical to understanding women's agency. From the review above, four crucial areas for future research emerge as it relates to defining goals: 1) improving assessment of internalized social norms, 2) adaptation of measures to developing country contexts, 3) assessing test-retest reliability, and 4) understanding overall preferences for involvement in decision-making.

First, while existing tools are successfully able to distinguish between external (coerced) motivation and internal (autonomous) motivation, they perform less well in capturing to what extent goals are based on internalized social norms (introjected motivation). Future data collection aimed at capturing introjected

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<sup>9</sup> While the WEAI does not directly elicit preferences, it does ask respondents whether they could make their own personal decisions regarding each activity if they wanted to.

motivation should also collect additional contextual information on social norms. Measures of introjected motivation could then be compared to how observed behavior conforms to social norms, following the method laid out in Mackie et al. (2015). This analysis would shed light on how the RAI should be modified in order to more precisely capture to what extent an individual's goals are based on prevalent norms or to what extent direct measurement of introjected motivation is possible, especially among low-literacy populations. Better measurement of this factor will enable us to understand through what mechanisms norms affect women's agency, which is particularly important due to the proliferation of interventions that seek to transform gender norms through group-based discussions, community mobilization, or economic strategies (Abramsky et al. 2016; Ellsberg et al. 2015).

Second, future research should explore to what extent standardized goal-setting questionnaires used in psychology studies, which have been validated and shown to be strongly related to well-being outcomes, can be adapted to measure goal-setting capacity in developing countries. This process could not only deliver more standardized measurement tools, but also help inform the growing number of interventions that utilize goal-setting as a mechanism for better outcomes (e.g., IFAD's household methodologies, which encourages households to set time-bound goals and create action plans) by better capturing their effects, how goal-setting relates to the outcomes, and what the underlying constraints to goal-setting capacity are. In this area, the priority will be to document the adaptation and validation processes to generate more streamlined versions of the goal-setting scales reviewed above.

Third, when testing measures to capture goal-setting ability, future research should make sure to capture the test-retest reliability of these measures (the degree to which responses are consistent over time). Although capturing test-retest reliability is an important component of validation for many indicators (Schweigert 2011) it may be particularly helpful for better understanding this particular dimension of agency. Theory indicates that goal-setting ability is affected by cognitive bandwidth, and is thus diminished in times of scarcity according to seasonal patterns. Preliminary evidence of this is illustrated in the case of farmers in India, who showed diminished cognitive performance before harvest as compared with after harvest (Mani et al. 2013).

Fourth, building on existing tools to measure goal-setting, more detailed questions to capture women's overall goals regarding their input into activities or involvement in decision-making within the household and at the community-level should be piloted. In the empowerment literature, as reviewed in Section 5, measures of an individual's ability to act have been mostly operationalized through questions on involvement in decision-making. Knowing whether involvement in making decisions at the household- or community-level is actually based on the individual's own goals – and thus exhibits agency – will require incorporating women's goals into standard decision-making questions. For example, the extent of women's involvement in making decisions about the purchase or use of a household asset would be evaluated

according to whether they care about making such decisions. This approach would build on the newly existing method of asking who the respondent thinks the decision-maker should be (as captured in the Peterman et. al. 2015 study), and allow us to understand which spheres of decision-making matter most to the respondent, as well as the degree of input they would like to have.

## **4 Perceiving control and ability to achieve goals**

### **4.1 How has this been measured?**

As Kabeer (1999) writes, for the process of defining goals and acting on them to be meaningful and constitute agency, individuals need to perceive themselves as controlling or initiating their actions. Due its importance, the measurement of “sense of agency” has been the topic of substantial research across disciplines, including within cognitive science (e.g., Friston 2012; Haggard and Eitam 2015), where measurement tools comprise brain imaging studies and sensory tests capturing individuals’ perceptual differences between stimuli that are self-generated versus externally generated.

In the social sciences, sense of agency has been conceptualized – and accordingly measured – in line with the framework laid out in Skinner (1996). This framework classifies control constructs according to how agents, resources (means) and goal-related outcomes (ends) interact. Below, we review the most commonly used control constructs and their measures. While the reviewed measures were not specifically developed for the purpose of measuring women’s agency, some of the studies that use them include an examination of gender differences. Moreover, development programs focused on women’s empowerment have begun to specifically target sense of agency as a way to improve project outcomes. For example, in a project to teach Kenyan women how to market energy efficient cook stoves, researchers found that adding a training component to increase women’s sense of agency resulted in higher sales (Shankar et al. 2015).

#### **4.1.1 Locus of Control**

Means-ends relationships refer to classes of beliefs about how outcomes are contingent upon certain actions. The main construct used to capture the means-ends relation is that of ‘locus of control’, derived from Rotter's social learning theory (Rotter 1966; 1982). An individual’s locus of control (LOC) is defined as the degree to which an individual believes that events are caused by one’s own behavior (internal locus of control) versus external factors (external locus of control). The most widely-used locus of control scale is the original 23-item scale proposed by Rotter (1966), which was later revised by Valecha (1972) into an 11-item version. Box 4 provides a sample of the statements.

**Box 4****Sample from the Rotter Internal-External (I-E) Locus of Control Scale (1966)**

- a. Many of the unhappy things in people's lives are partly due to bad luck.
- b. People's misfortunes result from the mistakes they make.
  
- a. In the long run, people get the respect they deserve in this world.
- b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
  
- a. In my case, getting what I want has little or nothing to do with "luck".
- b. Many times we might just as well decide what to do by flipping a coin.

*Response option is a or b. In the Valecha (1972) scale, the respondent is further asked to indicate to what extent the statement is (1) much closer or (2) slightly closer to his or her opinion.*

This scale has proven popular across disciplines due to its high internal validity. For instance, within economics it was used by Heckman et al. (2006) and Heckman and Kautz (2012) to measure its predictive ability on a range of long-term success outcomes for children who received early childhood programs or formal schooling.

Since it was first proposed, the measurement of locus of control has evolved in response to two sets of critiques. The first, laid out in Reid and Ware (1973), is that LOC is a multidimensional construct consisting of several different factors and should be measured as such. In response, Levenson (1981) developed the Internality, Powerful Others and Chance (IPC) scale to distinguish multiple dimensions within the external side of the LOC continuum (specifically, whether individuals expect outcomes to be a function of chance, luck, or fate, or to be under the control of powerful others). Both the Rotter I-E scale and the Levenson IPC scale have been used and validated in Sub-Saharan Africa for well-educated, professional sub-populations (e.g., Stocks et al. 2012 in South Africa and Abbas 2016 in Nigeria). One of the few applications of these scales to low-literacy populations was conducted by Bernard et al. (2014) in Ethiopia, using the IPC scale. The Cronbach alpha estimates at baseline showed adequate internal consistency:  $\alpha=0.68$  for the Chance subscale,  $\alpha=0.74$  for the Powerful Others subscale, and  $\alpha=0.75$  for the Internality subscale. Bossuroy and Tiongson (forthcoming) find similar Cronbach alphas in Niger using the nationally-representative National Survey on Household Living Conditions and Agriculture. Among studies that assessed gender differences, female respondents tended to have greater external locus of control than male respondents.

The second line of critique began with Dixon, McKee and McRae (1976), who criticized the measurement of generalized LOC as a "sledgehammer" approach and instead advocated situation-specific measurement. As a result, a wide range of domain-specific locus of control scales have been developed, mostly for education- and health-related activities, such as the Multidimensional Health Locus of Control

Scale. In Sub-Saharan Africa, this scale has been used in studies of hospital patients (e.g., Kretchy et al. 2014 in Ghana) and adolescent students (e.g., Celis et al. 2014 in Rwanda and Astrom and Blay 2002 in Ghana). Results generally support the cross-cultural validity of the scale, though gender patterns are less clear.

Specific locus of control scales for the economic domain also exist, most notably the Spector (1988) “Work Locus of Control Scale” and the Furnham (1986) “Economic Locus of Control Scale”, which includes items such as “whether or not I get to become wealthy depends mostly on my ability” and “although I might have the ability, I will not become better off without appealing to those in positions of power.” Plunkett and Buehner (2007) found that scores on the Economic Locus of Control Scale correlate with economic parameters, such as discount rates for financial outcomes, which were not predicted by Rotter’s scale. Although this scale has been validated in a South African sample (Van Delen et al. 1987), to our knowledge this scale has not been included in questionnaires in Sub-Saharan Africa, at least not in its entirety.

Overall, unlike psychologists, economists and researchers working in Sub-Saharan Africa have typically focused on generalized measures of LOC, which are largely independent of the context and conceptualize internality or externality as a general personality trait.

#### **4.1.2 Self-Efficacy**

While means-ends relationships refer to beliefs about whether outcomes are contingent upon certain actions, agent-means relationships regard beliefs about whether one can *produce* the relevant actions. Control within the agent-means relationship has been most frequently measured through self-efficacy, the belief in one’s capabilities to act effectively towards a goal. This should be distinguished from *outcomes expectations*, which are assessments of future outcomes that are largely based on perceived self-efficacy. The construct of self-efficacy was introduced by Bandura and represents a core aspect of his social-cognitive theory (Bandura 1977; 1995). In reaction to theories that focused on locus of control, Bandura pointed out that even if individuals believe that outcomes can be influenced by behaviors or responses, they will not attempt to exert control unless they also believe that they themselves can produce the requisite responses.

There are two main conceptualizations of self-efficacy, which result in two main measurement methods. As Bandura originally envisaged it, self-efficacy is a context-specific judgment about one’s ability. Thus, self-efficacy should be measured by asking the respondent about their confidence in completing specific actions, as illustrated in Box 5. For example, when evaluating self-efficacy for self-regulated learning, the student should be asked about specific actions such as “remember information presented in class and textbooks” and “arrange a place to study without distractions”.

**Box 5**

**Example of self-efficacy scale (Bandura, 2006)**

Question: The attached form lists different activities. Rate how confident you are that you can do them as of now. Rate your degrees of confidence by recording a number from 0 to 100 using the scale given below:

0	10	20	30	40	50	60	70	80	90	100
Cannot do at all				Moderately certain can do						Highly certain can do

Examples activities:

1. *Stand up for myself when I feel I am being treated unfairly*
2. *Keep tough problems from getting you down*
3. *Find community resources and make good use of them for the family*

The other main conceptualization of self-efficacy in the literature is as a generalized personality trait (similar to the LOC literature above). Instruments developed to measure generalized self-efficacy assess people's overall confidence that they can succeed at tasks and in situations without specifying what these tasks or situations are, and capture individuals' general personal resource beliefs. Generalized self-efficacy was first measured by Jerusalem and Schwarzer (1981) using a 20-point scale, and has since been used in numerous research projects in developed countries, where it typically yields internal consistencies of between  $\alpha=0.75$  and  $\alpha=0.90$ . Newer and shorter variants with similar internal consistency have been developed more recently, such as the New General Self-Efficacy Scale (NGSE) illustrated in Box 6 below. In international applications of the General Self-Efficacy Scale, women tend to score lower than men, though results differ across countries (e.g, in Schwarzer et al.'s 1997 study, significant gender differences emerged in the Chinese and German samples, but not in the Costa Rican sample).

**Box 6**

**New General Self-Efficacy Scale (Chen et al. 2001)**

1. I will be able to achieve most of the goals that I have set for myself
2. When facing difficult tasks, I am certain that I will accomplish them
3. In general, I think that I can obtain outcomes that are important to me
4. I believe I can succeed at most any endeavor to which I set my mind
5. I will be able to successfully overcome many challenges
6. I am confident that I can perform effectively on many different tasks
7. Compared to other people, I can do most tasks very well
8. Even when things are tough, I can perform quite well.

*Scored from strongly disagree (1) to strongly agree (5)*

Which self-efficacy measurement tool to use depends on the research question at hand. In innovative large-scale field studies governed by a broad range of variables and few specific hypotheses,

general constructs have been found useful. An interesting example of this is a study by Jerusalem and Schwarzer (1995), which found that generalized self-efficacy was the best single predictor of overall adjustment for East Germans who migrated to the West when the Berlin wall came down.<sup>10</sup> However, when evaluating the effects of a specific program, such as a new curriculum aimed at increasing math grades, domain-specific measures of perceived self-efficacy are better predictors of outcomes than generalized ones. Moreover, in the context of evaluating a program specifically targeted at improving domain-specific self-efficacy (such as in agriculture or entrepreneurship), using task- or activity-based measures of self-efficacy is recommended (Pajares 1996).

The adaptation of self-efficacy scales for the measurement of women's agency in Sub-Saharan Africa has mostly occurred in the domains of entrepreneurship and health, through task- or activity-specific scales. Building on promising outcomes in developed countries, where entrepreneurial self-efficacy (ESE) has been linked to improved firm performance, researchers in Sub-Saharan Africa are developing task-specific scales to look at self-efficacy as a mediator between entrepreneurship training and success, particularly for female entrepreneurs. For example, McKenzie and Puerto (2015) measure entrepreneurial self-efficacy in Kenya through 10 questions about the owner's confidence in their ability to perform key business activities, such as coming up with ideas for new products, selling a product to a customer they are meeting for the first time, and persuading a bank to lend them money for their business.

Aside from entrepreneurship, self-efficacy scales in Sub-Saharan Africa have been used within health psychology in HIV-affected areas, the most common being the Condom Use Self Efficacy Scale (CUSES). Despite the use of the scale in several studies in Africa, Asante and Doku (2010), in a study from Ghana, were the first to validate the factorial dimensions of the scale in the region. Although the observed correlations were similar to the original CUSES scale, important differences emerged, suggesting relevant cultural variations. As a result, the researchers cautioned against the use of self-efficacy scales without thorough validation in African contexts.

### 4.1.3 Sense of Agency

Lastly, some studies have attempted to capture agent-ends relationships (sense of agency) directly. The most popular measure of this is a rating scale to measure freedom of choice and control over one's life, which prompts the respondent in the following way:

**(A)** *“Some people feel they have completely free choice and control over their lives, while other people feel that what they do has no real effect on what happens to them. Using the following scale where 1 means you*

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<sup>10</sup> Over a two-year observation period, as assessed by a number of health and well-being variables.

*have no freedom of choice and control at all and 10 means you have a great deal of freedom of choice and control, please indicate how much freedom of choice and control you feel you have over the way your life turns out.”*

Due to its brevity, this measure is increasingly used in household surveys in development settings. It has also been included in the World Values Survey (WVS) since its first wave in 1981.<sup>11</sup> The WVS consists of nationally representative surveys conducted in nearly 100 countries, and is the most comprehensive source available of cross-national, time series data on human beliefs and values. This is of particular interest for analyzing gender differences in sense of agency, complementing the results from the measures described above, which show indicative but unsystematic evidence of women’s lower sense of agency compared to men. We use longitudinal individual-level data to estimate the following basic specification:

$$(\text{perceived freedom of choice and control}) = \alpha + \beta (\text{female}) + \mathbf{X}'\gamma + \varepsilon \quad (1)$$

The vector X includes socio-demographic factors that might influence perceived control. Table 3 reports Ordinary Least Squares (OLS) estimates of the coefficients in equation (1). The original World Values Survey variable names are provided in parentheses. For all the specifications, the analysis is restricted to the period 1989-2014, as many demographic variables of interest are unavailable in the first WVS wave. Column (1) studies the simple relationship between the binary variable female and the variable *perceived freedom of choice and control*. Results indicate that, on average, women score 0.13 points lower on the 10-point perceived control scale: 6.92 for men versus 6.79 for women<sup>12</sup>. As expected, the R-squared is very low (0.001), indicating that gender by itself explains very little of the variation in the outcome of interest.

In this vein, Column (2) analyzes the relationship between gender and the perceived control scale variable while including an additional set of demographic and socio-economic controls. Results here show that this negative association decreases but remains significant when including controls for marital status, education, age, religiosity, relative income level and employment status. We find that being married and being a housewife (the category is gender-neutral, though 97 percent are women) have a negative and significant effect on perceived control (0.18 and 0.23 points lower respectively). The effect of age is negative and significant, though the magnitude is small. The set of variables that capture unstable employment have a negative and, in most cases, significant impact on the perceived control score. These

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<sup>11</sup> Simple comparisons across waves should be made carefully. As Stevenson and Wolfers (2008) note, WVS data are strongly influenced by methodological changes between waves.

<sup>12</sup> The gender difference in perceived control using all survey years is slightly higher at 0.17.

variables are part-time employment (-0.009), being retired (-0.312), being a student (-0.165) and being unemployed (-0.316). Lastly, income and religiosity (“how important is God in your life?”) have a positive and significant effect on perceived freedom of choice and control (0.135 points and 0.059 points respectively).

The specification for which the results are reported in Column (3) additionally includes a set of dummy variables to control for the country income group (low income, lower middle income, and upper middle income, with high income as the omitted reference category), obtained from the 2016 World Development Indicators.<sup>13</sup> The coefficients show how perceived control is highest among individuals living in high-income countries and decreases along with the country income-level. Specifically, being from a low-income country decreases the score by 0.96 points, while being from an upper-middle-income country only reduces the score by 0.36 points.

Column (4) includes all independent variables included in the specification (2), and adds year and country fixed effects<sup>14</sup>. Finally, Column (5) additionally calculates cluster-adjusted robust standard errors to account for within-country correlation. Aside from being married, the impact and direction of gender and the other demographic and socio-economic variables remains the same in both specifications.

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<sup>13</sup> The World Values survey dataset (accessed August 2016) is available at <http://www.worldvaluessurvey.org/WVSDocumentationWVL.jsp>; the World Development Indicators (also accessed in August 2016) are available at <http://data.worldbank.org/data-catalog/world-development-indicators>.

<sup>14</sup> We do not add year and country fixed effects to specification (3), since the income-level status of the country does not change across the years in our data, and is collinear to the fixed country effects.

**Table 3. OLS Regressions for “Perceived Freedom of Choice and Control”**

	Perceived Freedom of Choice and Control				
	[1]	[2]	[3]	[4]	[5]
Female [X001; 1=yes, 0=no]	-0.134*** [0.010]	-0.075*** [0.011]	-0.104*** [0.011]	-0.094*** [0.010]	-0.094*** [0.023]
Married [X007; 1=yes, 0=no]		-0.184*** [0.011]	-0.139*** [0.011]	0.055*** [0.011]	0.055*** [0.021]
Education Level [X025R]		0.170*** [0.007]	0.155*** [0.007]	0.145*** [0.007]	0.145*** [0.017]
Age [X003]		-0.009*** [0.002]	-0.012*** [0.002]	-0.013*** [0.002]	-0.013*** [0.004]
Age Squared		0.000*** [0.000]	0.000*** [0.000]	0.000*** [0.000]	0.000*** [0.000]
Income Scale [X047]		0.135*** [0.002]	0.130*** [0.002]	0.124*** [0.002]	0.124*** [0.009]
Religiosity [F063]		0.059*** [0.002]	0.085*** [0.002]	0.049*** [0.002]	0.049*** [0.010]
Part-time Employment [X028; <i>Idem below</i> ]		-0.009 [0.019]	0.009 [0.019]	-0.064*** [0.018]	-0.064*** [0.023]
Self-employed		0.078*** [0.017]	0.196*** [0.017]	0.074*** [0.017]	0.074** [0.029]
Retired		-0.312*** [0.022]	-0.268*** [0.021]	-0.133*** [0.021]	-0.133*** [0.043]
Housewife		-0.235*** [0.017]	-0.198*** [0.017]	-0.213*** [0.017]	-0.213*** [0.032]
Students		-0.165*** [0.022]	-0.106*** [0.021]	-0.084*** [0.021]	-0.084** [0.038]
Unemployed		-0.316*** [0.018]	-0.243*** [0.018]	-0.250*** [0.017]	-0.250*** [0.029]
Low Income			-0.963*** [0.028]		
Lower Middle Income			-0.711*** [0.014]		
Upper Middle Income			-0.368*** [0.012]		
Constant	6.990*** [0.007]	5.835*** [0.046]	6.111*** [0.046]	4.820*** [0.124]	4.820*** [0.268]
Observations	236,190	236,190	236,190	236,190	236,190
Adjusted R-squared	0.000791	0.0332	0.0453	0.123	0.123
Year fixed effects	No	No	No	Yes	Yes
Country fixed effects	No	No	No	Yes	Yes
Cluster-adjusted standard errors	No	No	No	No	Yes

Standard errors in parentheses \*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

Overall, there is a small but significant difference in perceived control across genders. This difference decreases but remains significant once demographic differences between men and women – in particular income, education and employment status – are accounted for.<sup>15</sup> Column (3) shows that the positive relationship between perceived control and income holds at the country group classification-level. The gender gap in perceived freedom of choice and control does not change substantially once we control for fixed country factors.

By improving our understanding of gender differences and other significantly related characteristics, the analysis above demonstrates the usefulness of an abbreviated measure of sense of agency such as the perceived control scale. However, as with many simple measures of complex constructs, there is debate in the literature on what this direct measurement of agent-ends relationships captures, and how it relates to measures of agent-means (self-efficacy) and means-ends (locus of control) relationships. For example, although the scale above should capture both kinds of control constructs, it is usually presented as an abbreviated way to capture an individual's locus of control (e.g., Kelley and Stack 2000; Pitlik et al. 2015), especially in the US literature. To our knowledge, the relationship between the sense of agency scale and locus of control has only been tested indirectly through proxies. For example, Verne (2009) concludes that the scale captures one's locus of control by comparing responses to importance attributed to child obedience (assuming this would be most appreciated by individuals with an external locus of control) vs. the importance attributed to child independence (assuming this would be most appreciated with individuals with an internal locus of control).

We use the fifth wave of the World Values survey, conducted between 2005 and 2009, to examine the relationship between the two constructs. In this wave, the WVS added another question which is conceptually very closely aligned to locus of control:

**(B)** *“Some people believe that individuals can decide their own destiny, while others think that it is impossible to escape a predetermined fate. Using the following scale where 1 means everything in life is determined by fate and 10 means people shape their fate themselves, please indicate which comes closest to your view”.*

This question was asked in 49 of the 58 countries included in the fifth wave.<sup>16</sup> We calculate Spearman's rank correlation coefficient to determine the strength of association between responses to the

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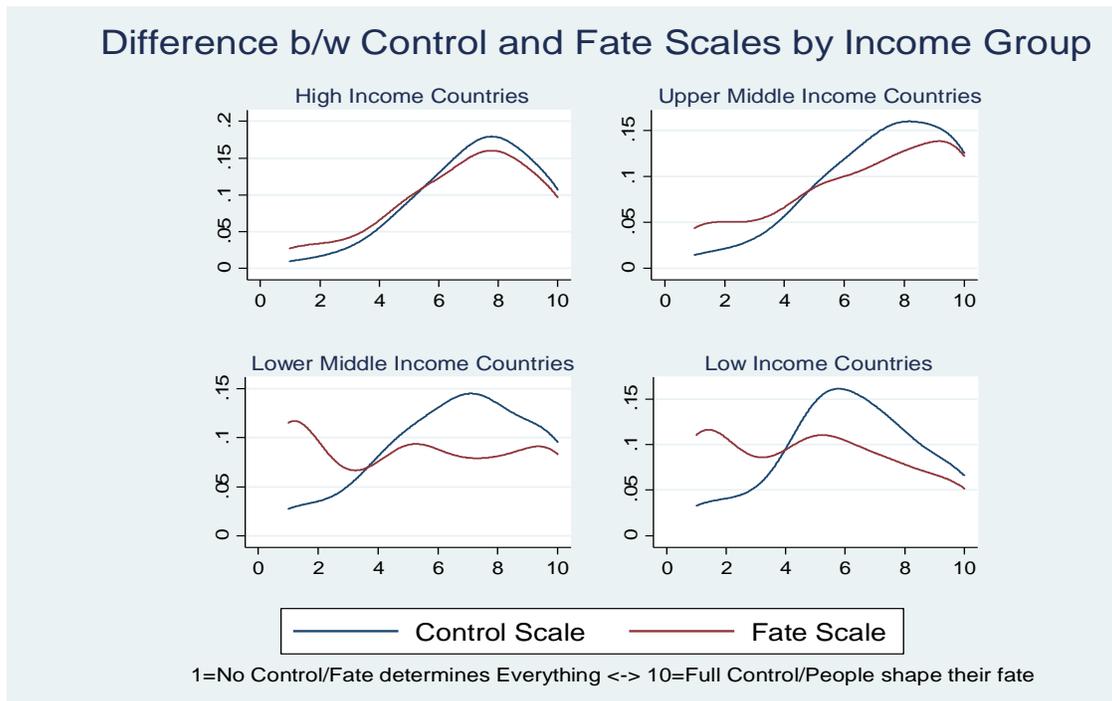
<sup>15</sup>The results do not substantially change if being married is re-coded to include “living together married” or religiosity is defined as “importance of religion” (A006) instead of “importance of God in your life”. These robustness checks are available upon request.

<sup>16</sup>Excluded countries are Colombia, France, Guatemala, Hong Kong SAR of China, Iraq, Netherlands, New Zealand, the Russian Federation and Great Britain. This wave also includes a second scale: “I see myself as an autonomous individual” on a 1-4 Likert scale (1= Strongly agree, 2= Agree, 3=Disagree, 4= Strongly disagree). We focus on the fate scale as little theoretical or empirical

perceived control scale (A) and the fate scale (B), and find a statistically significant but weak relationship (Spearman’s rho = 0.25, p<0.00). The overall distribution of responses when pooling countries is statistically different between scales (Kolmogorov-Smirnov test, p<0.00).

Next, we investigate whether the response discrepancy between the two scales varies across countries. It is plausible that for abstract questions such as (A) and (B), respondents might draw on culturally-dependent semantic meaning for contextual cues on how to answer (Smith 2003). In Figure 2, we overlay the frequency of responses to the control scale (A) and fate scale (B) separately by income group classification.

**Figure 2. Response discrepancy between scale (A) and scale (B)**



There is a marked difference in the correspondence of the scales across income groups, and their divergence increases as we move from high to low-income countries. In particular, while the distribution of the perceived freedom of choice and control scale remains relatively stable, the distribution of the fate scale is highly variable. In lower income countries, a much larger proportion of respondents state that “everything is determined by fate”, indicating an external locus of control. A Kruskal-Wallis H test confirms that responses to the scales are different for the four income groups (p<0.00), regardless of

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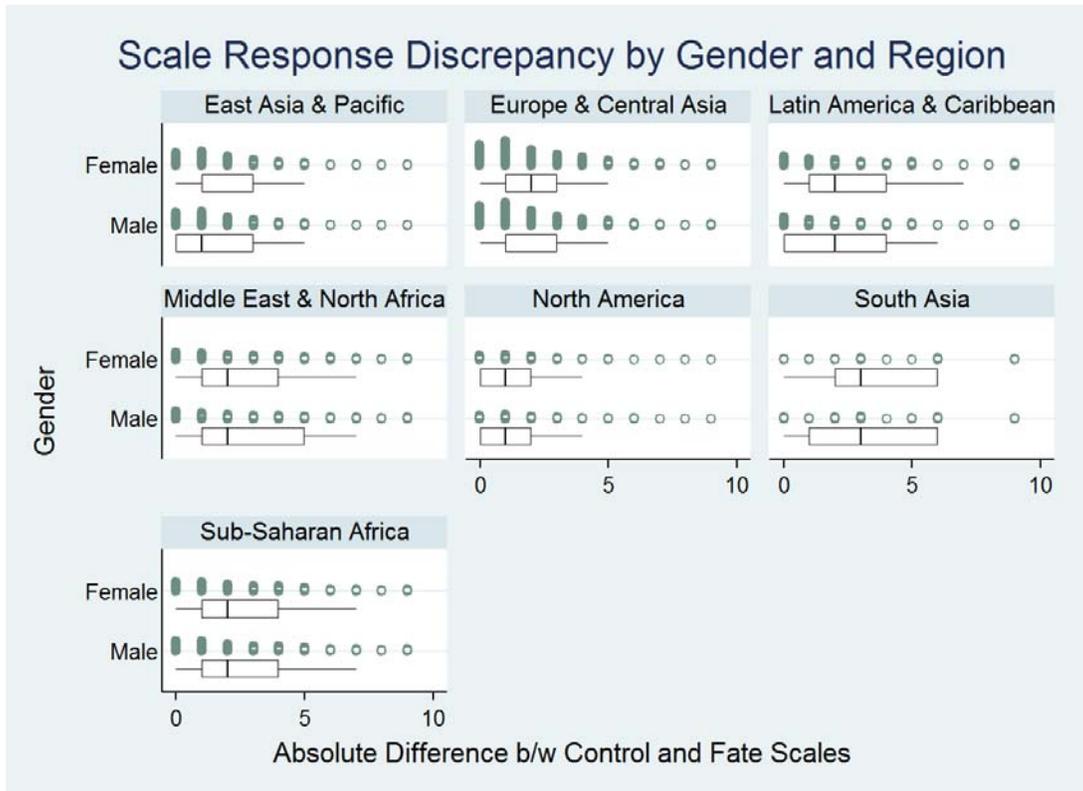
work has been done on how this autonomy scale relates to sense of agency. This autonomy scale is significantly different from both the perceived control (Spearman’s rho of 0.08) and fate (Spearman’s rho of 0.07) scale.

whether the simple difference or the absolute difference between the two scales was used as the dependent variable.

Divergent responses might be particularly problematic for the accurate measurement of women's agency across contexts if the relationship documented above - between income group classification and response discrepancy - were different for men and women. We calculate the absolute difference  $|(A)-(B)|$  in scale responses, henceforth referred to as the scale response discrepancy, and conduct a Kolmogorov-Smirnov test of the hypothesis that there is no difference in the distributions of men's and women's scale response discrepancy. This hypothesis can be rejected for upper-middle-income countries ( $p < 0.00$ ), cannot be rejected for lower-middle-income ( $p = 0.22$ ) and low-income ( $p = 0.50$ ) countries, and can only be rejected at the 10-percent significance level for high-income countries ( $p = 0.09$ ).

Conducting the same test by geographical region, using the World Development Indicators classification, we find that the hypothesis can be rejected at the 1-percent level in Europe & Central Asia ( $p < 0.00$ ) and at the 5-percent level in East Asia & Pacific ( $p = 0.04$ ), Middle East & North Africa ( $p = 0.02$ ), Latin America & Caribbean ( $p = 0.02$ ) and South Asia ( $p = 0.02$ ). In Sub-Saharan Africa ( $p = 0.14$ ) and in North America ( $p = 0.93$ ), the hypothesis cannot be rejected. The distribution of the scale response discrepancy, separately by income group classification and gender, is shown below in Figure 3. The first and third quartiles of the distribution are at the edges of the box, the median is indicated with a vertical line in the interior of the box (or left box edge in cases where the first quartile and median overlap), and the 10th and 90th percentiles are at the ends of the whiskers.

Figure 3: Gender and regional differences between scale (A) and scale (B)



Overall, the freedom of choice and control scale and the fate scale seem to be measuring different constructs. Moreover, the difference in how men and women respond to the perceived control and fate scales varies by country income level and region. Notably, the only region where the scale response discrepancy is small *and* similar across genders is North America. One potential explanation for these results is differential question interpretation across genders and regions. For example, Montgomery (2016) finds that women and men systematically using different response scales when interpreting life satisfaction questions. The extent to which this is the case for agency measures could be explored in future research.

Going forward, direct testing of the extent to which the measure of perceived freedom of choice and control – as well as other measures that attempt to measure agent-ends relationships directly - overlaps with the standardized locus of control and self-efficacy scales is crucial (as discussed further in Section B below), particularly as it is increasingly used in surveys as a sense of agency measure due to its brevity. For example, part of the scale response discrepancy could be due to the fact that the fate scale ignores other dimensions of locus of control, such as the influence of “powerful others” (see the discussion on p.18 above). Perhaps, the difference is due to the freedom of choice and control scale also capturing self-efficacy, which would indicate its suitability for measuring agent-ends relationships directly. Either way, what is clear is that researchers need to exercise caution when substituting one agency scale for another, particularly across contexts.

## 4.2 Where are we headed?

Although general measures of non-cognitive/socio-emotional skills and personality traits are being increasingly studied within development settings, few studies have examined the constructs of locus of control (contingency beliefs) and self-efficacy (competency beliefs) specifically within the context of better understanding women's agency in Sub-Saharan Africa. As argued above, paying more attention to the psychological dimension of agency will improve researchers' and practitioners' ability to assess which component of women's agency should be targeted through empowerment programs in a particular context. Priorities for future research in this area include: 1) the adaptation of domain-specific measures of sense of agency, 2) analyzing differences between locus of control, self-efficacy and measures capturing agent-ends relationships (sense of agency) directly, 3) exploring the relationship between domain-specific and generalized measures of sense of agency, and 4) increasing the precision of sense of agency measurement through collaboration with experts in these measures, particularly when adapting across contexts.

First, future research in this area should work to improve the measurement of domain-specific measures of sense of agency, as is been done for entrepreneurship and health, in order to more accurately reflect the range of activities that women engage in. To our knowledge, there are currently no validated sense of agency scales specific to agriculture, although the agricultural sector employs over 60 percent of the labor force in Sub-Saharan Africa.

Second, future research should better investigate the difference between the three main categories of sense of agency constructs described in Skinner (1996). While agent-means relationships (self-efficacy) and means-ends relationships (locus of control) are the sense of agency measures that have been most extensively validated and used, freedom of choice and control scales that try to measure agent-ends relationships directly are an attractive option for researchers due to their brevity. However, researchers need to ensure that they are not imposing an excessive cognitive burden on respondents in pursuit of brevity. The importance of better understanding what these shorter measures capture is particularly important due to increased numbers of interventions targeting these constructs, as discussed above.

Third, increasing our understanding of the relationship between generalized measures and domain-specific measures of control constructs is also an avenue for future research. Although preliminary work in developed countries indicates that these might be separate concepts, and should be used to measure different questions, both are important for understanding women's agency better. For example, domain-specific personal agency beliefs might be better suited as outcome variables, whereas generalized personal agency beliefs might be better suited for subgroup or heterogeneity analysis. Moreover, understanding the conditions and contexts under which sense of agency will generalize to different activities offers valuable

possibilities for intervention and instructional strategies that may help women build both competence and the necessary accompanying self-perceptions of competence.

Finally, more conceptual clarity and precision of measurement is needed to maintain the conceptual integrity of sense of agency across contexts during the adaptation of these measures. In practice, the process of scale adaptation has mostly been approached in an ad-hoc way, for example by picking and choosing items from existing scales that are seen as most appropriate in the local context, as done by Bernard et al. (2014) with the IPC scale. However, beyond more general concerns regarding comparability that arise from an ad-hoc approach, adaptation needs to better account for difficulties in translation and in respondent understanding of the abstract concepts contained in these scales. For example, Frese et al. (2016) find that “entrepreneurship psychology” questions worded in opposite directions produced different factors, most likely due to difficulties respondents encountered in understanding negatively worded questions. A promising approach to deal with this constraint was piloted by Laajaj and Macours (2017) in Kenya, using “beans” as a visual aid for the response scales. In two different reliability tests (test-retest after 3 weeks to measure stability, and Cronbach Alpha calculation to measure internal consistency), this measure of LOC scored second most reliable out of 10 non-cognitive skills the authors measured.

Additionally, personal agency beliefs such as locus of control (contingency beliefs) and self-efficacy (competency beliefs) need to be more clearly distinguished from other psychological or non-cognitive measures which do not have as tight a conceptual link to agency. An example comes from Dercon and Singh (2013), who found that girls had lower self-efficacy than boys in India and Ethiopia, and related under-nutrition in early childhood to lower self-efficacy in late childhood/early adolescence. However, their measure of self-efficacy, using the Young Lives survey, combines different psychological measures of control, motivation and self-confidence. Although these kind of psychological measures are related to each other, caution is warranted as policy makers are increasingly designing programs specifically aimed at increasing self-efficacy (e.g., Vasilaky et al., forthcoming). Interventions targeting competency beliefs versus contingency beliefs, for example, will need to be structured differently in order to address different pathways and cognitive levers. In order to build an evidence base that policy makers can draw on in their design of these programs, and in order for researchers to evaluate the effects of these programs, future research should take care to distinguish between sense of agency constructs measured. In a recent review on the adaptation of LOC measures, for example, Huizing et al. (2015) recommend that experts in the understanding and research of locus of control ought to be more involved in the process of validating translated tools in order to ensure that they measure what they claim to measure.

## 5 Acting on goals and values

### 5.1 How has this been measured?

#### Intra-household decision-making questions

Women’s ability to act and make decisions over important aspects of their lives is the third key dimension of agency. Most survey questions on this dimension of agency have focused on capturing decision-making roles within the household over different domains such as family planning, employment, agriculture, health, consumption and education. Questions on decision-making roles within the household were first employed in developed countries starting in the late 1950s and early 1960s. The first well-known decision-making module was introduced by Blood and Wolfe (1960) with their Decision Power Index. In this index, the respondent is asked to indicate “who has the final say” in respect to eight family decisions, and response alternatives are weighted from 5 (husband always) to 1 (wife always). A sample question is included in Box 7 below.

#### **Box 7**

#### **Decision Power Index, Blood and Wolfe (1960)**

#### **Sample question**

“In every family someone has to decide such things as where the family will live and so on. Many couples talk such things over first, but the final decision often has to be made by the husband or the wife. For instance, who usually makes the final decision about whether or not the wife should go to work or quit work?”

*Response Options: husband always, husband more than wife, husband and wife exactly the same, wife more than husband, wife always.*

This approach to measuring decision-making roles has not been changed or adapted substantially over time, with its use increasing, especially in large-scale surveys in developing countries. This focus on the main decision-maker stems from the notion that the greater number of decisions an individual is involved in, the greater control they have over their own life (Kishor 2005). The nationally-representative Demographic and Health Surveys (DHS), conducted in over 90 countries, form the largest source of data on women’s participation in decision-making. Initially, the surveys used slightly different question-wordings depending on the topic at hand. For example, questions regarding decision-making over health care, household purchases, consumption, and visiting friends or relatives would ask “who in your family usually has the final say on [X]”, while questions regarding control over use of earnings would ask “who mainly decides how the money you earn will be used?” More recently, the DHS decision-making questions have been standardized across countries and decision-making areas (‘domains’), asking the respondent “who usually makes decisions about [X]” (see Box 8 below).

**Box 8****Decision-making questions in the Demographic and Health Surveys (DHS)**

The DHS asks married women aged 15-49 on their decision-making roles (“who usually makes decisions about [X]”) across the following areas:

- (1) using/not using contraception
- (2) how the money you earn will be used
- (3) how your (husband's/partner's) earnings will be used
- (4) health care for respondent
- (5) major household purchases
- (6) visits to respondent’s family or relatives

For each decision, respondents are asked who the main decision-maker was. Typical response options are (a) respondent, (b) spouse, (c) joint decision, (d) someone else, (e) other. For domestic violence and individual health care, the DHS also asks women if they tried to seek care for themselves, and if they faced any constraints in doing so.

This phrasing of asking about the individual who usually has a say (or the final say) is used in most studies that include questions on women’s decision-making, as well as the main compendia of empowerment scales, such as the C-Change Compendium of Gender Scales or the Roadmap for Promoting Women’s Economic Empowerment (Knowles 2015).

The first standard feature of these decision-making questions is that they do not include the discussions or negotiations (particularly, whether opinions were conflicting) in the decision-making process. In many instances, for example, the respondent might have regular discussions or other input with family members over different topics — and feel that their opinion is valued — even if they do not consider themselves the main or usual decision-maker, either solely or jointly. They also do not account for whether the respondent desires to be involved in a particular decision-making domain; for example, women might not want to be involved in decision-making over certain household purchases. As such, *not* being involved in certain decision-making areas could be a manifestation of women acting on their goals, and thus agency, as discussed in Section 3. Moreover, joint decision-making in a case where all participants agree may reflect a different dynamic than joint decision-making where there is conflict, and “jointness” might reflect cooperation and compromise, or capitulation to the wishes of a dominant household member, with the respondent not feeling that their opinion is valued (Seymour and Peterman 2016).

This point has been raised in the reproductive health literature early on. For example, in a study on rural household economies and the role of women in West Java, Sajogyo et al. (1979) write that questions on “general” patterns of decision-making in the respondent’s household may yield “responses far removed from reality”, and recommended focusing on specific events, asking questions such as “did you and your

husband discuss it?”, “did you agree?” and “whose view eventually prevailed?”. Recently, studies in other development fields have started moving in this direction, supplementing decision-making questions or tailoring response options to give a better sense of the decision-making process. In a cross-country study of a multi-pronged poverty program, for example, Banerjee et al. (2015), ask whether respondents have a “major influence” or “no or minor influence” in the final decision across different types of expenses (food, clothing, health, etc.). Heath (2014) examines possible mechanisms on how extra earnings affect household bargaining and the threat of domestic violence in Bangladesh, and asks respondents how frequently their husbands consult with them about different household decisions (never/sometimes/often/always). In terms of cross-country surveys, the main innovation on this front has occurred in the WEAI, which asks respondents who normally takes decisions over different household domains (see Box 9 below, and the Appendix for more detail), but also asks respondents the extent to which they feel they can make their own personal decisions over each domain, *if they wanted to*.<sup>17</sup> Moreover, it asks about the extent of input respondents have over domains, not just focusing on the final decision-maker.

### **Box 9**

#### **Women’s Empowerment in Agriculture Index (WEAI)**

Adult men and women were asked the following sets of questions:

##### Decision-making questions on agriculture, borrowing, and productive assets:

- (1) For different agricultural activities (Food crop farming, cash crop farming, livestock, nonfarm economic activities, wage and salary employment, fishing):
  - (a) Did you participate? (Y/N);
  - (b) How much input did you have for each agricultural activity (and separately, income generated from each activity)? (No input or input in few decisions, input into some decisions, input into most or all decisions, or no decision made)
  
- (2) For different household decisions over agriculture, other nonfarm employment, expenditures and family planning:
  - (a) who is it that normally takes the decision (see Appendix A for more detail),
  - (b) to what extent do you feel like you can make your own personal decisions regarding these aspects of household life if you want(ed) to (not at all, small extent, medium extent, to a high extent)?

Available evidence suggests that the *process* of decision-making – over and above the final outcome – has important implications for how to rank responses to decision-making questions, and therefore for measuring women’s agency. For example, a cross-country study in Ecuador, Uganda, and the

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<sup>17</sup> The WEAI also includes questions on decisions to sell, give away, mortgaging and purchasing items to determine control over productive capital – these are covered in Doss et al. (2016).

Republic of Yemen by Peterman et al. (2015) notes that correlations between indices constructed using only sole decision-making and indices constructed using sole *or* joint decision-making as exhibiting agency are low, particularly in countries where joint decision-making is frequent. Thus, knowing more about the process of joint decision-making, and whether it allows the woman to act on goals that she values, has substantial implications for the ranking of women's decision-making across households. One such difference is whether the process of decision-making among household members included conflict or not. The authors find many cases where women report that they do not make sole decisions within a domain, yet when asked to consider the case of a disagreement, report that they would ultimately be the sole decision-maker.

The second standard feature of decision-making questions is that they typically rely only on women's reports to understand decision-making roles in the household. Although there are valid rationales for such a survey protocol (for instance the sensitive nature of certain areas of decision-making or resource constraints), available evidence – particularly in the field of reproductive health – suggests that valuable knowledge can be gleaned from interviewing both spouses in a household, since men's own perceptions are likely to play a critical role in women's agency. For example, Becker (1996) finds that eliciting preferences of both husbands and wives over family planning decisions leads to better predictions of behavior, and more effectively targeted interventions, than asking only one spouse. Allendorf (2007) finds that when spouses agree that the wife is the main decision-maker across any one of a series of decisions,<sup>18</sup> maternal and child health care outcomes improve significantly compared to when they do not agree. Although spousal decision-making and response discrepancy therein has been studied in the U.S. since the 1970s (e.g., Davis and Rigaux, 1974; Burns, 1977) this type of research in development settings – outside of reproductive health – has been focused on Asia. In a study of five countries in South and Southeast Asia, for example, Ghuman et al (2006) find that the assessed level of women's agency depends on whether wives or husbands are respondents, while in Bangladesh Ambler et al. (2016) find improved outcomes for women across a range of well-being measures (BMI, whether the woman works more than 10.5 hours a day, use of birth control, number of groups she is involved in, and whether the woman has a loan) when both spouses agree that decision-making is joint, and to a lesser extent when women say decision-making is joint but men claim they are the primary decision-makers.<sup>19</sup>

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<sup>18</sup> Who in their family usually has the final say in five areas decisions: (1) wife's health care; (2) making large household purchases; (3) making household purchases for daily needs; (4) paying visits to family, friends, and relatives; and (5) choosing the food to be cooked each day. The analysis in the study was based on two aggregate measures of decision-making that were based on the four non-cooking decisions (whether the respondent and husband agreed that the wife jointly/had the final say on at least one of these decisions, and whether they agreed that the wife had a final say in at least one of the four decisions).

<sup>19</sup> The authors construct an aggregate measure of decision-making over agricultural production, taking crops to market, livestock raising, non-farm business activity, minor household expenditures, and use of family planning

The literature mentioned above suggests the importance of interviewing both spouses in the household and documents a positive relationship between spousal agreement and well-being outcomes. Presenting new empirical evidence from Sub-Saharan Africa, we focus on studying spousal disagreement over decision-making roles from a measurement perspective, comparing modes of spousal response discrepancy and examining what they reveal about intra-household decision-making and their potential for measuring women's agency.

## **Spouses' views and patterns of disagreement over decision-making roles: Evidence from the DHS**

As mentioned above, the DHS is a nationally representative population-based household survey that has been conducted since 1984. Below, we explore DHS data from 20 countries in Sub-Saharan Africa.<sup>20</sup> We study the dynamics of and patterns over decision-making, focusing on the analysis of the following two key decision-making questions: who in their household "usually makes decisions" over (1) large purchases, one of the most common decision-making questions typically asked in household surveys; and (2) how the husband's earnings will be used, as these are the only two decision-making domains asked to both spouses in the DHS. As in the studies above, this analysis presents challenges on how to reconcile potentially conflicting responses, but also provides opportunities to better understand intra-household decision-making and why that very conflict may shed light on power dynamics.

### *Relationship between women's decision-making power and empowerment proxies*

In this section, we first want to understand how women's reports about their own decision-making power relate to their overall empowerment.<sup>21</sup> Before turning to analyzing spousal disagreement, it is useful to establish whether there is a link between measures of empowerment and simple reports from just one spouse. To do this, we identify a number of DHS questions that capture information on women's status and are commonly used as proxies of empowerment in the literature (e.g. Thomas, 1994; Doss, 2013). In our analysis, we consider variables such as education, employment, reported earnings relative to their husband and land ownership, polygamy, as well as women's perceptions on whether domestic violence is acceptable, along the same lines as Hanmer and Klugman (2016). Although, as outlined in Section 1, we do not believe such proxies to be complete measures of empowerment, our primary motivation for including

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<sup>20</sup> Note that our two decision-making variables are contained in 24 Sub-Saharan African countries. We exclude Ghana, Kenya, Lesotho and Madagascar from our analysis as they do not contain information on land ownership. Results for the full set of 24 countries are very similar, and available upon request.

<sup>21</sup> As defined in Section 2, agency is closely related to empowerment, although the latter is a broader concept which includes components such as resources (pre-conditions) and achievement (outcomes) across health, education, and economic opportunities.

them in our analysis is to detect general patterns, particularly across regressions. Table 4 below uses data from 20 countries in OLS regressions for decision-making over large purchases. On the right-hand side, as independent variables, we include the women's empowerment proxies available in the data, and as controls, we include a group of household characteristics and country fixed effects. We omit the middle quintile for our household wealth control variable. Column (1) of Table 4 presents results where the outcome variable =1 if the wife says she is the main decision-maker; Column (2) present results where outcome variable =1 if the decision-making is joint and, in both cases, the comparison group is when the wife says the husband is the main decision-maker.

The results in Table 4 show that women who report greater decision-making roles for themselves (sole or joint) are more likely to work off-farm, own land, have similar education levels to their husbands, report earning more than their husbands, be part of non-polygamous marriages, and not condone domestic violence. This same pattern holds for women who are older, live in urban areas, and have been married longer. These results indicate that indeed many women's empowerment proxies are positively correlated with reporting greater participation in both cases, and that this generally holds for both sole and joint decision-making.<sup>22</sup> For ease of visualization of results, and having illustrated the similarities between these two decision-making modes, we collapse sole and joint decision-making into one category in our additional analysis below.

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<sup>22</sup>Women married before age 20 only report higher joint decision-making power. When interacting this variable with age, we see that the effect is driven by women in their prime childbearing years (aged 20-34). These results are available upon request.

**Table 4. OLS Regressions across countries for decisionmaking over large purchases when wife is the main respondent**

	Wife says she is the main decision maker (1)	Wife says decision making is joint (2)
<i>Women's Status &amp; Empowerment Proxies</i>		
Difference in years of schooling: husband-wife	-0.002*** [0.00]	-0.002*** [0.00]
Wife not working	-0.031*** [0.00]	-0.080*** [0.01]
Wife works off farm	0.027*** [0.01]	0.018*** [0.01]
Wife says she earns more than her husband	0.254*** [0.01]	0.074*** [0.01]
Wife says she owns land	0.157*** [0.01]	-0.002 [0.01]
Woman condones a husband beating his wife	-0.023*** [0.00]	-0.066*** [0.00]
Wife is aged 15-19 <sup>(b)</sup>	-0.043*** [0.01]	-0.110*** [0.01]
Wife is aged 20-34 <sup>(b)</sup>	-0.023*** [0.01]	-0.048*** [0.01]
Age difference: husband-wife	-0.002*** [0.00]	-0.002*** [0.00]
Wife was married before age 20	0 [0.00]	0.016*** [0.00]
Years of marriage	0.002*** [0.00]	0.001*** [0.00]
Total number of children woman has	-0.005*** [0.00]	-0.005*** [0.00]
Total number of children who died	0 [0.00]	-0.010*** [0.00]
Couple in a polygamous marriage	-0.006 [0.00]	-0.106*** [0.00]
<i>Individual/Household-level characteristics</i>		
Husband works in agriculture	0.004 [0.01]	0.008 [0.01]
Rural area	-0.043*** [0.01]	-0.008 [0.01]
Log time (mins) to the nearest water source	-0.002*** [0.00]	0 [0.00]
Household has electricity	0.012** [0.01]	0.020*** [0.01]
Wealth quintile: bottom 20%	-0.005 [0.01]	-0.057*** [0.01]
Wealth quintile: next-to-bottom 20%	0 [0.01]	-0.030*** [0.01]
Wealth quintile: second highest 20%	0.011* [0.01]	0.017*** [0.01]
Wealth quintile: top 20%	0.056*** [0.01]	0.083*** [0.01]
Observations	34,495	56,625
Adjusted R-squared	0.189	0.201

(a) Robust t-statistics in brackets. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 .

(b) Country fixed effects are included.

## Cross-reporting in the household: the husband's view

As mentioned above, measures of women's decision-making power have typically been constructed only from women's reports. However, since 2000, the DHS has started separately asking husbands, in addition to wives, the two key decision-making questions studied in Table 4. This allows us to contrast the wife's and husband's responses on decision-making. To our knowledge, the analysis that follows is the first that examines responses on decision-making from both spouses across Sub-Saharan African countries. Table 5 compares results over decision-making outcomes for large purchases when the respondent is the wife vs. when the respondent is the husband (where 'husbands' also include women's partners). Specifically, Column (1) of Table 5 presents results where the outcome variable = 1 if the wife says she is the main decision-maker or decision-making is joint and = 0 if she says the husband is the main decision-maker, regardless of the husband's response. Column (2) of Table 5 presents results where the outcome = 1 if the *husband* says the wife is the main decision-maker or decision-making is joint and = 0 if he says he is the main decision-maker, regardless of the wife's response.<sup>23</sup>

Although the relationship between our empowerment proxies and women's participation in decision-making is stronger when women are the respondents, we find strikingly similar patterns emerging between our empowerment proxies and husbands' attribution of some or all decision-making power to their wives. The wife's participation in the labor market is the one empowerment proxy for which the wife's and husband's reports have different signs.<sup>24</sup> Furthermore, the share of variation in the outcome explained by the right-hand-side variables is relatively similar, between 18-20 percent.<sup>25</sup> Overall, husbands' reports of their wives' decision-making power appear to exhibit the same relationships to empowerment proxies across most dimensions.

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<sup>23</sup> Results on Table 4 show that most of the right-hand side coefficients have an impact on the same direction and similar magnitude over both decision-making variables, sole or joint. In this case, this allow us to collapse both answers, when the answer is that the decision-maker is the wife sole and when the decision-making is joint into a single dependent variable.

<sup>24</sup>When running the same analysis without the "wife not working" variable, "wife works off-farm" loses significance in column (2) while staying positive and significant in column (1). Including only "wife not working" or "wife works off-farm" in the regression does not substantially change any of the the results for the other proxies.

<sup>25</sup> This number could still considered to be low and we highlight that this is because we are missing important covariates (such as an indicator of freedom of movement, wives'/women's physical mobility, an indicator of division of domestic labor, access to or control over resources that are not assets as cash, women's legal rights, etc).

**Table 5. OLS Regressions across countries for decision-making over large purchases when decided to interview the husband**

	Wife says she is the main decision maker/decision-making is joint (1)	Husband says wife is the main decision maker/decision-making is joint (2)
<i>Women's Status &amp; Empowerment Proxies</i>		
Difference in years of schooling: husband-wife	-0.002*** [0.00]	0.001 [0.00]
Wife not working	-0.080*** [0.01]	-0.034*** [0.01]
Wife works off farm	0.021*** [0.01]	-0.015*** [0.01]
Wife says she earns more than her husband	0.107*** [0.01]	0.019* [0.01]
Wife says she owns land	0.058*** [0.01]	0.023*** [0.01]
Woman condones a husband beating his wife	-0.061*** [0.00]	-0.027*** [0.00]
Wife is aged 15-19 <sup>(b)</sup>	-0.110*** [0.01]	-0.094*** [0.01]
Wife is aged 20-34 <sup>(b)</sup>	-0.047*** [0.01]	-0.044*** [0.01]
Age difference: husband-wife	-0.003*** [0.00]	0 [0.00]
Wife was married before age 20	0.015*** [0.00]	0.013*** [0.00]
Years of marriage	0.001*** [0.00]	0 [0.00]
Total number of children woman has	-0.005*** [0.00]	-0.002* [0.00]
Total number of children who died	-0.010*** [0.00]	-0.004* [0.00]
Couple in a polygamous marriage	-0.093*** [0.00]	-0.082*** [0.00]
<i>Individual/ Household-level characteristics</i>		
Husband works in agriculture	0.004 [0.01]	-0.004 [0.01]
Rural area	-0.019*** [0.01]	-0.013** [0.01]
Log time (mins) to the nearest water source	0 [0.00]	-0.002*** [0.00]
Household has electricity	0.016*** [0.01]	0.032*** [0.01]
Wealth quintile: bottom 20%	-0.052*** [0.01]	-0.036*** [0.01]
Wealth quintile: next-to-bottom 20%	-0.026*** [0.01]	-0.008 [0.01]
Wealth quintile: second highest 20%	0.019*** [0.01]	0.016*** [0.01]
Wealth quintile: top 20%	0.082*** [0.01]	0.051*** [0.01]
Observations	61,839	61,839
Adjusted R-squared	0.201	0.181

(a) Robust t-statistics in brackets. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 .

(b) Country fixed effects are included.

### *Agreement vs. disagreement*

The evidence above suggests that the relationship between women's participation in decision-making and empowerment proxies holds regardless of whether the wife or husband is the respondent: we are getting a signal from the husband's answers. However, until now we have studied pooled husband and wife responses, regardless of what *their* spouse says, and have not considered whether their own spouse agrees or disagrees with them.

In general, the DHS data show that disagreement across spouses is common and systematic. First, differences across spouses' responses are statistically significant in 17 out of 20 country surveys. Detailed tables showing responses given by married respondents and their husbands/partners are included in the Appendix (Tables A.2a and A.2b). The share of couples disagreeing overall is around 47 percent for who makes decisions over large purchases and about 40 percent for use of husband's earnings. However, looking at disagreement as a binary variable can cloud important differences, as women's agency could vary substantially depending on whether disagreement assigns more or less power to the woman. That is, the direction of the disagreement might be more important for the measurement of agency than simply looking at spousal response discrepancy.

Figures 4a and 4b present matrices which show the share of couples' responses for decision-making over large purchases and husband's earnings (averaged across countries).<sup>26</sup>

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<sup>26</sup> Figure 4a and 4b include observations for which we have an answer on the part of the man and the woman and we exclude the cases in which the answer is not the man, the woman or together.

Figure 4a. Share of couples' responses (averaged across countries)<sup>27</sup>

Member of the household	Wife			
Husband	Who usually makes decisions about making major household purchases?	Husband	Joint	Wife
	Wife	4.6%	4.4%	1.4%
	Joint	14.5%	24.3%	4.0%
	Husband	27.6%	16.0%	3.3%

Figure 4b. Share of couples' responses (averaged across countries)

Member of the household	Wife			
Husband	Who usually decides how your husband's (your) earnings will be used?	Husband	Joint	Wife
	Wife	2.9%	2.5%	0.6%
	Joint	13.9%	25.6%	2.8%
	Husband	34.6%	14.1%	3.1%

Where couples agree on decision-making (diagonal of the matrix), it is nearly always that both agree that the husband is the sole decision-maker (occurring much more frequently in the case of husbands' earnings) or that both agree that decision-making is joint. In both matrices, we can observe that the percentage of the sample where spouses agree that the wife is the main decision-maker is very low. Within disagreement, the DHS data shows that the most prevalent combinations of responses are: (1) wife says the

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<sup>27</sup>The figures in each matrix are computed using the total sample for which we had information on the decision-making question for both the wife and husband (excluding cases where they report someone else making the decision). In the case of the purchases of large items the number of observations is 63,477 and in the case of husbands' earnings the total number of observations is 48,960. Along these lines, the number of households where the wife says the main decision maker over large purchases is the husband and the husband says the main decision maker over large purchases is the wife is 2,920 observations.

husband is responsible, but he says decision-making is joint and (2) the husband says he is solely responsible, but the wife says decision-making is joint. In (2), the wife gives more power to herself, while in (1) the scenario is reversed.

Considering these diverse scenarios, how do our empowerment proxies above relate to decision-making reports when directional disagreement is considered? Do we observe stronger associations when disagreement favors the woman? Table 6 below shows a set of multinomial logit regressions used to model relationships between a categorical response variable (husband's response) and a set of regressors. We examine, among the sample of couples where the wife reports having agency (says she is the main or joint decision-maker) how the sign and significance of different empowerment proxies change depending on her husband's response. To interpret the results clearly, it is important to bear in mind the category used for baseline comparison. In the model below, we use spousal agreement as the baseline category. In other words, for regressions (1) and (2) the comparison group is the case in which the husband agrees with the wife that she is the main decision-maker, and for regressions (3) and (4) the baseline outcome is the case where the husband agrees with the wife that decision-making is joint. Thus, the coefficients represent the relative likelihood of specific modes of disagreement over the wife's decision-making power for various proxies of her empowerment.

First, the results in Table 6 show that the relationship between our women's empowerment proxies and women's reporting of decision-making power is affected by the husband's response.<sup>28</sup> Specifically, the scenarios where the husband attributes relatively more power to the woman than she does to herself are generally more positively associated with the selected empowerment proxies. Conversely, when the husband disagrees with the woman's report and assigns relatively less decision-making power to her, we largely observe a negative relationship with empowerment proxies. For example, the husband reporting that he himself makes decisions, instead of *agreeing* that the wife participates in decision-making (disagreement disfavoring the woman), is positively correlated with variables such as wife not working, wife being young (aged 15-19 or 20-34) and the couple being in a polygamous marriage. Although the positive relationship between disagreement disfavoring the woman and the wife working off-farm appears counterintuitive at first glance, this result only holds conditional on controlling for all other proxies, including the wife not working.

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<sup>28</sup> Results in Table 6 are restricted to the sample for which we have answers, from wife and husband, in the cases of large purchases and husband's earnings (the option when the husband or the wife answer 'other' is excluded).

**Table 6A. Multinomial Logit - Large Purchases**

	Wife says she is the main decision-maker and husband says				Wife says decision-making is joint and husband says			
	Joint		Himself		Wife		Himself	
	Coeff	Relative Ratio	Coeff	Relative Ratio	Coeff	Relative Ratio	Coeff	Relative Ratio
	[1]		[2]		[3]		[4]	
<i>Women's Status &amp; Empowerment Proxies</i>								
Difference in years of schooling: husband-w	-0.002	0.998	-0.004	0.996	-0.009	0.991	-0.006	0.994
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.00]	[0.00]
Wife not working	0.299*	1.349*	0.464***	1.591***	-0.018	0.982	0.181***	1.199***
	[0.15]	[0.21]	[0.16]	[0.26]	[0.07]	[0.07]	[0.05]	[0.06]
Wife works off farm	0.089	1.093	0.293*	1.340*	-0.02	0.98	0.107**	1.113**
	[0.14]	[0.16]	[0.15]	[0.20]	[0.07]	[0.07]	[0.05]	[0.05]
Wife says she earns more than her husband	0.25	1.285	0.027	1.028	0.122	1.129	-0.049	0.952
	[0.15]	[0.20]	[0.17]	[0.18]	[0.11]	[0.13]	[0.08]	[0.08]
Wife says she owns land	-0.062	0.939	-0.176	0.839	0.179*	1.196*	-0.013	0.987
	[0.16]	[0.15]	[0.18]	[0.15]	[0.10]	[0.12]	[0.07]	[0.07]
Woman condones a husband beating his wif	-0.265**	0.767**	-0.221**	0.801**	0.105*	1.111*	0.179***	1.196***
	[0.10]	[0.08]	[0.11]	[0.09]	[0.05]	[0.06]	[0.04]	[0.04]
Wife is aged 15-19	0.022	1.023	0.492	1.635	-0.041	0.959	0.428***	1.534***
	[0.28]	[0.29]	[0.30]	[0.49]	[0.14]	[0.14]	[0.09]	[0.14]
Wife is aged 20-34	-0.024	0.976	0.313**	1.368**	-0.058	0.944	0.172***	1.187***
	[0.14]	[0.13]	[0.14]	[0.20]	[0.07]	[0.07]	[0.05]	[0.06]
Age difference: husband-wife	-0.011	0.989	-0.012	0.988	-0.004	0.996	0.004	1.004
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.00]	[0.00]
Wife was married before age 20	0.074	1.077	0.027	1.027	-0.098*	0.907*	-0.119***	0.887***
	[0.12]	[0.12]	[0.12]	[0.12]	[0.06]	[0.05]	[0.04]	[0.03]
Years of marriage	0	1	0.009	1.009	0.004	1.004	-0.005	0.995
	[0.01]	[0.01]	[0.01]	[0.01]	[0.00]	[0.00]	[0.00]	[0.00]
Total number of children woman has	-0.052*	0.949*	-0.027	0.973	-0.012	0.988	0.018*	1.018*
	[0.03]	[0.03]	[0.03]	[0.03]	[0.02]	[0.02]	[0.01]	[0.01]
Total number of children who died	0.104*	1.110*	0.096	1.1	-0.086**	0.918**	0.027	1.027
	[0.06]	[0.07]	[0.06]	[0.07]	[0.04]	[0.03]	[0.02]	[0.02]
Couple in a polygamous marriage	0.011	1.011	0.428***	1.534***	0.140*	1.150*	0.414***	1.512***
	[0.13]	[0.13]	[0.13]	[0.20]	[0.08]	[0.09]	[0.05]	[0.08]
<i>Household-level characteristics</i>								
Husband works in agriculture	0.187	1.206	0.11	1.117	0.099	1.104	-0.035	0.965
	[0.16]	[0.19]	[0.16]	[0.18]	[0.08]	[0.09]	[0.05]	[0.05]
Rural area	0.365***	1.440***	0.357***	1.429***	-0.293***	0.746***	-0.018	0.983
	[0.12]	[0.18]	[0.13]	[0.19]	[0.06]	[0.05]	[0.05]	[0.05]
Log time [mins] to the nearest water source	-0.018	0.982	0.001	1.001	-0.004	0.996	0.010**	1.011**
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.00]	[0.00]
Household has electricity	-0.251	0.778	-0.565***	0.568***	-0.021	0.979	-0.107*	0.898*
	[0.16]	[0.12]	[0.16]	[0.09]	[0.08]	[0.08]	[0.06]	[0.05]
Wealth quintile : bottom 20%	-0.465***	0.628***	-0.109	0.897	0.126	1.134	0.009	1.01
	[0.17]	[0.11]	[0.18]	[0.16]	[0.09]	[0.10]	[0.06]	[0.06]
Wealth quintile : next-to-bottom 20%	-0.118	0.888	-0.034	0.967	0.168**	1.183**	-0.051	0.95
	[0.16]	[0.14]	[0.17]	[0.17]	[0.08]	[0.10]	[0.05]	[0.05]
Wealth quintile : second highest 20%	0.044	1.045	0.045	1.046	-0.08	0.923	-0.106**	0.899**
	[0.17]	[0.17]	[0.17]	[0.18]	[0.08]	[0.08]	[0.05]	[0.05]
Wealth quintile : top 20%	0.01	1.01	0.034	1.035	0.047	1.048	-0.316***	0.729***
	[0.19]	[0.19]	[0.20]	[0.21]	[0.09]	[0.10]	[0.07]	[0.05]
Observations	4,004				21,235			

Notes:

[a] Robust t-statistics in brackets. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 .

[b] Country fixed effects are included.

**Table 6B. Multinomial Logit - Husband's Earnings**

	Wife says she is the main decision-maker and husband says				Wife says decision-making is joint and husband says			
	Joint		Himself		Wife		Himself	
	Coeff	Relative Ratio	Coeff	Relative Ratio	Coeff	Relative Ratio	Coeff	Relative Ratio
	(1)		(2)	(3)		(4)		
<b>Women's Status &amp; Empowerment Proxies</b>								
Difference in years of schooling: husband-w	0.02 [0.02]	1.02 [0.02]	0.01 [0.02]	1.01 [0.02]	-0.020** [0.01]	0.980** [0.01]	0.005 [0.00]	1.005 [0.00]
Wife not working	0.083 [0.23]	1.086 [0.25]	0.132 [0.24]	1.141 [0.27]	-0.195** [0.09]	0.823** [0.08]	0.227*** [0.05]	1.255*** [0.06]
Wife works off farm	0.195 [0.22]	1.215 [0.27]	0.254 [0.22]	1.289 [0.29]	-0.196** [0.09]	0.822** [0.08]	0.169*** [0.05]	1.184*** [0.06]
Wife says she earns more than her husband	-0.231 [0.20]	0.794 [0.16]	-0.426* [0.22]	0.653* [0.15]	0.299** [0.14]	1.348** [0.19]	-0.032 [0.09]	0.968 [0.08]
Wife says she owns land	-0.153 [0.20]	0.858 [0.17]	-0.369* [0.21]	0.691* [0.14]	-0.067 [0.14]	0.935 [0.13]	-0.083 [0.07]	0.92 [0.07]
Woman condones a husband beating his wif	0.105 [0.14]	1.11 [0.16]	0.175 [0.15]	1.191 [0.18]	0.167** [0.07]	1.182** [0.08]	0.101*** [0.04]	1.106*** [0.04]
Wife is aged 15-19 <sup>(b)</sup>	0.108 [0.39]	1.115 [0.44]	1.012*** [0.39]	2.751*** [1.07]	0.056 [0.18]	1.058 [0.19]	0.476*** [0.10]	1.609*** [0.15]
Wife is aged 20-34 <sup>(b)</sup>	0.102 [0.20]	1.107 [0.22]	0.330* [0.20]	1.392* [0.28]	-0.08 [0.09]	0.924 [0.09]	0.179*** [0.05]	1.196*** [0.06]
Age difference: husband-wife	0.009 [0.01]	1.009 [0.01]	0.028** [0.01]	1.028** [0.01]	0.003 [0.01]	1.003 [0.01]	0.006* [0.00]	1.006* [0.00]
Wife was married before age 20	0.1 [0.16]	1.105 [0.18]	0.124 [0.17]	1.132 [0.19]	-0.133* [0.08]	0.876* [0.07]	-0.104** [0.04]	0.901** [0.04]
Years of marriage	-0.024** [0.01]	0.976** [0.01]	-0.025** [0.01]	0.975** [0.01]	0.003 [0.01]	1.003 [0.01]	-0.004 [0.00]	0.996 [0.00]
Total number of children woman has	0.054 [0.04]	1.056 [0.05]	0.133*** [0.04]	1.142*** [0.05]	-0.013 [0.02]	0.987 [0.02]	0.013 [0.01]	1.013 [0.01]
Total number of children who died	0 [0.08]	1 [0.08]	-0.095 [0.08]	0.909 [0.07]	-0.002 [0.04]	0.998 [0.04]	0.015 [0.02]	1.015 [0.02]
Couple in a polygamous marriage	-0.111 [0.19]	0.895 [0.17]	0.363* [0.19]	1.438* [0.27]	0.123 [0.10]	1.131 [0.12]	0.561*** [0.06]	1.752*** [0.10]
<b>Household-level characteristics</b>								
Husband works in agriculture	-0.119 [0.22]	0.888 [0.20]	-0.186 [0.22]	0.83 [0.18]	-0.08 [0.10]	0.923 [0.09]	-0.076 [0.05]	0.927 [0.05]
Rural area	0.341* [0.18]	1.407* [0.26]	0.141 [0.18]	1.151 [0.21]	-0.245*** [0.09]	0.783*** [0.07]	-0.013 [0.05]	0.987 [0.05]
Log time (mins) to the nearest water source	0.008 [0.02]	1.008 [0.02]	0.024 [0.02]	1.025 [0.02]	-0.007 [0.01]	0.993 [0.01]	0.013** [0.01]	1.013** [0.01]
Household has electricity	-0.088 [0.22]	0.915 [0.20]	0.082 [0.22]	1.086 [0.23]	-0.205* [0.11]	0.814* [0.09]	0.045 [0.06]	1.046 [0.06]
Wealth quintile : bottom 20%	-0.263 [0.24]	0.769 [0.18]	0.258 [0.24]	1.295 [0.32]	0.254** [0.11]	1.290** [0.14]	0.226*** [0.06]	1.254*** [0.07]
Wealth quintile : next-to-bottom 20%	-0.289 [0.23]	0.749 [0.17]	0.081 [0.23]	1.084 [0.25]	0.152 [0.10]	1.164 [0.12]	0.121** [0.06]	1.129** [0.06]
Wealth quintile : second highest 20%	-0.007 [0.23]	0.993 [0.23]	-0.011 [0.23]	0.989 [0.23]	0.041 [0.10]	1.042 [0.11]	0.029 [0.06]	1.029 [0.06]
Wealth quintile : top 20%	0.135 [0.28]	1.144 [0.32]	-0.064 [0.28]	0.938 [0.27]	-0.121 [0.13]	0.886 [0.11]	-0.207*** [0.07]	0.813*** [0.06]
Observations	2,985				19,710			

Notes:

(a) Robust t-statistics in brackets. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 .

(b) Country fixed effects are included.

Second, the results align across decision-making over both large household purchases (Panel A) and husband's earnings (Panel B), although there are a few differences. Specifically, the wife being less educated than her husband, younger than her husband and married for fewer years is only significantly related to disagreement disfavoring the woman for decisions over husband's earnings, while having a higher number of children who died is only significant for large household purchases. Moreover, there are two cases of empowerment proxies for which the relationships differ in sign: while the wife reporting that she earns more than her husband and having fewer children are negatively related to disagreement disfavoring the woman over husband's earnings, they are positively related to disagreement disfavoring the woman for large purchases. However, this relationship is weak and only significant at the 10% level for wife earning more than her husband, and the result that having fewer children is negatively related to disagreement disfavoring the woman is sensitive to the inclusion criteria for the regression sample used.<sup>29</sup>

Third, there are two particular empowerment proxies that are simultaneously both positively and negatively related to disagreement disfavoring the woman, even within a particular decision-making domain. When the wife condones domestic violence, husbands move away from agreeing that decision-making is joint towards both saying the wife is solely responsible *and* that they themselves are solely responsible, for both large purchases and husband's earnings. That is, the husband's response seems to generally diverge from his wife's. However, in the cases when the wife condones domestic violence and says she is *solely* responsible for making decisions over large household purchases, he is more likely to agree with her assessment. The other case is that of the wife becoming married when young (before age 20): here we see that the husband is more likely to agree that decision-making is joint for both large purchases and husband's earnings. These associations are particularly interesting given the other household characteristics and empowerment proxies we control for. From an intra-household bargaining perspective, these results could indicate the presence of equilibria within the marriage; for example, a non-cooperative "separate spheres" equilibrium in our first scenario of domestic violence acceptance among women who do not have sole decision-making power (Lundberg and Pollak 1993). These relationships, and more generally the links between spousal cooperation, response discrepancy and parameters representing the extramarital environment, deserve further investigation in future research.

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<sup>29</sup> Fewer households respond to questions about decisions over husband's earnings as compared to large purchases. To ensure comparability, we run the regressions reported in Table 6 on those 48,412 households for which we have data on both decision-making domains for both spouses. When the model is run for the entire sample of people for whom we have information in large purchases, total number of children becomes positively related to disagreement disfavoring the woman. The other counterintuitive result that disappears when the large purchases sample is unrestricted is for polygamous marriages: here, we unambiguously see a strong positive correlation with disagreement disfavoring the woman. Results are available upon request.

A different way of examining the results presented in Table 6 is to consider two particularly important configurations of spousal responses. First, we look at the case where both spouses *agree* with each other that the wife has sole or joint decision-making power. This is the response scenario the reproductive health literature has most consistently analyzed, and where the literature has found positive associations with outcomes (e.g., Allendorf, 2007; Story and Burgard, 2012). We also examine a second scenario, namely all (pooled) disagreement configurations in which the wife attributes *more* power to herself than the husband does. Table 7 presents OLS regressions similar to Table 5 above, where for column (1), the outcome = 1 if both the husband and wife agree that she is the main decision-maker/decision-making is joint, and = 0 otherwise, and for column (2), the outcome = 1 if the wife attributes more power to herself than the husband attributes to her.

**Table 7. OLS Regressions across countries for decision-making over large purchases comparing spouses' responses.**

	Wife and husband agree she is the main decision-maker / decision-making is joint	Wife and husband disagree (wife gives herself more power than husband)
	(1)	(2)
<b><i>Women's Status &amp; Empowerment proxies</i></b>		
Difference in years of schooling: husband-wife	0 [0.00]	-0.001** [0.00]
Wife not working	-0.031*** [0.00]	-0.033*** [0.00]
Wife works off farm	0 [0.00]	0.026*** [0.01]
Wife says she earns more than her husband	-0.008 [0.01]	0.112*** [0.01]
Wife says she owns land	-0.009 [0.01]	0.065*** [0.01]
Woman condones a husband beating his wife	-0.046*** [0.00]	-0.010*** [0.00]
Wife is aged 15-19 <sup>(b)</sup>	-0.072*** [0.01]	-0.021** [0.01]
Wife is aged 20-34 <sup>(b)</sup>	-0.031*** [0.00]	-0.003 [0.00]
Age difference: husband-wife	-0.001** [0.00]	-0.001*** [0.00]
Wife was married before age 20	0.016*** [0.00]	-0.003 [0.00]
Years of marriage	0.001** [0.00]	0 [0.00]
Total number of children woman has	-0.003*** [0.00]	0 [0.00]
Total number of children who died	-0.005** [0.00]	-0.002 [0.00]
Couple in a polygamous marriage	-0.067*** [0.00]	-0.010** [0.00]
<b><i>Individual/Household-level characteristics</i></b>		
Husband works in agriculture	0.004 [0.00]	-0.004 [0.01]
Rural area	0.008* [0.00]	-0.017*** [0.01]
Log time (mins) to the nearest water source	-0.001*** [0.00]	0.001* [0.00]
Household has electricity	0.022*** [0.01]	-0.008 [0.01]
Wealth quintile: bottom 20%	-0.026*** [0.00]	-0.019*** [0.01]
Wealth quintile: next-to-bottom 20%	-0.013*** [0.00]	-0.011** [0.01]
Wealth quintile: second highest 20%	0.024*** [0.01]	-0.004 [0.01]
Wealth quintile: top 20%	0.064*** [0.01]	-0.001 [0.01]
Observations	61,839	61,839
Adjusted R-squared	0.161	0.033

**Notes:**

(a) Robust t-statistics in brackets. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 .

(b) Country fixed effects are included.

When the husband and wife agree (column 1), we find that empowerment proxies are again generally positively correlated with the outcome. However, three key empowerment proxies relating to women's income and asset ownership – wife earning more than husband, wife owning land and wife working off-farm – are notably only significantly related to the case where husband and wife disagree (column 2). These variables are observed simultaneously, and there could be other factors at play, but the fact that these relationships are only significant in the case of disagreement is suggestive of how women's increased earning power may be leading her to contest power within the household. Another notable finding is that while the share of variation in the outcome explained by our control variables is not far off from the results in Table 5 (about 16 percent) in the case of agreement, in the case of disagreement we see that the  $R^2$  falls considerably, to 3.4 percent.<sup>30</sup>

The wife attributing greater power to herself as compared to her husband is a critical case for women's agency, as it exemplifies challenging existing social hierarchies that favor men's decision-making roles (Kabeer, 1999). However, the results indicate that proxies of women's empowerment, while significant, contribute very little to explaining variation in this decision-making outcome. What other factors are explaining why women would break ranks with their husbands? Could this potentially be understood better by examining the process of how decisions are negotiated, or substantiating responses with other household members' opinions? Above, we showed that this is an important part of agency that is not being explained by commonly-used proxies of empowerment — highlighting the importance not only of asking other people in the household, but also the need to better understand how disagreement should be measured in decision-making questions.

## 5.2 Other measures

Although questions on household decision-making are the most frequent approach to measuring individuals' ability to act on goals, a variety of other approaches have also been employed. We outline a few additional areas below—community level decision-making, lab-in-the-field experiments, and qualitative evidence from direct observations.

### *Community-level decision-making*

Aside from household-level decision-making, issues that matter to the respondent may also exist at the community level. Ability to act at the community level has not been measured extensively in surveys,

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<sup>30</sup> When assigning levels to the dummy variables of Table 7 (for instance level 1 is when wife and husband agree the decision-making is joint and 2 is when they both agree the decision-maker is the wife) similar results on the magnitude direction are obtained. Results upon request.

however, and when included has tended to focus on the ability to speak up in public and membership in groups/attendance of meetings. In a broad survey of the effects of a randomized poverty graduation program implemented in six countries, Banerjee et al. (2015) included questions on whether respondents had spoken with village members about village concerns in the last year (Y/N), as well as the number of times respondents approached a village leader in the last year. And in a study of GoBifo, a randomized community-driven development project in Sierra Leone (reviewed further below), Casey, Glennerster and Miguel (2012) surveyed women on their attendance and ability to speak up in meetings, as well as different perceptions they had about community decision-making (the extent to which they felt decisions at meetings were made democratically — i.e., everyone’s say was heard). Humphreys et al. (2012) also surveyed men and women participating in a community-driven reconstruction program in the Democratic Republic of Congo on their attendance and other aspects of participation in the program, as well as on attitudes on women’s rights and responsibilities in the community (surveying whether women should broadly have the same rights as men, the right for women to complain at the community level if they are mistreated by their husbands, and women’s rights to have the same opportunities to occupy administrative or leadership positions in the community).

In the WEAI, respondents were asked whether they “feel comfortable speaking up in public about any issue that is important to you, your family or your community” (not at all comfortable; yes but with difficulty; yes, comfortably, N/A). Recently, this question was revised after cognitive testing in Uganda revealed that the word “issue” translates to problem or challenge in local languages and thus has a negative connotation (Sproule and Kovarik 2014). The revised question reads, “Do you feel comfortable speaking up in public about *anything* that is important to you, your family or your community?” Despite this modification, this indicator has not been useful for WEAI analyses and in many places has been sensitive to collect (Malapit 2015).

### *Lab-in-the-Field Experiments*

Recent empirical work in economics to measure individuals’ ability to act on their goals and preferences has included lab-in-the field experiments, where behavioral games are conducted in a controlled environment within a development setting. Within these types of experiments, factors in household decision-making (such as bargaining power) that are difficult to measure or vary empirically are exogenously varied in order to understand how they affect decisions and outcomes.

In a lab-in-the-field experiment from the Philippines, for example, Ashraf (2009) examines financial choices of married couples, by randomly varying whether choices on savings are private or observable to both spouses (both spouses are given the same sets of choices). Given full ability to act on goals, there should be no difference between the groups. However, she finds significant differences between

how men and women allocate money across these different scenarios. In an interesting recent study, Almås et al. (2015) use a novel identification strategy to capture decision-making power: willingness to pay. Specifically, the women selected to participate in the experiment are subject to a sequence of choices where they can either choose an amount  $X$  for themselves or an amount  $Y$  for their spouse (where  $X$  is usually smaller than  $Y$ ). The experiment identifies the values that makes the participants indifferent between receiving  $X$  or letting their spouse receive  $Y$ , which gives us the respondent's willingness to pay for receiving a transfer instead of having their partner receive it. The weaker the position of the woman in the household (the lower her control of resources), the more she should be willing to pay to obtain control of that transfer.

The above studies suggest that in lab-in-the-field experiments offer valuable opportunities for researchers to directly observe the intra-household bargaining process. However, aside from the standard criticisms of randomized experiments - such as whether one can extrapolate from the experimental setting to predict real world outcomes - their usefulness in understanding agency also depends on whether the policy focus is narrow (specific to one domain, for example, such as savings) or a broader understanding of agency is important (spanning multiple domains).

#### *Direct observations*

Respondents' ability to act can also be measured through direct observation. At a basic level, this could include measuring individual outcomes in the household that are directly verifiable, such as women working outside the household, family planning, or involvement in children's education. Moreover, recent observational studies on decision-making have also linked up with community-driven development projects, where individuals' actions are more easily observable through village committees and discussions organized by these projects. Rao et al. (2015), for example, conducted qualitative interviews women in treatment and control villages covered by the large-scale *Jeevika* poverty alleviation project in rural Bihar; which involved observing their participation in problem solving, arbitration and creating alternatives to the rule of existing village leaders through self-help groups created by the project. Another example is the study of the GoBifo project in Sierra Leone mentioned above, which provided grants to communities across 236 villages and assistance in setting up Village Development Committees (VDCs) to plan how these funds would be used. Women's participation in these VDCs was integral to the project, and was measured through direct observation of respondents' participation in different types of groups, attendance at community meetings, ability to speak up in meetings, as recorded by agents/enumerators attending the meeting. Such direct observation can shed light on respondents' actions, although again the dynamics of the decision-making process (particularly within the household) may be more difficult to assess with this approach.

### **5.3 Where are we headed?**

Above, we have reviewed different measurement methods for capturing women's ability to act on their goals, and findings to date on their relative quality. Four key priorities for future work emerges from this review: 1) continuing work on cross-reporting (differences in spouses' or household members' reported decision-making roles) and its consequences for understanding women's agency, 2) exploring varying response options for decision-making questions across domains, 3) capturing the process leading up to final decision-making, and 4) triangulation across the reviewed measurement methods.

First, future research should continue exploring what we can learn from cross-reporting within the household about women's ability to act. This will include both conducting survey work with multiple members within a household, and continuing the exploratory analytical work presented above. The latter will help shed light on how consistent correlations are between spousal disagreement and particular socioeconomic/demographic characteristics across contexts, and what we can learn about the decision-making process through them. Crucially, studies in Asia offer tentative evidence that men and women display different cognitive understandings of decision-making questions, guided by social norms about who ought to control decisions or differences between spouses in perception and identity (Ghuman et al., 2006, Devine et al., 2008). For example, men and women could be using different frames of reference when answering the same question (as discussed for sense of agency in Section 4). Moreover, beyond correlations, it will be important to understand to what extent disagreement over decision-making roles matters for outcomes. For example, how does the relationship between a woman's decision-making power and outcomes like income, education and nutrition change when she herself vs. the husband is assessing her decision-making power, or when she assigns more power to herself than does her husband, and what does this tell us about decision-making processes in the household? Conducting this work with surveys containing questions on couples' communication and community norms will be key.

Second, the consequences of using a uniform response structure across domains in decision-making questions, versus ones that are more tailored to decision-making processes specific to those domains, should be explored. For specific domains that are important to program implementers or researchers, valuable information might be missed by not tailoring decision-making questions to the actual process, which could be joint but "sequential" for some domains. For example, Kabeer (1999) cites a 1996 study from the Arab Republic of Egypt, where men were typically the final decision maker over whether to use contraceptives, but women were left to decide what type to use. Moreover, which response options are relevant for decision-making questions might vary across domains and contexts. For example, we may be missing valuable information about collective decision-making arrangements by allowing the "joint" decision-making

response to be selected only in the case of joint decision-making between the respondent and her partner and ignoring wider kinship or community decision-making dynamics.

Third, the decision-making process should be further unpacked in survey questions to better reflect women's agency. As discussed above, this includes collecting additional information on whether the woman is consulted and feels her opinion is valued – especially in cases where she does not describe herself as the main decision maker – or who makes the final decision in the case of disagreement. Moreover, understanding how frequently decisions are made and decision-making roles change could also be useful. Some of these issues are tied with existing decision-making hierarchies and social norms as well; understanding whether decision-making is transformative or challenges existing norms is therefore also important. For example, in addition to questions on the status quo in terms of who makes the final decision in the household, respondents could also be asked whether they have taken efforts to change the way specific decisions are made to reflect their preferred view.

Lastly, future research should triangulate between different tools for measuring women's ability to act in order to better understand how measured agency differs between approaches, and how one measurement approach could complement another. For example, how does ability to act as elicited through decision-making questions in surveys for a particular domain compare to ability to act in that domain as observed through lab-in-the-field experiments? How do responses in surveys contrast to direct observations, and what does this tell us about how to improve survey questions? This avenue could be especially fruitful for capturing women's ability to act outside of the household (e.g., at the community level), where good survey-based measures are particularly scarce. Triangulating across different measurement methods is not only useful within this last dimension of agency, however – in the next section, we turn to research priorities across the three dimensions.

## 6 Cross-dimensional priorities for future research

Important areas for future research include the following:

**Analyze the three dimensions together, across contexts, to uncover relationships and prioritize survey questions:** as mentioned in Section 2, although goal-setting, perceived sense of agency and acting on goals are three distinct concepts, they are related and can influence each other. Future research should examine links between the three, particularly through targeted interventions, to better understand the process of women's agency.

First, measures aimed at capturing a woman's goals and preferences should be collected alongside measures of a woman's ability to act (such as decision-making questions), as agency is the ability to define one's goals and act on them. Measuring all three dimensions is not only necessary to fully capture agency.

Rather, measurement of one dimension can also help us better interpret and address shortcomings in the measure of the other. For example, how is the capacity of an individual to define goals that are consistent with their values influenced by their sense of control to achieve these goals? How do decision-making arrangements within the household impact an individual's sense of self-efficacy and perceived control, and what is the relationship between self-efficacy measures in particular domains and decision-making in those domains? Analyzing these questions can help to also shed light on the question of the meaningfulness of generalized self-efficacy as a measure of women's agency.

For example, Seymour and Peterman (2017) show how information from the RAI can be used in concert with standard decision-making indicators to attenuate the problems associated with measuring women's agency in terms of decision-making. They find significant differences in the degree to which women associate autonomy with different decision-making outcomes across Bangladesh and Ghana. Moreover, the strength of this association varies by domain and by whether or not there is a shared understanding of decision-making within households. Given the domain-specific variations they observe in the relationship between autonomy and decision-making, they advise researchers to construct agency indicators across different domains.

**Broaden the scope of measures to include other age groups:** within the three dimensions, measurement tools should be adapted to adequately capture agency for a wider range of age groups, from young girls to older women. Not only will this increase our understanding of agency across the lifecycle, but it will also allow us to examine how agency is correlated and transmitted across multiple generations within families and communities. Nearly all of the measures we have covered above have been validated and used with adult women between 18 and 50. In this process of adaptation, information gleaned from the validation process of LOC scales originally developed for adults and later adapted for children could be used, such as the Bialar-Cromwell Locus of Control Scale (Bialer 1961). Beyond the wording, part of this will entail a revision of domains that are included in such scales to capture manifestations of agency that are most salient for different groups, as well as potentially including questions on expectations of how major decisions would be made in the future, which could be asked of younger age groups. For example, adult women are asked about their ability to visit a health clinic or marketplace; however, a more relevant example for younger girls could ask about their ability to walk to school.

**Systematically adapt measures to local contexts:** another priority for future research is using a more systematic approach for adapting measures within our three dimensions across local contexts, and summarizing lessons from iterative processes of qualitative and quantitative data collection. Having a clear conceptualization is the first step in making progress, as it will guide what criteria should be used for

whether a tool is a meaningful measure of agency in a certain context. This is particularly important when the preferences of the respondent – their own goals and values – are the centerpiece of agency. Developing a standardized set of questions to determine what local characteristics lead to different manifestations of women’s agency may provide insight into adaptation processes. Moreover, measurement of the psychological scales described above requires a more standardized approach for validation across contexts. In particular, cross-cultural validation should be conducted by assessing comprehension (e.g., via cognitive testing) and reliability (e.g., via the internal consistency of the scale in the new context). Moreover, factor and cluster analysis, as performed by Vaz et al. (2016) to validate the RAI in Chad, can be used to compare data patterns that emerge in the new context versus the original validation context. This does not mean that we should discard cross-country surveys; locally validated relevant measures should be collected alongside internally comparable indicators in order to provide a richer and more useful picture of women’s agency.

An overarching goal of future research on measuring women’s agency should be to successfully map measures to research questions within a particular context. For example, if the main aim of measuring agency is to assess its role as a mediator between cash grant provision and increased children’s education, specific measures of agency might be more suitable than others. Another example is condom use negotiation, where it would be helpful to know whether self-efficacy, goal-setting, or decision-making components of agency should be targeted in program efforts or in survey research as the appropriate mediator. If the key factor in improving condom use relates to increases in a women’s self-efficacy in negotiating condom use with her partner, then sexual health education campaigns should center their actions on these activities. On the other hand, if goal-setting is the most salient pathway, then instructional campaigns to increase goal-setting capacity may be the most effective method of increasing condom use. Further, improvements in measurement and increased specificity in different components of agency may also reduce the need to ask women superfluous survey questions and create more cost- and time- efficient surveys to evaluate programming. On the other hand, complementing more specific measures with broader measures (or specific measures in other domains) may help us to understand unintended and/or broader empowerment impacts of programs.

Overall, improving the measurement of women’s agency across contexts and domains is critical to ensure that programming and policies, whether grassroots or government-led, are relevant and meaningful to the lives of women. Better measurement is imperative for tracking our progress in promoting women’s agency, designing interventions to address gender-based constraints, and for rigorously evaluating their impact.

## 7 Appendix

Appendix Table 1

	Wording of decision-making questions	Decisions covered in [X]	Additional variables collected: Individual-level proximate determinants/ outcomes of agency
<b>Demographic and Health Surveys (DHS)</b> – sample: women 15-49 and, in some cases, their husbands/partners; 89 countries	(1) “Would you say that [X] is: <i>(a) mainly your decision, (b) mainly your husband's/partner's decision, or (c) did you both decide together?”</i>	- Using contraception	- Preferences for fertility and family planning - Marital status - Education - Age at first marriage, sexual intercourse, when had first child
	(2) “Who usually makes decisions about [X]: <i>(a) respondent, (b) husband/partner, (c) respondent and husband/partner jointly, (d) someone else, (e) other?”</i>	- How respondent’s earnings will be used - How husband/partner’s earnings will be used <i>(also asked of spouse)</i> - Health care for respondent - Large household purchases <i>(also asked of spouse)</i> - Visits to family/relatives	- Employment and type of earnings - Ownership of land - Health outcomes (anemia, illness/disease) - Experienced physical/sexual violence (including whether sought treatment) - Constraints to seeking health care - Use of mass media and technology (including owning a mobile phone)
<b>Women’s Empowerment in Agriculture Index (WEAI)</b> – sample: adult women and their husbands/partners	(1) Did you participate in [X] in the last 12 months (that is, during the last one/two cropping seasons)? (Y/N)	- Food crop farming - Cash crop farming - Livestock - Nonfarm economic activities - Wage and salary employment - Fishing	- Marital status* - Education* - Employment and type of earnings* - Participation in community organizations (agricultural producer’s groups, local government, credit or microfinance, etc.)
	(2) How much input did you have for [X, and separately, income generated from X]: <i>(a) no input or input in few decisions, (b) input into some decisions, (c) input into most decisions, (d) input into all decisions, (e) no decision made</i>	- Food crop farming - Cash crop farming - Livestock - Nonfarm economic activities - Wage and salary employment - Fishing	- Confidence in voicing concerns in public forums (five-category response) - Individual time diary on activities in the last 24 hours, and individual satisfaction with leisure time (scale of 1-10)
	(3) For different types of productive capital [X], who would you say:	- Agricultural land - Large livestock - Small livestock	

(a) owns most of each item, (b) can decide whether to sell item most of time, (c) can decide whether to give away item most of the time, (d) who can decide to mortgage or rent out item most of time, and (e) who contributes to new decisions regarding a new purchase of item?

Options:

- Self
- Partner/spouse
- Self and partner/spouse jointly
- Other HH member
- Self and other HH member(s)
- Partner/spouse and other household member(s)
- Someone (or group of people) outside the HH
- Self and other outside people
- Partner/spouse and other outside people
- Self, partner/spouse and other outside people

- Poultry
- Fish
- Farm equip. (non-mechanized)
- Farm equip. (mechanized)
- Nonfarm business equip.
- House or other structures
- Large consumer durables
- Small consumer durables
- Cell phone
- Other land not used for agr. purposes
- Bicycle, motorcycle, car

(4) For different financial sources [X]:  
 (a) who made the decision to borrow from [X] in the last 12 months, and (b) who makes the decision about what to do with the money/item borrowed from [X]?  
 (Options are same as in (3) above)

- NGO
- Informal lender
- Formal lender
- Friends or relatives
- Group-based MFIs

(5) When decisions are made regarding [X]:  
 (a) who is it that normally takes the decision, (b) to what extent do you feel like you can make your own personal decisions regarding these aspects of household life if you want(ed) to (not at all, small extent, medium extent, to a high extent)?

Options for (a):

- "Main male" HH member or husband
- "Main female" HH member or wife
- Husband and wife jointly
- Someone else in the household
- Jointly with someone else inside the household

- Agricultural production
- Getting inputs for agr. production
- Types of crops to grow for agr. production
- Taking/not taking crops to market
- Livestock raising
- Nonfarm business activity
- Respondent's own wage/salary employment
- Major household purchases
- Minor household expenditures

- Jointly with someone else outside the household
- Someone outside the household/other
- Decision not made

- Whether or not to use family planning to space or limit births

**Vignettes:** for each situation below, respondent is asked:  
 (a) Are you like this person (Y/N)? (b) If yes, are you completely the same or somewhat the same? (c) If no, or are you completely different or somewhat different?

- Agricultural production
- Getting inputs for agr. production
- Types of crops to grow for agr. production
- Taking/not taking crops to market
- Livestock raising
- Nonfarm business activity
- Respondent's own wage/salary employment
- Major household purchases
- Minor household expenditures
- If respondent has a serious health problem
- How to protect herself from violence
- Whether and how to express religious faith
- Kinds of tasks to do on a particular day
- Whether or not to use family planning to space or limit births

- (6) -Person's actions in [X] are determined by situation; no other options.  
 - Person is doing [X] because that's what spouse or other member of group/community tells her/him  
 -Person is doing [X] because that's what he/she feels her family or community expect - wants them to approve of him/her as a good farmer/businessperson  
 -Person makes his/her own choices about [X] based on what he/she thinks is best for family and business. If person changed his/her mind, he/she could act differently.

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\* Separate module in the WEAI

**Appendix Table 2a. Decision-making:  
Person who usually decides on large household purchases\***

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Share of respondents (R) and husband/partners (H) reporting:

		Respondent alone			Respondent and husband/partner			Husband/ partner alone		
		R	H	Diff	R	H	Diff	R	H	Diff
Benin	2011	0.10	0.07	0.03***	0.44	0.20	0.24***	0.46	0.73	-0.27***
Burkina Faso	2010	0.01	0.03	-0.02***	0.16	0.15	0.01	0.81	0.80	0.01*
Burundi	2010	0.06	0.02	0.04***	0.54	0.50	0.04**	0.40	0.48	-0.08***
Cameroon	2011	0.12	0.12	0.00	0.38	0.27	0.11***	0.48	0.61	0.13***
Comoros	2012	0.23	0.21	0.02	0.30	0.36	-0.06***	0.46	0.42	0.04
Côte d'Ivoire	2011	0.08	0.04	0.04***	0.28	0.28	0.00	0.63	0.66	-0.03*
Congo, Dem. Rep.	2013	0.13	0.10	0.03***	0.46	0.48	0.02*	0.41	0.41	0.00
Ethiopia	2011	0.05	0.04	0.01***	0.60	0.67	-0.07***	0.34	0.28	0.06***
Gambia, The	2013	0.06	0.03	0.03***	0.43	0.36	0.07***	0.50	0.60	-0.10***
Liberia	2013	0.22	0.17	0.05***	0.60	0.58	0.02	0.17	0.25	-0.08***
Mali	2012	0.06	0.09	-0.03***	0.11	0.07	0.04***	0.82	0.82	0.00
Mozambique	2011	0.13	0.11	0.02**	0.48	0.50	-0.02	0.37	0.37	0.00
Namibia	2013	0.24	0.18	0.06***	0.59	0.65	-0.06***	0.17	0.17	0.00
Nigeria	2013	0.05	0.23	-0.18***	0.32	0.26	0.06***	0.62	0.50	0.12***
Rwanda	2010	0.04	0.03	0.01	0.67	0.67	0.00	0.29	0.29	0.00
Senegal	2014	0.02	0.01	0.01**	0.18	0.25	-0.07***	0.69	0.56	0.12***
Sierra Leone	2013	0.05	0.17	-0.12***	0.50	0.38	0.12***	0.44	0.44	0.00
Uganda	2011	0.14	0.10	0.04***	0.46	0.48	-0.02	0.40	0.42	-0.02
Zambia	2013	0.10	0.08	0.02***	0.55	0.58	-0.03***	0.34	0.33	0.01
Zimbabwe	2011	0.17	0.14	0.03***	0.71	0.76	-0.05***	0.12	0.10	0.02***

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Notes:

(1) Source: Demographic and Health Surveys (Waves 5 and 6) for Sub-Saharan Africa.

(2) Diff = T-tests for whether differences in respondent's (R) and husband's (H) responses were statistically significant. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

\*In the men's questionnaire, the question was asked "who should have a greater say in large household purchases?"

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**Appendix Table 2b. Decision-making:  
Person who usually decides how to spend husband's earnings**

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Share of respondents (R) and husband/partners (H) reporting:

		Respondent alone			Joint			Husband/ partner alone		
		R	H	Diff	R	H	Diff	R	H	Diff
Benin	2011	0.16	0.03	0.13***	0.25	0.09	0.16***	0.59	0.88	-0.29***
Burkina Faso	2010	0.02	0.04	-0.02***	0.05	0.12	-0.07***	0.93	0.83	0.10***
Burundi	2010	0.01	0.02	-0.01**	0.64	0.55	0.09***	0.34	0.42	-0.08***
Cameroon	2011	0.08	0.05	0.03***	0.35	0.35	0.00	0.56	0.60	-0.04***
Comoros	2012	0.16	0.13	0.03**	0.31	0.39	-0.08***	0.51	0.48	0.03
Cote d'Ivoire	2011	0.06	0.02	0.04***	0.18	0.25	-0.07***	0.76	0.72	0.04**
Congo, Dem. Rep.	2013	0.07	0.07	0.00	0.49	0.49	0.00	0.43	0.44	0.01
Ethiopia	2011	0.05	0.03	0.02***	0.67	0.73	-0.06***	0.27	0.23	0.04***
Gambia	2013	0.05	0.01	0.04***	0.16	0.25	-0.09***	0.77	0.73	0.04**
Liberia	2013	0.08	0.12	-0.04***	0.66	0.68	-0.02	0.23	0.20	0.02
Mali	2012	0.09	0.04	0.05***	0.04	0.03	0.01**	0.87	0.92	-0.05***
Mozambique	2011	0.10	0.05	0.05***	0.42	0.42	0.00	0.45	0.52	-0.07***
Namibia	2013	0.13	0.11	0.02	0.57	0.65	-0.08***	0.24	0.24	0.00
Nigeria	2013	0.03	0.09	-0.06***	0.24	0.16	0.08***	0.71	0.74	-0.03***
Rwanda	2010	0.03	0.03	0.00	0.68	0.75	-0.07***	0.29	0.23	0.07***
Senegal	2014	0.02	0.001	0.019***	0.14	0.14	0.00	0.82	0.85	-0.04***
Sierra Leone	2013	0.05	0.13	-0.08***	0.38	0.34	0.04***	0.54	0.53	0.01
Uganda	2011	0.06	0.05	0.01	0.41	0.57	-0.16***	0.52	0.39	0.13***
Zambia	2013	0.08	0.07	0.01***	0.58	0.65	-0.07***	0.31	0.28	0.03***
Zimbabwe	2011	0.11	0.06	0.05***	0.74	0.84	-0.10***	0.11	0.10	0.01**

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Notes:

(1) Source: Demographic and Health Surveys (Waves 5 and 6) for Sub-Saharan Africa.

Diff = T-tests for whether differences in respondent's (R) and husband's (H) responses were statistically significant. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

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