

Do women really have lower socio-emotional skills than men? Evidence from Tanzanian youth

Clara Delavallade

with Rachel Cassidy, Smita Das, Elijah Kipchumba,
Julietha Komba & Munshi Sulaiman

December 8th, 2025



Why study gender gaps in socio-emotional skills (SES)?

- **SES matter for education, psychosocial well-being, and labor market outcomes** (Chioda et al., 2021; Ganimian et al., 2020; Bossuroy et al., 2022; Prada et al., 2019; Allemand et al., 2023).
- **Demand for SES has grown** as labor markets shift toward tasks requiring **non-automatable skills** (Deming, 2017), and policymakers now view SES as foundational (Cunningham et al., 2022).
- Unclear if SES programming could be used to improve gender gaps in the labor force, and whether gender differences exist in these skills or returns to these skills. Measuring matters.
- **Male advantage in self-reported SES** (Ajayi et al., 2022) **may capture reference, acquiescence, and social-desirability bias rather than actual skills** (Laajaj & Macours, 2021; Eagly & Wood, 2012).
- **Other evidence suggests men and women do not differ substantially in objective soft skills**, especially in African contexts (Hyde, 2005; Costa Jr et al., 2001; Schmitt et al., 2023).
- **Distinguishing whether the male advantage reflects actual skill differences or differences in perception/reporting** is crucial for diagnosing constraints and designing effective programs for women's economic empowerment.

Project Context & Data

Research questions

- What explains **gender gaps** in self-reported socio-emotional skills (SES)?
 - Education, cognitive ability, social desirability, belief that men have better PSDM skills than women?
 - Do these gaps **persist** when using **behavioral (SJT/task-based)** measures?
 - Differences in skill **reporting**?

This paper: Baseline data from Tanzania RCT

- Part of the **AFRGIL portfolio** exploring which SES matter for **economic empowerment** in Sub-Saharan Africa: **RCT comparing training** in **Awareness** (*self-awareness, empathy, active listening*), **Management** (*self-control, personal initiative, negotiation*), **Both**, and *Control* groups.
- Uses the **ESTEEM framework**, combining **self-report and behavioral measures** to address this research question.
- **Baseline data:** collected **April–June 2021** by **BRAC**, with **GIL** and **IPA**.
- **Sample:** 4,459 NEET youth (half women), aged **16–27**, in **40 urban / peri-urban communities** around Dar es Salaam.

Estimation Strategy

OLS regression for individual i , where μ_i is a vector of controls (enumerator, age, parents' education and city).

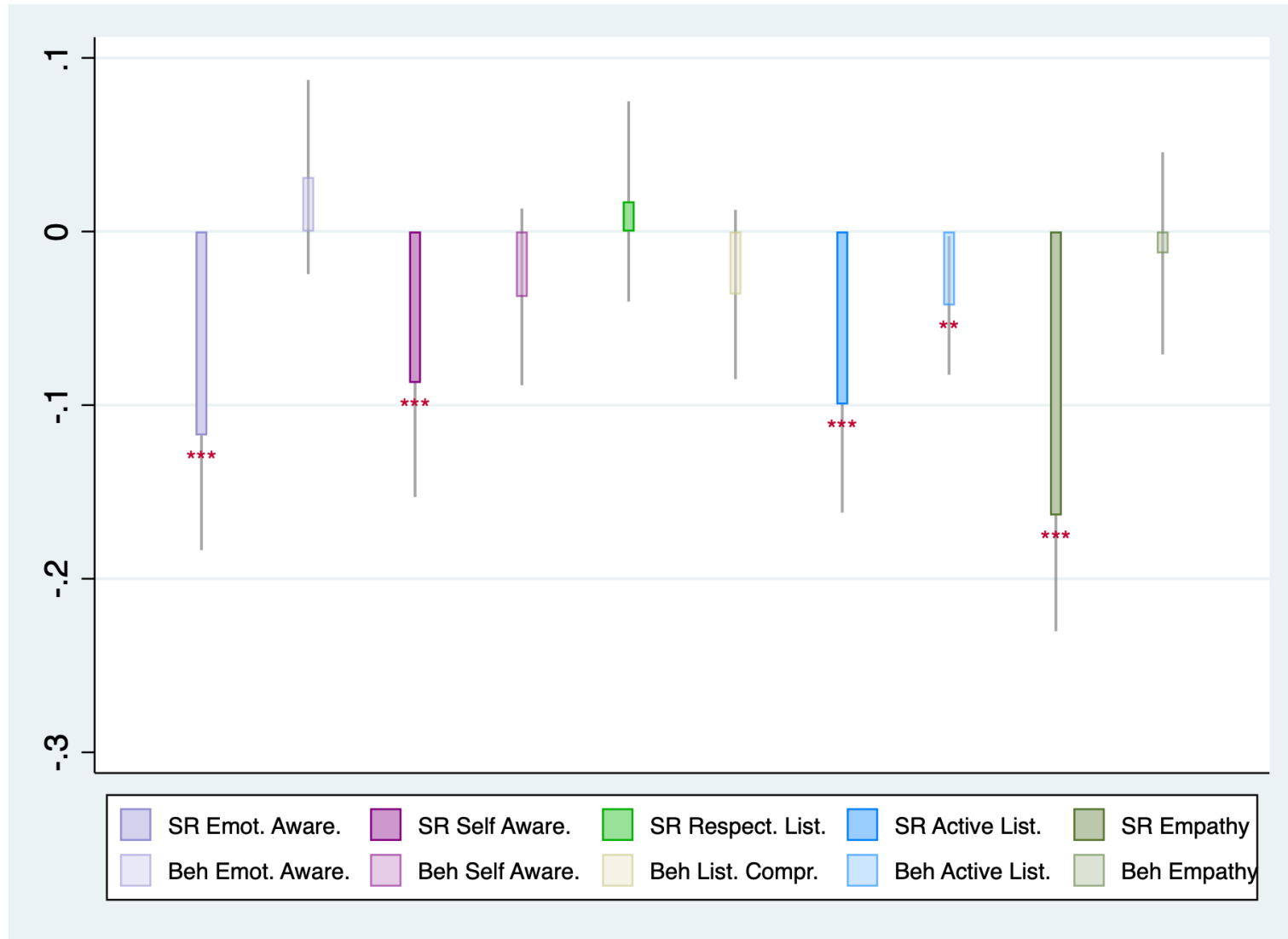
$$\begin{aligned} Skill_{t=0} = & \beta_0 + \beta_1 Female_i + \beta_2 Education_i + \beta_3 Education_i Female_i \\ & + \beta_4 CogAbility_i + \beta_5 CogAbility_i Female_i + \beta_6 SDI_i + \beta_7 SDI_i Female_i + \beta_8 Beliefs_i + \beta_9 Beliefs_i Female_i + \mu_i + \varepsilon_i \end{aligned}$$

Results focus on the **female marginal effect** on various socio-emotional skills, defined as:

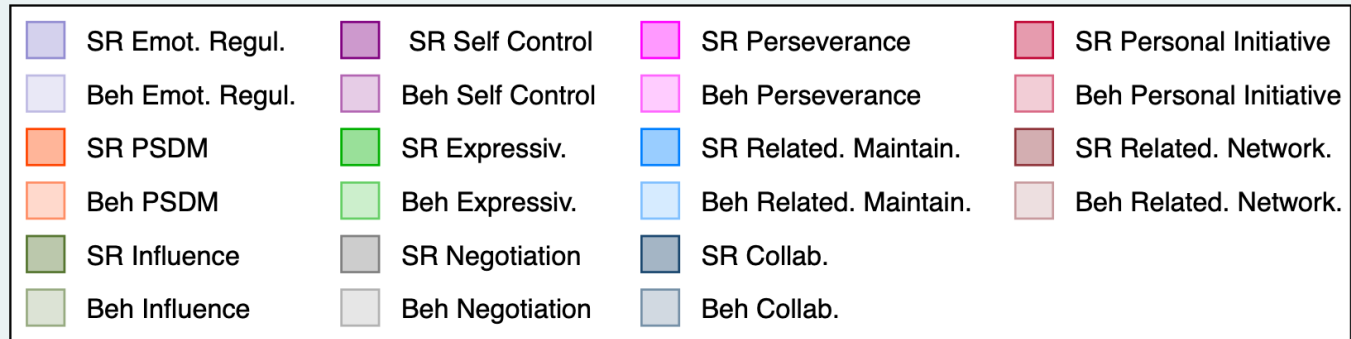
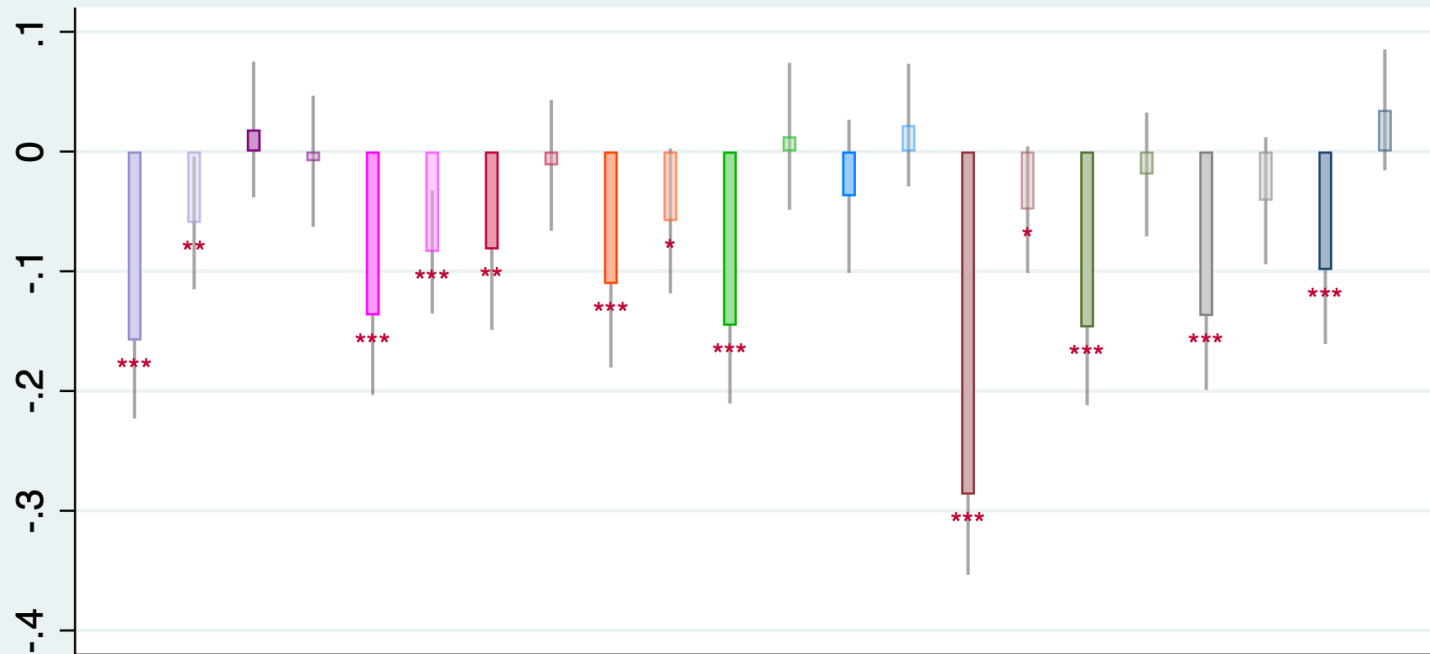
$$\beta_1 + \beta_3 * Mean_{Female}[Education] + \beta_5 * Mean_{Female}[CogAbility] + \beta_7 * Mean_{Female}[SDI] + \beta_9 * Mean_{Female}[Beliefs]$$

- Regression tables show impact on five main aggregate measures of socio-emotional skills: All, Intrapersonal, Interpersonal, Awareness, Management.
- Figures show female marginal effects on individual skills.

Awareness - Female advantage on self-reported and behavioral measures



Management - Female advantage on self-reported and behavioral measures

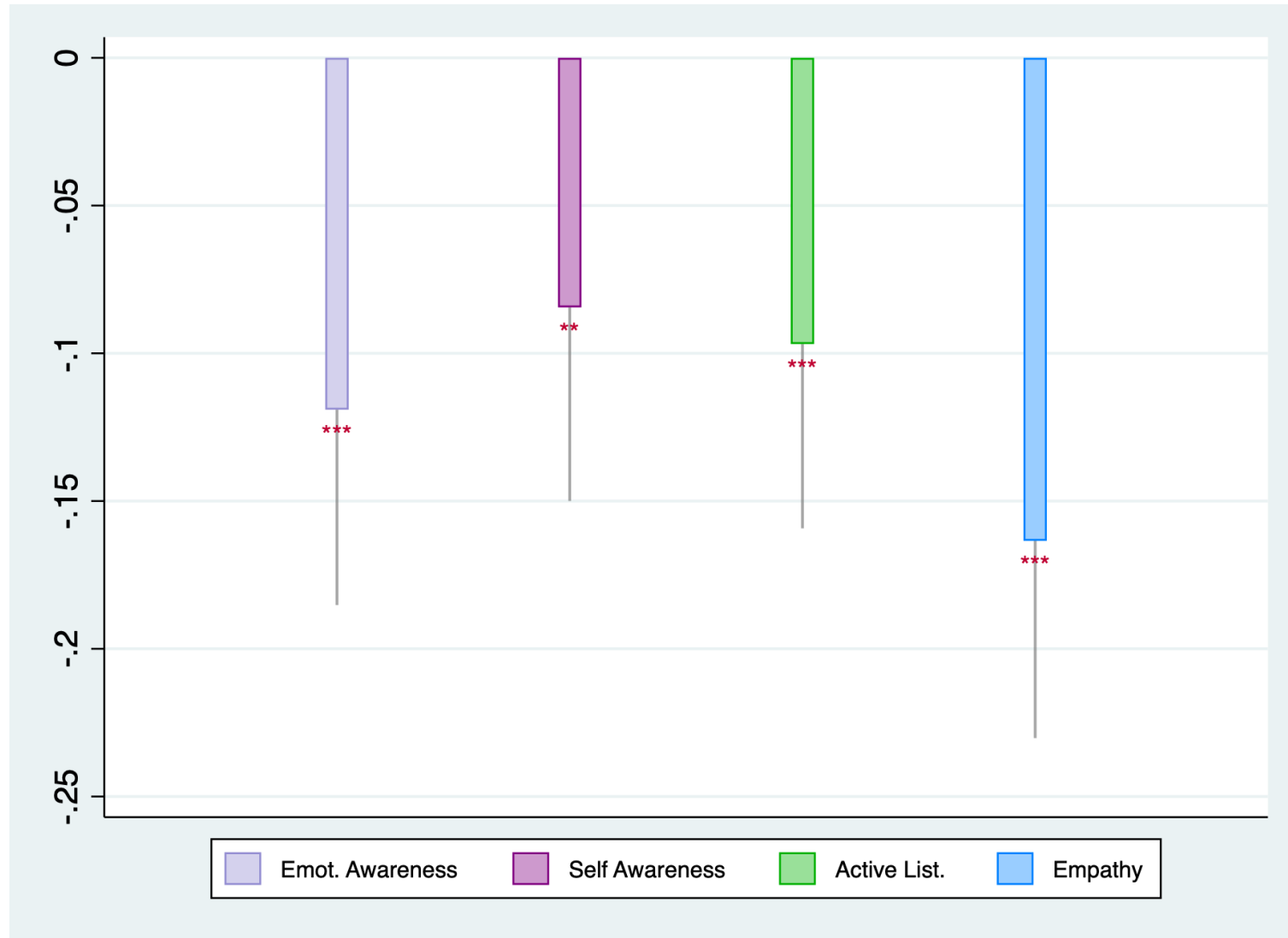


All/Awareness/Management: Self-reported and behavioral

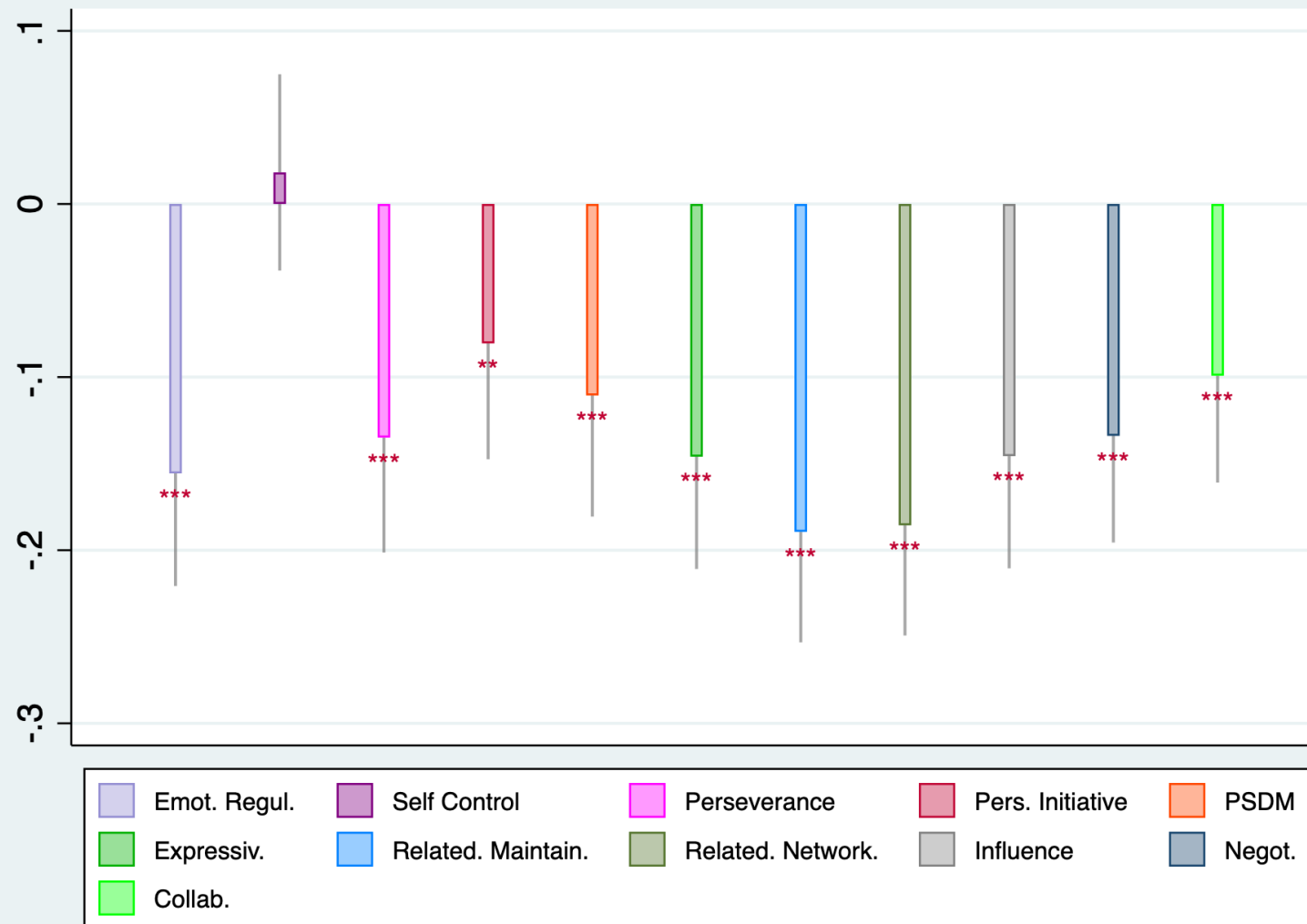
	All						Awareness						Management					
	Self-reported			Behavioral			Self-reported			Behavioral			Self-reported			Behavioral		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Women	-0.20*** (0.03)	-0.17*** (0.03)	0.05 (0.24)	-0.04 (0.02)	-0.05** (0.02)	-0.02 (0.19)	-0.16*** (0.03)	-0.14*** (0.03)	-0.05 (0.24)	-0.03 (0.02)	-0.02 (0.02)	-0.10 (0.18)	-0.20*** (0.03)	-0.17*** (0.03)	0.09 (0.24)	-0.03 (0.02)	-0.05* (0.02)	0.03 (0.21)
Years of education		0.03*** (0.00)	0.03*** (0.01)		0.02*** (0.00)	0.02*** (0.01)		0.03*** (0.00)	0.03*** (0.01)		0.01** (0.00)	0.01 (0.01)		0.03*** (0.00)	0.03*** (0.01)		0.02*** (0.00)	0.02*** (0.01)
Years of education X Women			0.01 (0.01)		0.00 (0.01)	0.00 (0.01)		0.01 (0.01)	0.01 (0.01)		0.01 (0.01)	0.01 (0.01)		0.01 (0.01)	0.01 (0.01)		0.00 (0.01)	0.00 (0.01)
Cognitive Ability		0.40*** (0.07)	0.29*** (0.09)		0.40*** (0.06)	0.35*** (0.08)		0.34*** (0.07)	0.24*** (0.09)		0.18*** (0.06)	0.16** (0.07)		0.40*** (0.07)	0.29*** (0.09)		0.41*** (0.06)	0.35*** (0.08)
Cognitive Ability X Women			0.22** (0.11)		0.11 (0.10)	0.11 (0.10)		0.19* (0.11)	0.19* (0.11)			0.03 (0.09)		0.22** (0.11)	0.22** (0.11)		0.12 (0.10)	0.12 (0.10)
Social desirability index		0.49*** (0.04)	0.57*** (0.05)		0.19*** (0.03)	0.20*** (0.04)		0.45*** (0.04)	0.52*** (0.05)		0.02 (0.03)	0.01 (0.04)		0.47*** (0.04)	0.55*** (0.05)		0.23*** (0.03)	0.25*** (0.04)
Social desirability X Women			-0.16** (0.07)		-0.02 (0.05)	-0.02 (0.05)		-0.13** (0.05)	-0.13** (0.05)			0.02 (0.05)		-0.16** (0.07)	-0.16** (0.07)		-0.04 (0.05)	-0.04 (0.05)
Equitable beliefs regarding PSDM abilities		-0.03* (0.01)	-0.05** (0.02)		0.04*** (0.01)	0.05*** (0.02)		-0.02 (0.01)	-0.05** (0.02)		0.00 (0.01)	0.02 (0.01)		-0.03* (0.01)	-0.04** (0.02)		0.05*** (0.01)	0.06*** (0.02)
Equitable beliefs X Women			0.04* (0.03)		-0.03 (0.02)	-0.03 (0.02)		0.07** (0.03)	0.07** (0.03)			-0.03 (0.02)		0.03 (0.03)	0.03 (0.03)		-0.02 (0.02)	-0.02 (0.02)
p(Edu. + Edu. X Women = 0)			0.00		0.00	0.00		0.00	0.00		0.02	0.02		0.00	0.00		0.00	0.00
p(CA + CA X Women = 0)			0.00		0.00	0.00		0.00	0.00		0.01	0.01		0.00	0.00		0.00	0.00
p(SD + SD X Women = 0)			0.00		0.00	0.00		0.00	0.00		0.37	0.37		0.00	0.00		0.00	0.00
p(Equit. + Equit. X Women = 0)			0.84		0.10	0.10		0.45	0.45		0.44	0.44		0.58	0.58		0.02	0.02
p(Women + Edu. X Women = 0)			0.65		0.98	0.98		0.99	0.99		0.77	0.77		0.55	0.55		0.85	0.85
p(Women + CA X Women = 0)			0.36		0.79	0.79		0.70	0.70		0.62	0.62		0.29	0.29		0.57	0.57
p(Women + SD X Women = 0)			0.00		0.46	0.46		0.00	0.00		0.82	0.82		0.00	0.00		0.42	0.42
p(Women + Equit. X Women = 0)			0.46		0.61	0.61		0.59	0.59		0.32	0.32		0.44	0.44		0.93	0.93
Observations	4459	4459	4459	4459	4459	4459	4459	4459	4459	4459	4459	4459	4459	4459	4459	4459	4459	4459
R-squared	0.12	0.20	0.20	0.40	0.42	0.42	0.11	0.17	0.17	0.46	0.46	0.46	0.12	0.19	0.19	0.35	0.38	0.38

Notes: Results presented are OLS estimates that include controls for enumerator, age, father's education, mother's education and city. Outcome measures are standardized naive scores. Robust standard errors in parentheses. PSDM = Problem-solving and decision-making. Edu. = Years of education. CA = Cognitive Ability. SD = Social Desirability. Equit. = Equitable beliefs. *** p ≤ 0.01, ** p ≤ 0.05, * p ≤ 0.1.

Awareness - Female advantage on gap between self-reported and behavioral measures



Management - Female advantage on gap between self-reported and behavioral measures



All/Awareness/Management: Gap between self-reported and behavioral measures

	All SR-Behavioral gap			Awareness SR-Behavioral gap			Management SR-Behavioral gap		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Women	-0.19*** (0.03)	-0.16*** (0.03)	0.06 (0.23)	-0.16*** (0.03)	-0.14*** (0.03)	-0.04 (0.24)	-0.19*** (0.03)	-0.16*** (0.03)	0.09 (0.24)
Behavioral measure	-0.75*** (0.02)	-0.80*** (0.02)	-0.80*** (0.02)	-0.88*** (0.02)	-0.90*** (0.02)	-0.90*** (0.02)	-0.79*** (0.02)	-0.84*** (0.02)	-0.84*** (0.02)
Years of education		0.03*** (0.00)	0.02*** (0.01)		0.03*** (0.00)	0.03*** (0.01)		0.03*** (0.00)	0.02*** (0.01)
Years of education X Women			0.01 (0.01)			0.01 (0.01)			0.01 (0.01)
Cognitive Ability		0.32*** (0.07)	0.22** (0.09)		0.32*** (0.07)	0.22*** (0.09)		0.33*** (0.07)	0.23*** (0.09)
Cognitive Ability X Women			0.20* (0.10)			0.19* (0.11)			0.20* (0.11)
Social desirability index		0.45*** (0.04)	0.53*** (0.05)		0.45*** (0.04)	0.52*** (0.05)		0.43*** (0.04)	0.51*** (0.05)
Social desirability X Women			-0.16** (0.06)			-0.14** (0.07)			-0.16** (0.07)
Equitable beliefs regarding PSDM abilities		-0.03** (0.01)	-0.06*** (0.02)		-0.02 (0.01)	-0.05** (0.02)		-0.04** (0.01)	-0.05** (0.02)
Equitable beliefs X Women			0.05* (0.03)			0.07** (0.03)			0.04 (0.03)
p(Edu. + Edu. X Women = 0)			0.00			0.00			0.00
p(CA + CA X Women = 0)			0.00			0.00			0.00
p(SD + SD X Women = 0)			0.00			0.00			0.00
p(Equit. + Equit. X Women = 0)			0.64			0.42			0.37
p(Women + Edu. X Women = 0)			0.65			0.97			0.56
p(Women + CA X Women = 0)			0.37			0.67			0.32
p(Women + SD X Women = 0)			0.00			0.00			0.00
p(Women + Equit. X Women = 0)			0.40			0.53			0.43
Observations	4459	4459	4459	4459	4459	4459	4459	4459	4459
R-squared	0.43	0.47	0.47	0.46	0.50	0.50	0.47	0.51	0.51

Notes: Results presented are OLS estimates that include controls for enumerator, age, father's education, mother's education and city. Outcome measures are standardized naive scores. Robust standard errors in parentheses. SR = Self-reported. PSDM = Problem-solving and decision-making. Edu. = Years of education. CA = Cognitive Ability. SD = Social Desirability. Equit. = Equitable beliefs. *** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$

Conclusion



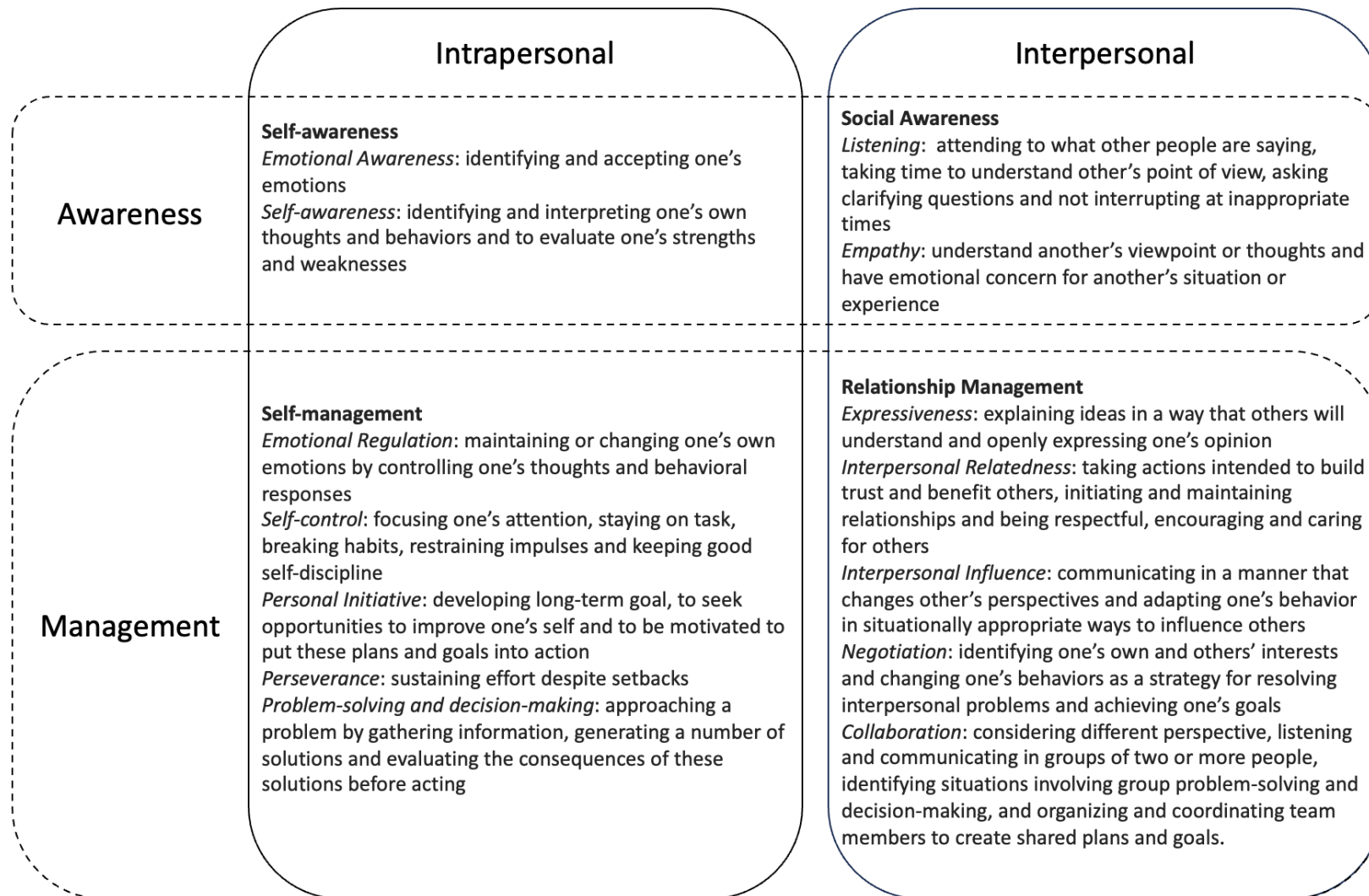
Main results

- The systematic **female disadvantage in self-reported SES disappears when using behavioral SES measures**, indicating gaps reflect reporting/perception, not actual skills.
- The divergence is driven by **male overestimation**, linked to social desirability and regressive gender beliefs, rather than female underestimation.

Implications

- How we measure skills matters
- **Self-reports may overestimate gender gaps in SES:** complementing self-reports with more objective measures
- Reducing gender gaps in labor force:
 - Addressing misperceptions can improve **targeting, and program design.**
 - Incorporating **behavioral assessments** for hiring

SES Framework



ESTEEM: A Framework to Measure and Compare Socio-Emotional Skills

ESTEEM = Effective Socio-Emotional Skills to Gain Economic Empowerment

- Integrates **14 validated SES** measures across Sub-Saharan Africa: Emotional Awareness, Self-awareness, Listening, Empathy, Emotional Regulation, Self-control, Personal Initiative, Perseverance, Problem-solving and Decision-making, Expressiveness, Interpersonal Relatedness, Interpersonal Influence, Negotiation, Collaboration.
- Builds on CASEL and Goleman but adapted for economic relevance.
- Organizes skills along two axes:
 - **Awareness vs. Management**
 - **Intrapersonal vs. Interpersonal**
- Each of the 14 skills was measured through a **self-report scale and a behavioral measure** (situational judgment test or task), allowing comparison and validation of self-perceptions.
- Combines self-report and behavioral tasks to separate perception from performance, **revealing gender-based reporting biases.**

3. Theory of Change

We separate Awareness v. Management, Intrapersonal v. Interpersonal, Skills where we anticipate a gender difference

Developing Preferences; Setting Goals/Planning

Self Awareness

- Emotional awareness
- Self Evaluation

Self Management

- Personal Initiative
- Problem Solving

Social Awareness

- Listening
- Empathy

Acting

Self Management

- Self Control
- Emotional Regulation
- Perseverance

Relationship Management

- Expressiveness
- Negotiation
- Interpersonal Relatedness
- Interpersonal Influence
- Collaboration

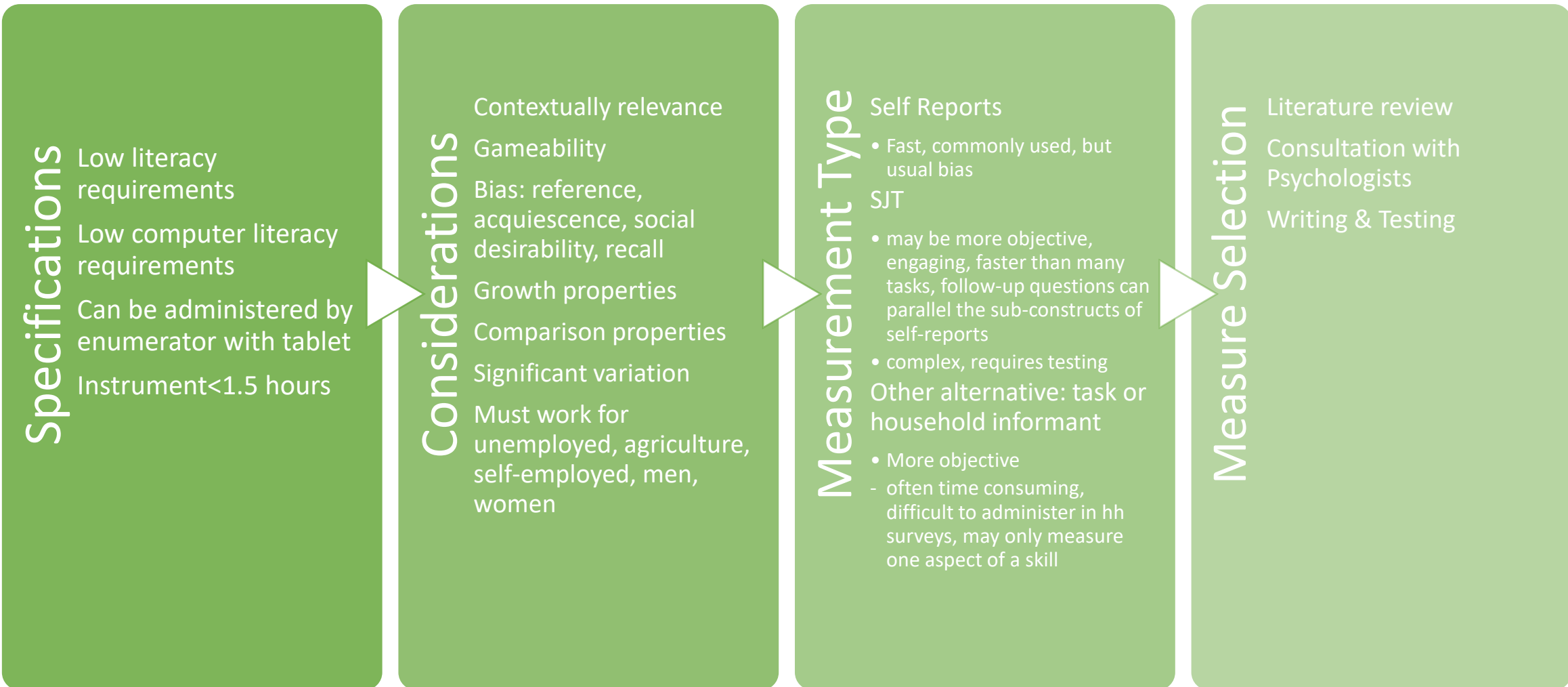
-Developing Networks/ Obtaining support

*-Overcoming obstacles,
binding constraints,
social norms*

*-Finding and utilizing
opportunities/solutions:
jobs/ business/programs*

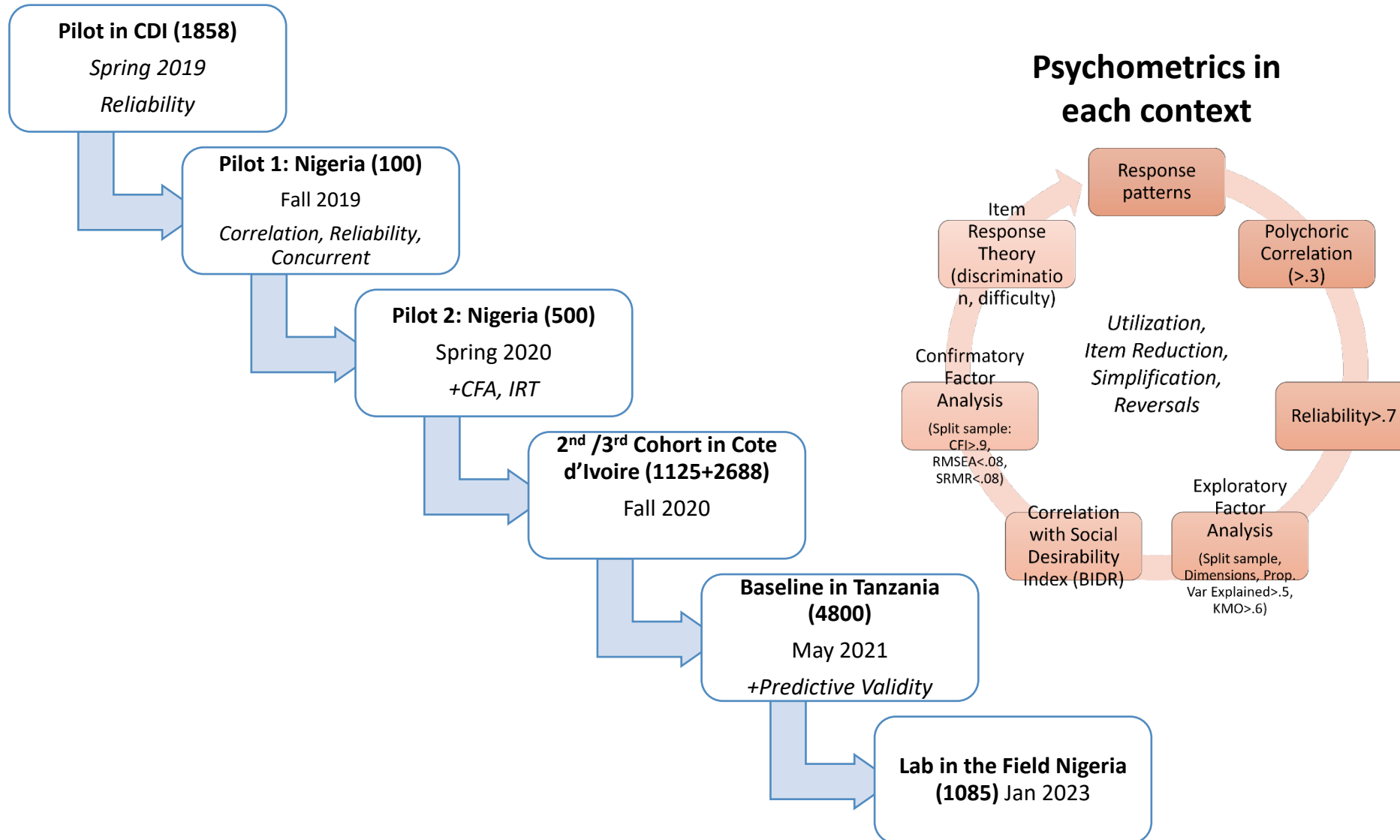
Economic Empowerment

3. Measuring SES



Iterative Psychometric Analysis

Analysis in each context



Measures Tested at Baseline

*Project to develop and locally validate measures of **all 14 SES***

- Pilots and iterative development in **Nigeria and Cote d'Ivoire***
- Cognitive interviews and translation/backtranslation in **Tanzania***
- Extensive psychometric testing (EFA, CFA, IRT, reliability)*

*For each measure, compared performance of various scoring methods by examining **predictive validity** on outcomes such as earnings and related skills/behaviors*

Skill	Self Report #	SJT #	Tasks
Emotional Awareness	5	2	
Self Awareness	9	3	
Emotional Regulation	9	2	
Self Control	6		Continuous Performance Task, Enumerator questions
Perseverance	6		Triangle test
Personal Initiative	9	3	
Prob Solving & Dec. Making	16	4	
Listening	7		Comprehension, Enumerator coding of behaviors
Empathy	7		Scenarios+SAM scale
Expressiveness	12	3	
Relatedness (2 Dim: Networking, Maintaining Relationships)	10	4	
Influence	8	2	
Negotiation	8	3	
Collaboration	7		SMS simulated conversation

Example SJT

Situational Judgement Test (Emotional Regulation)

You farm fish at home and sell them, with your $\{\text{relationb}\}$'s help. Your $\{\text{relationb}\}$ accidentally fed the fish some old food, so half of your fish died. You are very upset.

How likely are you to:

*Yell at your $\{\text{relationb}\}$

*Talk to your $\{\text{relationb}\}$ immediately so they know how angry you are.

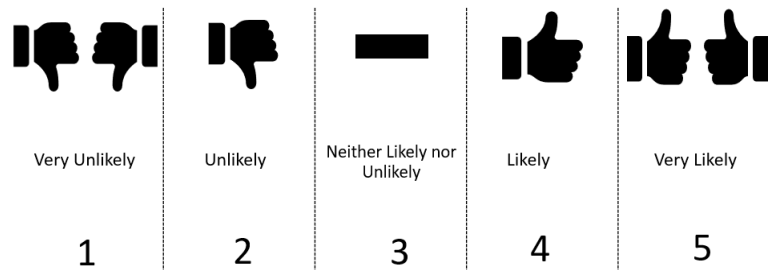
*Become so stressed that you get upset at others

*Take time to relax and calm down before you talk to your $\{\text{relationb}\}$

*Discuss your anger with someone you trust

*Change how you think about the situation so you're less angry

How long are you likely to stay stressed or upset: Less than an hour, a few hours, the whole day, a few days, or longer



Why Situational Judgment Tests:

- Examine response to “critical incidents”
- Behaviors are context specific and easier to understand -- SJTs allow control over setting: labor, gender of individuals, etc.
- Socially desirable response is less clear
- Tasks are often time consuming, measure one specific part of a concept/self report scale, difficult to administer offline
- Our modifications
 - Varied format to make it easier to understand in household survey setting
 - Examine relative responses
 - Items mirror self reports

Descriptive statistics: Control variables

Variable	Men (1)		Women (2)		t-test difference (1)-(2)	Min	Max
	N	Mean/SE	N	Mean/SE			
Dar es Salaam	2231	0.725 [0.009]	2228	0.725 [0.009]	-0.000	0	1
Dodoma	2231	0.200 [0.008]	2228	0.200 [0.008]	-0.000	0	1
Age in years	2231	21.080 [0.057]	2228	21.048 [0.061]	0.032	16	27
Years of education	2231	9.120 [0.069]	2228	8.996 [0.069]	0.124	0	14
Father's education	2231	8.071 [0.056]	2228	7.785 [0.050]	0.286***	0	15
Mother's education	2231	7.576 [0.054]	2228	7.426 [0.049]	0.150**	0	14
Cognitive Ability	2231	0.719 [0.005]	2228	0.686 [0.005]	0.033***	0	1
Social desirability index	2231	3.412 [0.010]	2228	3.442 [0.010]	-0.030**	1.50	5.00
Equitable beliefs regarding PSDM abilities	2231	2.353 [0.023]	2228	2.997 [0.025]	-0.644***	1.00	5.00

Notes: The values displayed for t-tests are the differences in the means across the groups. PSDM = Problem-solving and decision-making. *** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$.

Descriptive statistics: Aggregate SR measures

Variable	Men (1)		Women (2)		t-test difference (1)-(2)	Min	Max
	N	Mean/SE	N	Mean/SE			
Self-reported: All	2231	-0.000 [0.021]	2228	-0.194 [0.020]	0.194***	-6.894	3.164
Self-reported: Intra	2231	-0.000 [0.021]	2228	-0.177 [0.021]	0.177***	-6.522	3.153
Self-reported: Inter	2231	0.000 [0.021]	2228	-0.186 [0.020]	0.186***	-7.887	2.979
Self-reported: Awareness	2231	-0.000 [0.021]	2228	-0.159 [0.021]	0.159***	-7.995	2.890
Self-reported: Management	2231	0.000 [0.021]	2228	-0.195 [0.020]	0.195***	-7.281	3.200
Self-reported: Self-awareness	2231	0.000 [0.021]	2228	-0.161 [0.021]	0.161***	-8.372	2.417
Self-reported: Social Awareness	2231	-0.000 [0.021]	2228	-0.110 [0.021]	0.110***	-5.327	2.599
Self-reported: Self Management	2231	-0.000 [0.021]	2228	-0.168 [0.021]	0.168***	-6.755	3.209
Self-reported: Rel Management	2231	0.000 [0.021]	2228	-0.188 [0.020]	0.188***	-8.524	2.715

Notes: The value displayed for t-tests are the differences in the means across the groups. *** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$.

Descriptive statistics: Aggregate behavioral measures

Variable	Men (1)		Women (2)		t-test difference		
	N	Mean/SE	N	Mean/SE	(1)-(2)	Min	Max
Behavioral: All	2231	-0.000 [0.021]	2228	-0.030 [0.021]	0.030	-4.573	3.511
Behavioral: Intra	2231	0.000 [0.021]	2228	-0.029 [0.021]	0.029	-6.783	3.028
Behavioral: Inter	2231	0.000 [0.021]	2228	-0.021 [0.021]	0.021	-3.397	4.145
Behavioral: Awareness	2231	-0.000 [0.021]	2228	-0.002 [0.020]	0.002	-5.074	2.060
Behavioral: Management	2231	-0.000 [0.021]	2228	-0.038 [0.021]	0.038	-3.672	3.808
Behavioral: Self-awareness	2231	0.000 [0.021]	2228	0.019 [0.021]	-0.019	-6.765	1.215
Behavioral: Social Awareness	2231	0.000 [0.021]	2228	-0.025 [0.020]	0.025	-4.286	2.003
Behavioral: Self Management	2231	-0.000 [0.021]	2228	-0.057 [0.022]	0.057*	-5.895	3.784
Behavioral: Rel Management	2231	-0.000 [0.021]	2228	-0.012 [0.021]	0.012	-2.921	3.800

Notes: The value displayed for t-tests are the differences in the means across the groups. *** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$.

Descriptive statistics: Disaggregated SR measures

Variable	Men (1)		Women (2)		t-test difference (1)-(2)	Min	Max
	N	Mean/SE	N	Mean/SE			
Emotional Awareness	2231	-0.000 [0.021]	2228	-0.148 [0.021]	0.148***	-5.321	2.128
Self-awareness	2231	0.000 [0.021]	2228	-0.133 [0.020]	0.133***	-6.098	2.091
Emotional Regulation	2231	-0.000 [0.021]	2228	-0.167 [0.021]	0.167***	-7.585	2.290
Self-control	2231	0.000 [0.021]	2228	0.066 [0.020]	-0.066**	-2.352	2.041
Perseverance	2231	-0.000 [0.021]	2228	-0.165 [0.022]	0.165***	-5.549	2.165
Personal initiative	2231	-0.000 [0.021]	2228	-0.133 [0.022]	0.133***	-6.988	2.183
Problem-solving and Decision-making	2231	-0.000 [0.021]	2228	-0.183 [0.021]	0.183***	-7.835	2.436
Listening	2231	-0.000 [0.021]	2228	0.040 [0.021]	-0.040	-2.314	1.521
Listening 2	2231	-0.000 [0.021]	2228	-0.113 [0.021]	0.113***	-5.325	2.043
Empathy	2231	0.000 [0.021]	2228	-0.200 [0.021]	0.200***	-7.799	2.242
Expressiveness	2231	0.000 [0.021]	2228	-0.164 [0.021]	0.164***	-4.428	2.505
Relatedness	2231	0.000 [0.021]	2228	-0.198 [0.021]	0.198***	-5.481	2.216
Influence	2231	-0.000 [0.021]	2228	-0.175 [0.021]	0.175***	-6.429	2.198
Negotiation	2231	-0.000 [0.021]	2228	-0.124 [0.021]	0.124***	-5.083	2.207
Collaboration	2231	0.000 [0.021]	2228	-0.119 [0.020]	0.119***	-5.194	2.136
GSE	2231	-0.000 [0.021]	2228	-0.223 [0.021]	0.223***	-6.240	2.572

Notes: The value displayed for t-tests are the differences in the means across the groups. *** p ≤ 0.01, ** p ≤ 0.05, * p ≤ 0.1.

Descriptive statistics: Disaggregated Behavioral measures

Variable	Men (1)		Women (2)		t-test difference (1)-(2)	Min	Max
	N	Mean/SE	N	Mean/SE			
Emotional Awareness	2231	-0.000 [0.021]	2228	0.052 [0.021]	-0.052*	-4.613	1.109
Self-awareness	2231	0.000 [0.021]	2228	-0.020 [0.021]	0.020	-6.844	0.948
Emotional Regulation	2231	-0.000 [0.021]	2228	-0.047 [0.021]	0.047	-2.936	2.823
Self-control	2231	-0.000 [0.021]	2228	-0.022 [0.021]	0.022	-4	2
Perseverance	2231	-0.000 [0.021]	2228	-0.073 [0.020]	0.073**	-1.282	2.537
Personal Initiative	2231	0.000 [0.021]	2228	0.025 [0.021]	-0.025	-6.855	1.002
Problem-solving and Decision-making	2231	-0.000 [0.021]	2228	-0.023 [0.022]	0.023	-4.091	5.447
Listening	2231	-0.000 [0.021]	2228	-0.018 [0.021]	0.018	-2.904	1.041
Active Listening	2231	-0.000 [0.021]	2228	-0.005 [0.021]	0.005	-2.243	1.047
Listening Comprehension	2231	0.000 [0.021]	2228	-0.042 [0.021]	0.042	-5.164	0.813
Empathy	2231	0.000 [0.021]	2228	-0.018 [0.020]	0.018	-4.521	1.818
Expressiveness	2231	-0.000 [0.021]	2228	-0.001 [0.021]	0.001	-3	2
Relatedness	2231	-0.000 [0.021]	2228	0.012 [0.021]	-0.012	-4.270	2.424
Relatedness: Maintaining relationships	2231	-0.000 [0.021]	2228	0.021 [0.021]	-0.021	-3.092	2.500
Relatedness: Initiating Relationships	2231	0.000 [0.021]	2228	-0.010 [0.021]	0.010	-5.817	1.061
Influence	2231	-0.000 [0.021]	2228	-0.033 [0.021]	0.033	-3.258	2.481
Negotiation	2231	-0.000 [0.021]	2228	-0.042 [0.021]	0.042	-3.237	3.222
Collaboration	2231	-0.000 [0.021]	2228	0.030 [0.021]	-0.030	-1.836	1.170
GSE	2231	-0.000 [0.021]	2228	-0.007 [0.021]	0.007	-4	2

Notes: The value displayed for t-tests are the differences in the means across the groups. *** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$.

Intrapersonal vs. Interpersonal: SR and behavioral measures

	Intrapersonal						Interpersonal					
	Self-reported			Behavioral			Self-reported			Behavioral		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Women	-0.18*** (0.03)	-0.15*** (0.03)	-0.03 (0.24)	-0.04* (0.03)	-0.05** (0.03)	-0.19 (0.21)	-0.19*** (0.03)	-0.17*** (0.03)	0.13 (0.24)	-0.02 (0.02)	-0.03 (0.02)	0.13 (0.19)
Years of education		0.03*** (0.00)	0.02*** (0.01)		0.02*** (0.00)	0.02*** (0.01)		0.03*** (0.00)	0.03*** (0.01)		0.01*** (0.00)	0.01** (0.00)
Years of education X Women			0.01 (0.01)			0.00 (0.01)			0.00 (0.01)			0.00 (0.01)
Cognitive Ability		0.38*** (0.07)	0.27*** (0.08)		0.38*** (0.07)	0.31*** (0.08)		0.37*** (0.07)	0.27*** (0.09)		0.29*** (0.06)	0.26*** (0.07)
Cognitive Ability X Women			0.23** (0.11)			0.13 (0.11)			0.19* (0.11)			0.05 (0.09)
Social desirability index		0.43*** (0.04)	0.50*** (0.05)		0.12*** (0.03)	0.10*** (0.04)		0.49*** (0.04)	0.56*** (0.05)		0.19*** (0.03)	0.22*** (0.04)
Social desirability X Women			-0.15** (0.07)			0.05 (0.05)			-0.15** (0.07)			-0.07 (0.05)
Equitable beliefs regarding PSDM abilities		-0.03** (0.02)	-0.06*** (0.02)		0.03*** (0.01)	0.07*** (0.02)		-0.02 (0.01)	-0.03 (0.02)		0.03** (0.01)	0.02 (0.02)
Equitable beliefs X Women			0.06** (0.03)			-0.06*** (0.02)			0.02 (0.03)			0.01 (0.02)
p(Edu. + Edu. X Women = 0)			0.00			0.00			0.00			0.01
p(CA + CA X Women = 0)			0.00			0.00			0.00			0.00
p(SD + SD X Women = 0)			0.00			0.00			0.00			0.00
p(Equit. + Equit. X Women = 0)			0.94			0.93			0.78			0.02
p(Women + Edu. X Women = 0)			0.86			0.45			0.51			0.45
p(Women + CA X Women = 0)			0.58			0.60			0.25			0.37
p(Women + SD X Women = 0)			0.00			0.92			0.00			0.28
p(Women + Equit. X Women = 0)			0.56			0.07			0.42			0.36
Observations	4459	4459	4459	4459	4459	4459	4459	4459	4459	4459	4459	4459
R-squared	0.10	0.16	0.16	0.33	0.34	0.34	0.12	0.19	0.19	0.41	0.42	0.42

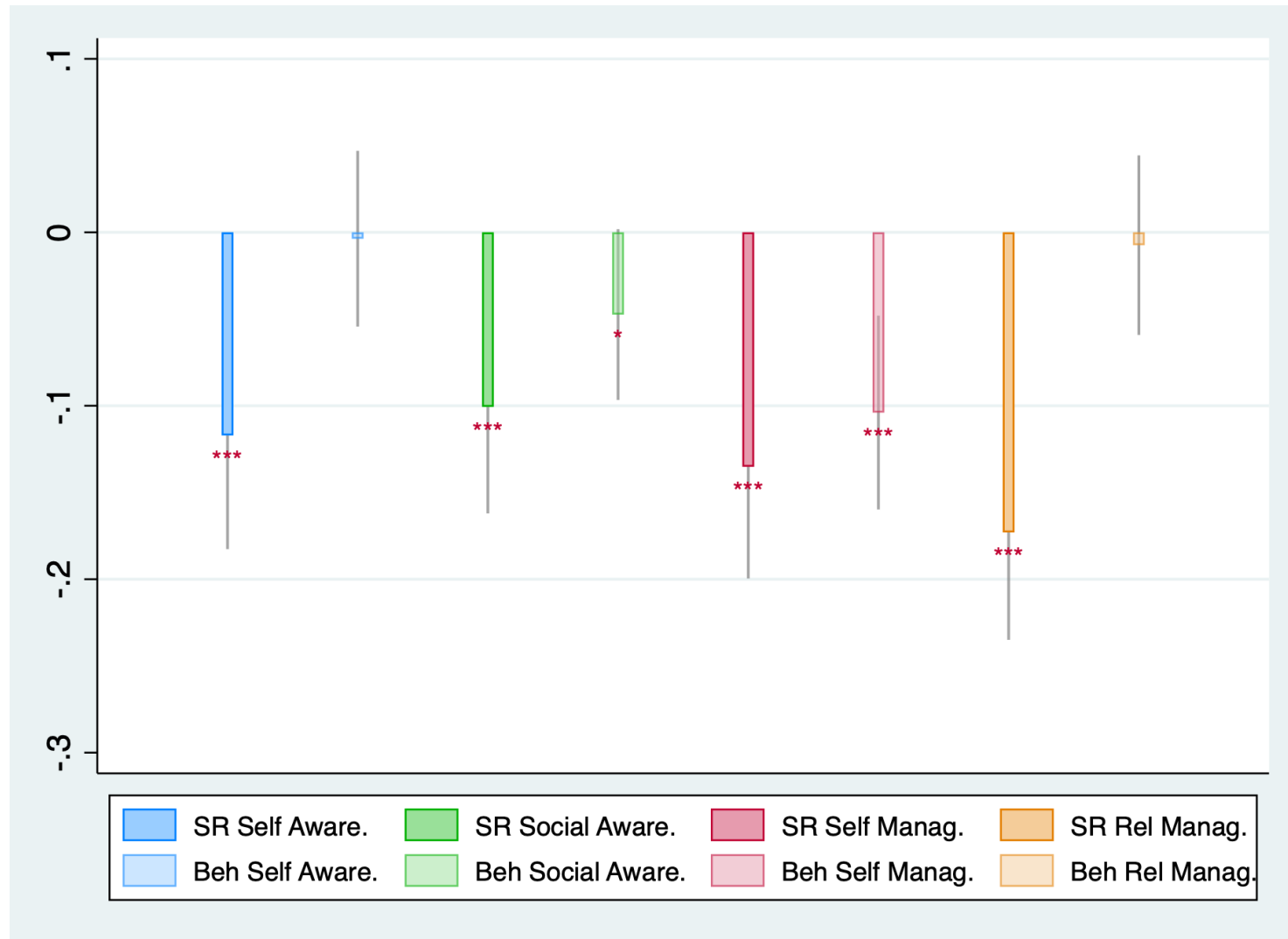
Notes: Results presented are OLS estimates that include controls for enumerator, age, father's education, mother's education and city. Outcome measures are standardized naive scores. Robust standard errors in parentheses. PSDM = Problem-solving and decision-making. Edu. = Years of education. CA = Cognitive Ability. SD = Social Desirability. Equit. = Equitable beliefs. *** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$. Controls: Enumerator, age, father's education, mother's education and city.

Intrapersonal vs. Interpersonal: gap between SR and behavioral measures

	Intrapersonal SR-Behavioral gap			Interpersonal SR-Behavioral gap		
	(1)	(2)	(3)	(4)	(5)	(6)
Women	-0.17*** (0.03)	-0.15*** (0.03)	-0.01 (0.24)	-0.18*** (0.03)	-0.17*** (0.03)	0.11 (0.24)
Behavioral measure	-0.84*** (0.02)	-0.88*** (0.02)	-0.88*** (0.02)	-0.80*** (0.02)	-0.85*** (0.02)	-0.85*** (0.02)
Years of education		0.03*** (0.00)	0.02*** (0.01)		0.03*** (0.00)	0.03*** (0.01)
Years of education X Women			0.01 (0.01)			0.00 (0.01)
Cognitive Ability		0.34*** (0.07)	0.23*** (0.08)		0.32*** (0.07)	0.23** (0.09)
Cognitive Ability X Women			0.21** (0.11)			0.19* (0.11)
Social desirability index		0.41*** (0.04)	0.49*** (0.05)		0.46*** (0.04)	0.53*** (0.05)
Social desirability X Women			-0.16** (0.07)			-0.14** (0.06)
Equitable beliefs regarding PSDM abilities		-0.04** (0.01)	-0.07*** (0.02)		-0.02 (0.01)	-0.03 (0.02)
Equitable beliefs X Women			0.07** (0.03)			0.02 (0.03)
p(Edu. + Edu. X Women = 0)			0.00			0.00
p(CA + CA X Women = 0)			0.00			0.00
p(SD + SD X Women = 0)			0.00			0.00
p(Equit. + Equit. X Women = 0)			0.93			0.56
p(Women + Edu. X Women = 0)			0.79			0.57
p(Women + CA X Women = 0)			0.54			0.29
p(Women + SD X Women = 0)			0.00			0.00
p(Women + Equit. X Women = 0)			0.43			0.48
Observations	4459	4459	4459	4459	4459	4459
R-squared	0.47	0.50	0.50	0.45	0.49	0.49

Notes: Results presented are OLS estimates that include controls for enumerator, age, father's education, mother's education and city. Outcome measures are standardized naive scores. Robust standard errors in parentheses. SR = Self-reported. PSDM = Problem-solving and decision-making. Edu. = Years of education. CA = Cognitive Ability. SD = Social Desirability. Equit. = Equitable beliefs. *** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$.

2nd-level aggregates: Self-report Measures (SR)



Emotional awareness

In survey: 5 self-reported items & 2 situational judgment tests

Examples of self-reported items

- “I know why my feelings change from one moment to another.”
- “I recognize what I am feeling.”
- “I can usually describe what I am feeling at the moment in great detail.”
- “I try to notice my thoughts without judging them.”
- “I am able to accept the thoughts and feelings I have.”

Example of a situational judgment test

"You needed to complete a task for your boss, $\{name1\}$, but you were late! Your boss gets angry and says ""how can you be so irresponsible and stupid""?"

- b. How likely are you to: Notice how your boss's words made you feel
- c. How likely are you to: Notice whether your feelings have caused any physical sensation in your body
- c2. How long are you likely to feel stressed or upset: Less than an hour, a few hours, the whole day, a few days, or longer
- d. How likely are you to: Identify that you are feeling shame
- e. How likely are you to: Reflect on other times that people's words made you feel this way

Self awareness

In survey: 9 self-reported items & 3 situational judgment tests

Examples of self-reported items

- “I understand my own behaviors.”
- “I am aware of my thoughts.”
- “I monitor my thinking to ensure it is accurate.”
- “I analyze my behavior after I make mistakes.”

Example of a situation judgment test

"You like your job, and customers seem to love you. But your boss, \${name4}. has criticized your performance at work. \${pronoun3} only gave you 2 out of 5 stars on your performance review."

- a. How likely are you to: Stay confident in your abilities
- c. How likely are you to: Take time to think about how you can improve
- d. How likely are you to: Sit down and talk to \${name4} about why you received poor marks
- hx. What skills and strengths do you have that will make you a good candidate for a new job in retail? Please list all of your SKILLS AND STRENGTHS. If you prefer, you can say "Don't know" or "None".
- ix. What weaknesses would make you a poor candidate for a new job in retail? Please list all of your WEAKNESSES. If you prefer, you can say "Don't know" or "None".

Emotional regulation

In survey: 9 self-reported items & 2 situational judgment tests

Examples of self-reported items

- “When I feel nervous, I know what to do to feel more relaxed.”
- “When I feel sad, I know how to take my mind off my problems.”
- “When I am angry at someone, I can calm down before talking to them.”
- “When I’m faced with a stressful situation, I make myself think about it in a way that helps me stay calm.”

Example of a situational judgment test

You are in charge of the decorations for an annual meeting. Your employee, \${name3}, was supposed to bring the flowers and they didn't reach on time for the meeting. The customer is angry at you and threatening to not work with you next year. You feel ashamed that you failed the customer.

- a. How likely are you to: Yell at your employee, \${name3}"
- b. How likely are you to: Talk to your employee immediately so they know how angry you are.
- c. How likely are you to: Become so stressed that you get upset at others
- e. How likely are you to: Take time to relax and calm down before you talk to your employee
- f. How likely are you to: Discuss your stress with someone you trust
- g. How likely are you to: Change how you think about the situation so you're less angry
- d. How long are you likely to feel stressed or upset: Less than an hour, a few hours, the whole day, a few days, or longer

Self control

In survey: 6 self-reported items +1 task

Examples of self-reported items

- “I say inappropriate things.”
- “Pleasure and fun sometimes keep me from getting work done.”
- “I do things that feel good in the moment, but I will regret later on.”
- “Sometimes I can’t stop myself from doing something, even if I know it is wrong.”

Examples of Enumerator post-survey questions:

- It was easy for respondent to focus on what he/she was doing.
- Respondent rushed through the activities without being really attentive.

Task: Continuous Performance Task (CPT-X):

“In this task, you will be shown a list of letters, one by one. Your job here is, to figure out whether each letter is an X, or not an X. Each time you see an X. Do NOT touch the screen. If you are shown another letter, you answer by touching the screen quickly. Try and answer quickly while maintaining focus. Touch the screen when you are ready to start. You will start by doing some exercises as examples.”

Perseverance

In survey: 6 self-reported items & 1 task

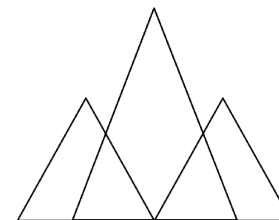
Examples of self-reported items

- “I finish whatever I begin.”
- “Setbacks don’t discourage me.”
- “I am diligent.”
- “When work is difficult, I keep up my effort.”

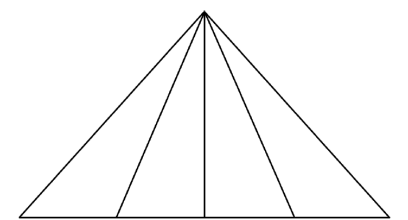
Triangle Task

- After viewing example puzzles, Which version of the game do you want to play for the next: Easy or Difficult
- You have 60 seconds to count the number of triangles in the figure.
- Would you like to continue, or end the game?
- 2 practice rounds, 4 test rounds

Easy Figure
(Round 6)



Difficult Figure
(Round 6)



Personal initiative

In survey: 9 self-reported items & 3 situational judgment tests

Examples of self-reported items

- “I actively tackle problems.”
- “Whenever something goes wrong, I search for a solution immediately.”
- “Whenever there is a chance to get actively involved, I take it.”
- “I take action immediately even when others don’t.”

Example of a situational judgment test

SJT1. Imagine you want to open a clothing shop and you have some savings. Unfortunately, you know very little about the clothing business. You ask your friends or family, and they also do not know about the business.

b. How likely is it that you will: Do research on clothing shops online in your spare time

c. How likely is it that you will: Look for a training

You do not know any clothing shop owners,

d. How likely is it that you will: Find some clothing shop owners to ask for advice

f. How likely is it that you will: Open the shop and learn the business as you go.

Problem-solving and decision-making

In survey: 16 self-reported items & 4 situational judgment tests

Examples of self-reported items

- “I solve most problems if I put in the necessary effort.”
- “I can find creative solutions to unplanned problems.”
- “I can always solve difficult problems if I try hard enough.”
- “If someone needs input on a problem, I can come up with many suggestions.”

Example of a situational judgment test

"You are part of a group organizing an annual festival for the surrounding 5 neighborhoods! $\{name1\}$ was in charge of publicizing the event, but you just found out that most don't know when the event is, some have never heard of it, and hardly anyone is planning to come! The event is in two days."

- b. How likely is it that you will: Contact $\{name1\}$ to ask what went wrong?
- c. How likely is it that you will: Contact $\{name1\}$ to ask what methods of advertising were used?
- d. How likely is it that you will: Think of as many ideas as possible for solving this problem.
- e. How likely is it that you will: Contact friends to ask for help coming up with as many ideas as possible.
- f. How likely is it that you will: Solve this problem and have high event attendance

Listening

In survey: 7 self-reported items

Examples of self-reported items

- “I ask questions to understand the other person’s position on an issue.”
- “When I am listening to someone, I make sure they know I am interested in what they are saying.”
- “When I am listening to someone, I show them that I am open to their ideas.”
- “When I am listening to someone, I ask questions that show my understanding of what they are saying.
- “I begin talking before the other person finishes talking.”
- “If I have something to say that is important, I will interrupt the other person.” (reverse)
- “I share my opinion without listening to others’ opinions.” (reverse)

Listening

In survey: 3 scenario-based tasks

Example of a situational judgment test

"Imagine that I am your neighbor. I just found about a new business that you would like to learn about! Feel free to ask questions if you want to know more about the business. Ready?"

My friend, $\{name5\}$, just started a business where he processes rice and sells different products made of rice. They are making a lot of money: Tsh 45,000 per week. They attended a training for a few hours a day for 2 months. The training is held every 6 months in training centers all over our region. The best part is that little investment or equipment is required. Two other friends went into the same business- one made the same amount- the other made a bit less because they made some mistakes. Should you pursue this business?"

- 4 active listening questions: e.g. Enumerator: as you were saying the story, did the respondent show they were listening, by using body language, e.g. nodding?
- Enumerator: as you were saying the story, did the respondent show they were listening by making comments, e.g. "oh really" "yes" "mmhmm" etc. ?
- 4 Listening comprehension questions: e.g. What income did $\{name5\}$ make per week?

Empathy



In survey: 7 self-reported items & 1 task

Examples of self-reported items

- “When I’m upset at someone, I usually try to imagine myself in their situation to better understand them.”
- “Before judging somebody, I try to imagine how I would feel if I were in their place.”
- “I ask questions to understand the other person's position on a given issue.”
- “I always try to understand the feelings of people I trust.”
- “If someone is hurt, it makes me upset.”

Task: Rate level of pleasure and arousal for self and the other individual after hearing a list of scenarios

Expressiveness



In survey: 12 self-reported items & 3 situational judgment tests

Examples of self-reported items

- “I ask for what I need when I need it.”
- “I think it's good to ask for what I want.”
- “I find it easy to explain my perspective to others.”

Example of a situational judgment test

Imagine you are attending a community meeting, and they are deciding whether to build a school, a clinic, or a road. The meeting has 30 men and 30 women, including your spouse.

- How likely are you to: Stand up and share your opinion about the road
- You are curious about how long each project will take: How likely are you to speak up and ask this question?
- You have the idea that everyone should vote to decide which project to choose: How likely are you to: Discuss your idea with the person sitting next to you?
- How likely are you to: Share your idea with the group without hesitation?

Relatedness: 2 dimensions

Initiating Relationships (Networking) & Maintaining Relationships

In survey: 10 self-reported items & 4 situational judgment tests

Examples of self-reported items

- “I listen patiently when people tell me their problems.”
- “When I see that someone is going through a difficult time, I help out the best I can.”
- “I give my friends and family encouragement when they need it.”

Example of a situational judgment test

A customer, $\{name3\}$, who you have seen before but don't know well comes to your shop. $\{name3\}$ really wants to buy rice but they have had troubles this week and they don't have enough money to pay this time. There are others in line and $\{name3\}$ is taking time.

- Which picture best describes your tone?
- Which picture best describes your tone?
- How likely are you to
- Dismiss $\{name3\}$
- Tell $\{name3\}$ to return when they have money
- Allow $\{name3\}$ to pay back later
- Make sure $\{name3\}$ know you are assessing their trustworthiness
- Encourage $\{name3\}$ to share why they cannot pay
- Reassure $\{name3\}$ that things will get better

Influence



In survey: 8 self-reported items & 2 situational judgment tests

Examples of self-reported items

- “Other people do what I ask them to do.”
- “When someone disagrees with me, I know how to adjust my argument to change their opinion.”
- “I am good at getting people to help me when I need it.”

Example of a situational judgment test

You want to start a new business, making banana chips with a new method. To start the business, you need your family's support because it will affect their financial situation. Currently your family does not want you to start the business.

- How likely is it that you will: Try to convince your family to let you start the business
- How likely is it that you will: Ask questions to understand why your family opposes you
- How likely is it that you will: Analyze your family's behavior carefully, to decide the best time to convince them
- How likely is it that you will: Discuss the benefits and consequences of starting the business with them
- Would you use any other methods to persuade your family?
- Now imagine that your brother recently failed in his business. Would you use any other methods to persuade your family?
- How likely is it that you will: Not be able to change your family's perspective.

Negotiation

In survey: 8 self-reported items & 3 situational judgment tests

Examples of self-reported items

- “When I disagree with someone, I try to understand how that person feels.”
- “When I disagree with someone, I am still able to listen to the other person’s perspective.”
- “When I disagree with someone, I am able to give up some things I want to solve our disagreement.”

Example of a situational judgment test

Your work has become busier and you have less time for household responsibilities. If you have help at home, your income could increase! However, your 15 year old son does not want to help with cleaning or caring for the younger children. If he has extra time, he just wants to play football with his friends.

- How likely is it that you will: Accept the situation and don't say anything
- How likely is it that you will: Tell him he has to do some household work and has no choice
- How likely is it that you will: Explain that if he helps, the whole family will benefit
- How likely is it that you will: Allow him to go play football if he completes his responsibilities

Collaboration



In survey: 7 self-reported items & 1 task

Examples of self-reported items

- “When I work with others, I tell others my ideas and ask for theirs in return.”
- “I can tell when a problem should be solved by a team of many people instead of one person alone.”
- “When I don’t know a solution to a problem, I can brainstorm with a group of people to get better ideas.”

Task: Simulated SMS conversation to find a market stand: *“Looks like the group has sent you a message. Which of these responses, is most like how you would respond in this situation?”*