

Communities are the Experts: Testing a Measure of Organizational Capacity for Community-based Problem-solving (Org-CapCPS): Psychometric Evidence from East Africa

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Abstract

This report provides pilot evidence on the psychometric properties of the Organizational Capacity for Community-based Problem-solving (Org-CapCPS) measure, which is a measurement tool developed by Cohere Charity, an international non-governmental organization working with refugee-led organizations in East Africa, with guidance from a team from New York University's Global TIES for Children (NYU-TIES). The 19-item Organizational Capacity for Community-based Problem-solving measure was assembled and adapted from existing measures, including: the Capacity of Community-Based Initiatives (Lempa et al., 2008), Community Ownership (Flynn, 1995) and Collective Leadership (Hiller, 2006) scales. The Org-CapsCPS consists of four theoretically derived subscales: (1) Addressing problems, (2) Critical thinking, (3) Community knowledge, (4) Community participation. In the pilot, the self-reported online survey was completed by 95 staff between the ages of 25-58 employed by refugee-led organizations (RLOs) located across East Africa. Psychometric analyses indicated 0.762 internal consistency reliability and preliminary evidence on internal structural validity through confirmatory factor analysis displayed that the hypothesized four-factor model allowing for correlations between factors provided an acceptable to good fit to the data. We provide evidence that the Community Knowledge measures with good reliability for the purpose of program evaluation, but recommend additional testing to potentially explore other factor structures. Recommendations for adaptation are provided.

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Acknowledgement

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Introduction

Within the education and international development fields, the direction and implementation of research, policy, and practice agendas are largely driven by a small set of organizations from the minority world, including bi- and multilateral agencies and donors, international non-governmental organizations (NGOs), and universities in the Global North. Recognizing such power imbalances, there are increasing calls from diverse stakeholders to re-think who is considered the expert: whose voices should be centered in the design of programs and in the conduct of research and advocacy.

Cohere is a charity at the forefront of such efforts. Cohere partners with refugee-led organizations (RLOs) in Kenya, Uganda, Malawi, South Africa and Nigeria to strengthen their capacity to independently meet the educational and livelihood needs of their communities. At the core of their operational model, Cohere identifies communities as the experts, who are supported by refugee-led organizations embedded within communities to identify and implement solutions to address their needs. While organizational capacity – which refers to an organization's ability to implement a specific program or procedure (Barman & MacIndoe, 2012) – may encompass a variety of dimensions (such as human resources, physical infrastructure, interorganizational relationship and data and informational resources; Glor, 2007; Meyer et al., 2012), the Organizational Capacity for Community-Based Problem-Solving (Org-CAPCPS) measure we report on in this study was developed specifically to assess one dimension of capacity: the capacity of RLO staff to engage in and support community-based problem solving.

Overview of skills, outcomes, constructs being assessed

Specifically, we define organizational capacity as refugee-led organizations' staff capacity to address the needs of a community using participatory approaches. This involves RLO staff understanding the communities they work with; and thinking critically about the strengths and challenges within a community in order to work with the community to address the challenges. The Org-CapCPS consists of four subscales that reflect Cohere's definition of organizational capacity:

1. **Addressing problems:** The ease with which RLO employees can collect information about and harness community resources to resolve challenges faced by a community.
2. **Critical thinking:** The ease with which RLO employees can identify, examine, and prioritize challenges faced by a community.
3. **Community knowledge:** The ease with which RLO employees can understand and identify the needs and challenges of a community and resources to address them.
4. **Participation:** The ease with which RLO employees are able to include community members and adapt their planning according to the interests of and feedback from the community.

These four sub-scales were identified based on a review of the content of the community knowledge modules Cohere provides to RLOs as part of their organizational capacity strengthening approach.

Overview of the measures

The Org-CapCPSS was developed for program monitoring and evaluation purposes, and it captures staff-perceived difficulty of identifying and addressing the needs of community members using participatory approaches. Through a self-report survey, RLO employees report on how easy or hard they find discrete tasks and the ease with which they are able to include community members in their daily activities (See Table 1 for Item descriptions.)

Table 1. Item description

Org-CapCPS	
According to the conversations we have had with refugee-led organizations that we work with, we have learned that they find some parts of their work with communities easy while some other parts hard to do. We are going to ask you to reflect about your work with your communities and let us know which areas of work you find easy and which areas you find hard to do.	
1 = Really hard; 2 = Kind of hard; 3 = Kind of easy; 4 = Really easy	
Construct	Item
Addressing problems	<ol style="list-style-type: none"> 1. Some RLO staff find it easy to collect information to understand their community better while others find it hard. 2. Some RLO staff find it easy to make a plan to address the challenges that their community is facing while others find it hard. 3. Some RLO staff find it easy to use existing community resources to resolve challenges the community is facing while others find it hard.
Critical thinking	<ol style="list-style-type: none"> 1. Some RLO staff find it easy to examine the challenges that their community is facing while others find it hard 2. Some RLO staff find it easy to identify the root causes of a challenge that their community is facing while others find it hard. 3. Some RLO staff find it easy to prioritize between different challenges that their community is facing while others find it hard.

Community knowledge

1. Some RLO staff find it easy to describe characteristics from their community while others find it hard.
2. Some RLO staff find it easy to identify people in their community to work with while others find it hard.
3. Some RLO staff find it easy to know the needs of their community while others find it hard.
4. Some RLO staff find it easy to identify challenges that their community is facing while others find it hard.
5. Some RLO staff find it easy to identify resources that their community has while others find it hard.

Participatory approach

1. Some RLO staff find it easy to recognize the interests of their community while others find it hard.
 2. Some RLO staff find it easy to plan their work based on their community's needs while others find it hard.
 3. Some RLO staff find it easy to plan their work based on their community's interests while others find it hard.
 4. Some RLO staff find it easy to ask their community for feedback about their planning while others find it hard.
 5. Some RLO staff find it easy to adjust their planning according to their community's feedback while others find it hard.
 6. Some RLO staff find it easy to include their community's interests in their action plans while others find it hard.
 7. Some RLO staff find it easy to pass on important tasks to their community while others find it hard.
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Measure assembly process

This measure was assembled through a 9-month course on adapting measures of holistic learning outcomes for use in crisis contexts that included the following iterative steps:

- (1) Outcome definition
- (2) Item bank development*:
- (3) Qualitative, semi-structured interviews*
- (4) Cognitive interviews*
- (5) Translation
- (6) Back-translation*

*Items were refined by NYU-TIES after the end of each these stages

A team of 5-8 Cohere members were consistently part of the measure development process from outcome definition to piloting the measure to analyzing it. RLO staff also participated in some phases of the process, such as cognitive interviewing. NYU-TIES provided guidance and recommendations throughout.

Adaptation and validation of the Org-CapCPS measure

Once we identified and initially defined our construct of interest, we developed an [item bank](#) through searching multiple online repositories (e.g., the INEE Measurement Library, MENAT Measurement Inventory, IMPACT Measures Tool and Google Scholar) for existing measures of organizational capacity for supporting community-based participation. This resulted in a bank of 61 items from three measures: the Capacity of Community-Based Initiatives Scale (Lempa et al., 2008), the Community Ownership Scale (Flynn, 1995) and the Collective Leadership scale (Hiller, 2006). However, none of these measures captured all four sub-constructs emphasized in our definition of organizational capacity. Moreover, none were developed for the purpose of monitoring the capacity of refugee-led organizations in Eastern Africa for engaging in participatory approaches. Thus, we sought to assemble a new measure to meet our organizational program monitoring and evaluation needs. We also recognized that a measure to assess organizational capacity for promoting community participation could be key to supporting the humanitarian field to move towards more sustainable and equitable funding and intervention approaches.

Three items were identified from the aforementioned scales as relevant for Cohere's purposes and context and adapted. The remaining 16 items were developed through an iterative, collaborative process between Cohere and NYU-TIES that involved qualitative, semi-structured discussions on what it practically looked like for RLOs to support community-based participation.

In these exchanges, Cohere explained that in their support to RLOs they emphasize the importance of (1) understanding communities, as indicated by being able to “identify characteristics of communities” or “knowing the needs of the communities”; (2) thinking critically about the needs and challenges of communities, for example by “identifying the root causes of challenges” or “prioritizing challenges”; (3) problem-solving, as indicated by “making a plan to address community needs”; and (4) ensuring community participation in problem-solving, for example by “asking for feedback” or “including community interests in action plans.”

A main concern in asking respondents to self-report on their own skills - particularly when the respondents are receiving services from the administering organization - is the potential for social desirability bias. Once we had an initial set of items, we addressed this concern in three ways in the survey design. First, we chose to ask respondents if the activity or skill in any given item was “easy” or “hard,” as opposed to asking “how often” or “how well” they completed a given activity or used a skill. Particularly when administered in the context of a training, this response choice connotes less of a summative evaluation and more of a formative learning process. Second, the items and instructions were written to include the use of a natural proxy, “Some RLO staff find it easy ... while others find it hard ...” to help normalize reporting perceptions of either ease or difficulty. Third, given that the survey was administered via computer or tablet, we presented response options for the measure in a scaffolded, adaptive manner. For each item presented, participants were first asked to report whether they thought a task was “easy” or “hard”. If they selected “easy”, they were then asked whether they found it “really easy” or “kind of easy”. Alternatively, if they selected “hard”, they were asked if they found the task “really hard” or “kind of hard”.

A set of cognitive interviews were then conducted with non-RLO employees of other organizations to ensure that items and instructions were easy to understand and meaningful. The measure then underwent two cycles of forward and backward translation: from English to Kiswahili and Kiswahili back to English, and then repeated. Translations were conducted by RLO staff. Whereas we went through a translation and back - translation process, the default language of the survey was English and Kiswahili was available to support additional understanding for the respondents. All the responses were in English. We however suggest further testing of the Kiswahili version of the survey, in future, if in East-Africa.

Methods

Sample, context, and procedure

A convenience sampling method was used for piloting Org-CapsCPS, wherein an online survey was sent to a total of 95 Refugee led organization (RLO) employees across 19 organizations in November 2022. Respondents completed the survey using computers.

Whereas a few of the RLO staff respondents who completed the survey used their smartphones, majority used the ICT hubs located at RLO offices, in which case the more senior leaders at these RLOs such as the monitoring and evaluation officers and the CEOs, who have been undergoing capacity strengthening on data collection and management, from Cohere from time to time, helped their fellow colleagues to respond to the survey.

The survey did not employ enumerators but rather worked with RLO staff who are in charge of monitoring and evaluation. Cohere has been working with all the 19 RLOs that participated in this survey, since 2018, and has supported their monitoring and evaluation teams through more than ten online and on-site monitoring and evaluation capacity building and training sessions, targeting topics that the RLOs had identified as major gaps, that need to be addressed, through self-assessment exercises. Prior to administration of this tool, Cohere had thus held organization wide capacity strengthening sessions with all the 19 RLOs that participated in the survey, on topics such as Project planning and Management, Leadership and Governance, Impact Evaluation for community projects, Data collection and reporting, Identifying and describing your community and strategic planning. Usually, these trainings targeted all the members of executive of these RLOs.

Data for this pilot study comes from the 95 RLO employees who responded to the survey ($M = 32$ years old; 37.9% female) in 19 refugee-led organizations located in East , Southern and West-Africa. (See Table 2 for demographic characteristics).

The Org-CapCPS online survey was digitally administered through Kobo and it employed password-protection and encryption strategies to safeguard data in transit from respondents to collectors. The ODK form is included as part of the measurement tool package.

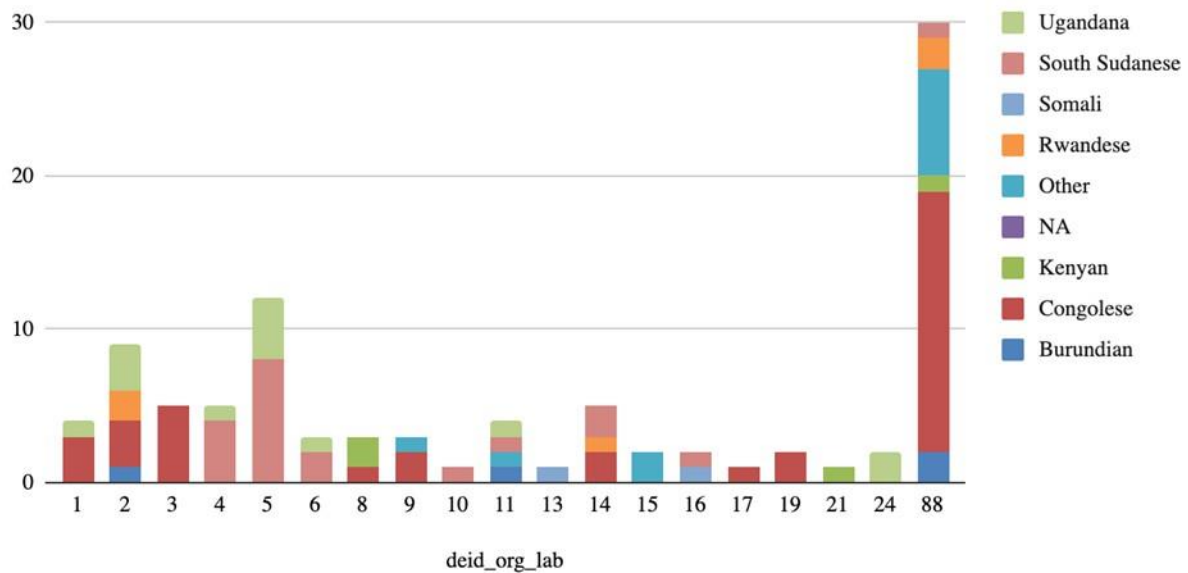
Table 2. Sample demographic characteristics

	Description	N	M/ % (SD)	Min	Max
Age	RLO employees' age in years	95	32.3 (7.2)	22	58
Gender	RLO employee gender is female	95	37.9%	0	1
Nationality	Burundian	4	4.21%		
	Cameroonian	1	1.05%		
	Congolese	36	37.89%		
	Kenyan	4	4.21%		
	Malawian	1	1.05%		
	Nigerian	1	1.05%		
	Rwandese	5	5.26%		
	Somali	2	2.11%		
	South Sudanese	20	21.05%		
	Sudanese	8	8.42%		
	Ugandan	13	13.68%		
Trainings	# of trainings RLO staff attended	95	#(%)	#	#

Table 3 shows the distribution of respondents' nationality across organizations. Note that in this particular study, an analysis of the kobo form and dataset concluded that distribution of nationality did not have to match the context.

Table3: Pivot table for Nationality across Organizations

Distribution of nationality by organization



SCORING SYSTEM

Each item is scored on a 4-point Likert scale (1 = Really hard, 2 = Kind of hard, 3 = Kind of easy, 4 = Really easy)

Subscale Scores: For each of the four subscales (Addressing problems, Critical thinking, Community knowledge, Participation), calculate the average score of the items within that subscale, which should reflect the ease with which staff perceive they can perform related tasks.

Example Calculation: For the "Addressing problems" subscale, if a respondent's scores are:

Item 1: 2

Item 2: 1

Item 3: 3

$$\text{Subscale score} = (2 + 1 + 3) / 3 = 2.0$$

Overall Organizational Capacity Score: To obtain an overall score for organizational capacity, calculate the average of the four subscale scores.

Example Calculation: If the subscale scores are:

Addressing problems: 2.0

Critical thinking: 2.5

Community knowledge: 1.8

Participation: 2.2

Overall score = $(2.0 + 2.5 + 1.8 + 2.2) / 4 = 2.125$

Interpretation of Scores

1.0 - 2.0: Significant challenges; areas where staff find tasks generally hard.

2.1 - 3.0: Moderate challenges; some tasks are easier, but many remain difficult.

3.1 - 4.0: Few challenges; most tasks are perceived as easy or very easy.

Why Average Scores

Given acceptable alpha and for ease of use in monitoring purposes, we suggest using average subscale scores to identify areas of ease/difficulties. This approach reflects the reported level of difficulties across the subscale items, and therefore directly translates the respondents' reports on individual items to overall scores as the items and response options are phrased.

Caution: Given that this measure was pilot tested and being published as a sapling, we caution against strong conclusions about overall organizational capacity at this stage. In future testing, we suggest careful attention be paid to the psychometric performance of the items (through additional reliability and validity tests and, if possible, with the integration of qualitative feedback through further cognitive tests and piloting).

Data processing

Data were processed using Excel and Stata v15.1. Approximately 1% of data was lost due to data collection errors. In order to account for structural characteristics of the data, one important modification was made to the structure of the data during data processing.

As discussed above, responses to items were entered in two adaptive stages: (1) easy = 0 or hard = 1; and then depending on the answer to (1), (2) very easy = 0 or kind of easy = 1; or very hard = 0 or kind of hard = 1. In data processing, responses were re-coded to be on a 4-point scale (really hard = 1, kind of hard = 2, kind of easy = 3, really easy = 4). After cleaning and transforming the data, we then merged into the survey dataset existing administrative data collected by Cohere on the number of trainings attended by each RLO staff person.

Analytic plan

Analysis proceeded in three steps. First, we examined item-level descriptive statistics and histograms using Excel. In doing so, we were looking for evidence of ceiling effects (which would suggest that the items are not providing unique information about those who find the items “very easy”) and floor effects (which would suggest the items are not providing unique information about those who find the items “very hard”). Such skew can indicate that the items and/or the response options need to be adjusted to better capture variation at the lowest or highest ends of the continuum.

Given that this is a new measure, at this point we would then ideally examine the internal structure of the measure using a split-sample exploratory and confirmatory factor analysis or a k-fold factor analysis approach (Nickodem, Halpin, and Tubbs Dolan, in preparation). Power analysis indicated that the minimum sample size required for these approaches is 200 (Preacher & Coffman, 2006). However, power analysis did indicate that a confirmatory factor analysis could be conducted with a minimum sample size of 100, which we do approximate with this pilot. Given that we do have an *a priori* assumption for the measure structure, we conducted a CFA following the procedures outlined in Table 5. These analyses provide preliminary support for our hypothesized measure structure, and as such, we make the assumption in subsequent analyses that this measure contains 4 subscales defined by the above-specified items (see Table 1). We recognize, however, that this is a major assumption that requires further testing before we can confidently use and score the measure as proposed herein.

We next examined the internal consistency of each of the proposed sub-scales by calculating Cronbach’s alpha (α) using a web-based R shiny application (Mizumoto, 2015). While there are no definitive and universal guidelines for interpreting α , $\alpha > 0.7$ indicates acceptable reliability for program monitoring and evaluation purposes (Bonett & Wright, 2015)

Finally, we used the web-based R shiny application (Mizumoto, 2015) to provide evidence of correlational validity. Specifically, we examined correlations between each of the sub-scales and the number of trainings attended by RLO staff. We anticipated moderate to high correlations between number of trainings and the four Org-CapCPS scales given that items were developed in part based on training content.

Results

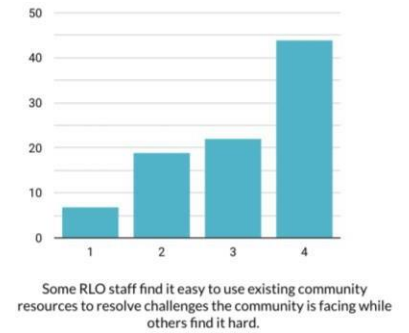
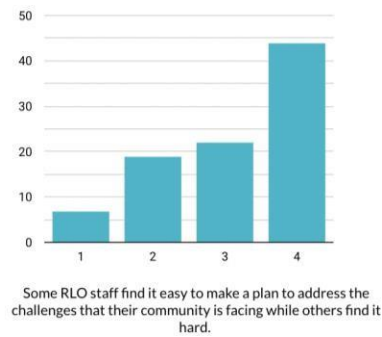
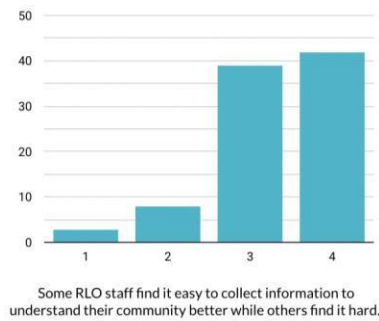
Item descriptives

Item-level histograms are presented in Figure 1 and descriptive statistics are presented in Table 3. All item distributions are negatively skewed and display ceiling effects, with participants reporting across items that it is “kind of easy” to “very easy” to engage in the focal task. However, across all items 10.75-32.61% of respondent’s report that the tasks are “very hard” or “kind of hard”, suggesting that the items are picking up some variation in perceived difficulty.

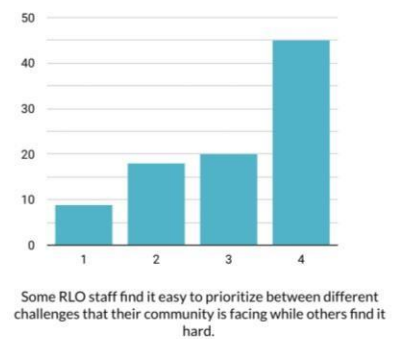
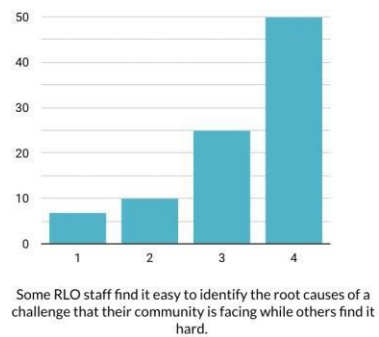
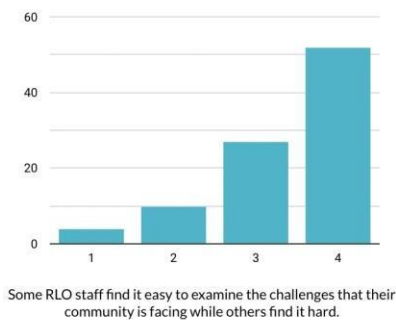
Table 4. Item descriptives

Item name	Item description	Obs	M	SD	Min	Max
prob_01	Collect information to understand their community better	92	3.30	0.77	1	4
prob_02	Make a plan to address the challenges that their community is facing	92	3.12	0.99	1	4
prob_03	Use existing community resources to resolve challenges the community is facing	92	2.97	0.94	1	4
crit_01	Examine the challenges that their community is facing	93	3.37	0.84	1	4
crit_02	Identify the root causes of a challenge that their community is facing	92	3.28	0.94	1	4
crit_03	Prioritize between different challenges that their community is facing	94	3.10	1.04	1	4
know_01	Describe characteristics from their community	93	3.41	0.81	1	4
know_02	Identify people in their community to work with	92	3.25	0.96	1	4
know_03	Know the needs of their community	93	3.49	0.77	1	4
know_04	Identify challenges that their community is facing	93	3.49	0.75	1	4
know_05	Identify resources that their community has	93	3.12	0.97	1	4
part_01	Recognize the interests of their community	93	3.18	0.86	1	4
part_02	Plan their work based on their community's needs	94	3.21	0.90	1	4
part_03	Plan their work based on their community's interests	94	3.16	0.90	1	4
part_04	Ask their community for feedback about their planning	93	3.37	0.86	1	4
part_05	Adjust their planning according to their community's feedback	93	3.13	0.91	1	4
part_06	Include their community's interests in their action plans	94	3.20	0.92	1	4
part_07	Pass on important tasks to their community	93	3.11	0.99	1	4

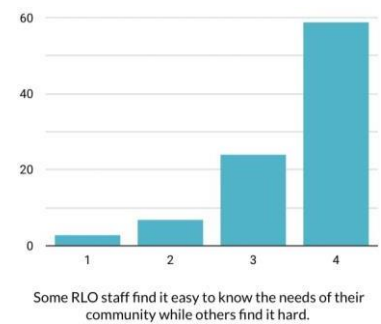
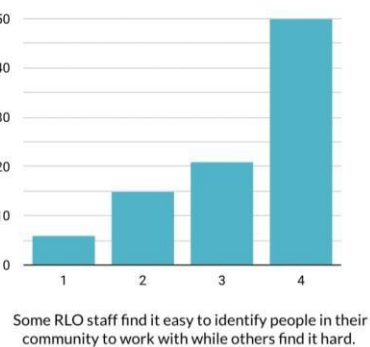
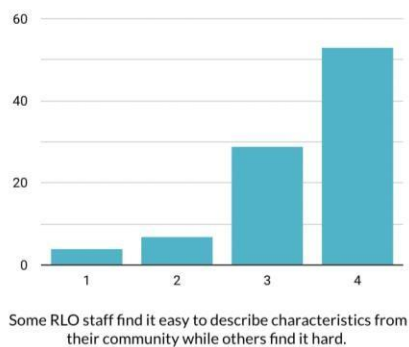
Figure 1. Item distributions
Addressing problems subscale



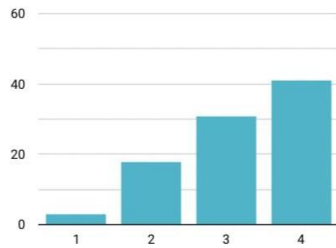
Critical thinking subscale



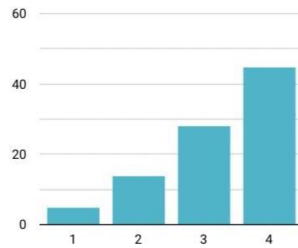
Community knowledge



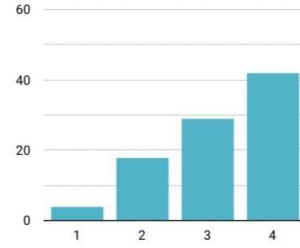
Participatory approach



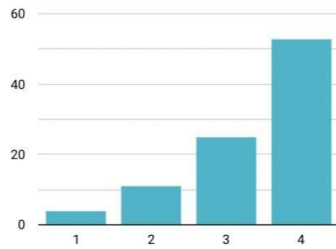
Some RLO staff find it easy to recognize the interests of their community while others find it hard.



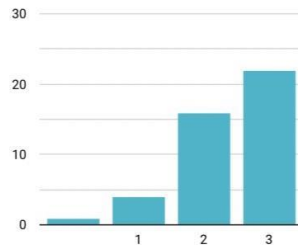
Some RLO staff find it easy to plan their work based on their community's needs while others find it hard.



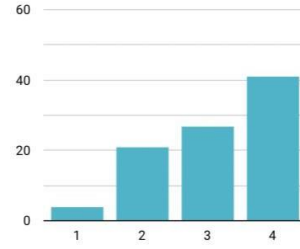
Some RLO staff find it easy to plan their work based on their community's interests while others find it hard.



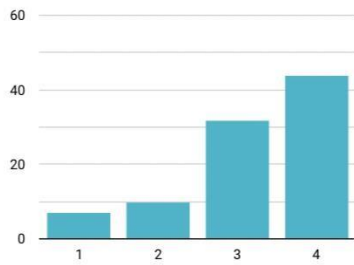
Some RLO staff find it easy to ask their community for feedback about their planning while others find it hard.



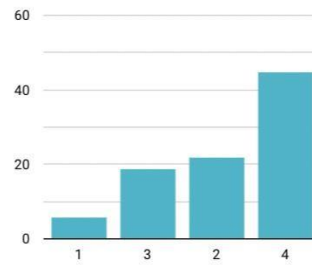
Some RLO staff find it easy to ask their community for feedback about their planning while others find it hard.



Some RLO staff find it easy to adjust their planning according to their community's feedback while others find it hard.



Some RLO staff find it easy to include their community's interests in their action plans while others find it hard.



Some RLO staff find it easy to pass on important tasks to their community while others find it hard.

Table 5. Item correlations

	prob_01	prob_02	prob_03	crit_01	crit_02	crit_03	know_01	know_02	know_03	know_04	know_05	part_01	part_02	part_03	part_04	part_05	part_06	part_07	part_08
prob_01	1																		
prob_02	0.444	1																	
prob_03	0.423	0.491	1																
crit_01	0.315		0.152	1															
crit_02	0.377	0.497	0.251	0.574	1														
crit_03	0.476	0.457	0.383	0.360	0.550	1													
know_01	0.477	0.334	0.347	0.335	0.309	0.357	1												
know_02	0.448	0.328	0.399	0.304	0.429	0.450	0.476	1											
know_03	0.331	0.527	0.231	0.468	0.604	0.405	0.384		1										
know_04	0.446	0.510	0.209	0.313	0.456	0.379	0.219		0.549	1									
know_05	0.349	0.339	0.256	0.279		0.314	0.257		0.516	0.400	1								
part_01	0.262	0.248										1							
part_02													1						
part_03														1					
part_04															1				
part_05																1			
part_06																	1		
part_07																		1	
part_08																			1

part_08

Note. All correlations are significant at the $p > 0.01$ level.

Item correlations

Item correlations are presented in Table 4, with correlations between items hypothesized to be a part of the same sub-scale colored in yellow. Item correlations are positive and, in general, moderate, with the majority of correlations ranging from 0.3-0.5. This suggests that the items are capturing a similar content domain, but are not providing redundant information. However, there is no evidence that inter-item correlations are higher within a given hypothesized sub-scale than between sub-scales, which suggests it is important to further test the structure of the measure (see Table 5).

Internal structural validity

Confirmatory factor analysis: procedure

We conducted a confirmatory factor analysis (CFA) of our proposed four-factor model accounting for two important structural characteristics of the data. First, given item response options in the measure, items were specified as categorical. Because modeling categorical responses as normally and continuously distributed can lead to inflation of model fit statistics and biased estimation of factor loadings and standard errors, we used a weighted least squares mean and variance-adjusted (WLSMV) estimator with a probit-link function (Beauducel & Herzberg, 2006; Lei, 2009). Second, as described above, respondents were nested within organizations, thereby violating the assumption of independence of standard errors required in the application of factor analytic techniques (Hwang, 2016). We thus used robust standard errors adjusted for clustering at the organization level in our measurement analysis.

To assess the goodness of fit of the model, the following two criteria were used (Hu & Bentler, 1999): (a) a root mean squared error of approximation (RMSEA) value below 0.08 provides an acceptable fit to the data, while an RMSEA of less than 0.06 provides a good fit to the data; and (b) a comparative fit index (CFI)/Tucker Lewis index (TLI) value above 0.9 provides an acceptable fit to the data while a CFI/TLI value above 0.95 provides a good fit to the data (Kline, 2011); and a standardized root mean square residual (SRMR) below 0.08 provides a good fit to the data.

Preliminary evidence on internal structural validity

The hypothesized four-factor model allowing for correlations between factors provided an acceptable to good fit to the data ($RMSEA = 0.056$, 90% CI = 0.030-0.077; $CFI = 0.966$; $SRMR = 0.067$; $\chi^2(147) = 190.73$, $p = 0.0088$.) All items loaded onto their hypothesized factors with standardized factor loadings > 0.60 . However, the factors were highly correlated ($r = 0.776$ - 0.909), suggesting that alternative structures could be explored with additional data (e.g., a one-factor model, a second-order model).

Table 6. Standardized factor loadings and factor correlations from CFA model

Hypothesized factor	Item name	Item description	<i>b</i>	<i>SE</i>	<i>p</i>
Prob	prob_01	Collect information to understand their community better	0.778	0.066	0
Prob	prob_02	Make a plan to address the challenges that their community is facing	0.923	0.044	0
Prob	prob_03	Use existing community resources to resolve challenges the community is facing	0.655	0.078	0
Crit	crit_01	Examine the challenges that their community is facing	0.748	0.054	0
Crit	crit_02	Identify the root causes of a challenge that their community is facing	0.816	0.058	0
Crit	crit_03	Prioritize between different challenges that their community is facing	0.817	0.059	0
Know	know_01	Describe characteristics from their community	0.739	0.065	0
Know	know_02	Identify people in their community to work with	0.661	0.088	0
Know	know_03	Know the needs of their community	0.814	0.053	0
Know	know_04	Identify challenges that their community is facing	0.742	0.053	0
Know	know_05	Identify resources that their community has	0.657	0.067	0
Part	part_01	Recognize the interests of their community	0.783	0.045	0
Part	part_02	Plan their work based on their community's needs	0.836	0.037	0
Part	part_03	Plan their work based on their community's interests	0.780	0.045	0
Part	part_04	Ask their community for feedback about their planning	0.710	0.056	0
Part	part_05	Ask their community for feedback about their planning	0.806	0.049	0
Part	part_06	Adjust their planning according to their community's feedback	0.750	0.053	0
Part	part_07	Include their community's interests in their	0.621	0.086	0

		action plans			
Part	part_08	Pass on important tasks to their community	0.761	0.071	0
Factor correlations					
Prob	Crit		0.776	0.058	0
Prob	Know		0.840	0.042	0
Prob	Part		0.900	0.001	0
Crit	Know		0.909	0.043	0
Crit	Part		0.882	0.051	0
Know	Part		0.843	0.039	0

Internal consistency

Addressing problems subscale. Based on the below Cronbach's alpha coefficients, which is above 0.7 (0.71 raw alpha), the items in this subscale show evidence of fairly good internal consistency. However, looking at the correlation coefficients in Table 4 above, we learn that part_02 (refugee led organizations planning their work based on their community's needs) has the highest correlation with the other items, so dropping it would result in the biggest decrease in alpha in this subscale. This would imply that this item has to be maintained in this subscale to maintain internal consistency.

Critical thinking subscale. For this subscale, the internal consistency is within acceptable range because the Cronbach's alpha coefficient is above 0.70. The alpha coefficient also drops when any of the three items are dropped from this subscale. However, what the alpha coefficient tells us is that people are responding consistently to the items. But just because we are measuring something consistently doesn't mean that it is what we are intending to measure. Further tests may be needed in this subscale in future.

Community knowledge subscale. For this subscale, the internal consistency is within acceptable range because the Cronbach's alpha coefficient (raw alpha) is 0.743. our alpha coefficient is dropping per item dropped. Any of the items can be dropped and we remain with fairly confident levels of Cronbach's alpha coefficient scores apart from 'know_03'. This is consistent with the inter-item correlation too, in this subscale. From Table 4 above, 'know_03' (knowing the needs of the community) has a strong correlation with know_04 (identifying the challenges that the community is facing) and know_05 (identifying the resources that the community has), compared to how the rest of the items in this subscale, correlate with know_04 and know_05.

Participatory approach subscale. For this subscale, our internal consistency for items in this subscale is pretty robust at least going by the Cronbach's alpha coefficient that we have (raw alpha) of 0.861. Any of the items can be dropped and we remain with fairly confident levels of Cronbach's alpha coefficient scores. Part_07 would leave us with almost the same alpha coefficient score, if it is dropped.

Table 7. Reliability per subscale

Construct	Raw alpha (SD)	Reliability if item dropped	Item
Addressing problems	0.71 (0.713)	0.653	Collect information to understand their community better
		0.578	Make a plan to address the challenges that their community is facing
		0.617	Use existing community resources to resolve challenges the community is facing
Critical thinking	0.742 (0.746)	0.708	Examine the challenges that their community is facing
		0.517	Identify the root causes of a challenge that their community is facing
		0.730	Prioritize between different challenges that their community is facing
Community knowledge	0.735 (0.743)	0.703	Describe characteristics from their community
		0.702	Identify people in their community to work with
		0.632	Know the needs of their community
		0.702	Identify challenges that their community is facing
		0.707	Identify resources that their

Participatory approach	community has	
	0.861 (0.862)	0.841
		0.836
		0.833
		0.850
		0.838
		0.850
		0.859
		0.845

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