

# **Child and Youth Resilience Measure (CYRM-R)**

**&**

# **Adult Resilience Measure (ARM-R)**

**Manual 2.2**

**2019**



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## 1. Introduction

The Child and Youth Resilience Measure (**CYRM-R**) and the Adult Resilience Measure (**ARM-R**) are self-report measures of social-ecological resilience and are used by researchers and practitioners worldwide. The Child and Youth Resilience Measure was developed as part of the International Resilience Project (IRP) at the [Resilience Research Centre](#) (RRC), which involved 14 communities in 11 countries around the world. Work with communities in each location led to the development of the original 58-item CYRM. This version was subsequently reduced to a 28-item resilience measure and was adapted for use with adults, younger children, and a version that could be completed by a knowledgeable informant (a 'person most knowledgeable' or PMK).

To date, the measures have been translated into more than 20 languages and used in more than 150 research studies. They have been used in investigations of resilience over the lifespan and to evaluate the efficacy of interventions to build and maintain resilience. Researchers and professionals worldwide continue to use the measures to gain insight into the resilience of the individuals and groups they work with.

This manual has been compiled to give prospective users more information about the measures and to guide their use. We recommend users review this information and the FAQs prior to using the measure.

To cite this manual, please use:

- Resilience Research Centre. (2018). *CYRM and ARM user manual*. Halifax, NS: Resilience Research Centre, Dalhousie University. Retrieved from <http://www.resilienceresearch.org/>

## 2. Resilience

The Child and Youth Resilience Measure and the Adult Resilience Measure were developed from the perspective that resilience is a social-ecological construct.

Most commonly, the term resilience has come to mean an individual's ability to overcome adversity and continue his or her normal development. However, the RRC uses a more ecological and culturally sensitive definition. Dr. Michael Ungar, founder and Director of the RRC, has suggested that resilience is better understood as follows:

*"In the context of exposure to significant adversity, resilience is both the capacity of individuals to navigate their way to the psychological, social, cultural, and physical resources that sustain their well-being, and their capacity individually and collectively to negotiate for these resources to be provided in culturally meaningful ways."*

(see Ungar, [2008](#), [2011](#))

This definition shifts our understanding of resilience from an individual concept, popular with western-trained researchers and human services providers, to a more relational understanding of well-being embedded in a social-ecological framework. Understood this way, resilience requires individuals to have the capacity to find resources that bolster well-being, while also emphasizing that it is up to families, communities, and governments to provide these resources in ways individuals value. In this sense, resilience is the result of both successful navigation to resources and negotiation for resources to be provided in meaningful ways.

You can read more about resilience from this perspective in the following:

- Ungar, M. (2008). [Resilience across cultures](#). *British Journal of Social Work*, 38(2), 218-235.
- Ungar, M. (2011). [The social ecology of resilience: Addressing contextual and cultural ambiguity of a nascent construct](#). *American Journal of Orthopsychiatry*, 81(1), 1-17.
- Ungar, M. (2015). [Varied patterns of family resilience in challenging contexts](#). *Journal of Marital and Family Therapy*, 42(1), 19-31.
- Ungar, M. (2017). [Which counts more? The differential impact of the environment or the differential susceptibility of the individual?](#) *British Journal of Social Work*, 47(5), 1279–1289.
- Ungar, M. (2018). [Systemic resilience: Principles and processes for a science of change in contexts of adversity](#). *Ecology & Society*, 23(4), 34. DOI: 10.5751/ES-10385-230434.

### 3. Overview of the measures

The Child and Youth Resilience Measure and Adult Resilience Measure are measures of social-ecological resilience that have taken various forms since their initial development. After reviewing studies that have used the measures and further investigation of their psychometric properties, we now currently recommend the **CYRM-R** and **ARM-R**. These are revised versions of the measures and are suitable for children aged 5-9, youth aged 10-23, and adults aged 18 or older (depending on the focus of a study, young adults ages 18-23 can be administered either the CYRM-R or the ARM-R).

These revised versions of the measures typically consist of 17-items and can be scored on 3- or 5-point Likert scales. The items in the measures are all positively worded and therefore scoring involves simple summing of responses.

The main source for the revision of the measures is:

1. Jefferies, P., McGarrigle, L., & Ungar, M. (2018). [The CYRM-R: A Rasch-validated revision of the Child and Youth Resilience Measure](https://doi.org/10.1080/23761407.2018.1548403). *Journal of Evidence-Informed Social Work*. <https://doi.org/10.1080/23761407.2018.1548403>.

Further information on scoring and other aspects of the measures is given later.

### 4. Permissions

Any use of the Child and Youth Resilience Measure (CYRM-R) and Adult Resilience Measure (ARM-R) is to be in accordance with the Resilience Research Centre Permission to Use Agreement as outlined below.

There is no cost to reproduce the CYRM-R, ARM-R (or their variants) for research purposes as long as:

- (a) no changes are made other than those authorised by the RRC or outlined in this manual as normal procedures for cultural and contextual adaptation,
- (b) the authors of the CYRM-R and ARM-R are credited in any use of the measures, and
- (c) the measures are not sold.

To obtain permission to reproduce the measures, you must complete the [form on the Resilience Research Centre website](#). Once the form is submitted, you will receive access to the measures. Your information is retained for our records only. No further permission is required to use the measures.

For any additional information, contact the Resilience Research Centre through email at [RRC@dal.ca](mailto:RRC@dal.ca) or phone at +1 (902) 494-8482.

## 5. Selecting the right measure

There are various versions of the CYRM-R and ARM-R depending on your requirements.

In terms of age, three versions are available:

- CYRM-R for children ages 5-9;
- CYRM-R for youth ages 10-23;
- ARM-R for adults 18 or older.

There are also versions of each measure that may be completed by someone familiar with the target individual (a person most knowledgeable; PMK):

- PMK-CYRM-R about children ages 5-9;
- PMK-CYRM-R about youth ages 10-23;
- PMK-ARM-R about adults 18 or older.

A PMK is someone who knows the individual participating in the study well. PMKs can be primary caregivers, involved older siblings, teachers, youth care workers, and others who play a significant role in the individual's life and are familiar with their challenges, opportunities, and resources. PMKs can be selected by the research team. For example, the team may decide they want to include only mothers or only parents or teachers as PMKs. Alternatively, researchers can ask the individual participating in the study to identify a person who knows a lot about them and would be able to comment on their lives.

Each of the six measures above is offered in a 3- or 5-point response scale. The 3-point version is scored using options of 'No', 'Sometimes', and 'Yes', while the 5-point version goes includes 'Not at all', 'A little', 'Somewhat', 'Quite a bit', and 'A lot'. The 5-point scale can provide a richer account of variability in responding to the items, but the 3-point scale may be preferable for individuals with comprehension difficulties or in settings where the administration of quantitative measures is not common.

Finally, the CYRM-R, the ARM-R, and their PMK equivalents are offered with simplified wording. These options are summarised in the table below:

<b>Measure</b>	<b>Recommended age of target individual</b>	<b>Completed by</b>	<b>Scoring system</b>	<b>Language</b>
CYRM-R	5-9	Child: Self-report	3/5-point	Standard
CYRM-R	10-23	Youth: Self-report	3/5-point	Standard/simplified
ARM-R	18+	Adult: Self-report	3/5-point	Standard/simplified
PMK-CYRM-R	5-9	Person most knowledgeable	3/5-point	Standard
PMK-CYRM-R	10-23	Person most knowledgeable	3/5-point	Standard/simplified
PMK-ARM-R	18+	Person most knowledgeable	3/5-point	Standard/simplified

Deciding on the version of the measure to use will depend on your knowledge of the target group. If you suspect respondents may have comprehension difficulties, you may wish to use versions with simplified language or 3-point scoring.

Similarly, if you are unable to speak to the individual directly, or wish to gain insight into perceptions of others, you may want to use one of the PMK versions. You might also consider involving both PMK and self-report versions to compare responses (for an example of this see [Sanders, Munford, Liebenberg, & Thimasarn-Anwar, 2013](#)).

We also provide a decision aid for measure selection in Appendix A.

## 6. Contextualising the measures

The CYRM-R and ARM-R are measures of resilience that are ready for use. However, to enhance the culturally sensitive properties of the measures, we recommend an additional process of contextualisation prior to beginning your study. This involves four important steps:

1. **Convening a local advisory committee.**
2. **Exploring resilience in the local context.**
3. **Determining additional items for the measure.**
4. **Evaluating the items in the measure.**

These steps are discussed in detail below:

### Step 1: Convening a local advisory committee.

We advise that researchers hold meetings with select members of the community in which the research is being conducted. A local advisory committee can provide valuable input on the research implementation, such as suggestions on contextually relevant ways of conducting the study. They can also comment on findings and help ensure that interpretations of the data are locally relevant.

We have found that it works well to consult with a group of about five people who have something important to say about their community and the local context. Depending on whether the CYRM-R or ARM-R is to be used, the group could include youth, parents, professionals, caregivers, or elders who themselves may have overcome challenges while growing up. This group can also help decide whether it would be useful to collect data from PMKs about the participants' lives and can suggest feasible ways to do so.

### Step 2: Exploring resilience in the local context.

We recommend that focus groups should be held with members of the local advisory committee and others in the context where the measures are to be used. This will help you gain a deeper understanding of how resilience is understood in a specific context. The following prompts may help generate discussion:

- “What do I need to know to grow up well here?”
- “How do you describe people who grow up well here despite the many problems they face?”
- “What does it mean to you, your family and your community when bad things happen?”
- “What kinds of things are most challenging for you growing up here?”
- “What do you do when you face difficulties in your life?”
- “What does being healthy mean to you and others in your family and community?”
- “What do you and others you know do to keep healthy? (Mentally, physically, emotionally, or spiritually)”



The outcome of these focus groups will provide insightful qualitative data in terms of local conceptualisations of resilience and can become data for mixed methods investigations.

### Step 3: Determining additional items for the measure.

The data produced from the focus groups can help to generate new items that assess resilience in that particular context and that may not be covered by the existing items in each measure. Review the focus group discussions to discover whether new statements could be added to the measure. We recommend that no more than ten site-specific items are added to the CYRM-R or ARM-R.

### Step 4: Evaluating the items in the measure.

Review the measure with your local advisory group, including any new items, to ensure it is appropriate to the local context and that each item would make sense to the target group. For example, it may be important to simplify some terms for individuals with comprehension difficulties or it may be important to provide specific examples to accompany each item. You should also consider piloting your measure with individuals who are similar to the population that will be included in the full study to ensure that participants understand the items as you intend them to be understood. For further guidance on this process of 'cognitive interviewing', see the guides by [Willis and Artino \(2013\)](#) and [Latcheva \(2011\)](#).

A good example of this process of contextualisation (minus the production and evaluation of new items) can be found in Panter-Brick's (2018) work with Syrian and Jordanian youth on pages 1809-1810 in the section titled '*Qualitative Work and Pilot Surveys*'.

## 7. Translating the measures

The CYRM-R and ARM-R were developed in English. However, translations of different versions of the measures are available in:

- Albanian
- Arabic
- Bengali
- Chinese
- Farsi
- Filipino
- Finnish
- French
- German
- Hindi
- Indonesian
- Italian
- Korean
- Lugandan
- Portuguese (Portugal and Brazil)
- Setswana-Tswana
- Slovenian
- Spanish (Spain and Latin America)
- Turkish
- Urdu

These translations have been created by researchers who have worked with the RRC. However, each translation was done independently and, therefore, we cannot guarantee their accuracy. You can download these translations from our website.

If you would like to create your own translation, no special authorisation is required. We just ask that you [share your translation with us](#) so we can share it with others.

If you are considering a translation, we recommend a translation and back translation process to enhance the validity of the translated measure. For information on back translation, see guides by [Brislin \(1970\)](#) and [van Ommeren and colleagues \(1999\)](#).

Please see Appendix E for further information on the items in the measures.

## 8. Administering the measures

The measures can be administered to participants in groups or individually. It is important to decide whether the items should be read out loud to participants, or whether participants should complete the measure on their own. If you are unsure about the participants' levels of literacy or comprehension, reading aloud may be a better option. If participants have the measure read to them, their responses should still be self-completed to encourage truthfulness. Turning the three or five responses into a visual cue (like bottles with differing amounts of water to represent each number on a Likert scale—see below) can help younger people understand which response to choose.

If you are working with young children, we recommend you work individually with them to ensure they understand each item in the measure.

The measures take 5-10 minutes to complete, depending on if the measure is administered in the participant's native language, the age of the participant, their level of comprehension, and the addition of any new items.

If the measure is not included as part of a larger questionnaire, you should consider also collecting information on:

- Sex
- Age/Date of birth
- Ethnic/cultural group identified with

### Visual scoring assistance

For younger children or those with comprehension difficulties, it may be useful to provide a pictorial scale. You can print these and share them with participants. There are no definitive pictorial scales, but we have included here some possibilities that may be useful:

1) Panter-Brick and colleagues' (2018) glasses of water:



2) For the 3-item scale, the thumbs up/down recommended by Erb and colleagues (2017):



No [1]	Sometimes [2]	Yes [3]
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3) For very young children, we have previously recommended using smiley faces. A study by Hall and colleagues (2016) suggests that smiley faces should run from happy to very happy (rather than neutral to happy or unhappy to happy) in order for the full range of the scale to be used by children. For example:



Not at all [1]	A little [2]	Somewhat [3]	Quite a bit [4]	A lot [5]
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No [1]	Sometimes [2]	Yes [3]
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## 9. Scoring and interpreting

The items within the measures can be directly summed to gain a total score of an individual's resilience. In the unmodified measures there are no reverse-coded items and all items are weighted equally.

If you are using an unmodified 5-point measure (with responses going from 1-5), the minimum score is 17 and the maximum score is 85.

For an unmodified 3-point measure (with responses going from 1-3), the minimum score is 17 and the maximum score is 51.

If a person skips or misses an item, their scores cannot be computed, as their overall score will be artificially lower than others who complete the measure. If this happens, you can discard the incomplete result or consider methods of managing missing data (e.g., <http://www.stat.columbia.edu/~gelman/arm/missing.pdf>).

### Subscales

In addition to an overall score of resilience, scores can be derived for the two subscales of the measures:

- **Personal** resilience, and
- **Caregiver** (CYRM-R) or **Relational** (ARM-R) resilience.

Caregiver/relational resilience relates to characteristics associated with the important relationships shared with either a primary caregiver or a partner or family. Personal resilience includes intrapersonal and interpersonal items. These are linked as both dimensions depend on individuals' social ecologies to reinforce their resilience.

To derive personal resilience subscale scores, sum 10 items: 1, 2, 3, 7, 9, 10, 12, 13, 14, 16.

For the unmodified measure, the minimum subscale score is 10 and the maximum is 30 (3-point version) or 50 (5-point version).

To derive caregiver/relational resilience scores, sum 7 items: 4, 5, 6, 8, 11, 15, 17.

For the unmodified measure, the minimum subscale score is 7 and the maximum score is 21 (3-point version) or 35 (5-point version).

These subscales were validated through Rasch analysis (see Appendix B).

## **Understanding and interpreting scores**

For the overall measure and subscales, higher scores indicate characteristics associated with resilience.

In any given context, there will be individuals with higher and lower levels of resilience. For this reason, we recommend comparing high scorers to low scorers and investigating potential reasons for these differences. You may wish to rank your sample by score and contrast the top half of scorers against the lower half.

### *Thresholds and cut-offs*

In the past, we have received many requests for cut-offs or thresholds to know what score is necessary to have a “good” or “normal” level of resilience. However, resilience is likely to vary between contexts, and so any threshold would similarly vary. For this reason, our recommendation is to instead contrast high and low scorers within your sample.

Despite this, we were able to produce some tentative thresholds for overall scale scores from the Canadian data in one of our original studies. These are shared in Appendix C, but we recommend caution using any “hard” cut-offs.

## 10. Validation and reliability of the measures

The CYRM-R and ARM-R are revisions of the original Child and Youth Resilience Measure that was developed over ten years ago. During this time, many studies have investigated the measurement and psychometric properties of these tools. If you wish to read or provide a reference to a study that has validated the revisions, please see:

- Jefferies, P., McGarrigle, L., & Ungar, M. (2018). [The CYRM-R: A Rasch-validated revision of the Child and Youth Resilience Measure. Journal of Evidence-Informed Social Work.](https://doi.org/10.1080/23761407.2018.1548403) <https://doi.org/10.1080/23761407.2018.1548403>.

In this section, we have provided a summary of popular indicators of reliability and validity for the revised versions of the measures. If you have modified the measure, these indicators may not apply. However, we would encourage you to run your own validity and reliability analyses and share these results with us.

### **Internal reliability/consistency**

Cronbach's alpha = .82 (personal resilience subscale), .82 (caregiver/relational resilience subscale), .87 (overall resilience). The subscale alphas were determined by Jefferies et al. (2018). The overall resilience alpha came from the same study analyses but was not published.

Person-separation index = .74 (personal resilience), .71 (caregiver/relational resilience). Derived by Jefferies et al. (2018). No overall PSI is available.

### **Rasch validation**

The subscales have been validated against the Rasch model (an alternative to Classical Test Theory, e.g., using factor analysis). They were found to satisfy requirements of unidimensionality, had good fit statistics and targeting properties, and lacked item bias and problematic local dependency. The subscales were also found to have a good ability to differentiate between individuals with varying levels of resilience (Jefferies et al., 2018).

### **Content and face validity**

The measures were originally developed during the IRP, involving 14 communities across 11 countries chosen for their diversity. These sites generated statements for the measures which were reviewed by local advisory groups and experts in cross-cultural resilience. The teams agreed that the product was a contextually sensitive measure of social-ecological resilience, and this has since been established by multiple experts worldwide (e.g., Daigneault, Dion, Hébert, McDuff, & Collin-Vézina, 2013; Ungar et al., 2008).

### **Construct and criterion validity**

The subscales of the CYRM-R and ARM-R were derived from an EFA which produced a model with good fit statistics (RMSEA = .059, RMSR = .55) (Jefferies et al., 2018).

A CFA has not yet been performed on the measures as an alternative validation approach was favoured in the EFA study. However, many studies around the world have used CFA to validate the factor structure of previous iterations of the measures (see van Rensburg, Theron, & Ungar, 2017).

Concurrent validity has been established for the CYRM-28 through positive correlations with self-esteem and acceptance (Daigneault et al., 2013) and negative correlations with PTSD (Zahradnik et al., 2010) and trauma (Collin-Vézina, Coleman, Milne, Sell, & Daigneault, 2011).

### **Test-retest reliability**

Test-retest statistics are not yet available for the CYRM-R or ARM-R, but Daigneault and colleagues (2013) determined test-retest correlation coefficients  $\geq .7$  at two-week and three-month intervals for the CYRM-28.



## 11. Guidelines for reporting (optional)

If you would like to have your study shared on the RRC website, please feel free to send us the following information, and we will be sure to add the findings in a report format.

- 1) Provide the location of your research site, as well as contact information for your project leader. Please include contact information including a mailing address, contact name, telephone number, and e-mail address.
- 2) Please also include one or two photographs relevant to your site and research. Please make sure you have permission to share any photographs, including release forms for people that appear in the photographs. If you would like to include a photo credit, please indicate how you would like it to appear. Photos without participants are also fine, such as the location of the research or the team that carried out the research.
- 3) Where possible, provide a quote from a participant, drawn from your research, that is relevant to, and descriptive of, your research and/or its findings. Alternatively, you could include a summary statement of approximately 15 words.
- 4) In approximately 200 words, outline the context (geographic, political, economic, etc.) within which your participants live, and describe the risk factors they may face. Conclude this with a brief description of the typical outcomes of your participants to these contextual risks.
- 5) In approximately 100 words, describe your research participants, breakdown by sex/gender, the range and mean of age and education level, as well as the way they are perceived as a group by their community. Alternatively, this information can be provided in a table.
- 6) In approximately 150 words, address the question of what resilience means in your particular site. Explain how this was demonstrated and consider including a quote from an individual that expresses the general sense you got from your collection of data of what resilience means in your site's particular context.
- 7) Provide the mean scores and standard deviations of the measure in the form of a table, distinguishing between the two subscales. The following table provides an example of the format you can use. If you have any other important demographic variables, include these as additional rows (e.g., refugees, non-refugees).

Mean (SD)	Personal resilience subscale	Caregiver/Relational resilience subscale	Overall scale
<i>Males</i>	35.5 (1.3)	22.5 (2.4)	64.5 (3.5)
<i>Females</i>			
Total			

- 8) If you have used site-specific questions, provide them in a separate table, together with their mean scores and standard deviations.
- 9) In approximately 300 words, summarize your findings. Identify the highest and lowest scoring questions. Offer some consideration of what these scores mean with regards to the participants in your study and the resilience process that surround them.

## Glossary

### **ARM-R**

The Adult Resilience Measure -Revised (ARM-R) is a self-report measure of social-ecological resilience suitable for use with individuals 18 or over. It was created by adapting the CYRM-R.

### **CYRM-R**

The Child and Youth Resilience Measure -Revised (CYRM-R) is a self-report measure of social-ecological resilience suitable for use with individuals aged 5-23. It was developed during the IRP.

### **PMK**

Person Most Knowledgeable. This is someone who knows the individual well, such as a parent or close friend. They can be nominated by the individual or chosen by the research team to complete the PMK-CYRM-R or PMK-ARM-R about the individual.

### **IRP**

The [International Resilience Project](#) took place between 2003 and 2005 and produced the initial Child and Youth Resilience Measure.

### **Item**

A statement or question used in the measures. For example, 'I cooperate with people around me'.

### **RRC**

The Resilience Research Centre, led by founder and Director Dr. Michael Ungar.

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## Appendix A – Decision aid for measure selection

For each question below, make a note of the option you select.

1. What are the ages of the individuals of interest in your project? \*

[A] 5-9

[B] 10-23

[C] 18 or older

2. Are your prospective participants able to complete a self-report measure or do you need (or want) to involve an informant?

[D] Self-report only

[E] Informant only

[F] Both

3. Would any individuals completing the measure potentially struggle to differentiate response options on a 5-point scale?

[G] No

[H] Yes

4. Do you think any of your respondents may have literacy/comprehension difficulties?

[I] No

[J] Yes

### Response options:

1A 2D 3G 4I = CYRM-R (child version, 5-point)

1A 2D 3G 4J = CYRM-R (child version, 5-point, simplified)

1A 2D 3H 4I = CYRM-R (child version, 3-point)

1A 2D 3H 4J = CYRM-R (child version, 3-point, simplified)

1A 2E 3G 4I = PMK-CYRM-R (child version, 5-point)

1A 2E 3G 4J = PMK-CYRM-R (child version, 5-point) \*\*

1A 2E 3H 4I = PMK-CYRM-R (child version, 3-point)

1A 2E 3H 4J = PMK-CYRM-R (child version, 3-point) \*\*

1A 2F 3G 4I = CYRM-R and PMK-CYRM-R (child version, 5-point)

1A 2F 3G 4J = CYRM-R and PMK-CYRM-R (child version, 5-point) \*\*

1A 2F 3H 4I = CYRM-R and PMK-CYRM-R (child version, 3-point)

1A 2F 3H 4J = CYRM-R and PMK-CYRM-R (child version, 3-point) \*\*

1B 2D 3G 4I = CYRM-R (youth version, 5-point)  
1B 2D 3G 4J = CYRM-R (youth version, 5-point, simplified)  
1B 2D 3H 4I = CYRM-R (youth version, 3-point)  
1B 2D 3H 4J = CYRM-R (youth version, 3-point, simplified)  
1B 2E 3G 4I = PMK-CYRM-R (youth version, 5-point)  
1B 2E 3G 4J = PMK-CYRM-R (youth version, 5-point, simplified)  
1B 2E 3H 4I = PMK-CYRM-R (youth version, 3-point)  
1B 2E 3H 4J = PMK-CYRM-R (youth version, 3-point, simplified)  
1B 2F 3G 4I = CYRM-R and PMK-CYRM-R (youth version, 5-point)  
1B 2F 3G 4J = CYRM-R and PMK-CYRM-R (youth version, 5-point, simplified)  
1B 2F 3H 4I = CYRM-R and PMK-CYRM-R (youth version, 3-point)  
1B 2F 3H 4J = CYRM-R and PMK-CYRM-R (youth version, 3-point, simplified)

1C 2D 3G 4J = ARM-R (adult version, 5-point, simplified)  
1C 2D 3H 4I = ARM-R (adult version, 3-point)  
1C 2D 3H 4J = ARM-R (adult version, 3-point, simplified)  
1C 2E 3G 4I = PMK-ARM-R (adult version, 5-point)  
1C 2E 3G 4J = PMK-ARM-R (adult version, 5-point, simplified)  
1C 2E 3H 4I = PMK-ARM-R (adult version, 3-point)  
1C 2E 3H 4J = PMK-ARM-R (adult version, 3-point, simplified)  
1C 2F 3G 4I = ARM-R and PMK-ARM-R (adult version, 5-point)  
1C 2F 3G 4J = ARM-R and PMK-ARM-R (adult version, 5-point, simplified)  
1C 2F 3H 4I = ARM-R and PMK-ARM-R (adult version, 3-point)  
1C 2F 3H 4J = ARM-R and PMK-ARM-R (adult version, 3-point, simplified)

\* If the range of ages of your participants cross age boundaries recommended by the measures you may wish to select one of the measures for the entire group or involve two or more, depending on how the range crosses the age boundaries. For example, if your sample is aged 8-12, review the items in both child and youth variants and decide whether younger children in your context are likely to be able to complete the older version. If they may not be able to, choose the younger age version. Similarly, if your sample is aged 10-30, you may wish to administer the youth version to individuals up to adulthood, and the adult version for the remainder.

\*\* There is only one level of wording of the CYRM-R for ages 5-9.

## Appendix B – Ordinal to interval conversion table

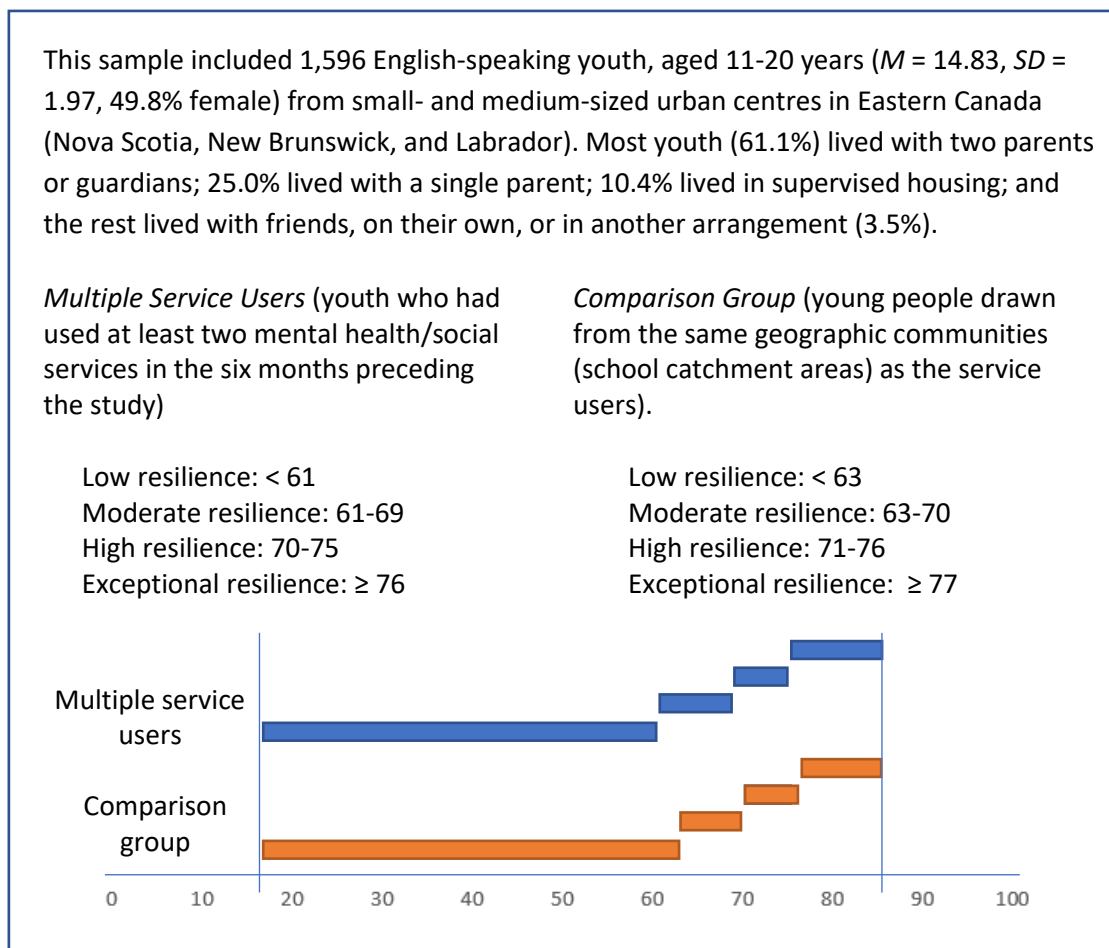
The subscales of the measures were validated using Rasch analyses, with the advantage that an ordinal to interval conversion table is generated. This enables conversion of subscale scores to values that are equally distributed so you can compare individuals and use the data to perform statistical analyses. The table should only be used with 3-point measures. To use the tables, take subscale total scores and match these in the left *raw* column to the *interval* column.

<b>Subscale 1 – Personal resilience</b>		<b>Subscale 2 – Caregiver/Relational resilience</b>	
<i>Raw subscale score (10-30)</i>	<i>Adjusted interval scale</i>	<i>Raw subscale score (7-21)</i>	<i>Adjusted interval scale</i>
10	0	7	0
11	2	8	2
12	3	9	4
13	4	10	5
14	5	11	6
15	6	12	7
16	7	13	9
17	8	14	10
18	9	15	11
19	9	16	12
20	10	17	13
21	11	18	15
22	12	19	16
23	13	20	18
24	14	21	20
25	14	<p><i>This conversion table should only be used when all subscale items have been completed.</i></p> <p><i>Conversion provided by RUMM2030 (Andrich, Sheridan, &amp; Luo, 2010).</i></p>	
26	15		
27	16		
28	17		
29	18		
30	20		



## Appendix C – Thresholds

The following was produced using the Canadian data from one of our original studies. Quartiles were derived using the overall score for each group and these have been used as the basis for the thresholds.



The boundaries above assume you are using the 5-point response versions of the measure, scored from 1-5. If you wish to convert these to another version, such as the 3-point version, or if you have added or removed items from the measure, simply divide the value by the old maximum scale total and then multiply by the new maximum scale total.

For example:

- To convert the 'low' boundary for the comparison group for use with the 3-point scale:  
 $(63 / 85) * 51 = 37.8$
- To convert the 'exceptional' boundary for the comparison group for use with a 20-item 5-point scale:  $(77 / 85) * 100 = 90.6$

## Appendix D – Ethical protocol

The following is a brief guide to ethical considerations required when using the measures and strategies to mitigate risk. We strongly recommend that all research and evaluations that use these measures go through a review process by a Research Ethics Board, or equivalent community consultation process with a local advisory committee (where no REB exists).

The CYRM-R and ARM-R can be administered to individuals or groups similar to any other survey. However, some participants may experience mild discomfort or distress when answering survey questions. Participants may also recall stressful situations, which may trigger uncomfortable memories. To mitigate these emotional risks, participants should be made aware of these possibilities prior to administering the measure, and that they can pause or terminate their involvement at any time. This should be made clear in an information or introductory letter/statement as part of a process of gaining informed consent.

If administering the measure as part of a longer survey, be mindful of how long the total survey will take to complete as some participants may experience fatigue when completing lengthy surveys. This can lead to premature termination, lack of focus when answering questions, and other issues such as participants tending to select the same response option to proceed faster.

If you are providing the measure for participants to complete themselves, ensure literacy skills and comprehension ability are sufficient. If you suspect participants may struggle to complete the measure themselves, read it aloud to them. However, if you need to ask participants whether they feel confident and comfortable completing the measure, be mindful that this may cause embarrassment to some participants who have lower levels of literacy.

You should ensure that participants are able to submit their responses anonymously, even if the measure is being read aloud. No identifying information should accompany responses. Consent forms are typically numbered and that number recorded on the participant's copy of the survey.

Confidentiality should be assured and if responses are stored – electronically or as a hard-copy – this should be done securely (e.g., a locked filing cabinet or using encryption), without identifying information, and only accessible to authorised individuals. You should also dispose of the data within a reasonable amount of time (the time frame may be specified by your country or organisation).

For further in-depth advice on ethical protocol related to survey administration we recommend the Ethical Considerations page from the Cross-Cultural Survey Guidelines group:

<http://ccsg.isr.umich.edu/index.php/chapters/ethical-considerations-in-surveys-chapter>.

If you would like to receive a sample consent form used in previous studies that included the CYRM or the ARM, please contact the [rrc@dal.ca](mailto:rrc@dal.ca).

## Appendix E – Item guide

For some individuals and organisations, it is important to know the purpose of each item in the measure. This can be useful for those contextualising or administering the measure, who may want to accompany items with contextually-relevant examples to help participants understand what is being asked. It may also be useful for those translating the measure to ensure the meaning of the item is preserved.

In general, the intention of every item in the CYRM-R and ARM-R is to measure resilience. However, two subscales have been derived for the measures and section 9 of this manual clarifies which of these subscales of resilience each item is associated with.

For information on how the items in the measures were created, see Ungar and Liebenberg (2011) for a detailed account of the mixed methods procedures that included data from multiple countries.

Detail for each item is given below.

### Item 1

	<b>Measure</b>	<b>Item text</b>
	CYRM-R (child)	Do you share with people around you?
	CYRM-R (youth)	I cooperate with people around me
	CYRM-R (youth, simplified)	I get along with people around me
	ARM-R (adult)	I cooperate with people around me
	ARM-R (adult, simplified)	I get along with people around me

This item assesses the sociability of the individual. In the child measure, this is operationalised as examining the extent to which the child shares, whereas in youth and adults, this is about cooperation and harmony with others.

### Item 2

	<b>Measure</b>	<b>Item text</b>
	CYRM-R (child)	Is doing well in school important to you?
	CYRM-R (youth)	Getting an education is important to me
	CYRM-R (youth, simplified)	Getting an education is important to me
	ARM-R (adult)	Getting and improving qualifications or skills is important to me
	ARM-R (adult, simplified)	Getting and improving qualifications or skills is important to me

This item assesses the value of education to the individual. For young children, this is phrased as asking whether performing well in school is valued to them, while the older child and youth version directly enquires whether education is valued by the individual. The adult measure does not assume individuals are still in education and so more broadly asks whether knowledge improvement via qualifications and learning skills is valued.

### Item 3

	<b>Measure</b>	<b>Item text</b>
--	----------------	------------------

CYRM-R (child)	Do you know how to behave/act in different situations (such as school, home, holy places)?
CYRM-R (youth)	I know how to behave in different social situations
CYRM-R (youth, simplified)	I know how to behave/act in different situations (such as school, home and church)
ARM-R (adult)	I know how to behave in different social situations
ARM-R (adult, simplified)	I know how to behave in different social situations (such as at work, home, or other public places)

This item asks about whether the individual knows how to behave in particular situations. For example, some may be more able to recognise the importance of being quiet and respectful in holy places or with elders. For adults, different examples are given, and some individuals may be better able to appreciate social norms linked to expected behaviours in different places (e.g., professionalism in the workplace).

#### Item 4

	<b>Measure</b>	<b>Item text</b>
	CYRM-R (child)	Do you feel that your parent(s)/caregiver(s) know where you are and what you are doing all of the time?
	CYRM-R (youth)	My parent(s)/caregiver(s) really look out for me
	CYRM-R (youth, simplified)	My parent(s)/caregiver(s) really look out for me
	ARM-R (adult)	My family have usually supported me through life
	ARM-R (adult, simplified)	My family is supportive towards me

This item addresses the connection between an individual and their parent(s)/caregiver(s) or family. For younger individuals, this relates to parent/caregiver knowledge of what an individual is doing, while for older children and youth, this is about parents looking out for them (as opposed to not caring or over-surveillance). For adults, the item is phrased to reflect the level of support given to the individual by the family.

#### Item 5

	<b>Measure</b>	<b>Item text</b>
	CYRM-R (child)	Do you feel that your parent(s)/caregiver(s) know a lot about you (for example, what makes you happy, what makes you scared)?
	CYRM-R (youth)	My parent(s)/caregiver(s) know a lot about me
	CYRM-R (youth, simplified)	My parent(s)/caregiver(s) know a lot about me (for example, who my friends are, what I like to do)
	ARM-R (adult)	My family knows a lot about me
	ARM-R (adult, simplified)	My family knows a lot about me (for example, who my friends are, what I like to do)

This item also enquires about parent(s)/caregiver(s) or family connections. In this item, participants are asked about how much their parent(s)/caregiver(s) or family knows about them as individuals. As above, the item is not about surveillance but familiarity with personal characteristics of the individual, such as who their friends are, what they like to do, etc.

## Item 6

	<b>Measure</b>	<b>Item text</b>
	CYRM-R (child)	Is there enough to eat in your home when you are hungry?
	CYRM-R (youth)	If I am hungry, there is enough to eat
	CYRM-R (youth, simplified)	If I am hungry, there is enough to eat
	ARM-R (adult)	If I am hungry, I can get food to eat
	ARM-R (adult, simplified)	If I am hungry, I can usually get enough food to eat

This item examines availability of food. For children and youth, this is about whether there is sufficient food made available to them, which is the responsibility of parents or caregivers. For adults, this is about the general availability of food in their environment.

## Item 7

	<b>Measure</b>	<b>Item text</b>
	CYRM-R (child)	Do other children like to play with you?
	CYRM-R (youth)	People like to spend time with me
	CYRM-R (youth, simplified)	People like to spend time with me
	ARM-R (adult)	People like to spend time with me
	ARM-R (adult, simplified)	People like to spend time with me

This item enquires about how liked the individual is. For young children, the item is phrased to be about whether other children like to play with them. For older individuals, it is more generally about whether others enjoy their presence, judged by a perception of how much others like to spend time with them.

## Item 8

	<b>Measure</b>	<b>Item text</b>
	CYRM-R (child)	Do you talk to your family/caregiver(s) about how you feel (for example when you are hurt or feeling scared)?
	CYRM-R (youth)	I talk to my family/caregiver(s) about how I feel
	CYRM-R (youth, simplified)	I talk to my family/caregiver(s) about how I feel (for example when I am hurt or sad)
	ARM-R (adult)	I talk to my family/partner about how I feel
	ARM-R (adult, simplified)	I talk to my family/partner about how I feel (for example, when I am sad or concerned)

This item probes the extent to which individuals feel able to talk with their parent(s)/caregiver(s) or family about their feelings.

## Item 9

	<b>Measure</b>	<b>Item text</b>
	CYRM-R (child)	Do you have friends that care about you?
	CYRM-R (youth)	I feel supported by my friends
	CYRM-R (youth, simplified)	I feel supported by my friends
	ARM-R (adult)	I feel supported by my friends
	ARM-R (adult, simplified)	I feel supported by my friends

This item examines support from friends. For young children, this is phrased as asking whether individuals have friends that care about them, while older individuals are asked directly whether they feel supported.

#### Item 10

	<b>Measure</b>	<b>Item text</b>
	CYRM-R (child)	Do you feel you fit in with other children?
	CYRM-R (youth)	I feel that I belong/belonged at my school
	CYRM-R (youth, simplified)	I feel that I belong/belonged at my school
	ARM-R (adult)	I feel that I belong in my community
	ARM-R (adult, simplified)	I feel that I belong in my community

This item examines a sense of social fit, such as asking young children whether they feel they fit in with other children. For older children and youth, the example of school is given, where individuals are asked to judge whether they feel (or felt, if they have since left) a sense of belonging to their school. Adult participants are asked whether they feel they belong in their community. Those who score lower on this item may feel unlike those around them, or outsiders in important social environments, such as school or the community.

#### Item 11

	<b>Measure</b>	<b>Item text</b>
	CYRM-R (child)	Do you think your family/caregiver(s) cares about you when times are hard (for example, if you are sick or have done something wrong)?
	CYRM-R (youth)	My family/caregiver(s) stand by me during difficult times
	CYRM-R (youth, simplified)	My family/caregiver(s) care about me when times are hard (for example if I am sick or have done something wrong)
	ARM-R (adult)	My family/partner stands by me during difficult times
	ARM-R (adult, simplified)	My family/partner stands by me when times are hard (for example, when I am ill or in trouble)

This item enquires about support from family members when the individual is experiencing personal difficulties, such as sickness, when in trouble, or financial difficulties.

#### Item 12

	<b>Measure</b>	<b>Item text</b>
	CYRM-R (child)	Do you think your friends care about you when times are hard (for example if you are sick or have done something wrong)?
	CYRM-R (youth)	My friends stand by me during difficult times
	CYRM-R (youth, simplified)	My friends care about me when times are hard (for example if I am sick or have done something wrong)
	ARM-R (adult)	My friends stand by me during difficult times
	ARM-R (adult, simplified)	My friends care about me when times are hard (for example, when I am ill or in trouble)

This item is like the previous item but asks about perceived support during personal challenges from friends.

### Item 13

	<b>Measure</b>	<b>Item text</b>
	CYRM-R (child)	Are you treated fairly?
	CYRM-R (youth)	I am treated fairly in my community
	CYRM-R (youth, simplified)	I am treated fairly in my community
	ARM-R (adult)	I am treated fairly in my community
	ARM-R (adult, simplified)	I am treated fairly in my community

This item enquires about fair treatment by others. For older children, youth, and adults, this is phrased as fair treatment in their community. Unfair treatment could involve discrimination due to group membership (racism, religion, etc) but is not restricted to this.

### Item 14

	<b>Measure</b>	<b>Item text</b>
	CYRM-R (child)	Do you have chances to show others that you are growing up and can do things by yourself?
	CYRM-R (youth)	I have opportunities to show others that I am becoming an adult and can act responsibly
	CYRM-R (youth, simplified)	I have chances to show others that I am growing up and can do things by myself
	ARM-R (adult)	I have opportunities to show others that I can act responsibly
	ARM-R (adult, simplified)	I have opportunities to show others that I can act responsibly

This item is about opportunities for demonstrating an individual's capability. For children, this is the ability to show others they are maturing and can now do things without assistance (doing homework, keeping important things safe, etc). For older individuals, this is about being able to demonstrate responsibility (such as looking after others, financial responsibility, etc).

### Item 15

	<b>Measure</b>	<b>Item text</b>
	CYRM-R (child)	Do you feel safe when you are with your family/caregiver(s)?
	CYRM-R (youth)	I feel safe when I am with my family/caregiver(s)
	CYRM-R (youth, simplified)	I feel safe when I am with my family/caregiver(s)
	ARM-R (adult)	I feel secure when I am with my family/partner
	ARM-R (adult, simplified)	I feel secure when I am with my family/partner

This item asks about a sense of security when with family. This is about how much an individual feels secure and safe when they are with family.

### Item 16

	<b>Measure</b>	<b>Item text</b>
	CYRM-R (child)	Do you have chances to learn things that will be useful when you are older (like cooking, working, and helping others)?
	CYRM-R (youth)	I have opportunities to develop skills that will be useful later in life (like job skills and skills to care for others)

CYRM-R (youth, simplified)	I have chances to learn things that will be useful when I am older (like cooking, working, and helping others)
ARM-R (adult)	I have opportunities to apply my abilities in life (like skills, a job, caring for others)
ARM-R (adult, simplified)	I have opportunities to apply my abilities in life (like using skills, working at a job, or caring for others)

This item is about feeling that there are opportunities to prepare (child and youth) or apply oneself (adult) in life. For younger individuals, this is phrased as chances to learn or develop skills that would be useful when they get older (such as household activities, job skills, or those involved in helping others). For adults, the item reflects opportunities to apply abilities such as skills at home or in the workplace.

### Item 17

<i>Measure</i>	<i>Item text</i>
CYRM-R (child)	Do you like the way your family/caregiver(s) celebrates things (like holidays or learning about your culture)?
CYRM-R (youth)	I enjoy my family's/caregiver's cultural and family traditions
CYRM-R (youth, simplified)	I like the way my family/caregiver(s) celebrates things (like holidays or learning about my culture)
ARM-R (adult)	I enjoy my family's/partner's cultural and family traditions
ARM-R (adult, simplified)	I like my family's/partner's culture and the way my family celebrates things (like holidays or learning about my culture)

This item concerns attachment to family heritage, where individuals express the extent to which they enjoy their family's traditions. For example, this may be the unique way in which an individual's family celebrates a holiday like Christmas, a birthday, or the new year.

### Additional items

We recommend the measures go through a contextualisation process prior to use (see section 6). This may result in the creation of additional items that a group believes are important to assess resilience in the target context. If new items are created, consider creating explanatory text like this to aid others who may use the measure.