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SHORT REPORT



## Comparing online and in-person surveys: assessing a measure of resilience with Syrian refugee youth

Catherine Panter-Brick<sup>a,b</sup>, Rana Dajani<sup>c,d</sup>, Dima Hamadmad<sup>e</sup> and Kristin Hadfield<sup>f,g</sup>

<sup>a</sup>Jackson Institute of Global Affairs, Yale University, New Haven, CT, USA; <sup>b</sup>Department of Anthropology, Yale University, New Haven, CT, USA; <sup>c</sup>Department of Biology and Biotechnology, Hashemite University, Zarqa, Jordan; <sup>d</sup>Jepson School of Leadership, University of Richmond, Richmond, VA, USA; <sup>e</sup>Department of Research and Development, Taghyeer Organization, Amman, Jordan; <sup>f</sup>School of Psychology, Trinity College Dublin, Dublin, Ireland; <sup>g</sup>The Trinity Centre for Global Health, Trinity College Dublin, Dublin, Ireland

### ABSTRACT

Humanitarian research with Syrian refugees can be difficult to conduct in-person, due to COVID-19 containment, security, and logistics issues. We assessed whether the online implementation of a brief, culturally grounded resilience measure would yield reliable responses for use with children and adolescents in the Middle East region. We implemented an online survey screening for socio-economic status, insecurity, prosocial behaviour, and resilience (using the Child Youth Resilience Measure, CYRM) with 119 Syrian refugees (14–18 years old; 74 male, 45 female) living in Jordan. Responses were compared with in-person data, available for a separate cohort of 324 Syrian refugees, previously sampled in Jordan with the same survey instruments. The online CYRM produced reliable and valid responses, as shown by analyses of internal reliability, convergent and divergent validity, and 7-day test-retest consistency. We reflect on logistic, ethical, and methodological challenges of online surveys, and suggest ways to plan and execute online research with hard-to-reach, crisis-affected communities.

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Mental health; online data collection; response rate; scale validation

## Introduction

Repeated calls have been made to develop simple but effective research tools that can be used for research and program evaluations with war-affected populations. In the Middle East region, much of the academic and humanitarian work with forcibly displaced children and adolescents has relied on surveys that are implemented in-person: this requires staff to establish rapport, interview, and record a participant's responses, using pen-and-paper or tablet entry (e.g. McEwen et al., 2020; Panter-Brick et al., 2018a). Since spring 2020, many regions in the Middle East have experienced lockdowns related to COVID-19 containment measures (Mimoune, 2020). Further, because forcibly displaced people are often highly mobile, it can be challenging to conduct follow up in-person surveys (Panter-Brick et al., 2020). Finally, many war-affected youth live in areas which are difficult or impossible to access due to safety issues (Stoddard et al., 2017). Given these challenges, there is a need to collect high-quality data online for research and humanitarian programs.

This study is the first to assess the reliability of an online measure of resilience, as compared to the same instrument implemented during in-person interviews, for use with children and

**CONTACT** Catherine Panter-Brick  [Catherine.Panter-Brick@yale.edu](mailto:Catherine.Panter-Brick@yale.edu)  Jackson Institute of Global Affairs, Horchow Hall, 55 Hillhouse Avenue, New Haven, CT 06511, USA; Department of Anthropology, 10 Sachem Street, New Haven, CT 06511, USA  
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adolescents in the Middle East region. The concept of resilience has proved useful to document the salutogenic aspects of refugee lives (Overland, 2011, Panter-Brick, 2021), in assessing what resources are instrumental for doing well in the wake of adversity. Yet few measures are available to assess resilience among Arabic-speaking, war-affected youth, perhaps because of the analytical, methodological, and ethical challenges to measuring resilience in cross-cultural work. Given calls for reliable and culturally relevant tools to screen for resilience and child wellbeing (Ager, 2013), scholars have developed and validated an Arabic-language resilience measure with refugee and host populations in Jordan (Panter-Brick et al., 2018b). Implemented with in-person protocols, the Child and Youth Resilience Measure (CYRM) has proved to be a useful measure of individual, family, and community-level dimensions of resilience. It has been used globally, including with refugees in Jordan (e.g. Panter-Brick et al., 2018b), Lebanon (Giordano et al., 2014), and Palestine (e.g. Abualkibash and Lera Rodríguez, 2015).

The 12-item Arabic-language CYRM is thus a simple but effective tool for both research and program evaluation, one that is relevant to the Middle East region, and yields meaningful data when implemented as a short survey. In 2020, we were contacted by programme officers from Save The Children Fund (SCF) asking if we could pivot the CYRM from an in-person to an online research tool, because humanitarian program evaluations in countries such as Jordan and Syria were increasingly difficult to conduct in-person. We therefore set to implement an online version of the CYRM with a new sample of Syrian refugee youth.

Methodologically, our aims were to assess the reliability of an online measure of resilience and to compare online with in-person implementation, with a view to reflect on logistic, methodological, and ethical challenges. In this paper, we compare convergent and divergent validity for the 12-item CYRM, delivered online in 2020/21, with available data on the 12-item CYRM collected face-to-face in 2015 (Panter-Brick et al., 2018b). We also reflect on the main challenges of online survey planning and implementation with refugee youth.

## Methods

The study was conducted with ethical approval from Yale University and the Prime Minister's Office of Jordan. Informed consent was obtained in Arabic from participating adolescents and their parents. Participants were contacted through two community-based organizations. Our convenience sample included low-income Syrian refugee youth, drawing from participants of extant and previous humanitarian projects undertaken in Amman, Mafraq, and Ramtha municipalities and Zaatari refugee camp. The first contact was a phone call from humanitarian staff to parents, in order to explain survey aims and procedures, after which the information sheet was sent over WhatsApp, requesting written consent. The second was a call from research staff, who, having signed non-disclosure agreements to keep contact details confidential, sent links to the Arabic-language Qualtrics survey directly to the adolescent's or household's smartphone. The first page of the survey asked adolescents to re-iterate consent to participate. Finally, research staff called adolescents to ask for feedback on the online survey experience. To assess test-retest reliability, we asked a sub-sample of participants to respond twice, one week apart. We offered no financial compensation, except to test-retest the sub-sample of participants – who were not informed they would receive 10 JD until after survey completion, so as not to bias response rates.

### Online survey

The sample included 119 participants (74 boys, 45 girls); of these, 69 were reached through SCF (Jordan) and 50 through the Taghyeer Foundation (Jordan). Survey data were collected from September 2020 to January 2021. At first, response rates were affected by a three-month delay between the first call to parents and the date adolescents received the survey, due to staff turnover and delayed information transfer. Thus in September, we obtained data from only 14 of the 51

families initially contacted in June (27.5% response rate): 28 families were dropped from the sample because they no longer remembered the initial call establishing consent; six households had disconnected phone numbers; three had either weak internet connection, needed priority usage for remote learning, or could not access WhatsApp. In November, we re-initiated data collection, reducing the time-lag between first and second contact; of the 114 families initially contacted by SCF, 70 completed the survey (61.4% response rate). In December/January, we recruited families to evaluate the test-retest reliability of the CYRM; we contacted 30 households, of which 27 completed the survey (90.0% response rate). There were two refusals to study participation. We removed three participants for a final sample of 119: two did not specifically tick the Qualtrics form consent agreement, and one had high levels of data missingness.

### Survey instruments

We assessed socio-economic status, insecurity, prosocial behaviour, and resilience, using the same measures piloted and tested for the in-person survey (for details on in-person survey collection, see Panter-Brick et al., 2018c). Instruments were developed with systematic attention to issues of validity and reliability in transcultural survey epidemiology (Peña, 2007, van Ommeren, 2003). Relative household wealth was assessed via a checklist of household items. Participants indicated if they had, in working order, a television, satellite, smartphone, car, refrigerator, computer, oven with gas, bedframe, washing machine, heater, fan, and water heater; with a possible range of 0–12. Human insecurity was measured by the 10-item Human Insecurity scale, with a possible range of 10–50 ( $\alpha = .89$ , Ziadni et al., 2011). Prosocial behavior was measured by the 5-item prosocial subscale of the Strengths and Difficulties Questionnaire, with a possible range of 5–15 ( $\alpha = .71$ , Goodman & Goodman, 2009). Resilience was measured by the 12-item Child and Youth Resilience Measure (CYRM) adapted for use with Arabic-speaking refugee youth, with a possible range of 12–60 (Panter-Brick et al., 2018b). Higher scores indicate more wealth, insecurity, prosocial behaviour, and resilience.

## Results

### Descriptive data

Participants were 14 to 18 years of age ( $M = 15.9$  years,  $SD = 1.02$ ). Sixty-eight were currently attending school (57.6%), and 25 were living in a refugee camp (21.0%). More than two-thirds of respondents had a working smartphone in the home (68.9%), but only 3.4% had a working computer in the home. Overall, respondents showed notable levels of resilience, as indicated by CYRM data ( $M = 49.81$ ,  $SD = 7.64$ ). We found no difference by gender in resilience, insecurity, or

**Table 1.** Survey data for the in-person and online samples (refugee youth).

	In-person			Online			Comparison	
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	$t/\chi^2$	<i>p</i>
Age (years)	324	14.13	1.94	116	15.89	1.02	9.32	<.001
% Female	324	42.3	-	119	38.0	-	0.72	.397
Time in Jordan (years)	324	3.0	1.0	113	8.18	1.53	40.88	<.001
Household wealth	324	6.57	2.18	119	5.53	2.12	4.48	<.001
Insecurity	322	67.22	20.63	111	80.55	16.02	6.19	<.001
SDQ Prosocial	324	8.30	1.73	119	7.96	1.87	1.79	.074
CYRM	318	49.56	6.83	117	49.81	7.64	0.33	.743

CYRM, Child Youth Resilience Measure; SDQ, Strength and Difficulties Questionnaire. Note: In-person data for Syrian refugee participants were available from Panter-Brick et al. (2018b). Chi square analyses and *t*-tests were used for sample comparisons.

prosocial behaviour ( $ps > .05$ ). As compared to the 2015 in-person sample, this online sample was poorer and had higher levels of insecurity, but reported similar levels of resilience and prosocial behaviour (Table 1).

### **Online survey responses**

Fewer than 10% of participants indicated having difficulties understanding the questions, while 89% thought the survey was useful to measure feelings of safety. In follow-up interviews, six participants reported that a family member helped them complete the survey, either reading or explaining the questions/choices; and two specified that they were not used to dealing with online links or WhatsApp, and needed help.

### **Reliability and validity assessment**

We assessed internal reliability of the CYRM using Cronbach's alpha. The internal reliability of the CYRM was excellent ( $\alpha = .85$ ). We assessed convergent validity of the CYRM with the prosocial subscale of the SDQ. As with the in-person survey, and suggestive of convergent validity, there was a correlation in the expected direction between the CYRM and the prosocial subscale ( $r = .47$ ,  $p < .001$ ): participants who were more engaged in prosocial behaviours also indicated greater resilience.

We assessed divergent validity of the CYRM with measures of insecurity and socio-economic status. We found mixed results. Contrary to expectations, there was no correlation between the CYRM and the Human Insecurity scale ( $r = .07$ ,  $p = .51$ ). As expected, and as found for the in-person survey, there was a correlation between the CYRM and relative household wealth ( $r = .26$ ,  $p = .004$ ): participants with more household resources indicated being more resilient.

To assess test-retest reliability, we asked 27 participants to complete just the CYRM online, one week after first responses. We obtained paired data for 20 participants (9 boys, 11 girls); the other 7 did not respond, even after a reminder message. These participants took on average 4.2 minutes ( $SD = 2.37$ ) to complete the shortened survey. A paired samples t-test indicated no change over time in how participants responded to the CYRM,  $t(18) = 1.57$ ,  $p = .14$ , with a strong correlation ( $r = .73$ ,  $p < .001$ ) indicating response consistency; this was also the case with responses during the in-person survey.

## **Discussion**

Our results suggest that the online implementation of the resilience measure (CYRM-12) yields reliable responses among Arabic-speaking refugee youth in Jordan. We focus this discussion on the logistic, ethical, and methodological challenges to executing the online survey, in order to suggest how best to plan and execute online research with hard-to-reach, crisis-affected communities.

There are logistic and ethical questions to contacting adolescents online, especially where asking about their mental health. As expected, not all respondents had access to a personal or family phone, which raises ethical questions of data protection and privacy, as well as methodological issues regarding potential sampling biases (Holt et al., 2020). The suitability of online surveys is limited, for example, by phone coverage in the study area, and the practicalities of drawing convenience samples from lists of participants previously known to research or humanitarian organizations (Holt et al., 2020). It is estimated that 96% of adult refugees in Jordan own a phone, although only 73% of these are smartphones (Caswell, 2019). The WhatsApp messaging app is most frequently used for communication among refugees in both Jordan and Syria (ICRC, 2020).

We encountered an unexpected challenge when trying to ascertain test-retest reliability. Built-in survey functions which link data for different time points per respondent may not work when links are

sent via WhatsApp rather than over email. In order to facilitate the pairing of test and retest responses, we included three extra questions: names, birthdates, and sequences of memorable numbers (such as three digits of a well-known phone number). These three options offer varying levels of respondent anonymity and matching accuracy over multiple survey points. We found that multiple participants entered a different sequence of numbers in their test and retest responses, even though the online surveys were only one week apart, while some participants selected the same sequence (e.g. 123) – it was thus impossible to pair their responses using this information alone. As for birthdates, some children indicated a different date in the test v. the retest; moreover, because of the ‘birthday paradox,’ with a sample of even 23, one can expect to have two participants report the same birthdate. In the end, we were unable to pair up two respondents, even with completed name, birthdate, and memorable number sequence information. We also noted that one of the participants completed the survey three times, with the same identifying information, despite only being asked to complete it once, which suggests a weak internet connection or poor comprehension of survey instructions.

The success of this study hinged on effective methods for reaching participants, through partnerships with local humanitarian organizations. Based on our experiences, we recommend minimising the time gap between seeking participant consent and following-up with the actual survey. Our two-step procedure was adopted because ethical review specified that parental consent to study participation would be obtained in written format; this necessitated one call (by humanitarian staff) to ask for verbal parental consent followed by a written electronic response from parents over email or WhatsApp, and one call (by research staff) to send the survey link to adolescents. Seeking only verbal consent would accelerate this timeline, but might need verifiable third-party attestation. From a research team’s perspective, minimizing time gaps in a two-step consent procedure is important, but we note that time still needs to be invested in other aspects of survey preparation: rapport- and trust-building, calling families, and following-up with participants for data collection.

Finally, with respect to choice of online software, it would be worth considering using a platform that allowed for data presentation and output in multiple languages (for example, Kobo Toolbox, designed for humanitarian contexts). For a longitudinal study, it would be useful to use software that can auto-link participant responses over multiple survey points when sent over WhatsApp, not just email; if this is not possible, then asking for multiple identifying characteristics proves necessary.

This study has exemplified ways to collect reliable and valid data, online, to assess resilience with refugee adolescents. We found that online implementation produces a similar pattern of responses to in-person data collection; it can therefore be a useful platform for data collection in the Middle East region. The CYRM, specifically, demonstrated good measurement reliability and validity in both online and in-person surveys, and is brief enough to be incorporated in (online) research and program evaluation focused on mental health, psychosocial support, or social and emotional learning.

## Disclosure statement

No potential conflict of interest was reported by the authors.

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## Notes on contributors

**Catherine Panter-Brick**, PhD, is a medical anthropologist and professor at Yale University, New Haven (USA). She leads research initiatives on risk and resilience to develop effective partnerships between scholars, practitioners, and policymakers.

**Rana Dajani**, PhD, is a Professor of molecular cell biology at Hashemite University (Jordan). Her research focuses on the signatures of war and displacement across generations, and on ways to build networks, do better science, and develop programs rooted in the community.

**Dima Hamadmad**, BA, is a research scientist with a background in Biotechnology and Genetic Engineering. She has worked on multiple research projects with Syrian refugee families, as Program Manager for the Taghyeer Foundation (Jordan office).

**Kristin Hadfield**, PhD, is an assistant professor in the School of Psychology and the Trinity Centre for Global Health at Trinity College Dublin (Ireland). Her research examines how the mental health and wellbeing of children and adolescents who experience substantial adversity can best be promoted.

## References

- Abuakibash, S. K., & Lera Rodríguez, M. J. (2015). Psychological resilience among Palestinian school students: An exploratory study in the West Bank. *International Humanities Studies*, 2(3), 1–20.
- Ager, A. (2013). Annual research review: Resilience and child well-being—public policy implications. *Journal of Child Psychology and Psychiatry*, 54(4), 488–500. <https://doi.org/10.1111/jcpp.12030>
- Caswell, J. (2019). *The digital lives of refugees: How displaced populations use mobile phones and what gets in the way*. GSMA Mobile for Humanitarian Innovation. <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/07/The-Digital-Lives-of-Refugees.pdf>
- Giordano, F., Boerchi, D., Hurtubia, V., Maragel, M., Koteit, W., Yazbek, L., & Castelli, C. (2014). Risk and protection in mental health among Syrian children displaced in Lebanon. *Proceedings of the Second World Congress on Resilience*, 703–712.
- Goodman, A., & Goodman, R. (2009). Strengths and difficulties questionnaire as a dimensional measure of child mental health. *Journal of the American Academy of Child & Adolescent Psychiatry*, 48(4), 400–403. <https://doi.org/10.1097/CHL.0b013e3181985068>
- Holt, C., Hurni-Cranston, X., Ahmed, L. M., & Mastroianni, F. (2020). Data collection: Lessons learned from the Covid-19 pandemic in Rohingya refugee camps, Cox's Bazar, Bangladesh. *Humanitarian Alternatives*, 15, 79–93.
- ICRC. (2020). *Humanitarian futures for messaging apps: Understanding the opportunities and risks for humanitarian action*. International Committee of the Red Cross. <https://www.icrc.org/en/download/file/42255/humanitarian-futures-for-messaging-apps.pdf>
- McEwen, F. S., Moghames, P., Bosqui, T., Kyrillos, V., Chehade, N., Saad, S., Abdul Rahman, D., Popham, C., Saab, D., Karam, G., Karam, E., & Pluess, M. (2020). Validating screening questionnaires for internalizing and externalizing disorders against clinical interviews in 8 to 17-year-old Syrian refugee children. *Technical working paper*. QMUL.
- Mimoune, N. B. (2020, December 16). *Policy and institutional responses to COVID-19 in the Middle East and North Africa: Jordan*. Brookings Doha Center. <https://www.brookings.edu/research/policy-and-institutional-responses-to-covid-19-in-the-middle-east-and-north-africa-jordan/>
- Overland, G. (2011). Generating theory, biographical accounts and translation: A study of trauma and resilience. *International Journal of Social Research Methodology*, 14(1), 61–75. <https://doi.org/10.1080/13645579.2010.483078>
- Panter-Brick, C., Dajani, R., Eggerman, M., Hermosilla, S., Sancilio, A., & Ager, A. (2018a). Insecurity, distress, and mental health: Experimental and randomized controlled trials of a psychosocial intervention for youth affected by the Syrian crisis. *The Journal of Child Psychology and Psychiatry*, 59(5), 523–541. <http://onlinelibrary.wiley.com/doi/10.1111/jcpp.12832/full>
- Panter-Brick, C., Eggerman, M., Ager, A., Hadfield, K., & Dajani, R. (2020). Measuring the psychosocial, biological, and cognitive signatures of profound stress in humanitarian settings: Impacts, challenges, and strategies in the field. *Conflict and Health*, 14, 40. <https://doi.org/10.1186/s13031-020-00286-w>
- Panter-Brick, C. (2021). Resilience Humanitarianism and Peacebuilding. In M. Ungar (Ed.) *Multisystemic Resilience: Adaptation and Transformation in Contexts of Change*. Oxford, Oxford University Press, pp.361–74.
- Panter-Brick, C., Hadfield, K., Dajani, R., Eggerman, M., Ager, A., & Ungar, M. (2018b). Resilience in context: A brief and culturally-grounded measure in Syrian refugees and Jordanian host-community adolescents. *Child Development*, 89(5), 1803–1820. <https://doi.org/10.1111/cdev.12868>
- Panter-Brick, C., Kurtz, J., & Dajani, R. (2018c). What strong partnerships achieve: Innovations in research and practice. *Humanitarian Exchange*, 72, 15–19. <https://odihpn.org/magazine/what-strong-partnerships-achieve-innovations-in-research-and-practice/>

- Peña, E. D. (2007). Lost in translation: Methodological considerations in cross-cultural research. *Child Development*, 78(4), 1255–1264. <https://doi.org/10.1111/j.1467-8624.2007.01064.x>
- Stoddard, A., Jillani, S., Caccavale, J., Cooke, P., Guillemois, D., & Klimentov, V. (2017). Out of reach: How insecurity prevents humanitarian aid from accessing the neediest. *Stability: International Journal of Security and Development*, 6(1), 1–25. <https://doi.org/10.5334/sta.506>
- Van Ommeren, M. (2003). Validity issues in transcultural epidemiology. *The British Journal of Psychiatry*, 182(5), 376–378. <https://doi.org/10.1192/bjp.182.5.376>
- Ziadni, M., Hammoudeh, W., Rmeileh, N. M. A., Hogan, D., Shannon, H., & Giacaman, R. (2011). Sources of human insecurity in post-war situations: The case of Gaza. *Journal of Human Security*, 7(3), 23–36. <https://doi.org/10.3316/JHS0703023>