
Assessing Resilience Across Cultures Using Mixed Methods: Construction of the Child and Youth Resilience Measure

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Abstract

An international team of investigators in 11 countries have worked collaboratively to develop a culturally and contextually relevant measure of youth resilience, the Child and Youth Resilience Measure (CYRM-28). The team used a mixed methods design that facilitated understanding of both common and unique aspects of resilience across cultures. Quantitative and qualitative stages to its development ensure the CYRM-28 has good content-related validity across research sites. Crossover comparison analyses of the findings from the quantitative administration of the pilot measure with 1,451 youth and qualitative interviews with 89 youth support the CYRM-28 as a culturally sensitive measure of youth resilience. The implications of this mixed methods approach to the development of measures for cross-cultural research are discussed.

Keywords

resilience, cross-cultural collaboration, multisite research, youth, Child and Youth Resilience Measure, mixed methods instrument development

Studies of resilience have most often relied on quantitative methods with samples of children and youth who face significant disadvantage in countries that Kagitçibasi (2007) describes as Minority World. The Minority World (also referred to as the West or Developed World) includes people who form the dominant culture in countries that are numerically small but exert a Eurocentric bias in areas of politics, economics, science, and art. Majority World cultures, which include economically underdeveloped nations, former East Block nations with economies in transition, and marginalized populations such as immigrants and native peoples living in the Minority World, have yet to be systematically included in studies of resilience. Most commonly, Minority World researchers describe resilience as a quality of individuals that reflects their capacity to engage in processes that make it likely they will overcome adversity and achieve normal or exceptional levels of psychosocial development (e.g., they will go to school, maintain a prosocial peer group, and avoid delinquency; Garmezy, 1983; Masten, 2001; Murphy & Moriarty, 1976; Rutter, 1987). As a consequence, and with only a few notable exceptions such as Werner and Smith's (1982) work on the Island of Kuaii and studies of African Americans and Native

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American's by McCubbin et al. (1998), the study of individual resilience and its resulting shift in focus from psychopathology to the protective processes that are associated with positive development has occurred with relatively little attention to cultural and contextual differences (Ungar, 2011). When cultural variation has been accounted for, most often through the study of African American or Latina/Latino youth (i.e., Parke et al., 2004), the effect of cultural immersion within the dominant culture, and heterogeneity among ethnoracial minorities themselves, has been largely overlooked. This raises questions as to whether resilience as it is measured represents a universal construct. Furthermore, although other psychological measures, such as Achenbach's Child Behavior Checklist (Achenbach, 2008), may demonstrate high-factorial invariance across cultures, such measures have relied on the export of psychological concepts from the Minority World. It is unclear whether indigenous concepts in Majority World contexts that are not being measured may better account for variability between ethnocultural groups and produce more valid findings. Without taking the time to contextualize measures and grow them through dialogue within and between cultures, we cannot know whether resilience researchers have overlooked unique aspects of psychological functioning related to positive development under stress (Greene & Hill, 2005).

The purpose of the Resilience Research Centre (RRC) and its network of collaborators globally has been to explore both *etic* (homogeneous) and *emic* (heterogeneous, indigenous) conceptualizations of resilience (Ungar, Lee, Callaghan, & Boothroyd, 2005; Ungar & Liebenberg, 2005). Rather than a quality of the individual, a social ecological interpretation of resilience is hypothesized:

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 and experienced in culturally meaningful ways. (Ungar, 2008, p. 225)

Understood this way, resilience is the qualities of both the individual and the individual's environment that potentiate positive development. Good outcomes are negotiated benchmarks of psychosocial growth co-constructed through interaction between marginalized ethnic and racial groups and those who control the psychological discourse that defines what doing well means in stressful contexts. When examined across cultures, however, potential indicators of resilience (synonymous with meeting expectations for functional competence in culturally relevant ways) must be negotiated. Different internal and external assets (e.g., a sense of humor, social support, and a safe community) contribute differently to positive development depending on the stressors in a child's life (Luthar, Cicchetti, & Becker, 2000). Consequently, resilience is understood to be particularly susceptible to contextual variation, access to the resources available to support positive development in Minority and Majority World settings, and the differences in power between individuals and groups to define their own well-being (Bottrell, 2009).

In this article, our objective is to detail the initial development of the Child and Youth Resilience Measure-28 (CYRM-28).¹ In designing the CYRM-28, our goals were threefold. First, we sought to create a tool for the cross-cultural study of resilience that could account for the psychosocial resources available to youth globally, making cross-cultural comparison of developmental outcomes associated with resilience possible. Second, we were seeking a way to discern which internal and external assets most influence successful developmental outcomes across all the cultural groups included in the study. And third, we wanted to identify the elements of a mixed methodology that was effective in the development of culturally sensitive psychological measures that avoided the exporting of concepts from Minority to Majority World contexts.

The RRC's mixed methods approach to measurement development was informed by Mertens's (2003) transformative–emancipatory research paradigm. Mertens's approach emphasizes the participation of respondents in all phases of the research as well as understanding the values and meaning that are part of both the research process and people's experiences of the phenomenon under study. In asking questions across cultures, and in an effort to avoid the imposition of Minority World bias, a team of researchers from 14 communities in 11 countries used their resources to develop the measure. By including more communities from Majority World contexts than Minority ones, the research was able to reflect the experiences of non-Western youth who, globally, outnumber their Western peers. Mixed methods were necessary to identify emic factors (including community values related to resilience) relevant to young people in cultures and contexts that are underrepresented in the Minority World literature. The use of mixed methods also allowed us to compare the results of our quantitative findings with young people's descriptions of their experiences of complex interactions to nurture and maintain well-being within their challenging social ecologies. We agree with Mertens's assertion that ontologically, sensitivity to the experiences of marginalized, stressed, populations requires methods that capture the diversity of people's viewpoints with regard to their social locations. As such, by having begun with exploratory qualitative data, the questions contained in the quantitative measure are rooted in the experiences of individuals from multiple cultures and contexts. Findings from the analysis of additional qualitative data also informed the quantitative analysis and findings, affecting the structure of the CYRM-28. In this way, the CYRM-28 is designed to demonstrate good content validity within each research site in which it was piloted while still sharing enough homogeneity to make it useful for cross-national comparisons.

Previous Research on Resilience Measures

Studies of resilience either employ standardized measures such as the subscales of the Strengths and Difficulties Questionnaire (Goodman, 2001) to measure the prevalence of behaviors and cognitions thought to be congruent with positive development or develop their own scales based on reviews of the literature most often published in Minority World journals. Examples of these measures include the Resilience and Youth Development Module (RYDM; http://www.wested.org/cs/chks/print/docs/hks_resilience.html) of the California Healthy Kids Survey and Wagnild and Young's (1993) Resilience Scale, among others (e.g., Biscoe & Harris, 1994; Donnon & Hammond, 2007; Hjemdal, 2007; Jew, Green, & Kroger, 1999; Oshio, Nakaya, & Kaneko, 2002; Springer & Phillips, 1997). Though the word resilience is often used in their titles, most measures provide an assessment of strengths that are relevant to all young people regardless of the degree of adversity they face. In designing the CYRM-28, we sought to include an audit of the strengths that were the most relevant to populations under stress by conducting focus groups (and later qualitative interviews) with youth and those responsible for their well-being from Minority and Majority World contexts where their youth are exposed to extreme adversity. We reasoned that internal and external assets (like high school engagement among racialized minorities in the United States and a personality trait such as shyness in China) would predict successful child development differently depending on the interaction between the asset, the risks facing the child, and the context in which the interaction takes place (Chen, DeSouza, Chen, & Wang, 2006; Shernoff & Schmidt, 2008). The resulting measure shows marked differences from others that assess resilience. Although individual and relational/family factors are just as prominent, community supports, values, and culturally distinct factors are unique features of the CYRM-28.

The RYDM, for example, measures 11 external and 6 internal assets. Surveys of more than 300,000 students in California show direct relationships between higher asset scores and lower rates of problem behaviors like delinquency, drug abuse, and truancy. Questions, however, are

biased toward a Minority World middle-class context. Children are assumed to have opportunities for self-actualization through afterschool recreational activities and postsecondary education. Questions in the Module include “I am involved in music, art, literature, sports or a hobby” and “I plan to go to college or some other school after high school.” Issues of social justice, food security, cultural hegemony, the necessity of children to work, do chores, or develop coping strategies appropriate to marginalized communities are not reflected in the RYDM’s questions despite the administration of the measure to many cultural minorities.

To design culturally sensitive measures, Saakvitne, Tennen, and Affleck (1998) advise researchers to strike a balance between nomothetic and ideographic research methods, roughly equivalent to the differences between qualitative life narratives and quantitative population-based research. Van de Vijver and Leung (1997) argue that culture must be replaced by its constituents, or context variables, and that problems of equivalence (Does a measure in one culture relate to the measure of the same factor in another?) need to be addressed if measures are to retain their content validity.

Education, for example, appears in most studies of cultural minorities as a valued asset. How much education, and its protective function, however, depends on the degree of marginalization a young person experiences. For example, Black students in the United States are more likely to report engagement at school than their White peers, but school attendance and a sense of belonging at school does not necessarily mean higher GPAs for Black students (Shernoff & Schmidt, 2008). Understood with attention to the intersectionality of class and race, how educational engagement protects Black students is different from how it protects Whites. In this regard, Swartz (1999) argues that cross-cultural studies must avoid the tendency to test one set of biased indicators (typically originating in the Minority World) in diverse cultural contexts. Cross-national studies face a related problem: How do we balance assumptions of homogeneity across Minority and Majority World contexts with the need for sensitivity to within group and between group heterogeneity?

Mixed Methods and the Study of Resilience Across Cultures

Though an increasing number of researchers call for greater cultural relativism in studies of resilience (American Psychological Association, Task Force on Resilience and Strength in Black Children and Adolescents, 2008; Robinson, 2007), there remains little evidence of methodological innovation. Consequently, quantitative methods may be avoided altogether in favor of qualitative methods that are more amendable to capturing the nuances of hidden resilience locally (Tudge, 2008).

Mixed methods, however, can help address concerns related to the internal validity and generalizability of the resilience construct. According to Onwuegbuzie, Bustamante, and Nelson (2010), mixed research is particularly useful for measurement development when seeking to ensure construct validity across cultures. Their 10-step process for instrument development and construct validation (IDCV) emphasizes multiple sources of data and crossover analyses. In reports detailing the development of resilience measures, we find evidence of qualitative inquiry only during the earliest phases of item generation. In contrast, our goal when constructing the CYRM-28 was to build a more culturally sensitive measure with face and item validity (we wanted a measure that was perceived as relevant by all our global partners and showed the potential for discriminant validity in multiple contexts). Achieving this goal meant a more reciprocal research design congruent with mixed methods as used within a transformative paradigm. To challenge the cultural bias of existing Minority World theories and measures of resilience, and develop ones that demonstrate greater cultural relevance to Majority World populations, we included qualitative phases of research to facilitate the inclusion of questions regarding culturally relevant (and typically marginalized) assets.

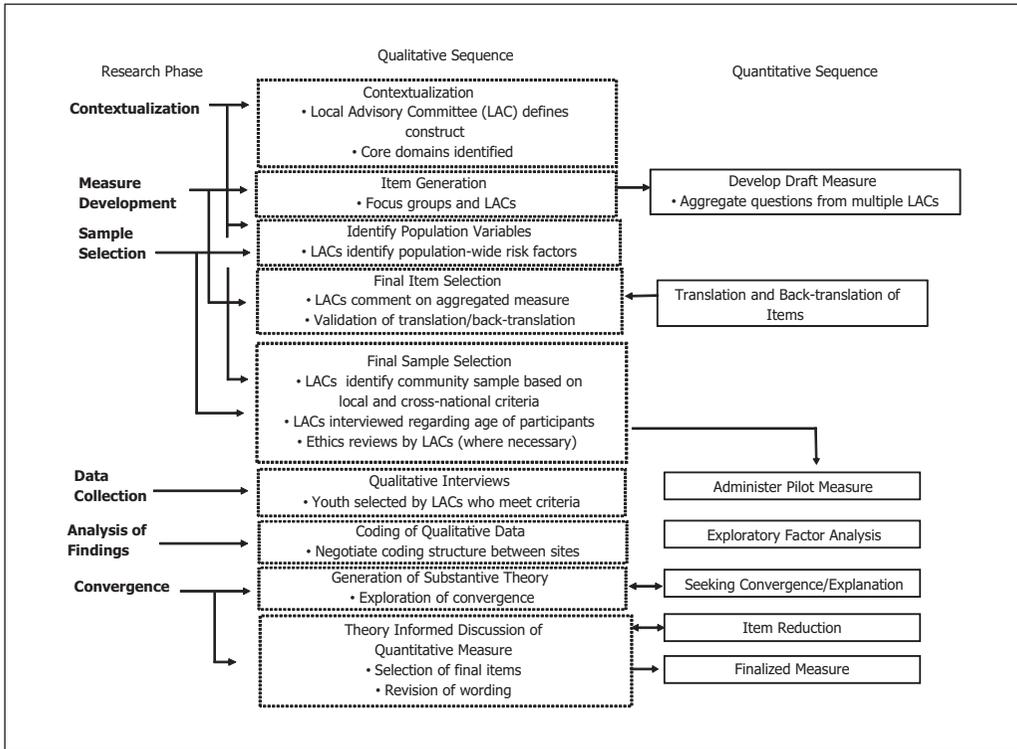


Figure 1. Qualitative and quantitative dimensions of the CYRM development

A purely emic approach to research would have resulted in distinct measures for each culture, whereas a purely etic approach would have ignored cultural relevance, superimposing a narrow understanding of resilience on the CYRM's development across cultures (Tweed & DeLongis, 2006). Sanchez, Spector, and Cooper (2006) argue that when language and culture are not accounted for in scale development and their application, sample comparisons become problematic "because we cannot be certain that the degree of the construct represented by the scale values associated with each item is equivalently calibrated across countries" (p. 189). Exploration of local understandings of the research topic is recommended before finalizing designs, necessitating a more qualitative and dialogical process that facilitates integration of the target population's voice. Reflecting Tashakkori and Creswell's (2007) definition of mixed methods research as one of integration, data emerging from one phase of the RRC study was used to inform subsequent phases of the research (see Figure 1). Specifically, we borrowed from the fields of population studies, family planning, and reproductive health as well as Cialdini's (1980) notion of "full-cycle" research and Mertens's (2003) transformative–emancipatory approach to research. In practice, this meant that comment and review by local advisory committees (LACs) informed each phase of the research. These community-based oversight committees helped interpret findings from each of the qualitative and quantitative data collection activities identified in Figure 1.

Developing the Child and Youth Resilience Measure

Setting

As the goal of the study was to investigate tensions between homogeneity and heterogeneity in outcomes associated with resilience, research sites were purposefully chosen to maximize

variability between youth populations (Ungar & Liebenberg, 2005). Research sites included the following: Sheshatshiu, an Aboriginal Innu community in Northern Canada; Hong Kong, China; East Jerusalem and Gaza, Palestine; Tel Aviv, Israel; Medellín, Colombia; Moscow, Russia; Imphal, India; Tampa, Florida; Serekunda, the Gambia; Njoro, Tanzania; Cape Town, South Africa; Halifax, Canada; and Winnipeg, Canada (two sites, one with urban Aboriginal youth and the other with non-Aboriginal youth in residential care). Participating communities were purposefully selected based on (a) cultural differences, (b) differences in the nature of the risks facing individual youth (all participants were sampled from one population of youth-at-risk identified locally, such as youth living in poverty, exposed to violence, or racially marginalized), and (c) the ability of the principal investigator to locate an academic partner with the capacity to supervise the research locally. A small amount of funding was provided by the RRC to facilitate the research and travel to meetings. It was anticipated that the variability of the sample would help the team document differences in young people's navigations and negotiations for resources and the related traits and processes associated with positive development in each community.

The Research Team

Assembling an international and multicultural research team furthered our move away from what Tweed and DeLongis (2006) describe as "the problems of imposed-etic research" (p. 215). The international research team consisted of at least one academic from each of the 14 research sites. Additionally, each site had its own local research team comprising the academic team member, a local site researcher (ordinarily a younger individual hired from the community in which the research was to be conducted), and an LAC consisting of approximately five individuals, both community members and professionals, who were seen as having something important to contribute to our understanding of young people locally (they were informally nominated to the LAC by their peers based on personal or professional knowledge of issues related to youth-at-risk). Committee members were typically drawn from the organizations that provided access to youth in their communities (e.g., youth-oriented nongovernmental organizations, schools, orphanages, and state-sponsored programs for disadvantaged youth) and also included at least one academic from an RRC partner institution. Where possible, a parent, teacher, or other community professional (usually known to the community youth organization or school from where the youth were sampled) was also invited to join the LAC. Coordination of the research across sites was facilitated by the principal investigator and a project manager based at the RRC in Halifax, Canada.

Ethics

Ethics approval for the entire study was obtained from the host institution of the RRC. Approval was also obtained from academic institutions, government departments, or the LACs themselves as required by the research policies applicable to each site. Local ethics approval ensured that norms required by Minority World institutions were reviewed for appropriateness in each context. LAC approval underscored cultural appropriateness of the research in each site. Given the complexities of working safely with high-risk youth populations, approval was granted by the RRC's institutional Research Ethics Board to not require parental consent if seeking this consent prevented youth from participating in the study. In such instances, another adult known to the youth was required to be present during the consent process. This ensured the ethical disclosure by the researcher of the conditions for the youth's participation, including the voluntary nature of the research. Adoption of this protocol meant that youth who may ordinarily be excluded from the research—often those youth most marginalized in communities—were able to participate. It also meant that the autonomy of youth living independently (e.g., youth living on the street or in

child-headed households) was respected. Youth were reimbursed for their participation in the study.

Initial Development of the CYRM

Initial team meetings facilitated a cultural decentering of the research by overrepresenting Majority World participants (Van de Vijver & Leung, 1997). Face-to-face consultations over 3 days in 2003 between all members of the international research team were used to establish the design of the mixed methods study as well as a preliminary understanding of the term *resilience* (building on the comments received from the community LACs prior to the meeting). It was at this meeting that team members began to refer to resilience as “doing well despite adversity” and identifying both unique and common ways young people “do well” in their communities (e.g., staying in school, avoiding the use of illegal drugs, maintaining attachment to their caregivers, avoiding early sexual activity/pregnancy, preparing for adult responsibilities). As our goal was to create a single measure of resilience, 32 similar domains of inquiry were identified as common across all 14 communities. Each contributes to the positive development of at-risk youth (see Ungar & Liebenberg, 2005, for details). The 32 domains were then grouped into four clusters that reflected individual (e.g., assertiveness, problem-solving ability), relational (e.g., social competence, quality of parental monitoring), community (e.g., rites of passage, safety, and security), and cultural (e.g., affiliation with a religious organization, a life philosophy) aspects of resilience.

On their return home, each academic partner led two focus groups (one with youth and one with adults) in their respective communities asking what would be the most important ways youth thrive when faced with adversity. The goal of these groups was to generate questions for inclusion in the quantitative measure based on youth and adult community voice rather than a survey of literature already dominated by Minority World perspectives. Groups varied in reported size from 3 to 15 participants, selected from community organizations and schools with which LAC members were affiliated. Individuals who were seen as having something important to say about growing up well in their community and who were knowledgeable about the risks faced by youth were invited to participate. Adult participants included frontline staff, professionals, parents, and individuals who were considered by their community to be resilient. Youth participants included young people who were considered by their community to be doing well in spite of facing significant adversity. Members of the LAC were sometimes included in the focus groups, though they were more often invited to comment on initial findings afterwards and to synthesize the questions suggested by the focus groups into a single comprehensive list that was then shared between research sites.

All questions were worded positively to ensure cross-site comparisons and facilitate aggregation. Questions suggested by each site were tagged with a site identifier and sorted thematically, using the original 32 domains and the four clusters (individual, relational, community, and cultural factors) as a guide. Questions that did not fit under one of these domains, but were felt important by members of an LAC, were retained for discussion. Using electronic communication, the principal investigator merged all 14 sets of questions into one universal set (site identifiers allowed the team to trace item origin) and then negotiated a final list of items based on team consensus. Within each cluster, questions common to a majority of sites were identified and retained. Questions that were unique or relevant only to one or two sites were included in a separate site-specific section of the CYRM that allowed researchers to ask up to 15 questions of local importance.

Fifty-eight common questions were finally selected for their overarching applicability to contexts and representativeness of the diversity of cultures included in the study. For example, in the original 58-item version of the CYRM, Question 8 (“Do you need to cooperate with people

around you if you want to succeed?") originated from India and measures dependence on others. Question 34 ("Do you feel supported by your friends?") originated from The Gambia and measures relationship traits. Commitment to community well-being is measured by CYRM Question 47 ("Do you think it is important to serve your community?") originated in Hong Kong. In many cases, the underlying meaning of questions was explored through cross-site conversations resulting in the revision or rewording of the original item. For example, CYRM Question 25 ("Are you proud of your ethnic background?"), originating from Russia and measuring cultural and/or ethnic identification, was originally phrased as "Do you like Russian folk traditions?" Duplication, redundancies, and questions that were too specific to one culture were excluded. The final 58 items that remained were then returned to the LACs in each site for comment and critique.

Finally, questions were arranged into a "To what extent . . ." format incorporating a 5-point Likert-type rating scale (1 = *Not at all*; 2 = *A little*; 3 = *Somewhat*; 4 = *Quite a bit*; and 5 = *A lot*). Person-related context variables included at the start of the CYRM provided demographic data on participating youth. Questions establish racial and ethnic backgrounds as well as living arrangements with family members (kin and nonkin).

The reading level for the questions was decided by local site researchers and made appropriate to their setting (Bell, 2007; Borgers, de Leeuw, & Hox, 2000). Where necessary, the CYRM was translated into the local language and then back-translated into English to ensure accuracy (Brislin, 1970). Although local academic team members were responsible for the translation at each site (our budget did not include sufficient funds for professional translators), the process included the entire local research team (research assistants and members of the LACs) and the principal investigator in a process where possible translations of all items were negotiated. Central to translation of the CYRM was a dialogical process ensuring that each item retained its intended meaning rather than its literal meaning. The presence of research teams that included the LACs meant that subtleties of language were accounted for in the translation. As Sanchez et al. (2006) argue, translators should be selected for their knowledge of local expressions of attitudes and emotions as "a linguistically imperfect translation may provide better psychological equivalence than a linguistically perfect one" (p. 193). There was extensive conversation between sites when complex (e.g., multiple meanings in the course of translation) or troubling (e.g., questions with a lack of cultural sensitivity, such as those relating to sexual behavior and drug use) items were identified.

The inclusion of Majority World researchers and community members in large numbers helped ensure a plurality of perspectives and the content validity of the 58 items chosen for the pilot version of the CYRM. This polyphony is evident in the uniqueness of some of the questions chosen (many of these questions had not previously been the focus of resilience research in the Minority World). Among the topics covered are social equality ("Are you treated fairly in your community despite how others see you?" "Do you have opportunities to show others that you are becoming an adult?"), access to resources ("Do you eat enough most days?" "Do you have opportunities to develop job skills that will be useful later in life?"), and cultural adherence ("Do you enjoy your family and community's traditions?" "Are you proud of your ethnic background?").

Youth Sample: Quantitative

Within each site, 60 or more youth participated in the pilot administration of the CYRM. Final sample size at each site was determined by the local research team's capacity to conduct the research. Participants were purposively selected by local research teams, including the LAC. The participants all faced at least three culturally significant risk factors based on informal assessment by members of the LACs (as a group, risks were identified and then youth identified in the community who met the selection criteria). Risks included, but were not limited to, exposure to

Table 1. Youth Participants by Site, Age and Gender

Site	Qualitative Participants	Quantitative Participants		Male		Female		Age	
		N	%	N	%	N	%	Mean	SD
The Gambia	2	81	5.6	31	4.5	50	6.6	20	2.35
Russia	4	82	5.7	43	6.2	39	5.2	18	2.97
Tanzania	10	75	5.2	28	4	47	6.2	15	1.36
India	2	60	4.1	32	4.6	28	3.7	15	2.06
Northern Canada ^a	2	60	4.1	30	4.3	30	4	16	1.87
South Africa ^b	3	60	4.1	29	4.2	29	3.8	19	1.86
Palestine	3	122	8.4	81	11.7	41	5.4	16	2.34
Southern Canada ^c	17	124	8.5	81	11.7	43	5.7	16	2.54
China ^b	2	344	23.7	188	27.1	155	20.6	13	0.81
Southern USA	16	110	7.6	0	0	110	14.6	19	0.99
Israel	24	251	17.3	110	15.9	141	18.7	15	1.42
Colombia	4	82	5.7	41	5.9	41	5.4	17	1.98
Total ^b	89	1451	100	694	47.9	754	52.1	16	2.62

a. Sheshatshiu, Labrador.

b. Gender of three participants unspecified (South Africa: $n = 2$; China: $n = 1$).

c. Consisting of three sites, Halifax, and Winnipeg (Aboriginal and non-Aboriginal).

war and violence; family breakdown; poverty; social or economic dislocation; marginalization because of race, ethnicity, or ability; and experience of addiction in the family. Participants were identified either by their organizational affiliation (they participated in a program for youth-at-risk), school (they attended school in a community where there was heightened risk and high rates of school dropout), or were part of a community sample of young people referred individually by LAC members and selected specifically for their exposure to risk and perception by others as coping adequately with age-appropriate life tasks.

Equal numbers of boys and girls were sought with the exception of Tampa, Florida, where only girls were sampled (here validation of the CYRM formed part of a related study of teenage mothers already underway). Participants were between 12 and 23 years of age.² Though the age differences were unusual, selection reflects divergent constructions of youth across cultures (Lesko, 2001). The international team reasoned that since our goal was to understand resilience as a more ecological and cultural construct, respect for culturally normative patterns of social expectations and role fulfillment within each site was necessary. Research teams at each site were asked to sample youth at an age, which would best represent this transition to adulthood. This age was identified by the academic partner at each site together with the local site researcher and LAC. Team members were asked: "At what age do children locally make decisions about whether they attend school?" "Choose work or careers?" "Control their sexuality?" "Move toward independent living?" and "Have responsibilities for others?" Academic team members established these questions at the 2003 team meeting, arguing that at all sites they would sample youth facing the same developmental challenges despite the chronological differences in the ages of participants that would result. It was felt that by interviewing youth undertaking the same tasks there would be greater comparability of the results across research sites. Within each research site, participants were drawn from a single homogeneous community, meaning that youth at each site tended to represent a single racial group and one set of relatively common cultural norms. In this manner, the youth's developmental stage (rather than chronological age) was controlled for based on the local culture and description of milestones. Data were gathered from a total sample of 1,451 youth (694 boys = 47.9%, 757 girls = 52.1%). Boys and girls were not significantly different in age (mean age = 16 years, $SD = 2.653$; see Table 1).

Youth Sample: Qualitative

To help contextualize the results from the CYRM administration, at least two youth (one boy and one girl) who had completed the CYRM were interviewed. Sites purposefully selected for interviews as few as 2 and as many as 24 youth (depending on their research capacity) identified by the LACs to be doing well despite facing severe risk. Definitions of “doing well” were set out by LACs within each site. Youth were asked about the risks they face and the resources they had that contribute to good developmental outcomes relevant to them and their communities rather than assuming one set of homogeneous outcomes as is typical of Minority World research on resilience. Eighty-nine youth participated in these interviews (32 boys and 57 girls; see Table 1). In most cases, interviews were recorded, transcribed, and, when necessary, translated into English.

Data Collection and Analysis

The CYRM was administered in a manner appropriate to the sample (i.e., either individually or in groups) by the local site researchers. Each question on the measure was read out loud to ensure illiteracy was not a barrier to participation. Qualitative interviews with the subsample of youth were conducted individually, using a standard interview guide (see Appendix A). Where appropriate, and where youth provided consent, interviews were audio-recorded and later transcribed. In all instances, detailed notes were taken by the site researcher detailing verbal and nonverbal aspects of the participant’s narrative. Both quantitative and qualitative interviews were conducted in a public setting such as a school or youth center, or when necessary, in the youth’s home.

Although each site retained its own original data, English versions of all quantitative and qualitative data were compiled into two complete data sets and shared between sites. Both the qualitative and quantitative data sets were analyzed simultaneously.

Quantitative data were analyzed using two exploratory factor analyses. Although the a priori assumption of the four clusters of items (what we termed *the ecological model* based on Bronfenbrenner’s [1979] work that described micro-, meso-, macro-, and exo-systemic factors, which match our individual, relational, community, and cultural clusters) served as a guide in the generation of items for inclusion in the CYRM, the team believed that the interpretation of items would vary the groupings across sites. Given the dearth of prior cross-cultural studies of resilience, the team recognized the need for an alternative ontological perspective of resilience. Consequently, the first exploratory factor analysis was used to identify the structure of youth interpretations of the CYRM. Analysis of the quantitative data in this manner aligned well with the RRC’s use of a transformative paradigm in the construction of the measure. A second analysis was then used to reduce the number of items to those that best represented the focal construct (resilience) across all 14 sites (DeVellis, 2003; Noar, 2003). This process included calculation of nonresponse rates and variance, the use of communality criterion, and an unrotated factor analysis to identify questions relevant to youth in all research sites.

Analysis of the qualitative data were guided by Glaser and Strauss’s (1967; Strauss & Corbin, 1990) grounded theory approach, together with constructionist advances (Charmaz, 2006; Clarke, 2005). Initial coding structures were developed by the research team in Halifax, and then shared, along with interview transcripts, with the broader international team for recoding. In this way, the final coding structure was negotiated across sites (for details, see Ungar et al., 2007). Results from the analysis of the qualitative data were used by members of the research team to investigate the validity of the CYRM allowing youth voices to inform interpretation of the quantitative data.

Table 2. The Seven Qualitative Aspects of Resilience (Tensions)

Tension	Explanation
1. Access to material resources	<ul style="list-style-type: none"> • Availability of financial, educational, medical and employment assistance, resources, or opportunities, as well as access to food, clothing and shelter
2. Relationships	<ul style="list-style-type: none"> • Relationships with significant others, peers and adults within one's family and community
3. Identity	<ul style="list-style-type: none"> • Personal and collective senses of purpose, self-appraisal of strengths and weaknesses, aspirations, beliefs and values, including spiritual and religious identification
4. Power and control	<ul style="list-style-type: none"> • Experiences of caring for one's self and others; ability to affect change in one's social and physical environment in order to access health resources
5. Cultural adherence	<ul style="list-style-type: none"> • Adherence to one's local and/or global cultural practices, values and beliefs
6. Social justice	<ul style="list-style-type: none"> • Experiences related to finding a meaningful role in community and social equality
7. Cohesion	<ul style="list-style-type: none"> • Balancing one's personal interests with a sense of responsibility to the greater good; feeling of being a part of something larger than one's self socially and spiritually

Note: Reprinted from Ungar et al. (2007).

Exploring Variable Factor Structures in the 58-Item CYRM

Appropriateness of the data for use with factor analysis was first assessed. As a first step in validating the CYRM, we examined whether the sample size was sufficiently large for the purpose of our analysis. The Kaiser–Meyer–Olkin measure of sampling adequacy is .902, indicating adequacy. Furthermore, Bartlett's test of sphericity is significant ($\chi^2 = 8787.325$, $df = 1,378$, $p < .000$). We then assessed variance of responses. With the exception of six items, all questions have a mean score between 3.0 and 3.99, suggesting that the response categories were appropriate for use in factor analysis. On an average, participating youth were able to place themselves near the center, avoiding extreme floor or ceiling constraints. Standard deviations range from 0.95 to 1.54, suggesting that items captured variability in different aspects of youth resilience.

Initial explorations of the data centered on the four clusters that informed the development of the CYRM. Using exploratory factor analysis and calculating Cronbach's alphas for questions associated with each level of the model, the original 58-item version of the CYRM suggested reliability with Cronbach's alpha scores for designated subsets of questions as follows: individual (24 items; .84), relational (7 items; .66), community (15 items; .79), and culture (12 items; .71). However, given the variability in sample selection across sites, we were not surprised to find no valid factor structure could be identified that retained the hypothesized four clusters. Findings from our qualitative data helped explain the lack of validity. Developing a substantive theory of resilience across cultures, we identified seven aspects of resilience evident in the narratives of the 89 youth interviewees (see Table 2). Rather than discrete categories, axial coding showed that multiple aspects of resilience co-occur and are mutually dependent on one another. To be successful, youth appear to balance success in each area in order to maximize their navigations to resources and negotiations for those resources to be provided in ways meaningful to them. Therefore, a youth's expression of personal efficacy (coded as power and control) will depend for its expression on cultural norms (cultural adherence), the nature of the child's relationships with others (relationships), and even aspects of social justice. We called these seven

Table 3. Thematic Content of Each Factor by Factor Structure^a

Factor Loading	Minority World Girls and Boys (n = 234)	Majority World Girls (n = 601)	Majority World Boys—High Social Cohesion (n = 513)	Majority World Boys—Low Social Cohesion (n = 100)
1	The way I live my life reflects the values of my community (13 items; .86)	I experience self-efficacy individually and in community relationships (15 items; .82)	I have a respected place in my community (12 items; .77)	My health and social needs get met (19 items; .70)
2	My future is mine to create alone and with the help of others (13 items; .84)	Solutions to life's challenges are rooted in relationships (8 items; .72)	I experience self-efficacy (9 items; .75)	I am confident (15 items; .91)
3	I am socially mature (12 items; .80)	I have my emotional and instrumental needs met (12 items; .79)	I have emotional maturity (7 items; .56)	I can express myself in ways I value and others value about me (11 items; .92)
4	I do things adults do (8 items; .78)	My life philosophy is rooted in my culture (10 items; .75)	I feel responsible for my community (6 items; .61)	I have a life philosophy (3 items; .82)
5	I experience intergenerational respect (8 items; .79)	I experience intergenerational expectations (7 items; .70)	I live my spirituality (2 items; .61)	I am attached to my local culture (6 items; .73)
6	I have values that guide my life, reflecting the social institutions around me (5 items; .68)	I show adherence to my local culture (5 items; .63)	I am socially competent (5 items; .55)	I am responsible for myself and others (2 items; .103)
7	I experience social acceptance of my peers (3 items; .55)	I balance dependence and independence with my family (4 items; .56)	I behave like an adult (2 items; .47)	I have cultural and familial roots (4 items; .67)
8			I have a life philosophy (3 items; .48)	My community functions well (3 items; .57)
9			I have self-worth (2 items; -.23)	I am emotionally mature (3 items; .55)

a. With number of items loading on each factor and Cronbach's alpha.

homogeneous aspects of resilience “tensions” to signify their dynamic negotiated expression across cultures (Ungar et al., 2007).

The variability in how young people express common aspects of resilience suggests that items on the CYRM may all show content validity but low invariance to their factor structure (van de Vijver & Leung, 1997). A quantitative solution that would account for this variance was sought. Exploratory factor analyses using varimax orthogonal rotation were conducted to test for reproduction of rational item groupings and internal consistency within domains of the CYRM. Four separate factor structures resulted reflecting four separate groupings of participating youth (see Table 3). Most notably, youth living in Minority and Majority World contexts

confound the findings, with distinctive patterns of resilience discernible among these two groups. Minority World boys and girls show similarities (Halifax and Winnipeg in Canada and Tampa in the United States). However, Minority versus Majority status did not allow us to account for the pattern of responses among the Majority World youth themselves. No consistent factor structure could be identified for all the Majority World youth when analyzed together.

A second logical sort separated girls from boys for all Majority World sites, including a North American Aboriginal site. Specifically, the sites included in this phase of the analysis were Sheshatshiu, Northern Canada; Medellín, Colombia; Serekunda, the Gambia; Njoro, Tanzania; Delft, Cape Town, South Africa; East Jerusalem, Palestine; Tel Aviv, Israel; Imphal, India; Moscow, Russia; and Hong Kong, China. Following the lead of other researchers, we reasoned that gender (Moffitt, Caspi, Rutter, & Silva, 2001), especially in cultures with more stereotypically differentiated roles for boys and girls, would influence response patterns. This was in fact the case, with girls showing similar response patterns across many different Majority World sites.

Accounting for the responses of Majority World boys, however, proved more complex. A series of sorts were attempted based on themes emerging from the qualitative data including the degree of economic hopefulness, levels of violence in the youths' communities, and the degree of social cohesion in their communities (see Table 3). Socially cohesive communities were defined as communities that share a common purpose or are united by a system of values that emphasize inclusion and mutual betterment. Sorting Majority World boys into two groups (those from communities with high vs. low social cohesion as defined by members of LACs) produced the third and fourth factor structures with a logical sort of items. Boys in the Majority World sites with high social cohesion included those in Palestine, Russia, China, the Gambia, India, Israel, and Tanzania. Those in low-cohesion settings included Colombia, South Africa, and Northern Canada.

Descriptors in each cell of Table 3 are representative titles of the items that load onto each factor for each grouping of youth. Titles were generated through a thematic analysis of the loading items by a subset of team members and then sent to all academic team members for comment. Descriptors reflect concepts borrowed from the analysis of the qualitative data, though are not exclusively matched to that coding structure. Effort was initially made to see if a seven-factor solution to the data could be obtained. No good model could be found that suggested congruence between the qualitative and quantitative findings. The best we could achieve was a comparison of the findings and identification of common themes. Table 3 includes Cronbach's alphas for each group's factors.

Reducing the CYRM's Length

Although these four population groups contributed to our understanding of the variability of resilience across cultures, and matched the complexity we had found in the qualitative data (the seven tensions), we still did not have a valid measure of resilience useful in multiple contexts. The second phase of our work sought to identify which items on the CYRM (now referred to as the CYRM-58) were most effective in differentiating between common and unique aspects of resilience across all four subpopulations. Questions to be eliminated from the CYRM-58 were first identified by exploring the nonresponse rates and variance on all questions and imposing the communality criterion. We then conducted an additional factor analysis using an unrotated solution to identify those items that load best on the first factor. We first analyzed the data set as a whole and then each of the four groups. Those items that loaded best on the first factor for all five analyses were retained in the final version of the CYRM.

Nonresponse Rates and Variance

Four items were identified as having unacceptable nonresponse rates of approximately 10% or higher and were therefore deleted from further analysis. These items were Question 27 ("Do your

parent(s) respect how you express yourself sexually?”), Question 40 (“Are you comfortable with how you express yourself in close relationships with others your own age?”), Question 57 (“Is there a difference between your family’s values and those of most others in your community?”), and Question 58 (“Do you think that you are at least as good [or better] than other youth you know?”). Two further questions were identified for deletion due to lack of variance but were left in the instrument based on the importance of each during qualitative interviews. Inclusion of both has helped ensure the CYRM’s face validity. Question 10 (“Is getting an education important to you?”) has a mean of 4.35 and a standard deviation of 0.983, suggesting that almost all participants believe that education is important. This question, however, has a relatively high communality (.562) and was therefore justifiably retained. Question 11 (“Do you know how to behave in different social situations?” $M = 3.87$, $SD = 0.994$), despite demonstrating a relatively low communality (.453), was nevertheless considered theoretically important to understanding resilience based on our qualitative findings and therefore remains in the questionnaire as well.

The Communality Criterion

To identify other questions that could be excluded, we used an arbitrary cutoff point where at least 45% of the variance of any item would be captured by all factors with an eigenvalue greater than one. Although an exploratory, cross-cultural study such as this would perhaps be justified in using rates as low as .30 as a cutoff mark, we chose a more conservative cutoff point of .45. Using this criterion, an additional five items on the CYRM were eliminated. These included Question 7 (“Do you understand others’ feelings?”—0.42), Question 17 (“Does your culture teach you to become a better person?”—0.41), Question 23 (“Do you feel free and comfortable to talk to your teachers and/or other adults about your problems?”—0.43), Question 26 (“Do you have a vision of how the future should be?”—0.42), and Question 41 (“Are you able to avoid violent situations at home, school, or in your community?”—0.30). With these questions removed, Question 15 (“Do you believe that life should be lived in a certain way?”) formed a factor on its own and showed low communality. It too was deleted.

The Unrotated Factor Analysis Solution

An unrotated factor analysis solution was used to extract the most universal measure of resilience from the remaining questions, accounting for most of the variance on the first factor. An unrotated factor solution allows for the maximization of the sum of square factor loadings, where the first component accounts for the largest share of the total variance in the data, yielding those items of the measure that perform best for the sample in question (Blunch, 2008; Pett, Lackey, & Sullivan, 2003). This process ensured that all questions included in the final version of the CYRM (the CYRM-28—see Appendix B) would resonate with youth across all 14 sites.

Using this criterion, the factor solution found for the total group highlighted a possible set of 36 items for inclusion on a revised CYRM. When comparing this set of items with the results of the unrotated factor analyses for each of the four groupings of youth, the list of possible items for inclusion is reduced to 20 (these are highlighted in Table 4). This possible reduction was, however, made with caution, as some of the items excluded from the measure have higher loadings on the first factor of the solution than items which were included.

It is likely that the alphas reported for each of the five groups in Table 4 are inflated due to the number of items included in the scale. However, given that both the qualitative and quantitative data sets have clearly demonstrated that the construct of resilience is not unidimensional, we expected that the 20 items that were isolated represent several subscales of a single measure. Weak mean interitem correlation coefficients for each of the groups support this expectation. The

Table 4. Factor Scores for Selected Child and Youth Resilience Measure (CYRM) Questions^a

CYRM Question	Total Sample	Minority World Youth (Boys and Girls)	Majority World Girls	Majority World Boys (Low Social Cohesion)	Majority World Boys (High Social Cohesion)
1		0.47			
2	0.38		0.39	0.47	
3	0.46		0.43	0.55	0.45
4				0.65	
5		0.45			
6	0.46	0.48	0.46	0.56	0.44
8	0.41	0.41	0.37	0.53	0.35
9	0.42	0.46		0.51	
10	0.53	0.58	0.47	0.82	0.43
11	0.54	0.47	0.50	0.74	0.49
12		0.39		0.64	
13	0.42	0.53	0.38	0.78	
14	0.37	0.49	0.32	0.43	
16	0.38	0.46		0.60	0.37
18				0.62	
19				0.42	
20	0.44	0.55	0.39		0.39
21	0.42	0.42	0.39	0.58	0.34
22	0.55	0.54	0.55	0.66	0.51
24		0.43		0.61	
25	0.54	0.46	0.53	0.69	0.49
28	0.57	0.44	0.58	0.63	0.55
29	0.53	0.64	0.50	0.54	0.44
30	0.40		0.40	0.57	
31	0.51		0.55	0.52	0.60
32			0.40		
33	0.23	0.49			
34	0.51	0.42	0.52	0.51	0.45
35	0.47	0.50	0.44		0.42
36		0.57	0.32	0.57	
37	0.54	0.56	0.54	0.67	0.50
38	0.57	0.68	0.54	0.59	0.54
39		0.42		0.50	
42	0.52	0.61	0.49	0.59	0.44
43	0.52	0.59	0.50	0.58	0.47
44	0.44		0.40	0.62	0.44
45	0.52	0.60	0.50	0.62	0.48
46				0.48	
47	0.50	0.57	0.52	0.64	0.45
48	0.60	0.65	0.55	0.76	0.58
49	0.40	0.48		0.61	
50	0.58	0.56	0.57	0.65	0.50
51	0.52	0.61	0.50	0.70	
52	0.56	0.71	0.52	0.59	0.46
53	0.53	0.52	0.48	0.70	0.56
54	0.39	0.59	0.35	0.43	

(continued)

Table 4. (continued)

CYRM Question	Total Sample	Minority World Youth (Boys and Girls)	Majority World Girls	Majority World Boys (Low Social Cohesion)	Majority World Boys (High Social Cohesion)
55	0.41		0.41	0.48	0.34
56					0.33
α	0.88	0.88	0.86	0.84	0.93
γ	0.26	0.27	0.24	0.20	0.39
N	620	106	252	223	37

Note: Shaded rows indicate 20 items that load on the first dimension for all groups.

a. Items loading on the first dimension of an unrotated factor analysis for the total sample and by typology grouping of participants.

coefficients suggest that subscales within the CYRM will need to be further assessed using confirmatory factor analysis (CFA) in future validations of the measure (this work is underway now with RRC partners in five countries).

Exceptional Questions Included on the CYRM

In total, five questions have been included in the final version of the CYRM despite findings suggesting their removal. In all instances, these decisions have been made given the theoretical value of the questions themselves and informed by the qualitative data gathered with both the participants and our LACs. Question 20 (“Do you feel that your parent(s) watch you closely and know a lot about you?”) loads on the first factor for all groups except Majority World boys from communities with low social cohesion. However, the loading for this question on the remaining three groups is respectable ranging from 0.39 to 0.55. Less satisfactory, but still acceptable is Question 35, “Do you know where to go in your community to get help?” This item loads in a similar pattern as Question 20 (i.e., values range from 0.42-0.50). Questions 24, 33, and 46 have also been included in the CYRM-28. Although all three of these questions failed to reach significance on the first factor of most of the groupings, their theoretical importance warrants further investigation. In all three instances, these questions do load onto one of the factors in each of the factor analyses with good factor loadings.

Of the 25 items selected for inclusion on the CYRM, three were split into two questions, generating an additional three items for inclusion. The wording on an additional five questions was revised based on feedback from community partners. To conclude, by converting each of the 25 items that remain from version one of the CYRM (the CYRM-58) to a standard score and obtaining the mean of the standard scores, it is still possible to discriminate well between the four different groups (Minority World boys and girls, Majority World girls, Majority World boys’ high and low social cohesion), accounting for 40% of the variance.

Discussion

Using a mixed methods design beginning with qualitative focus group interviews, and followed by quantitative and additional qualitative components that included the active participation of the LACs, we were able to identify the 58 questions of the pilot version of the CYRM that relate to resilience across all cultural groups participating in the study. However, although all questions showed relevance to each geographic subpopulation, the varying factor structures observed in response patterns indicate heterogeneity in how resilience is understood and negotiated across cultures and contexts. Furthermore, as the qualitative data showed, not all constructs held the

same importance in all cultures (Ungar et al., 2007). In this regard, we find qualified support for our initial hypotheses: global aspects of resilience (the 32 domains agreed to by the research team) can be identified, though culturally diverse populations of youth show unique patterns in how resilience is understood and manifested. Specifically, resilience comprises the interplay between individuals and their context as reflected by the seven tensions (see Table 2). Our results support an understanding of resilience as the capacity of individuals to navigate toward resources and negotiate for these resources to be provided in culturally relevant ways that reflect their availability and accessibility within the social and physical ecologies of the individual. By using a transformative research paradigm that promoted the inclusion of a cultural polyphony of voices from Majority and Minority World contexts, we were able to balance the influence of predominantly Minority World researchers who have exerted the greatest power in the discourse that theorizes the meaning of resilience.

As Mertens (2003) has shown, transformative research raises ontological, epistemological, and methodological challenges to the heterogeneity of scientific inquiry. In this regard, efforts to build a measure that did not rely on a priori assumptions that reflected already published investigations of positive development in the Minority World presented a radical departure from typical modes of instrument development. The mixed methods employed facilitated this more engaged, iterative approach at each phase of the CYRM-28's development:

- *Defining the problem:* Although we operationalized resilience as “doing well” despite adversity, more specific features of the construct and the mechanisms that contribute to “doing well” were negotiated across cultures.
- *Identifying the research design:* The inclusion of qualitative methods and a design that encouraged discussions of variability in the sample resulted in tolerance for more ambiguity than is typical in the literature on measurement development (e.g., the chronological age of the youth varied, though they were matched by the developmental tasks they faced).
- *Identifying participants:* LACs were used to identify youth who faced adversity in ways relevant to each context. We avoided exporting a singular notion of risk that may have been culturally irrelevant. Doing so may have biased selection of youth toward those who show patterns of resilience typical of young people in the Minority World.
- *Construction of the measure:* Questions were all phrased positively. Though this may have decreased the reliability of the CYRM-28, it addressed the complexity of implementing a study in multiple contexts with significant language barriers to overcome. It also responded to concerns of local advisors that reverse scored questions may confuse young people unfamiliar with formal testing.
- *Analysis and interpretation:* The use of mixed methods encouraged the co-construction of meaning of the resilience construct and helped to refine the selection of items. Face-to-face meetings within sites and between sites helped ensure the measure demonstrates high face validity across cultures.

By mixing qualitative and quantitative approaches to the development of a standardized measure, we have been able to identify both unique and common aspects of resilience that ensures the validity of a measure designed for use across cultures. Given both the homogeneity and heterogeneity of our sample, we would argue that resilience (like other psychological constructs) needs to be understood as both an emic, culturally and contextually embedded, construct as well as an etic one that shares commonalities across populations. The use of mixed methods appears to facilitate the design of a quantitative measure that reflects this complexity.

Although we are disappointed that at no point in the process were we able to demonstrate convergence between our qualitative and quantitative findings, the concurrent and sequential use

of both methods was very useful to creating a measure with high content validity. The low invariance of the CYRM-58 factor analysis, for example, is synergistic with the dynamic nature of the seven tensions identified through our qualitative work (see Table 2). The excellent performance and retention of cultural and contextual questions in the CYRM-28 reflects social and political themes found through our qualitative interviews. This is not surprising given that we included a very large number of Majority World participants in the CYRM's development to avoid the imposition of Minority World bias or the bias of one set of scholarly assumptions. The constant checking in with the LACs helped ensure the authenticity of the findings and the empowerment of voices largely absent from the resilience discourse in Minority World publications.

Methodological Limitations

In developing the CYRM, we broke with procedures typically used for instrument design where validity is sought through validity coefficients (testing a new measure against existing measures) or group comparisons (comparing the results of youth who are doing well with those youth who are not doing well). We chose instead to avoid using existing measures (developed in the Minority World) that might reintroduce biased notions of what resilience should look like among those at risk. Conventional practices for scale development would identify this as a potentially serious shortcoming. However, we chose to engage with our community partners through focus groups and mixed methods data collection to compensate for this limitation. Though the CYRM demonstrates content validity, convergent validity remains unknown. Similar concerns exist regarding measurement of risk and the degree to which our sample were in truth, at-risk youth. No standardized test of risk was used to select youth across all 14 research sites. Future research employing the CYRM will need to ensure samples of young people are somehow discriminated into two groups: those who LACs say are doing well and not doing well. This will help demonstrate the CYRM's discriminant validity. The import of existing (Minority World) measures to accomplish this must proceed with caution if bias is to be avoided.

Other limitations include the positive wording of all CYRM questions. When discussed with our partners, it was felt that it was too confusing to translate the CYRM into so many different languages, and explain to the LACs the concept of resilience, when questions were both positively and negatively scored. As the concept of resilience is better understood across cultures, CYRM items may be changed to address this weakness.

Furthermore, we realize that we did not employ CFA in the development of the CYRM, a possible weakness in our design. However, given that among the final 25 items selected for inclusion, three were split into two (resulting in six new questions) and the wording was revised on an additional five questions, both actions taken based on the reciprocity we had with our LACs, CFA may not be warranted with the current data set. Indeed, Byrne (2010) cautions against the application of CFA procedures when instruments are still in their initial stages of development. This approach is widely reflected in publications where initial instrument development incorporating EFA is followed by readministration of measures to new samples of youth, the data of which is assessed with a CFA (Ang, Chong, Huan, & Yeo, 2007; Morokoff et al., 1997; Noar, 2003). This continued validation of the CYRM-28 is currently underway.

Despite these threats to the CYRM's internal and external validity, we remain confident that our use of mixed methods has increased the measure's content validity.

Conclusion

Our experience demonstrates the need for developers of psychological tools to acknowledge their social locations and the power they hold. It is helpful when Minority World researchers show awareness of their role sustaining dominant world views (Chilisa, 2005; Smith, 1999). Our

efforts mirror those of Mertens (2003, 2007), who writes, “Mixed methods are preferred for working toward increased social justice because they allow for the qualitative dialogue needed throughout the research cycle, as well as the collection of quantitative data as appropriate” (2007, p. 224). Authors such as Berry (1980) and Waszak and Sines (2003) remind us that accurate development of psychological theory necessitates a combination of qualitative and quantitative approaches so as to more accurately account for contextual factors. Stated differently, triangulation through the use of mixed methods data increases both the reliability and validity of findings (Fine & Elsbach, 2000; Haase, Heiney, Ruccione, & Stutzer, 1999).

Without mixed methods, there is the danger of importing constructs and associated research tools from dominant cultures into those that are marginalized, ignoring contextual nuances that are often more relevant to indigenous communities (Chow, 1993; Smith, 1999). Through both the sequential and concurrent integration of qualitative data in the development of a quantitative measure, we have shown that it is possible to work respectfully across cultures. Most important, the uniqueness of some of the items on the final CYRM-28 show that it is possible to reverse the flow of information and ensure that Majority World voices inform the benchmarks of successful human development in the Minority World. In this manner, the homogeneity of Minority World (North American and European) psychological discourse surrounding the measurement of concepts related to positive psychosocial functioning can be expanded. Without this expansion and contextualization, we anticipate important negative implications for policy and practice such as the imposition of cultural hegemony on program development (Blackstock & Trocmé, 2005; Nsamenang, 2002).

Our results, informed by our qualitative findings, suggest that the CYRM-28 can provide a reliable representation of common factors related to resilience across all 14 research sites and a more specific understanding of which resources are associated with resilience as an outcome in different contexts. Although all items on the CYRM-28 are reliable measures of resilience across cultures, formation of subscales vary according to the respondents’ culture, gender, and/or the social cohesion of their community. Arguably, the mixed methods procedures demonstrated through the development of the CYRM-28 may contribute to the methods used to design other measures that will ensure face validity of child and youth development measures across cultures.

Appendix A

Individual Interview Guide

-
- “What would I need to know to grow up well here?”
 - Probing Questions:
 1. What role do religious organizations play in your life?
 2. What do other members of your family think about the way you live your life, your beliefs (such as regarding gender roles, etc.)
 3. How do you handle change, both at an individual level and the changes taking place for everyone in your community?
 4. How do you contribute to your community?
 5. What is it like for you when people around you succeed?
 6. Do you have a life philosophy and if you feel comfortable sharing it, can you tell me what it is?
 7. Do you identify in any way(s) with your culture. Can you describe your culture? Can you describe (or show me) day to day activities that are part of your culture and the way things are done in this community?
 - “How do you describe people who grow up well here despite the many problems they face? What word(s) do you use?”
-

(continued)

Appendix A (continued)

- “What does it mean to you, to your family, and to your community, when bad things happen?”
 - Probing Questions:
 1. Can you tell me what some of these bad things are?
 2. What do people do to cope?
 3. What do they say about these things when they happen?
 4. Who talks about them most? Least? And who is most likely to come up with the solution to problems when they occur?
 5. What do other people think of these solutions?
 6. Can you give me examples?
- “What kinds of things are most challenging for you growing up here?”
 - Probing Questions:
 1. Are there opportunities for age-appropriate work?
 2. Are you or people you know exposed to violence? How do you avoid this in your family, community, and when with peers?
 3. How does the government play a role in providing for your safety, your recreation needs, housing, and jobs now and when you get older?
 4. Do you have opportunities to experience meaningful “rites of passage”? What are these? Do they present you with an amount of risk that you can handle?
 5. How tolerant is your community of problem behaviors among people your age?
 6. What are some of these behaviors?
 7. Do you feel safe and secure here? How do others protect you?
 8. Do you feel equal to others? Are there others you do not feel equal to? How do these others make you feel? What do they do that makes you feel this way?
 9. Do you have access to school and education and any other information you need to grow up well? How do you get this access? Who provides it to you?
- “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?”
 - Probing Questions:
 1. Could you describe the way your parents or caregivers look after you?
 2. How does your family express themselves and what they think of you?
 3. How does your family monitor you, keep track of what you are doing?
 4. How do you know how to act with other people? How well do you do socially? Are you thought of well by others, popular, liked?
 5. Do you have some you consider a mentor or role model? Can you describe them?
 6. Do you have other meaningful relationships with people at school, home, or in your community?
- “What do you do, and others you know do, to keep healthy, mentally, physically, emotionally, spiritually?”
 - Probing Questions:
 1. Are you assertive? How do you show this?
 2. Can you describe your ability to problem-solve? Are you better or worse than others? How do you know this?
 3. Do you have a sense of control over your world? How does this affect your life?
 4. How much uncertainty are you able to live with?
 5. Do you value self-awareness, insight? How does this affect your life and what you do day to day?
 6. Would you describe yourself as optimistic or pessimistic about life?
 7. Do you have personal goals and aspirations? What are these?
 8. How much can you be independent and how much do you have to rely on others in your life for your survival?
 9. How much do you use substances like alcohol and drugs? What do others around you think about this?
 10. What role does humor play in your life?
- “Can you share with me a story about another child who grew up well in this community despite facing many challenges?”
- “Can you share a story about how you have managed to overcome challenges you face personally, in your family, or outside your home in your community?”

Appendix B

Child and Youth Resilience Measure—CYRM-28

To what extent . . .

1. Do you have people you look up to?
2. Do you cooperate with people around you?
3. Is getting an education important to you?
4. Do you know how to behave in different social situations?
5. Do you feel that your parent(s) watch you closely?
6. Do you feel that your parent(s) know a lot about you?
7. Do you eat enough most days?
8. Do you strive to finish what you start?
9. Are spiritual beliefs a source of strength for you?
10. Are you proud of your ethnic background?
11. Do people think you are fun to be with?
12. Do you talk to your family about how you feel?
13. Are you able to solve problems without using illegal drugs and/or alcohol?
14. Do you feel supported by your friends?
15. Do you know where to go in your community to get help?
16. Do you feel you belong at your school?
17. Do you think your family will always stand by you during difficult times?
18. Do you think your friends will always stand by you during difficult times?
19. Are you treated fairly in your community?
20. Do you have opportunities to show others that you are becoming an adult?
21. Are you aware of your own strengths?
22. Do you participate in organized religious activities?
23. Do you think it is important to serve your community?
24. Do you feel safe when you are with your family?
25. Do you have opportunities to develop job skills that will be useful later in life?
26. Do you enjoy your family's traditions?
27. Do you enjoy your community's traditions?
28. Are you proud to be (Nationality: _____)?

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Notes

1. Validation of the CYRM continues with the Pathways to Resilience Research Program.
2. We include the word *Child* in the name of the measure in keeping with the international nature of this research and the United Nations *Convention on the Rights of the Child*. The UNCRC defines a child as

“every human being below the age of 18 years unless under the law applicable to the child, majority is attained earlier.”

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