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Validation of the Child and Youth Resilience Measure (CYRM-R) in rural contexts in South Africa

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Abstract

Introduction: Resilience is central to young children's healthy and happy development. The Child and Youth Resilience Measure (CYRM-R) has been used widely in several countries. However, its construct validity on young children in rural South Africa has not been examined. This study investigates the construct structure of the CYRM-R for foundation-phase learners (i.e., Grades R/0-3) in rural primary schools in South Africa.

Methods: The CYRM-R was translated into the local language Setswana and tested on 1,088 learners attending 10 schools in socioeconomically disadvantaged rural communities in the North West province. Confirmatory factor analysis (CFA) was conducted to validate the CYRM-R scale and examine its construct structure.

Results: Our findings suggest a two-factor (i.e. personal resilience, caregiver resilience) structure of the CYRM-R with some items removed or reclassified as preferable or relative to other examined solutions. CFA results show that the optimal model represents a good fit to the data (RMSEA = 0.037, CFI = 0.929, TFI = 0.915), explaining 83.4% of the variance.

Conclusion: The Setswana version of the CYRM-R is a reliable and valid measure of resilience in young children in a rural South African context and can be used to assess resilience in young children in Setswana-speaking populations.

Keywords: resilience, CYRM-R, young children, rural South Africa, socioeconomic disadvantage, primary schools

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Conflict of Interest Statement
We have no known conflict of interest.

Ethical Approval Statement
Ethical approval was obtained the ethics committees at the University College London and the University of Pretoria.

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Introduction

In South Africa, there is a significant proportion of children living in challenging situations such as parental unemployment, violence, poverty, and orphanhood (Ebersöhn, 2017; van Breda & Theron, 2018). As reported by Statistics South Africa (2020), 63.4% of children aged 5-12 years old are experiencing multidimensionally poverty in terms of housing, protection, nutrition, health, information, WASH (Drinking water source, Sanitation and Hygiene), and education/child development, and this rate is even higher for children in rural areas. Before taking early intervention initiatives for improving their healthy and happy growth and development, it is important to understand children's resilience, which generally refers to socio-ecological processes of individuals or groups to navigate and mobilise various resources to maintain their wellbeing and obtain good outcomes despite the exposure to adversity (Ungar, 2008). Although there is no consensus on the definition of resilience, it is commonly agreed that resilience can be influenced by the resources from multilevel ecological systems and their interactions and may also be context and culture specific (Herrman et al., 2011; Ungar, 2012; Van Breda, 2018).

Through the systematic review of 61 studies on young people's perspectives of South African children and youth resilience (aged 0-24), van Breda & Theron (2018) suggest personal and relational resources are predominant resilience enablers, while cultural and structural resources are occasionally reported in the included studies. This is possibly because of "the fact that young people's own

individual strengths and relational supports are a palpable part of their everyday experience and therefore more readily recognisable to them" (van Breda & Theron, 2018, p.244). Similar findings are also found for primary school children from vulnerable families (van Breda, 2022). Unlike many studies in Western contexts (e.g. United States), Theron and colleagues' research focusing on rural Basotho youth in South Africa found that the main resources nurturing the youth's resilience are the supportive systems rather than significant adults or nuclear families (Theron et al., 2013). In the traditional African culture valuing a collective approach to service to humanity, kinship systems are a broader conception which may include families, relatives, peers, neighbours, and other community members, and collectively and pragmatically provide resources and protection for individuals (Ebersöhn et al., 2018; Pillay, 2023; Theron et al., 2013; Theron et al., 2017). Such systems are also hierarchically structured, in which children having the least authority in terms of ultimate power and responsibility (Lesejane, 2006) are encouraged to recognise and seek support and protection from the system members (Theron et al., 2017). A small-scale study exploring the resilience of South African young children (aged 5 to 6, n = 11) found from mothers' perspectives and children's own voice that many children have limited responsibility, sensitivity (coping skills), and personal and domestic skills (Ebersöhn et al., 2012). Arguably these skills "may not be perceived as age-appropriate adaptive functioning behaviour in the relevant cultural groups" (Ebersöhn et al., 2012, p.345). The above discussed specific cultural characteristics calls for contextual sensitive measurement and interpretation of South African children's resilience.

The revised version of Child and Youth Resilience Measure (CYRM-R) (Jefferies et al., 2018), as a tool assessing social-ecological resilience of children aged 5-9 and youth aged 10-23, has been widely used in several countries and contexts. It was revised from the Child and Youth Resilience Measure CYRM, which was developed based on the common resilience domains of inquiry identified across 11 Western and non-Western countries including South Africa (Ungar & Liebenberg, 2011). As its official manual suggests, CYRM-R consists of two subscales, that is, personal resilience (10 items), and caregiver resilience (7 items) (Resilience Research Centre, 2018). Personal resilience refers to intrapersonal and interpersonal relationships, and caregiver resilience is about the "characteristics associated with the important relationships shared with" a primary caregiver (Resilience Research Centre, 2018, p.13). However, it should be noted that this construct structure is suggested based on the data of 11-19 years old (n=408) in Canada only, and the validation was conducted for the subscales separately (Jefferies et al., 2018). Validation studies employing CYRM-R on young children and in other contexts have shown some variation of its construct.

For example, Borualogo et al. (2023) adapted the CYRM-R by adding two more subscales, i.e., spirituality and religiosity, and validated it with the data of Indonesian children and youth aged 10–18 years. In their well fitted CFA model which includes four subscales, all the items for personal subscale and those for the caregiver subscale were kept. Based on CFA results of the data of Iranian children aged 5-9 years old, Aghebati et al. (2023) also found a two-factor structure of CYRM-R, i.e., personal resilience and caregiver resilience, which is similar to the structure claimed by Jefferies et al. (2018). However, according to them, Item 13 "Are you treated fairly?" was removed from the model as it did not exhibit strong loading on either of two factors (Aghebati et al., 2023). It is also noted that the values of the model fit indices comparative fit index (CFI) and normed fit index (NFI) were .892 and .845 respectively, which are both lower than the widely suggested thresholds (Byrne, 1994; Hu & Bentler, 1999) to indicate an acceptable fit. In a study testing CYRM-R on Syrian refugee children (aged ~5 on average) in Turkey, Kuru et al. (2023) suggest a two-factor CFA model of the CYRM-R measure, in which there are correlated error terms between some of the items in each factor (i.e., intra/intrapersonal resilience, and caregiver resilience).

In the context of Italy, the person most knowledgeable (PMK) version of CYRM-R was used to measure the resilience of children aged 5-17 in the situation of COVID-19 outbreak. Based on the validation results through CFA, they found that the one-factor model fitted better to the data than the suggested two-subscale model (Cusinato et al., 2020). Anandan et al. (2022) examined the validity of CYRM-R with adolescents (aged 12 -18) living in various childcare institutions in Odisha of India. Their principal component analysis results suggest a three-factor solution, i.e., individual resilience (personal skills, social skills, and peer/caregiver support), relational resilience (care/support given by the family members/caregivers and friends), and contextual resilience (education and belongingness to school) (Anandan et al., 2022). As to some extent indicated by the names of their identified resilience components, some of the items (e.g. Item 15 "I feel safe when I am with my family/caregivers") suggested as a part of the original subscale "caregiver/relational resilience" loaded on the factor "individual resilience" in their study. The authors argue that there might be an overlap between the two original subscales, subject to the perceptions of participants in different cultural contexts.

Indeed, some researchers suggest that perceptions about the construct of resilience may vary in different contexts or cultures, or even different groups who share similar sociocultural values (Masten & Wright, 2010; Renbarger et al., 2020; Ungar, 2008; van Rensburg et al., 2019). This underlines the importance of validating CYRM-R when using it for specific groups and in specific contexts. From the studies discussed above, we can also see that research on validating this resilience measure in rural contexts of low- and medium-income countries, especially with young children's self-reported data, is rare. In the context of South Africa, although CYRM-R has also been a popular measure administered to young children and adolescents (e.g., Bandeira et al., 2023; Patel, et al., 2021), its construct validity is rarely discussed and reported (at least not in English-language publications).

To contribute to filling this gap, the aim of this study was to investigate the construct structure of the CYRM-R for foundation-phase learners (i.e., Grade R/0 to Grade 3, aged 6-9) in rural primary schools in South Africa. This study was a part of a larger project focusing on developing rural primary schools as enabling spaces for improving the quality of learning and health for foundation phase learners (Authors, 2020-23).

Methods

Instrument

The CYRM-R consists of 17 positively stated items and has a 3/5-point scale. As we intended to engage children's own voice about their quality of life and COVID-19 pandemic situations restricted from approaching parents/caregivers directly, we employed the child self-reported version rather than the Person Most Knowledgeable (PMK) version of the CYRM-R. Considering that our sample was foundation-phase children, and it might be challenging to administer such quantitative measures in remote rural areas (Resilience Research Centre, 2018), we used the three-point smiley face scale for rating. Smiley faces run from 'happy' to 'very happy', with 1=No/Nnyaa, 2=Sometimes/Ka dinako tse dingwe, and 3=Yes/Ee. For the overall CYRM-R, the minimum total score is therefore 17 and the maximum is 51. For the personal resilience subscale and the caregiver resilience subscale, the total score ranges from 10 to 30, and 7 to 21 respectively.

The instrument was translated into the local language Setswana by a professional translation agency and the translation was reviewed by the research team and the South African Language Board to check its accuracy and whether the translation aligns with the local language variant. The translated instrument could not be piloted on foundation phase learners in rural South African schools because

of school closure during the COVID-19 pandemic. However, all the translated items were crosschecked by local school leaders to verify that the translation was appropriate for their learners' cognitive level.

Sampling

Considering the study's focus on rural primary schools and school closure restrictions during the Covid-19 pandemic, Mafikeng subdistrict of the North West province was recommended to the research team by the South African National Department of Basic Education (DBE) as the site of investigation in which 75% of its area is rural (Mafikeng Local Municipality, 2021). From a list of 44 'well-managed' rural primary schools provided by the DBE, 10 schools of different sizes, in different education circuits (i.e., a management and support level in South African basic education system) and located in the most socioeconomically disadvantaged contexts (i.e., quintiles 1-3 in the South African education system considering community income, literacy, and unemployment levels) were selected.

Following ethical approval from the ethics committees at University College London and University of Pretoria, all learners in the foundation phase were invited to participate in the study. Learners' parents/caregivers were informed of the aim of the project, how learners would participate and how learner data would be used and the opportunity to opt out. With parents'/caregivers' consent, all the foundation phase learners were involved in the intervention. For assessment data collection purpose, in each sampled school, we randomly selected one class (in the case there were multiple classes) from each of the four foundation-phase grades. In each of these classes, we used stratified random sampling to select 30 learners (or all learners if the class size was below 30) representative of gender proportion in the class. A total of 1,088 learners participated in the assessment. Table 1 shows these learners were evenly distributed across gender and different grades.

Table 1: Summary of the learner sample

		N	**Percent**
Gender	Male	537	49.36
	Female	551	50.64
Grade	0	263	24.17
	1	264	24.26
	2	288	26.47
	3	273	25.09
Total		1088	100

Data collection

The questionnaire was administered by community members who were (or used to be) Education Assistants at schools, living in the school's immediate or nearby communities and spoke both Setswana and English. The research team provided community members with face-to-face training on administering the instrument to young learners and the procedures of data collection.

During the data collection, the community member read the items one by one to the learner and asked the learner to give their answers through choosing a face from a large-size printed copy of the three-point smiley face scale. Learner responses were recorded immediately by the community member on a record sheet. At the end of each data collection day, the research team collected all completed record sheets for data checking and reviewing to ensure data quality and safety.

Local COVID-19 pandemic policy was followed when the team conduced fieldwork in schools. Personal protective equipment such as clear face shields and hand sanitisers, provided by the research

team, were used by the community members and team members to protect the health and safety of themselves, learners, and school staff members.

Data analysis

Data analysis was undertaken in Stata 17. Correlation analysis of learners' responses on the items were first conducted to explore the potential relationships of the components of the CYRM-R scale. Reliability was then examined to check the measure's internal consistency. Following that, we used CFA to examine the construct and investigate the structure of the scale. As there are several missing values on nine of the 17 items, maximum likelihood method with missing values (mlmv) was employed for parameter estimation (Acock, 2013). The widely used goodness-of-fit indices, the root mean square error of approximation (RMSEA), CFI, and the Tucker–Lewis index (TLI) were used to evaluate the model fit and specification (Browne & Cudeck; 1992; Kline, 2015, Xia & Yang, 2018). Rules of thumb for the cut-off for RMSEA, CFI and TLI to indicate an acceptably fitting model is < 0.06, > 0.90 and > 0.90 respectively (Hu & Bentler, 1999; McDonald & Ho, 2002).

Results

Table 2 displays the correlation of learners' responses on the items of the two subscales as originally suggested by Jefferies et al. (2018). Responses on most of the items, especially those of the caregiver resilience subscale, had a small statistically significant positive relationship with each other. Within the personal resilience subscale, Item 3 was not significantly associated with items 1 and 7, and Item 12 also had no significant association with Item 7.

Reliability analyses demonstrated good internal consistency of the overall scale. Item-test correlation ranged from 0.39 to 0.52. Cronbach's alphas for the overall scale, the subscale personal resilience and the subscale caregiver resilience were 0.75, 0.63 and 0.58 respectively, similar to McDonald's omega values (0.74, 0.62, 0.58 respectively).

Table 2: Bivariate correlation of responses on CYRM-R items

	Personal resilience										Caregiver resilience						
	Q01	Q02	Q03	Q07	Q09	Q10	Q12	Q13	Q14	Q16	Q04	Q05	Q06	Q08	Q11	Q15	Q17
Q01	1.0000																
Q02	0.1083*	1.0000															
Q03	0.0349	0.0940*	1.0000														
Q07	0.1828*	0.1691*	0.0562	1.0000													
Q09	0.0758*	0.0775*	0.0863*	0.1035*	1.0000												
Q10	0.1466*	0.1029*	0.1765*	0.2539*	0.0785*	1.0000											
Q12	0.0916*	0.0846*	0.0849*	0.0582	0.2773*	0.1080*	1.0000										
Q13	0.1262*	0.1042*	0.1358*	0.2973*	0.1394*	0.3375*	0.0602*	1.0000									
Q14	0.1256*	0.1963*	0.1478*	0.1791*	0.1016*	0.1980*	0.0777*	0.1091*	1.0000								
Q16	0.1286*	0.1626*	0.1412*	0.2095*	0.1294*	0.2675*	0.1461*	0.2533*	0.2165*	1.0000							
Q04	0.1936*	0.1786*	0.0300	0.2970*	0.0313	0.2625*	0.0380	0.1488*	0.1789*	0.1796*	1.0000						
Q05	0.1058*	0.1636*	0.1889*	0.0953*	0.1809*	0.1817*	0.1805*	0.1412*	0.1742*	0.1540*	0.1118*	1.0000					
Q06	0.0953*	0.1585*	0.1774*	0.1212*	0.2002*	0.1646*	0.0917*	0.1072*	0.1784*	0.1561*	0.0922*	0.0985*	1.0000				
Q08	0.1541*	0.1816*	0.1917*	0.0725*	0.0008	0.2072*	0.1580*	0.1544*	0.2351*	0.2101*	0.1516*	0.2517*	0.1420*	1.0000			
Q11	0.1132*	0.1506*	0.1138*	0.1082*	0.2092*	0.1520*	0.1282*	0.1012*	0.2325*	0.1084*	0.1447*	0.1678*	0.1527*	0.2371*	1.0000		
Q15	0.1185*	0.1256*	0.1492*	0.1656*	0.1275*	0.1738*	0.1902*	0.1618*	0.1041*	0.1489*	0.1027*	0.1529*	0.2060*	0.2414*	0.1136*	1.0000	
Q17	0.1364*	0.1597*	0.1312*	0.1688*	0.1074*	0.1705*	0.1402*	0.1720*	0.2824*	0.1763*	0.1304*	0.1651*	0.1358*	0.2418*	0.1985*	0.2163*	1.0000

Note: * refers to statistical significance at .05 level.

In terms of examining the construct validity of the scale and its internal structure, we started from modelling the data with all items in and then modified the model based on the overall model fit and factor loadings of items. Both unidimensional structure and two-factor structures were examined, and their goodness of fit are presented in Table 3. Three-factor and four-factor structures were also assessed but not presented here, as they did not improve the model fit.

As the CFI and TLI in solution 1 and solution 2 indicate (see Table 3), the models including all the 17 items, either with a one-factor or two-factor structure, fit the data poorly, despite RMSEA being lower than the threshold value of 0.06. Item 3 ("Do you know how to behave/act in different situations (such as school, home, holy places)?"), Item 9 ("Do you have friends that care about you?"), and Item 12 ("Do you think your friends care about you when times are hard (for example if you are sick or have done something wrong)?"), which had lowest standardised factors loadings (about 0.3), were then removed from the model. This improved the model fit slightly but it still did not reach the acceptable threshold as the results of solution 3 and solution 4 show. Compared with the models of one-factor structure (i.e., solution 1 vs solution 2, solution 3 vs solution 4), it seems the two-factor structure fits the data better, although the ΔCFI and ΔTLI were small.

Following Jefferies et al. (2018) which validated the two subscales separately, in solution 5, we ran a CFA model for each of the two subscales. Personal resilience and the subscale caregiver resilience each. The model for personal resilience without Items 3, 9 and 12 showed an acceptable fit to the data, explaining 64.3% of the variance. The model for caregiver resilience explained 60.2% of the variance. Figures 1 and 2 display the standardised estimates of factor loadings. Standardised factors loadings of some of the items, for example, 1, 2, 4, although were statistically significant ($p < .001$), but very low (<= 0.3).

From Table 2, we can see that Item 4 ("Do you feel that your parent(s)/caregiver(s) know where you are and what you are doing all of the time?") had a relatively high correlation with the items of personal resilience, while 14 ("Do you have chances to show others that you are growing up and can do things by yourself?") had a relatively high correlation with the items of caregiver resilience. These relationships were also supported by the model modification indices. Moreover, the high corelation between the two subdimensions (0.89), as indicated in the solution 4, suggests conceptual overlap between these two scales. Hence, we ran another two-factor model (see solution 6 in Table 3 and Figure 3) with Item 4 reclassified as an indicator for personal resilience and Item 14 reclassified as an indicator for caregiver resilience. This model represents a better fit to the data (RMSEA = 0.037, CFI = 0.929, TFI = 0.915), explaining 83.4% of the variance. All the items significantly loaded onto their respective factors ($p < .001$). Also, the factor loadings of items 4 and 14 were increased compared with those either in the solution 4 or solution 5. In solution 6, for the overall scale and the subscale personal resilience, Cronbach's alpha (0.74 and 0.63 respectively) and McDonald's omega values (0.73 and 0.63 respectively) are similar with those of the originally defined scale; however, both alpha and omega values of the subscale caregiver resilience are 0.62, demonstrating better inter consistency than the original one. Hence, we suggest solution 6 is the optimal model with our sample.

Table 3: The goodness of fit of CFA models

Solution	Description	Cov (PResilience, CResilience)	X^2	RMSEA [90% CI]	CFI	TLI	Standardised factor loadings
1	One-factor structure, with all items included.		468.174 (d=119, p<.001)	0.052 [0.047, 0.057]	0.819	0.793	0.29-0.49
2	Correlated two-factor structure, with all items included.	0.94	464.421 (d=118, p<.001)	0.052 [0.047, 0.057]	0.821	0.793	0.29-0.50
3	One-factor structure, with items 3, 9, 12 removed.		261.998 (d=77, p<.001)	0.047 [0.041, 0.053]	0.881	0.859	0.32-0.51
4	Correlated two-factor structure, with items 3, 9, 12 removed.	0.89	251.244 (d=76, p<.001)	0.046 [0.040, 0.052]	0.887	0.865	0.32-0.52
5	The subscale personal resilience only, with items 3, 9, 12 removed.		51.867 (d=14, p<.001)	0.050 [0.036, 0.065]	0.938	0.908	0.29-0.55
	The subscale caregiver resilience only, with all seven items included.		23.245 (d=14, p<.05)	0.025 [0.000, 0.042]	0.980	0.970	0.29-0.55
6	Correlated two-factor structure. Personal resilience -> items 1, 2, 7, 10, 13, 16, 4 Caregiver resilience -> items 5, 6, 8, 11, 15, 17, 14	0.74	186.469 (d=76, p<.001)	0.037 [0.030, 0.043]	0.929	0.915	0.33-0.55

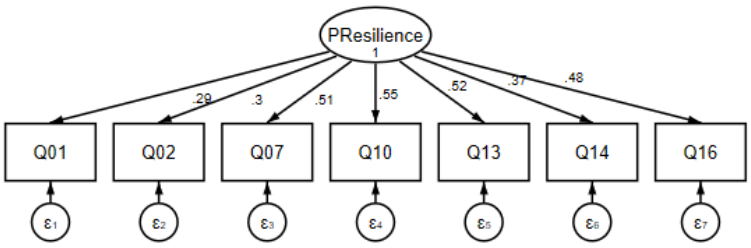

Figure 1: CFA model of the subscale personal resilience

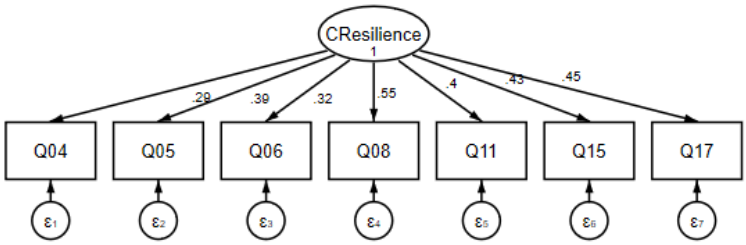

Figure 2: CFA model of the subscale caregiver resilience

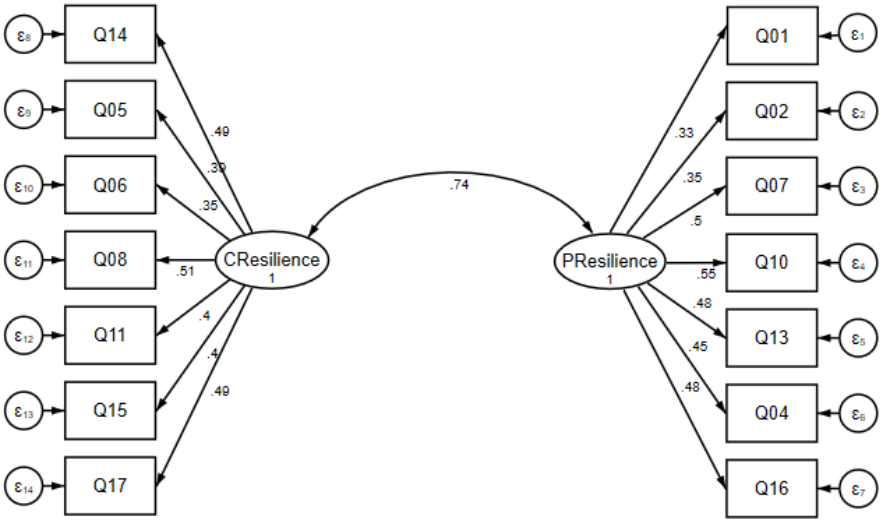

Figure 3: CFA model of CYRM-R

Discussion

In this study, we sought to investigate the construct validity of a Setswana version of CYRM-R on foundation-phase primary school learners in rural South Africa. In doing so, we ran and compared a series of CFA models. Our findings suggest the two-factor structure of the CYRM-R measure with some items removed or reclassified (i.e., solution 6) is preferable as relative to other examined solutions. It contributes to the understanding of the psychometric performance of CYRM-R on young children in a rural South African context and provides a reference for future research investigating/benchmarking the resilience of Setswana-speaking young children in rural African contexts.

Supporting van Breda & Theron (2018) and van Breda (2020) who suggest that the major resources for South African children's resilience are personal and relational, our findings also confirmed the two factors, i.e., personal resilience and caregiver resilience, from the CYRM-R in the context of rural primary schools in South Africa. This is generally consistent with some of the existing studies (e.g., Aghebati et al., 2023; Jefferies et al., 2018; Kuru et al., 2023) which suggest a two-factor model in other contexts, although the internal structure of the model is not the same. Adding to the study undertaken by Jefferies et al. (2018) which missed the opportunity to examine the relationships between the two factors due to modelling each subscale separately, our findings highlight the high correlation between the personal resilience and caregiver resilience subscales. Moreover, we revealed that in our focused context there are some conceptual overlaps between the originally defined subscales, through comparing the factor loadings and fit statistics of different models and reclassifying specific items (4, 14). As discussed previously (see Introduction), Anandan et al. (2022) also have similar findings, although the item reclassified in their context is different (Item 15).

Our finding adds to the empirical evidence indicating that children from different contexts and cultures may have various perceptions towards some of the components of the scale (Masten & Wright, 2010; Ungar, 2008). For Item 4 ("Do you feel that your parent(s)/caregiver(s) know where you are and what you are doing all of the time?") which is reclassified onto the factor "personal resilience" in our optimal model, perhaps young learners consider it is more relevant to their intrapersonal and interpersonal relationships rather than the connection with their parent(s)/caregiver(s). Loading Item 14 ("Do you have chances to show others that you are growing up and can-do things by yourself?") onto the factor "caregiver resilience" may be the result of young learners perceiving this item being given the opportunities for demonstrating their developing authority and agency in collective and hierarchical kinship systems (Lesejane, 2006).

In our optimal model, several items (i.e., 3, 9, and 12) were removed, as they had very low factor loadings which suggests that these items may not be quite relevant to the young learners' perceptions of resilience in this context. This concurs with Aghebati et al. (2023) who support identifying useful items from the measure based on the item performance in the focused culture(s), although a different item (i.e. item 13) was deleted from their model on Iranian children. As discussed previously, some researchers have suggested that sensitivity (coping skills) may not be considered by adults as adaptive functioning behaviour expected for young learners in some cultural groups in South Africa (Ebersöhn et al., 2012). This might be a possible explanation supporting the removal of Item 3 ("Do you know how to behave/act in different situations (such as school, home, holy places)?"). As to Item 9 ("Do you have friends that care about you?") and Item 12 ("Do you think your friends care about you when times are hard (for example if you are sick or have done something wrong)?"), the reason for why they are not relevant in the content is not yet clear. Future research might be warranted to investigate the protective and supportive role of friends for the resilience and development of young learners (Afshordi & Liberman, 2021; Alvord & Grados, 2005; Criss et al., 2002; Ladd et al., 1996) living in remotely rural contexts in South Africa.

As our study focused on Setswana-speaking learners at the foundation phase of primary schooling in rural South Africa, our findings may not be generalisable for other (age) groups in South Africa or the populations in other cultures. Notwithstanding these limitations, CYRM-R appears to be a useful measure of resilience for the population in our research. Our research could provide insights for future resilience studies undertaken in similar cultures. Additional research may be needed in the future to identify whether our findings apply for both girls and boys, or to compare the validity evidence drawn from children self-reported version with that from the Person Most Knowledgeable (PMK) version. Future research may also validate CYRM-R across diverse populations and contexts and over time (e.g.

through using multigroup CFA) to evaluate its measurement invariance, factor structures, group differences, and changes about the perceptions of resilience components at different life stages, or link quantitative findings with in-depth qualitative evidence to provide deeper insights into understanding the lived experiences of child and youth resilience.

Conclusion

The Setswana version of the CYRM-R, with the scale structure adapted, is a reliable and valid measure of resilience in young children in our research and can be used to assess resilience of young children in Setswana-speaking populations. Our study focused on Setswana-speaking learners at the foundation phase of primary schooling in rural South Africa, therefore our findings may not be generalisable for other (age) groups in South Africa or populations in other cultures.

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