Validation of the Children's Hope Scale in a sample of South African adolescents

*Tharina Guse[a], Gideon P. de Bruin[b] & Monique Kok[a]

[a]Department of Psychology, University of Johannesburg, South Africa

[b]Centre for Work Performance, Department of Industrial Psychology and People Management, University of Johannesburg, South Africa

P O Box 524

Auckland Park

2006

South Africa

Tel. +27 11 559 3248

Fax +27 11 559 3174

tguse@uj.ac.za

* Corresponding author

Abstract

The aim of this study was to examine the validity of the Children's Hope Scale (CHS) (Snyder et al. 1997) among South African adolescents. Participants ($n = 1062$) in the greater Johannesburg area completed the CHS as well as measures of psychological well-being, coping self-efficacy, positive affect and negative affect. The CHS total score showed satisfactory reliability for research purposes (Cronbach's $\alpha = .73$). Criterion related validity was demonstrated as evident from statistically significant correlations between the CHS, its subscales (agency and pathways) and the criterion measures. Snyder's two-factor model of hope was supported through confirmatory factor analysis. In accord with previous studies, results showed that item 5 loaded the pathways factor rather than the hypothesized agency factor. The results indicate that the CHS has satisfactory psychometric properties and can be implemented as measure of hope among South African adolescents using the total score rather than interpreting the subscale scores. The findings extend the application and measurement of constructs from the field of positive psychology to the African context.

1. Introduction

1.1. Hope as a psychological strength

This study examined the measurement of hope, a central construct in positive psychology, in the South African context. The field of positive psychology, which is concerned with the scientific study of optimal functioning among individuals, groups and institutions (Gable and Haidt 2005; Linley et al. 2006), has been developing rapidly since its inception more than a decade ago (Seligman and Csikszentmihalyi 2000). Research in positive psychology has focused on understanding the nature of well-being, as well as on identifying processes, dynamics and characteristics that may contribute to optimal functioning. The identification and classification of psychological strengths in *Character Strengths and Virtues: A Handbook and Classification (*Peterson and Seligman 2004) was a key development.

Psychological strengths are important as they seem to cultivate healthy development and serve as buffers that protect individuals from harmful risks associated with stressful life events (Valle et al. 2006). These strengths could thus be seen as facets of psychological functioning that protect individuals from developing mental illness (Seligman 2002) and contribute to coping with adverse circumstances (Smith 2006).

Hope can be viewed as a psychological strength (Valle et al. 2006) and an important indicator of psychological well-being in the broader sense (Seligman et al. 2005). In particular, hope has been associated with positive mental health (Gallagher and Lopez 2009), lower levels of depression and the ability to cope with stress (Snyder et al., 1991; 2005).Various conceptualizations of hope have been put forward. Hope has been described a positive expectancy (Menninger 1959; Stotland 1969), an emotion related to creative emotional experience (Averill and Sundararajan 2005) and a stable trait (Bryant and Cvengros 2004; Snyder et al. 1991).To date, the bulk of research on hope as a

psychological strength has focused on dispositional hope, as conceptualized by Snyder's (1994, 2002) hope theory. Snyder proposed a cognitive model of hope with a focus on goal attainment (Snyder et al. 1991). According to this model hope is described as goal-directed thinking which consist of two facets: agency thinking and pathways thinking. Agency refers to the motivation that drives individuals along pathways toward reaching their goals. Snyder (1994) viewed this component as an individual's reserve of determination and commitment that propels them along a pathway towards a goal. In turn, pathways refers to an individual's capacity to find ways to reach a goal. Alarcon et al. (2013, p. 822) summarized this two-dimensional conceptualization of hope as follows: "…hope reflects two related but distinct sub-dimensions—the first dealing with the resolve to achieve one's goals and the second dealing with the specific means of pursuing one's goals." Hence, from this perspective hopeful thinking is self-initiated, future directed and aimed at reaching important goals. These two dimensions of hope, i.e. agency thinking and pathways thinking are positively related yet are not synonymous. Further, neither dimension sufficiently defines hope on its own (Edwards, Rand et al. 2007).

On a conceptual level hope has been distinguished from similar constructs such as optimism (Scheier and Carver 1985) and self-efficacy (Bandura 1997). In a recent meta-analysis Alarcon et al. (2013) concluded that hope and optimism showed differential relationships with well-being and personality attributes, respectively. Although both are considered stable traits (Scheier and Carver 1985; Snyder et al. 1991), optimism concerns a generalized expectancy that the future hold (many) good things whereas hope is concerned with the belief that one can take specific actions to reach important goals. Thus, optimism seem to be important to maintaining wellbeing in situations where individuals may experience little personal control, whereas hope is important in

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circumstances where high levels of personal control over one's actions are possible (Gallagher and Lopez 2009).

Self-efficacy refers to an individual's expectations of being able to successfully complete a given task (Bandura 1989; 1997). Briefly put, self-efficacy pertains more to the expectation that specific *behaviors* can be executed whereas hope is concerned with the expectation that certain *goals* will be attained (Snyder, 2002). Research among both adolescents (January and Guse 2011; Jovanović 2013) and adults (Magaletta and Oliver 1999) suggests that hope and self-efficacy uniquely contribute to well-being and seem to be related but not identical constructs.

Literature on the correlates of hope is expanding. Alarcon et al. (2013) concluded that hope is a desirable trait and its development should be encouraged. Among children and adolescents higher levels of hope are associated with better academic and health outcomes as well as better psychological adjustment (Snyder et al. 2003; Valle et al. 2006). Research indicates that hope can be enhanced and that nurturing hope potentially leads to positive academic and psychological outcomes (Edwards and McClintock 2013). Although the processes by which this occurs are not yet clear, Alarcon et al. (2013) suggested that hope acts as a psychological resource which contributes to well-being through positive expectancies. Further, such positive expectancies may enable the acquisition of other resources which can be beneficial both when things are going well and in times of stress.

1.2. The South African context

Hope may be an important psychological resource for adolescents in the South African context. They grow up in a society characterized by socioeconomic inequality and environmental stressors (Barbarin and Richter 2001) yet there are far more educational and career opportunities (Makiwane and Kwizera 2009). Thus, youth need to draw on

agency and pathways to negotiate developmental challenges within a complex socio-cultural context. A qualitative study among South African youth residing in a violent community indicated that they viewed hope as very important in dealing with the challenges of their community (Isaacs and Savahl et al. 2014). Further, Savahl, Isaacs, Adams, Carels and September (2013) reported that hope is a stronger predictor of well-being than community violence. Earlier Guse and Vermaak (2011) confirmed the relationship between hope and psychological well-being among a group of urban South African adolescents. However, in order to explore hope as a psychological strength among South African adolescents it is first necessary to determine whether existing measures are valid and reliable in measuring hope.

1.3. The Children's Hope Scale (CHS, Snyder et al. 1997)

Several measures to assess hope among adults have been developed. The Adult Hope Scale (AHS), also referred to as the Dispositional Hope Scale (DHS) (Snyder et al. 1991) is widely implemented to measure hope as conceptualized by Snyder's (1994; 2002) hope theory among adults. The two-factor structure of the AHS was consistently supported (e.g. Gomez et al. 2015; Roesch and Vaughn 2006). The AHS also showed acceptable psychometric properties in a South African sample (Nel and Boshoff 2014).

Snyder and his colleagues (Snyder et al. 1997) developed and validated the CHS to assess hope among children and adolescents aged seven to 16. After considering 40 items, six items each were initially retained to measure two subscales, agency and pathways. The final version of the scale contained only three items for each subscale, following several validation studies among children in school and hospital settings as well as children referred for psychological treatment. Snyder (2006) concluded that the two-factor structure of the CHS was consistently identifiable. However, he also recommended that scores on the agency and pathways subscales should not be interpreted separately

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(Snyder, 2005). Further, concurrent and discriminant validity was supported. According to Edwards and McClintock (2013) the CHS is one of the most widely used measures of hope among youth.

1.4. The present study

It is important to understand hope amongst culturally diverse youth (Edwards and McClintock 2013). Existing studies reporting the psychometric properties of the CHS were mainly implemented in American and European contexts, including the USA (Edwards, Ong et al. 2007; Valle et al. 2004), Serbia (Jovanović 2013), Spain (Pulido-Martos et al. (2013) and Portugal (Marques 2009). There are reports on Turkish (Atik and Kemer, 2009) and Chinese (Zhao and Sun 2011) versions, but there is still a lack of information on the CHS in the African context.

The main aim of this study was to examine the validity of the CHS as a measure of hope among South African adolescents. To this end, the following sub-aims were set: (a) to examine the reliability of the CHS as reflected by Cronbach's alpha coefficient; (b) to examine the factor structure of the CHS, and (c) to evaluate the convergent and discriminant validity of the CHS.

2. Method

2.1. Participants

Data were available for 1062 adolescents from four secondary schools in the greater Johannesburg area of the Gauteng province in South Africa and were obtained through purposive sampling. Fifteen participants (1%) had incomplete data and were set aside, yielding a sample with $n = 1046$. Participants ages ranged from 13 to 16 years with a mean of 15.90 years ($SD = 0.91$). Most of the participants (48%) were White, followed by Black (31%), mixed ethnicity (15%) and Asian (6%). There were 492 boys (47%) and 552 (53%) girls (two participants did not indicate their gender).

2.2. Instruments

Children's Hope Scale (CHS). The CHS (Snyder et al., 1997) is a brief six-item Likert-type self-report measure for children aged 7 to 16. Responses options range from 'none of the time' (1) to 'all of the time' (6). Three items measure agency (e.g. 'I think I am doing pretty well'), and three measure pathways (e.g. 'When I have a problem, I can come up with lots of ways to solve it') (Snyder et al. 1997b). Subscale scores range from 3 (low) to 18 (high), whereas the total CHS score ranges from 6 (low) to 36 (high) (Lopez et al. 2000). The CHS total score yielded satisfactory Cronbach alpha coefficients in previous studies ($\alpha = 72$ to .89) (Edwards, Ong et al. 2007; Snyder et al. 2005). Test-retest reliabilities were positive and significant ($r = .71$ to .73) (Snyder et al. 2005). Adapted versions of the CHS similarly demonstrated satisfactory alpha coefficients for the total score ranging from .76 to .81 (Jovanović 2013; Marques et al. 2009; Pulido-Martos et al. 2014). Recently Savahl et al. (2013) implemented the English version among South African adolescents and reported an acceptable Cronbach alpha of .71. However, another study among South African children aged 10 to 12 years yielded a relatively low Cronbach alpha of .65 (van Eeden and Pretorius 2004). In the current study the Cronbach's alpha index was. 73. As far as the subscales were concerned, alpha coefficients were only reported in a few studies, ranging from .65 to .79 for agency and .72 to.81 for pathways (Jovanović 2013; Marques 2009). This study yielded alpha coefficients of .59 and .66 respectively.

The Coping Self-Efficacy Scale (CSE). The CSE (Chesney et al. 2006) consists of 26 items, which measure perceived efficacy for coping with challenges. In this study, the shortened, 13-item version of the scale was used. Participants responded to questions such as: 'When things aren't going well for you, or when you are having problems, how confident or certain are you that you can do the following?' (Chesney et al., 2006).

Participants rate on a 10-point scale to which extent they believe they could perform certain behaviors important to adaptive coping.

Anchor points on the scale are 0 ('cannot do at all'), 5 ('moderately certain can do') and 10 ('certain can do'). An overall score for the scale is obtained by summing the ratings over the 13 items, thereby producing a score that indicates either a high sense of coping self-efficacy(a high score), or a low sense of coping self-efficacy(a low score) (Chesney et al. 2006). Reliability coefficients of .92 (Mosack et al, 2009) and .88 (Nicholls et al. 2010) for the full scale were reported. The scale has been implemented in South African studies yielding alpha coefficients ranging from .85 to .87 (Koen et al. 2011). In this study the Cronbach's alpha coefficient was .81.

The Mental Health Continuum – Short Form for Youth (MHC-SF). The MHC-SF (Keyes 2006) is a 14-item self-report scale for youths between the ages of 12 to 18 years and measures emotional, social and psychological well-being as well as total well-being. The total score on the MHC-SF gives an indication of mental health or flourishing, with higher scores reflecting higher levels of mental health. In this study only the total score was used in statistical analyses. The short form of the MHC has shown satisfactory reliability (Cronbach alpha > .80) and discriminant validity (e.g., Keyes 2006; Lamers et al. 2011). South African research using the adult form of the MHC-SF yielded acceptable indices of reliability and validity (de Bruin and du Plessis 2015; Keyes et al. 2008). Van Schalkwyk and Wissing (2010) reported a satisfactory reliability coefficient of .88 implementing the youth form among a group of adolescents. The current study yielded a Cronbach alpha coefficient of .86.

The Positive and Negative Affect Schedule for Children (PANAS-C). The PANAS-C (Laurent et al. 1999) is a self-report scale that evaluates levels of positive affect (PA) and negative affect (NA) in school aged children (Hughes and Kendall 2009) and adolescents

(Suldo et al. 2009). The preponderance of positive over negative affect is generally accepted as an indication of more positive psychological functioning. The PANAS-C a 30-item scale and each item on the scale is an adjective related to affective state representing either positive or negative affect. 15 items represent dimensions of positive affect and the other 15 represent the dimensions of negative affect (Laurent et al. 1999). Participants aged between 9 and 17 years, are instructed to indicate how often they have felt this way over the past two weeks on a 5-point Likert scale ranging from 1 (very slightly or not at all) to 5 (extremely) (Hughes and Kendall 2009; Laurent et al. 1999). Although Laurent et al. (1999) revised the scale to only include 12 dimensions of positive affect other studies (e.g. Edwards, Ong et al. 2007; Gilliland et al. 2006) continued to use the 30-item scale. In this study the 30-item scale was administered.

The higher the score on the affective dimension (positive affect or negative affect), the higher the level of affective dimension experienced. Reliability coefficients for the PANAS-C ranged from .75 to .91 for positive affect (Edwards, Ong et al., 2007; Laurent et al. 1999; Suldo et al. 2009). For negative affect these authors reported Cronbach alpha's ranging from .88 to .94. A South African study implementing the adult version with a group of adolescents yielded reliability coefficients of .72 (PA) and .73 (NA) (Getz et al. 2012). In the current study the Cronbach's alpha index was .85 for positive affect and .86 for negative affect. The convergent and discriminant validity as shown by Laurent et al. (1999) was established with measures of depression ($r = -.55$ for PA and $r = .60$ for NA) as well as with measures of anxiety ($r = -.30$ for PA and $r = .68$ for NA).

2.3. Procedure

After obtaining the necessary ethical and institutional permissions, the participants completed the questionnaires during school hours. The measures were completed in English as it was the language of instruction in all the schools included in the sample.

3. Results

3.1. Descriptive statistics and reliability

Table 1 presents the mean, standard deviations, skewness and kurtosis coefficients of the CHS, its subscales and the individual items. The mean total score of the CHS reflects medium-high levels of hope. The skewness and kurtosis coefficients of the CHS items were close to zero and fell within the range recommended as appropriate for factor analysis (Finch & West, 1997). The alpha coefficient for the total scale of the CHS (.73) was acceptable for research purposes. However, the subscales of the CHS (agency and pathways) yielded relatively low alpha coefficients (.59 and .66 respectively). The item-total correlations ranged from .25 to .52 ($p < .01$) for each item.

Table 1

Means, standard deviations, skewness and kurtosis of the Children's Hope Scale

Variable	Mean	Standard Deviation	Skewness	Kurtosis
CHS	25.14	5.01	-.22	-.31
Agency	12.34	2.86	-.18	-.52
Pathways	12.76	2.90	-.34	-.25
Item 1	4.00	1.04	.05	-.54
Item 2	4.50	1.12	-.45	-.32
Item 3	4.19	1.27	-.88	-.59
Item 4	3.86	1.38	-.05	-.89
Item 5	4.15	1.51	-.51	-.70
Item 6	4.43	1.30	-.49	-.60

3.2. Confirmatory factor analysis

Maximum likelihood confirmatory factor analysis was used to evaluate two competing factor models of the covariances of the six CHS items. Model 1 represented a simple unidimensional model where only one common factor, namely *Hope*, influenced responses to the six items. To identify the model, the unstandardized regression weighst of the error variances to the items were fixed to unity and the unstandardized regression weight of the factor on item 1, was fixed to unity.

Model 2 was based on Snyder's (1991, 1994, 2002) hope theory and specified separate, but correlated agency and pathways factors. In accord with the scoring key the agency factor was measured using items 1 ('I think I am doing pretty well'), 3 ('I am doing just as well as other kids in my class') and 5 ('Things I have done before will help me when I am doing new things'), whereas the pathways factor was measured with items 2 ('I can think of many ways to get things I want'), 4 ('When I have a problem, I can come up with lots of ways to solve it') and 6 ('I can find ways to solve a problem even when other kids give up'). No cross-loadings of items were specified. To identify the model the unstandardized regression weights of the two factors on items 1 and 6, respectively, were fixed to unity. In addition, the unstandardized regression weights of the items on the error variances were fixed to unity. The correlations between all error variances were constrained to zero.

The null hypothesis of perfect fit between Model 1 and the observed data had to be rejected, $\chi^2(9) = 105.08$, $p < .001$. Whereas the SRMR = .05 and the CFI = .92 indicated marginally satisfactory fit, the TLI = .87 and the RMSEA = .10 (90% CI .08 to .12) indicated unsatisfactory fit. The null hypotheses of perfect fit between Model 2 and the observed data also had to be rejected, $\chi^2(8) = 52.04$, $p < .001$. However, the SRMR =

.04 and the CFI = .97 indicated good fit, and the TLI = .92 and RMSEA = .07 (90% CI

.06 to .09), indicated marginally acceptable fit from a practical measurement perspective.

Table 2

Goodness-of-fit for measurement models 1, 2, 3 and 4 of the Children's Hope Scale

Model	χ^2	*df*	RMSEA	CFI	SRMR	TFI
Model 1	104.87	9	.10	.92	.05	.87
Model 2	48.97	8	.07	.97	.04	.92
Model 3	15.43	7	.03	.99	.02	.98
Model 4	18.22	7	.04	.99	.02	.98

The difference in fit between the two models was statistically significant, $\Delta\chi^2(1) =$

53.04, $p < .001$, indicating that Model 2 fit the data better than Model 1. Although Model

2 demonstrated largely acceptable fit, the point estimates of the TLI and the RMSEA

suggested that the model could be improved. Against this background the data were

subjected to an unrestricted maximum likelihood factor analysis with oblique Direct

Quartimin rotation. In accordance with Snyder's (2002) hope theory, two factors were

retained. The rotated factor pattern matrix in Table 3 indicated that contrary to

expectation, Item 5 loaded on the pathways factor ($\lambda = .42$) rather than the agency factor

($\lambda = -.08$).

Table 3

Pattern Matrix

Item	Factor	
	1	2
Item 1	.11	-.63
Item 2	.50	-.13
Item 3	-.04	-.74
Item 4	.60	.04
Item 5	.42	-.08
Item 6	.70	.06

A revised confirmatory factor model (Model 3) was tested where item 5 was specified to load the pathways factor rather than the agency factor. The hypothesis of perfect fit had to be rejected, $\chi^2(8) = 18.22$, $p = .02$. However, the SRMR = .02, TLI = .98, CFI = .99, and RMSEA = .04 (90% CI .01 to .06) indicated very good fit.

However, a formal statistical significance test of the difference in fit was not possible because the models were not nested. The differences in the CFI (ΔCFI = .02), TLI (ΔTLI = .06), RMSEA (ΔRMSEA = .03), and SRMR (ΔSRMR = .02), evidenced that Model 3 fit the data better than Model 2. Comparison of the Akaike Information Criterion (AIC) across the two models also showed that Model 3 (AIC = 19586.00) fit better than Model 2 (AIC = 19619.83). The factor pattern coefficient of item 5 on the pathways factor was moderately strong and statistically significant ($\lambda = .47$, $p < .05$). The correlation between the two factors was .72.

On the basis of the strong correlation between the two factors and Snyder's (2005) recommendation that a total score be interpreted, we fitted our final model, namely a higher order model (Model 4) where a single hope factor influences the agency and pathways factors, which in turn influences responses to the individual items (see Figure

1). This model did not fit the data perfectly, $\chi^2(7) = 18.22$, $p = .01$, but the SRMR = .02, TLI = .98, CFI = .99, and RMSEA = .04 (90% CI .02 to .06) indicated very good fit. Both the agency ($\lambda = .83$, $p < .05$) and pathways ($\lambda = .86$, $p < .05$) factors strongly loaded the higher order factor. The higher order factor accounted for 69% and 74% of the two first order factors, respectively. In addition, each item was a satisfactory indicator of its specified first order factor (see Figure 1). The reliabilities of the revised subscales were: agency, $\alpha = .52$, and pathways, $\alpha = .66$.
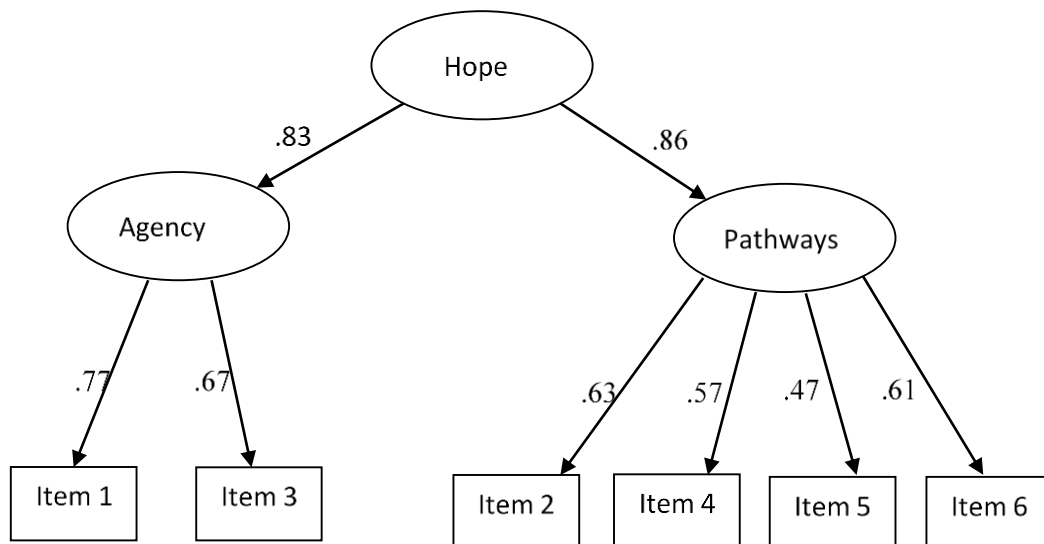

Figure 1: Standardized higher order factor solution of the Children's Hope Scale.

3.3. Criterion related validity

Table 4 contains the correlations of the CHS and its unrevised subscales with the CSE, MHC-SF and the PANAS-C. The correlations of the unrevised subscales allow for a comparison of the results with those obtained in previous studies (see Table 4). We also

report in Table 5 correlations of the revised subscales where item 5 is scored as part of the pathways rather than the agency subscale.

Table 4 shows that, as expected, the CHS total score correlated positively with coping self-efficacy as measured by the CSE $(r = .58, p < .01)$, positive affect as measured by the PANAS-C $(r = .48, p < .01)$, and psychological well-being as reflected in the total score of the MHC-SF $(r = .59, p < .01)$. The CHS total score correlated negatively and weakly with negative affect $(r = -.23, p < .01)$.

We also examined the relations of the agency and pathways subscale scores (as derived from the scoring key) with the criterion measures. As expected, agency and pathways showed a similar pattern of correlation as found between the total score of the CHS and the criterion measures, reflected in Table 4.

Table 4

Correlation matrix for all measures

Measure	CHS	H-A	H-P	CSE	MHC-SF	PANAS-C POS	PANAS-C NEG
CHS	1						
H-A	.87	1					
H-P	.87	.51	1				
CSE	.58	.47	.53	1			
MHC-SF	.59	.52	.51	.54	1		
PANASC POS	.48	.42	.41	.50	.67	1	
PANASC NEG	-.23	-.23	-.17	-.33	-.39	-.30	1

Note: CHS = The Children's Hope Scale (total score); H-A = Agency; H-P = Pathways; CSE = The Coping Self-efficacy Scale; MHC-SF = The Mental Health Continuum– Short Form for Youth; PANAS-C POS = positive affect; PANAS-C NEG = negative affect

All correlations are significant at the 0.01 level (2-tailed)

Given that item 5 loaded more strongly on the pathways factor, Table 5 shows the correlations between the variables where item 5 is scored on the pathways subscale rather than the agency subscale. Table 5 indicates that the pattern of correlation between the revised subscales and the criterion measures were similar to the original subscales and in the expected direction. The revised pathways subscale correlated more strongly with the CHS total score than the original subscale.

Table 5

Correlation matrix for all measures with revised agency and pathways subscales

Measure	CHS	RH-A	RH-P	CSE	MHC-SF	PANAS-C POS	PANAS-C NEG
CHS	1						
RH-A	.76	1					
RH-P	.98	.49	1				
CSE	.58	.43	.55	1			
MHC-SF	.59	.52	.52	.54	1		
PANASC POS	.48	.44	.43	.50	.67	1	
PANASC NEG	-.23	-.24	-.21	-.33	-.39	-.30	1

Note: CHS = The Children's Hope Scale (total score); RH-A = Agency revised subscale; RH-P = Pathways revised subscale; CSE = The Coping Self-efficacy Scale; MHC-SF = The Mental Health Continuum– Short Form for Youth; PANAS-C POS = positive affect; PANAS-C NEG = negative affect

All correlations are significant at the 0.01 level (2-tailed)

4. Discussion

The aim of this study was to examine the validity of the CHS for implementation among South African adolescents by evaluating its reliability, factor structure and criterion-related validity. Overall, the CHS demonstrated acceptable psychometric properties when

the total score is used to evaluate levels of hope. Although confirmatory factor analysis

largely supported the two-factor structure proposed by Snyder (1995, 2002), item 5

loaded on the pathways factor rather than the hypothesized agency factor. The strength of

the correlation between the pathways and agency factors, the strong loadings of these

factors on a higher order hope factor, and the superior reliability of the total score in

comparison with the reliabilities of the subscale scores, suggested that, as recommended

by Snyder (2006), the total score rather than subscale scores should be interpreted when

evaluating levels of hope.

The Cronbach alpha coefficient for the CHS total score was .73, which is

sufficiently reliable for research purposes. This reliability, however, is lower than those

reported in other studies using the English version of the scale (e.g. Edwards, Ong et al.

2007; Snyder et al. 1997). This may be due to the fact that only 9.6% of South Africans

speak English as a first language (Statistics South Africa, 2011). Therefore English may

have been a second, third or fourth language for some respondents, which introduces

error.

Whereas the factor analytic results largely support the construct validity of the

CHS, results showed that item 5, meant to be an indicator of agency, served better as an

indicator of the pathways factor. Similar results were reported by Edwards, Ong et al.

(2007) and Pulido-Martos et al. (2014). Given that item 5 ("I think the things I have

done in the past will help me in the future") loaded on pathways in three studies

conducted in different cultural contexts (Mexican-American, Spanish and African) it

appears that this item measures pathways rather than agency, and we speculate that item 5

relates to thoughts about finding ways to achieve a goal, rather than indicating the

motivation and belief that the goal is attainable. Additionally, given the recommendation

that the total score rather than the subscale scores be interpreted (Snyder, 2005; Marques

et al. 2014), it does not appear necessary to revise or discard item 5 which would lower the reliability of the total score. However, if the subscale scores are deemed important, it appears advisable to score item 5 on the pathways subscale rather than on the agency subscale. Further research on revising or discarding item 5 is recommended.

Criterion-related validity was established by correlating CHS scores with constructs that were hypothesized to either be positively correlated (coping self-efficacy, positive affect and psychological well-being) or negatively correlated (negative affect) with hope. The results confirmed that the CHS and its subscales were positively correlated with measures of coping self-efficacy, positive affect and psychological well-being. The CHS was also negatively correlated with negative affect as measured by the PANAS-C. This is consistent with other studies examining convergent and divergent validity of the CHS (Edwards, Ong et al. 2007; Marques et al. 2009) further supporting the validity of the CHS among South African adolescents. The agency and pathways subscales correlated similarly with the criterion measures, even after including item 5 as an indicator of pathways rather than agency.

Despite finding evidence in support of the validity of the CHS among South African adolescents, some limitations are noted. The study utilized a non-random sample which potentially limits the generalisability of the results. Future research could benefit from randomized or stratified samples. However, the present results largely mirror those obtained in other contexts (Edwards, Ong et al., 2007; Marques et al., 2009; Pulido-Martos et al., 2014), which lends support to the veracity of the results.

In conclusion, the CHS appears to be a valid measure of hope among South African adolescents. It can be a useful instrument in understanding the prevalence, correlates and dynamics of positive psychological functioning among the youth in South Africa. This study also extends the application and measurement of constructs central to the field of

positive psychology to an African context and contribute to a cross-cultural understanding of hope as a psychological strength.

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