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# Adaptation and Validation of the Hope Index for Brazilian Adolescents

## *Adaptação e Validação da The Hope Index para Adolescentes Brasileiros*

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### **Abstract**

This study aimed at adapting and validating the Staats Hope Index for Brazilian adolescents. Participants were 450 high school students aged from 14 to 18 years old being 56% females. They responded to the Staats Hope Index, Adult Dispositional Hope Scale, Revised Life Orientation Test (LOT-R) and Rosenberg Self-Esteem Scale. A factor analysis extracted two factors, replicating the structure of the original scale. Coefficients alphas were .83 and .81, for each factor, respectively. The correlations of the Hope Index factors with dispositional hope, optimism and self-esteem were similar to the findings reported in the literature and indicated convergent validity. The results indicate that the Hope Index is valid to be used in Brazil and that hope is perceived similarly by Brazilians and Americans despite of some cultural differences.

**Keywords:** Hope; Optimism; Positive Psychology.

### **Resumo**

O objetivo deste estudo foi adaptar e validar a escala The Hope Index para adolescentes brasileiros. Participaram 450 estudantes do ensino médio, sendo 56% do sexo feminino. As idades variaram entre 14 e 18 anos. Os instrumentos utilizados foram the Hope Index, Adult Dispositional Hope Scale, Revised Life Orientation Test (LOT-R) e Rosenberg Self-esteem Scale. A análise fatorial revelou duas dimensões, conforme a estrutura original da escala com valores do coeficiente alfa de 0,83 e 0,81. As correlações dos fatores da escala The Hope Index com esperança disposicional, otimismo e autoestima foram similares aos achados da literatura e indicam validade convergente. Esses resultados indicam que a escala é válida para uso no Brasil e que Brasileiros e Americanos percebem a esperança de modo similar, apesar de algumas diferenças culturais.

**Palavras-chave:** Esperança; Otimismo; Psicologia Positiva.

The aim of this study was to adapt The Hope Index, developed by Staats (1989), for adolescents in southern Brazil. Several authors have reported on the association of hope with adaptive behaviors, self-esteem, optimism and school performance (Bellizzi & Blank, 2006; Chang, 2003; Roesch & Vaughn, 2006; Valle, Huebner, & Suldo, 2006), as well as with efficient coping strategies (Chimich & Nekolaichuk, 2004). Other studies found that individuals with high hope scores are less affected by depression (Geffken et al., 2006; Snyder et

al., 1997) or by anxiety (Arnau, Rosen, Finch, Rhudy, & Fortunato, 2007; Niejodeka, Gottschalkb, & Januszka, 1999). Their adherence to treatments and treatment results are superior, and their quality of life is better because hope is associated with health (Nekolaichuk & Maguire, 1999; Staats, 1991). These findings may be partly explained by the association of hope with the functioning of the immunological system, which, when stimulated, promotes faster patient recovery (Staats, 1987). Moreover, individuals with high hope scores are more likely to initiate activities and remain engaged in their performance (Staats, 1989).

No consensual definition of hope is found in the literature. According to Staats (1987, 1989), hope refers to future events that individuals wish to happen, and is made up of two components, one affective and one cognitive. The affective component is associated with the fact that what is expected (wished) for the future is a pleasurable event or has good consequences. The cognitive component refers to the expectations that a future event is likely to occur. Staats suggested that this construct be divided into affective and cognitive hope.

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In 1987, Staats developed the Expected Balance Scale (EBS) to measure affective hope. Although this scale has a cognitive component, that is, the need to think about the future, Staats (1989, p. 367) claims that its focus is on emotions, as “15 items contain the verb feel”. It was based on the Bradburn Affective Balance Scale (ABS); participants use a 5-point likert scale to rate 18 items, nine positive and nine negative. Affective hope was, thus, defined by Staats (1989) as the difference between the positive and negative expectations about a certain event placed weeks in the future. To evaluate the cognitive aspects of hope, another instrument, the Hope Index, was developed to measure cognitive hope, defined as the interaction between wishes and expectations (Staats, 1989). This scale was derived from a set of items listed by people that were asked about things or circumstances that they expected to happen. The most frequent answers were selected for the scale items. This instrument measures only individual (defined, specified) expectations and, therefore, is in contrast with the Life Orientation Test (LOT-R), which measures generalized expectations without specifying the object (Scheier & Carver, 1985). Therefore, according to Staats (1989), the construct that it approaches differs from optimism. This study adapted and validated the Hope Index, developed by Staats (1989), for adolescents in southern Brazil.

### Method

#### *Participants*

Participants were 450 students (56% girls) attending the second and third years of regular high school. Their ages ranged from 14 to 18 years, and their mean age was 16.8 ( $SD=3.4$ ). Of this total, 363 studied in a public school and 87 in a private institution, in southern Brazil. This convenience sample was made up of volunteers, and all participants had their parents' consent to participate in the research.

#### *Instruments*

The participants completed the Hope Index (Staats, 1989), adapted to use in Brazil. The original instrument has 16 items and three columns. Items are listed in the second column. In the first column there is a 0-to-5 Likert scale that the participants use to indicate how much they wish the occurrence of the situations suggested by the items: 0 indicates **not at all**, and 5, **very much**. In the third column, there is a similar scale for participants to indicate how likely to occur they expect the situations described in the items to be: again, 0 indicates **not at all**, and 5, **very much**. Therefore, each item has two scores: one for how much the participant wishes the situation described in the item, and the other, how firmly they believe that what was described by the item will occur. These scores are multiplied one by one and added up in the end to produce a global score of cognitive hope. Therefore, this scale ranges from 0 to 480 for the first factor and from 0 to 180 for the second factor.

The original instrument has two subscales. The eight items that refer to oneself compose the hope-self subscale, and the other items, that refer to others or to global circumstances, form the hope-other subscale. Scores can also be divided into wishes and expectations. Staats (1989) says that the internal consistency (Coefficient alpha) “of the Hope Index and its scales ranged from .72 to .85.” (p. 372). The instrument used in our study was adapted from the original Staats scale (1989) by Pacico, Bastianello, Zanon and Hutz (2010). The Brazilian adaptation for adults has the same structure that the original scale but five extra items were added in the hope self factor after a content validity study. The five items were maintained in the scale used in the present study to verify if they would also load in the same factor as it did with the adults.

To evaluate convergent validity, the following instruments were used: the Adult Dispositional Hope Scale (Pacico et al., 2010; Snyder et al., 1991), the revised Life Orientation test (Bastianello, Pacico, Zanon, & Hutz, 2010; Scheier, Carver, & Bridges, 1994) and the Rosenberg self-esteem scale (Hutz & Zanon, 2011; Rosenberg, 1989).

The Adult Dispositional Hope Scale (Snyder et al., 1991) has 12 items. Four refer to agency, four, to pathways, and the other four are fillers. The items are rated using a 5-point likert scale, in which 1 indicates completely false and 5, completely true. The internal consistency of the original instrument (Coefficient alpha) ranged from .71 to .84.

The revised Life Orientation Test (LOT-R) evaluates dispositional optimism (Scheier et al., 1994) and was adapted and validated for Brazilian adolescents by Bastianello et al. (2010). The Brazilian version of this instrument has 11 items, four of which are distractors. The adapted LOT-R has good internal consistency, similar to that reported in the original study (Coefficient alpha = .80).

The Rosenberg Self-esteem Scale (Hutz & Zanon, 2011) has 10 items that evaluate self-esteem in one single dimension. This instrument has adequate psychometric characteristics (Coefficient alpha = .90).

#### *Procedures*

The instruments were applied collective in the classroom by two of the authors. The students received information about data confidentiality, voluntary participation, and privacy. After that, the booklet with the instruments was handed out. Instructions to complete the scales were given collectively and were also reproduced in the heading of each instrument.

### Results

#### *Hope Scale Component Structure and Reliability*

The 21 items of the Hope Index underwent analysis of the major components using oblimin rotation. The scree plot (Figure 1) suggests that the best solution would be the extraction of two factors. These factors correspond to those identified in the original scale as hope-self and hope-other. The eigenvalue of hope-self was 6.3 and explained 29.9% of the total variance. The eigenvalue of hope-other

was 1.9 and explained 9.1% of the total variance. The Kaiser-Meyer-Olkin index, which evaluates sampling adequacy for this type of analysis, was .89, and the result of the Bartlett's test of sphericity was significant ( $p < .001$ ). Communality values ranged from .20 to .76. All the items had factor loadings greater than .32 (Table 1). Moreover,

internal consistency of the scale was good, with a Cronbach's alpha of .83 for hope-self and .81 for hope-other.

There were no gender differences in hope-self [ $t(390) = 1.5, p > .05$ ]. However, women ( $M=88.4; SD=31.4$ ) had a significantly greater mean value than men ( $M=80.3; SD=34.8$ ) in hope-other ( $t(411) = 2.5, p < .02$ ).

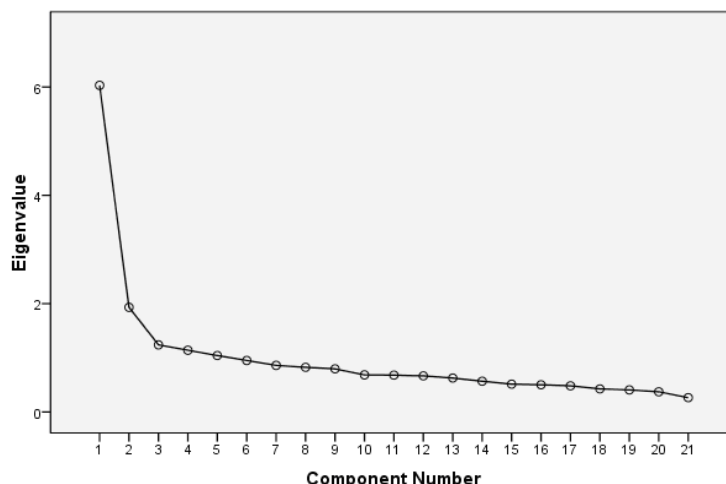


Figure 1. Scree plot of items in the cognitive hope scale.

Table 1  
Factor Loadings and Psychometric Characteristics of the Hope Index

Items	Hope-Self	Hope-Other
1	.76	
2	.36	
3	.52	
4	.74	
5	.67	
6	.63	
7	.67	
8	.30	
9		.39
10		.49
11		.58
12	.42	
13		.86
14		.88
15	.32	
16		.84
17	.64	
18	.57	
19	.59	
20	.56	
21	.45	
Eigenvalue	6.3	1.9
Mean	293.3	84.9
Standard Deviation	50.3	33.1
Explained Variance	29.9%	9.1%
Coefficient alpha	.83	.81

#### Evidence of Convergent Validity for the Hope Index

Table 2 shows the results of the correlation analysis. As expected, cognitive hope was positively correlated with dispositional hope, self-esteem and optimism, which provides evidence of convergent validity for the scale.

Table 2  
Correlations between dispositional hope, hope-self, hope-others, optimism and self-esteem

Variables	1	2	3	4
1 - Hope-self	-			
2 - Hope-other	.53	-		
3 - Dispositional hope	.46	.21	-	
4 - Optimism	.47	.21	.49	-
5 - Self-esteem	.46	.24	.55	.60

Note. All correlations are significant ( $p < .01$ )

#### Discussion

Initially, results showed that the factor structure of the Brazilian version replicated that of the original scale. As in the original scale, the first factor comprised hope-self items, and the second, hope-other items. The items had expected factor loadings. The extra items inserted in the scale had loadings in the hope-self factor.

Staats (1989) did not find sex differences in her studies. In our sample, there were also no sex differences in hope-self, but there was a small but significant difference in

hope-other, and women had higher scores in this type of hope than men. This discrepancy may be only an occasional result that other studies should attempt to replicate it; or it might be an indication of a cultural difference that might deserve further investigation.

To check for evidence of convergent validity, the scale was correlated with the optimism, self-esteem and dispositional hope scores. Both hope-self and hope-other are positively correlated with self-esteem and optimism, which is good evidence of convergent validity of this instrument and corroborates findings reported by several authors that reported similar results (Carver & Scheier, 2002; Magaletta & Oliver, 1999; Stajkovic, 2006). However, hope-self was more closely associated with the other constructs than hope-other. This may have happened because the constructs used to evaluate convergent validity referred to characteristics associated with the individuals rather than with their contexts; therefore, hope-self showed stronger correlations with self-esteem, optimism and dispositional hope.

The correlation between cognitive and dispositional hope was expected because both instruments measure different dimensions of the same broad construct. However, the correlation of dispositional hope with hope-other yielded a lower value ( $r=.20$ ) than the correlation with hope-self ( $r=.46$ ). Dispositional hope is composed of agency and pathways developed by individuals (Snyder et al., 1991). Individual, rather than contextual, characteristics might, thus, explain why the correlation with hope-self was greater than the correlation with hope-other.

The new items that were included in the scale represent wishes that were not expressed in the original instrument but were mentioned by Brazilian adults in earlier studies. These items were identified using the same procedure that Staats (1989) adopted to prepare items for the original scale. The results showed that, among the most-desired future outcomes for the local population, were some that were not included in the original scale: sexual satisfaction, love relationships, children's success, conditions to help other people, and conditions to travel and know new places. This finding points to possible cultural differences between populations. However, despite these differences and the inclusion of the extra items, the associations of the scale with other constructs, such as optimism, self-esteem and dispositional hope, were equivalent to the finding in previous studies.

Although five new items were added to the original instrument, the original 16 items were kept. This indicates that, although applied in a different culture from the one for which it was originally built, the scale successfully assessed cognitive hope. The inclusion of the new items revealed particular characteristics and especially important wishes in the Brazilian culture that distinguish it from the American culture. It may be interesting to develop new studies to assess the impact of these cultural differences

controlling other variables, especially personality factors. Finally, these results point out to the need of conducting content validity studies when adapting new instruments to different cultures.

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