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Adaptation of the Beck Hopelessness Scale in Hungary

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Abstract

Hopelessness Scale (BHS) developed by Aaron Beck is an internationally accepted measure in the prediction of suicide. Our study focusssed on the adaptation of the scale in Hungary and its psychometric analysis. From the 1950s Hungary has always been among the top ten countries with the highest suicide rates in the world therefore a valid and reliable measure as a screening instrument in suicide prevention has utmost importance. Three different Hungarian samples (depressed patients with and without suicide attempt as well as control subjects) participated in the research. Results showed that the Hungarian version of BHS is a valid and reliable measure.

Keywords: hopelessness, suicide risk, Beck Hopelessness Scale (BHS), psychometric properties

Research on suicide prevention has a special relevance in Hungary since the country can be characterized by the fifth highest suicide rate in the world. The suicide rate has shown a steady decline from the 1980s: while in 1984 it was 45.9‰, the rate decreased to 23.0‰ by 2008 (Central Statistical Office - CSO, 2008; Niméus, Traskman-Bendz, & Alsén, 1997; Rihmer, 1996a; Rihmer, Appleby, Rihmer, & Belső, 2000). Despite this tendency prevention of attempted suicide and the use of valid, reliable screening instruments are essential.

Kopp (2008) investigated the psychosocial background factors of attempted suicide in the Hungarian population. She analysed the interrelationships between demographic, psychosocial, way of life characteristics and mental health. In their national representative study, 21.000 persons were interviewed through self-report questionnaires about suicidal ideation, attempted suicide, need for medical care, the incidence of suicide in the family and psychosocial background. The results

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showed that 21.6% of the population could be characterised by suicidal ideation, 4% reported suicide attempts, 2.6% received medical care as a direct result of their attempts and 1.1% people made two or more attempts of suicide. Attempted suicide is more common among unemployed persons, blue-collar workers, people over 75 and alarmingly increasing among adolescents. The research indicated that the most important background factors of suicidal behaviour in Hungary are the followings: inadaptive coping strategies (drug abuse, overeating, alcoholism, and smoking), increased depressive symptomatology, suicide in the family, hostility, lack of purposes in life and hopelessness as well as decreased social support. Surprisingly, hostility was showed as being the most important background factor of suicidal behaviour.

Hopelessness

The importance of cognitive factors playing significant role in the etiology of suicide has been recognized for a long time in clinical research and practice. Several studies were conducted to identify them as vulnerability factors in attempted suicide (Alloy et al., 1999; Beck, Rush, Shaw, & Emery, 1979; Beck, Steer, Beck, & Newman, 1993; Beck, Weissman, Lester, & Trexler, 1974; Beevers & Miller, 2004; Hewitt, Flett, & Weber, 1994; Ivanoff & Jang, 1991; Kovács, Beck, & Wissman, 1975; Nekada-Trepka, Bishop, & Blackbur, 1983; Salkovskis, Atha, & Storer, 1990; Williams & Broadbent, 1986). *Hopelessness* was identified as one of the most important psychological risk factors. It can be defined as *a negative perspective of the future* or *a set of negative expectancies toward the future*. According to Beck's cognitive theory of depression this negative perspective of the future is part of the "negative cognitive triad" and characteristic of the depressive thinking style (Beck, 1976; Beck et al., 1979). Beck conducting research with depressed patients (Beck, Brown, Berchick, & Steer, 1990; Beck, Steer, Kovacs, & Garrison 1985) observed and described the process of suicidal ideation leading to suicide attempt. Besides the negative cognitive triad he identified typical suicidal attitudes and cognitions which make the person vulnerable for suicide attempt. This cognitions mainly center around the dark future, the loss of perspective and unsolved difficulties, which lead to hopelessness and consequently, to suicide ideation or attempt. According to Beck, hopelessness has a crucial role among suicide risk factors therefore early assessment is the first and most important step of prevention.

Early studies on hopelessness have already indicated significant correlations between hopelessness and suicidal behavior (Beck et al., 1990; Minkoff, Bergman, Beck, & Beck, 1973; Nekada-Trepka, Bishop, & Blackbur, 1983). Consequently, assessment of hopelessness is extremely important in clinical practice since high levels of hopelessness can lead to isolation as well as to the inhibition of help-seeking behaviour. Effective suicide prevention is a complex task and requires several levels of intervention: prevention programmes, suicide hotlines, easy access

to counselling services, psychiatric care, etc. However, measures constructed especially for the assessment of suicide risk are also very important. Though no questionnaire can accurately predict suicide, it should be sensitive across a full range of intensity from mild concern to serious suicidality. Also, it should be a "user-friendly" tool for easy application in general practice.

The Beck Hopelessness Scale

Based on his cognitive theory of depression and his research on attempted suicide, Aaron Beck had developed the *Hopelessness Scale.* The scale became an internationally accepted and widely used measure in suicide prevention and since its first publication in 1974 (Beck, et al., 1974) several studies analysed its psychometric properties (Aish & Wasserman, 2001; Beck & Weishaar, 1991; Ivanoff & Jang, 1991; Salkovskis, Atha & Storer, 1990). Other instruments were also developed to assess hopelessness in special patient groups such as children (*Hopelessness Scale for Children* (HSC) - Kazdin, Rodgers, & Colbus, 1983) or the elderly (*Geriatric Hopelessness Scale* (GHS) - Fry, 1984). Dowd (1992) and Owen (1992) both positively reviewed the effectiveness of the instrument, with Dowd concluding that the BHS was a well-constructed and validated instrument, with adequate reliability.

Studies on Hopelessness

Several studies were conducted on hopelessness. Some of them (Barrera et al., 1991; Beck et al., 1993; Milnes, Owens, & Blenkiron, 2002; Steer, Kumar, & Beck, 1993) focussed on the relationship among hopelessness, suicide ideation, suicide behavior and depression. These studies showed a strong, statistically significant correlation between hopelessness and suicidal behavior, and this correlation was stronger than that of depression and suicide behavior. Beck and his collegues found that hopelessness is a stronger predictor of suicidal behavior than depression. (Beck et al., 1990; Beck et al., 1985). Results of these studies should be interpreted very carefully because they have been retrospective.

Other studies (Brown, Beck, Steer, & Grisham, 2000; Goldston et al., 2001; Hughes & Neimeyer, 1993; Keller & Wolfersdrof, 1993; Niméus, Traskman-Bendz, & Alsén, 1997) had been prospective in which subjects were followed up for some years. Brown et al. (2000) used a large sample size of 6 891 psychiatric outpatients in a 20-year long follow-up study. Standardized measures were used to examine risk factors for attempted suicide. Their results indicated that high levels of suicide ideation, depression and hopelessness were predictors of suicide. These results are consistent with previous prospective studies (Glanz, Haas, & Sweeney, 1995) that have also identified hopelessness as an important risk factor for suicide. Brown et al. (2000) found that patients who scored nine or above on the BHS were

four times more likely to attempt suicide than patients who scored eight or below within a given year of follow-up.

Several studies were conducted into the analysis of psychometric properties of BHS (Bouvard, Charles, Guerin, & Aimard 1992; Durak, 1994; Durham, 1982; Hughes & Neimeyer, 1993; Shek, 1993). The psychometric analysis indicated high internal consistency, high reliability and good concurrent validity of the scale (Beck et al., 1974). The internal reliability coefficients were shown to be reasonably high (Pearson r = .82 to .93 in seven norm groups), but the BHS test-retest reliability coefficients are modest (.69 after one week and .66 after six weeks; Aiken, 2002).

The reliability and validity of BHS was also examined by a Turkish research team in 1994 (Durak, 1994). Durak assessed 373 psychiatric patients and controlls between age of 15 and 65. The BHS proved to be a reliable and valid measure in the Turkish sample according to their results.

Predictive validity of the BHS was also examined using a longitudinal study design (13-year follow-up) with a communitiy sample of more than 3000 participants (Tanaka, Sakamoto, Ono, Fujihara, & Kitamura, 1998). According to their results hopelessness was an independent risk factor for completed and attempted suicide and suicide ideation. Another follow-up study has also found a high predictive power of BHS (Beevers & Miller, 2004). A recent follow-up research focussed on predictors of attempted suicide such as dysfunctional attitudes, *hopelessness*, rumination and negative cognitive styles (Smith, Alloy, & Abramson, 2006). It was found that the presence and duration of suicidal ideation was predicted prospectively by hopelessness and rumination. Aanalyzing the relationship between hopelessness and suicide attempts, individuals with suicide attempt within one year scored the highest versus those with an earlier attempt. Thus, hopelessness, depression and suicide risk are closely related and assessing hopelessness is an important and essential part of suicide prevention. According to extensive literature data (Kuyken, 2004; Williams, Crane, Barnhofer, & Duggan 2005) hopelessness is a modifiable risk factor that can be diminished by proper psychotherapeutic interventions.

In summary, BHS is the most well-known scale on hopelessness; several studies support its validity and reliability. It has also been validated in previous studies as a measure of suicidality. In addition, BHS can be filled in and evaluated in a very short time making rapid assessment of suicide risk possible which is very important in Hungary due to the high suicide rates.

Aims of the Study

The aim of our study was to accomplish the Hungarian adaptation of the Beck Hopelessness Scale in order to introduce a quick and reliable measure in Hungary which could be used as an efficient screening questionnaire in for example psychiatric as well as general practice. It has special importance because people

with suicidal ideation tend to consult their GP's two to four weeks before attempting suicide (Ajtay, Petruska, Hegyi, & Perczel Forintos, 2008; Rihmer, 1996b; Rihmer et al., 2000). An easy-to-fill scale in Hungary for the early assesment as well as for the prevention of suicide is very much needed. Our other goal was to perform the psychometric analysis of BHS including reliability, convergent and concurrent validity.

METHOD

Subjects

Two clinical and a control group participated in the research, alltogether 300 subjects. The first group (N = 101) consisted of depressed patients with suicide attempt; they were recruited from the emergency ward of a crisis intervention unit of a general hospital. Patients with suicide attempt (SD group) were seen by the duty psychiatrist following a reported suicide attempt. Their mean age was 36.06 years (SD = 13.11), 80% women and 20% men, 39% single, 36% married, 20% divorced and 5% widow.

The second group (N = 100) included depressed patients without suicide attempt; their mean age was 41.70 years (SD = 14.60), 72% women and 28% men, 31% single, 43% married, 20% divorced, 2% lived with partner and 4% widow. Depressed patients were recruited from patients referred for treatment to departments of psychiatry in Budapest. Inclusion criteria were: major depression diagnosis Axis I according to the DSM-IV-TR (APA, 2000) and 18-60 years. Personality disorder diagnosis was excluded.

The control group (N = 100) consisted of volunteers (university students, students' family) who previously didn't have depression or suicide attempt. Mean age of the control group was 30.93 years, (SD = 8.87), 65% women and 35% men, 63% single, 30% married and 7% divorced. Control group subjects (C-group) voluntarily participated in the study. A two-way ANOVA found a significant main effect of group on age. Differences in age are significant between all three groups (Table 1).

Table 1. Descriptive statistics: Age and gender status of the three groups

	Group						ANOVA F[a]		
	With suicide attempt		Without suicide attempt		Control				
Age	Male	Female	Male	Female	Male	Female	Gender	Group	Gender x Group
M	37.23	35.87	45.33	39.25	31.14	32.29	1.35	11.17**	1.31
SD	12.41	13.71	11.22	14.04	8.04	10.24			

[a] Degrees of freedom: Gender and Group: 2, 291; Gender x Group: 2, 291
**p < .01

Since the aim of the study was the early assessment of suicidal risk as well as the reliability and validity analysis of the BHS, a large and heterogeneous sample was needed. Marital status of the three groups can be seen in Table 2, indicating strong significant differences between them. Subjects in the group with suicide attempt are more often single, while subjects without suicide attempt are more often married or have a life partner. This suggests that suicidal people might be more isolated and feel less social support, that is in line with the well known psychosocial background factors of attempted suicide in the Hungarian population (Kopp, 2008).

Table 2. Marital status of participants in the three groups

Group		Marital status			Total
		Single	Married / life partner	Divorced / widowed	
With suicide attempt	N	39	37	25	101
Without suicide attempt	N	31	45	24	100
Control	N	63	30	7	100
Total	N	133	112	56	301
	%	44.19	37.21	18.60	100
Chi-square			26.50**		

**p < .01

Procedure

Participants were informed about the aim of the study and filled in a consent form. Then they were given a set of questionnaires to complete. Depressed patients with suicide attempt (SD group) were asked to fill in the measures one or two days after their intake when they were physically able to do it. Depressed patients (D

group) filled in the measures following their intake to the ward. Members of the control group filled in the questionnaires in their homes or at their working places.

The pack of self-report rating scales included the Beck Hopelessness Scale, Beck Depression Inventory and the Dysfunctional Attitude Scale.

The study protocol was approved by the Ethical committee of the National institute of psychiatry and neurology.

Measures

Beck Hopelessness Scale (BHS, Beck et al., 1974) was designed to measure three major aspects of hopelessness: feelings about the future, loss of motivation, and expectations. The test is designed for adults, age 17-80, and consists of a list of 20 statements. The person is asked to decide about each sentence whether it describes his/her attitude for the last week including that day. If the statement is false for him, he should write false next to it. If the statement is true for him, he should write true next to it. There are seven reversed items: 1, 5, 6, 8, 13, 15 and 19. Scores 4-8 indicate mild hopelessness, 9-14 moderate and 15-20 severe hopelessness. The translation of the BHS was accomplished according to the internationally accepted way of scientific measures

Beck Depression Inventory (BDI, Beck, Ward, Mendelson, Mock, & Erbaugh 1961) was created by Aaron T. Beck is a 21-question multiple-choice self-report inventory, one of the most widely used instruments for measuring the severity of depression. In its current version the questionnaire is composed of items relating to symptoms of depression such as hopelessness and irritability, cognitions such as guilt or feelings of being punished, as well as physical symptoms such as fatigue, weight loss, and lack of interest in sex. Participants asked to make ratings on a four-point scale (1 = not true at all, 4 = very much true). Scoring: 11-16 mild depression, 17-20 borderline clinical depression, 21-30 moderate depression, 31-40 severe depression, over 40 extreme depression.

Dysfunctional Attitude Scale (DAS, Weissmann, 1979) is a self-report inventory of beliefs derived from Beck's (1976) cognitive theory of depression to measure depressionogenic 'schemas' constituting predisposition to depression. It consists of seven subscales (attitudes) with five items in each subscale, altogether 35 items. The seven subscales are the followings: need approval, need for love, need for achievement, perfectionism, entitlement, omnipotence, autonomy. The DAS was jointly administered with the Beck depression inventory (BDI) to 275 hospital employees and their spouses, 105 males and 170 females, and its psychometric properties were examined. Six-week test-retest reliability of the DAS was .73 ($p < .01$). This conclusion is lent support by the DAS's alpha coefficient of .90. Reliability and validity data for the DAS thus support its use as a measure of depressionogenic beliefs in the unselected adult population (Oliver & Baumgart, 2004).

RESULTS

Reliability of BHS

The Alpha coefficient for the Hungarian version of the BHS was good: .91 for all participants together indicating strong reliability. Item 6 (*In the future, I expect to succeed in what concerns me the most*) and 7 (*My future seems dark to me*) have the best item-rest reliability (r = .72; r = .75). Only one item *(My past experiences have prepared me well for my future)* showed very low (r = .10) corrected item-total correlation, but the scale as a whole proved to have good internal consistency (Table 3).

Table 3. Descriptive item-statistics of BHS

Items	Corrected item-total *r*	Mean	SD
1. I look forward to the future with hope and enthusiasm.	.66	0.48	0.50
2. I might as well give up because there's nothing I can do about making things better for myself.	.61	0.26	0.44
3. When things are going badly, I am helped by knowing they cannot stay that way forever.	.44	0.25	0.43
4. I can't imagine what my life would be like in ten years.	.47	0.63	0.48
5. I have enough time to accomplish the things I want to do.	.46	0.37	0.48
6. In the future, I expect to succeed in what concerns me the most.	.72	0.32	0.47
7. My future seems dark to me.	.75	0.36	0.48
8. I happen to be particularly lucky, and I expect to get more of the good things in life than the average person.	.45	0.67	0.47
9. I just can't get the breaks, and there's no reason I will in the future.	.55	0.40	0.49
10. My past experiences have prepared me well for the future.	.10	0.39	0.49
11. All I can see ahead of me is unpleasantness rather than pleasantness.	.70	0.38	0.49
12. I don't expect to get what I really want.	.63	0.43	0.50
13. When I look ahead to the future, I expect that I will be happier than I am now.	.28	0.28	0.45
14. Things just don't work out the way I want them to.	.69	0.35	0.48
15. I have great faith in the future.	.62	0.43	0.50
16. I never get what I want, so it's foolish to want anything.	.53	0.22	0.42
17. It's very unlikely that I will get any real satisfaction in the future.	.46	0.43	0.50
18. The future seems vague and uncertain to me.	.62	0.54	0.50
19. I can look forward to more good times than bad times.	.59	0.43	0.50
20. There's no use in really trying to get anything I want because I probably won't get it.	.70	0.30	0.46

The most frequently chosen items of each group were also analyzed. Negative perspective and negative expectations (items 4, 18, 17) were selected by 72% of the group of *depressed patients with suicide attempt* ; uncertain perspective of the future (item 18) was chosen most frequently (49%) by the group *of depressed patients without suicide attempt*. Feelings and expectations about positive future (items 1, 15 and 8) were represented by the highest frequency (74%) in the control group.

Convergent Validity

Convergent validity of BHS was analyzed by using Beck Depression Inventory (BDI) and Dysfunctional Attitude Scale (DAS). The Beck Hopelessness Scale showed strong significant positive correlations with the total BDI ($r = .76$, $p < .01$). In addition, moderate positive correlations were found between BHS and all the seven subscales of DAS indicating moderate convergent validity between hopelessness and dysfunctional attitudes (Table 4). In accordance with other studies, the BHS showed strong significant correlation with the Beck Depression Inventory; although other research indicated that, the BDI was better suited for predicting suicidal ideation behavior (Aiken, 2002).

Table 4. Correlations of BHS with DAS subscales and BDI

	Scales	*r*
DAS	Need for approval	.40**
	Need for to be loved	.40**
	Need for achievement	.38**
	Perfectionism	.34**
	Rightful expectations	.20*
	Omnipotency	.34**
	External control-autonomy	.50**
BDI	BDI total	.76**

*p < .05; **p < .01

Concurrent Validity

In concurrent validity analysis, we compared BHS both with BDI and with previous suicidal attempts.

First, we predicted the BHS total score with the two items (item 2 and item 9) of BDI, which refer to hopelessness and suicidal thoughts. High *concurrent validity* (Table 5) was found for the whole sample between BHS and negative thoughts about the future (BDI item 2), as well as between BHS and thoughts about killing

oneself (BDI item 9). Linear regression analysis was carried out separately also in the three groups. The Hopelessness Scale and BDI 2nd and 9th items showed moderate concurrent validity in both clinical groups (in the SD and in the D groups). Moderate concurrent validity was found between BHS and negative thoughts about the future, as well as with thoughts about killing oneself in the SD group. The BHS showed similarly strong concurrent validity in the D (depressed) group in both items of the BDI (item 2 and 9). However, predictive value of the BHS was still significant in the C (control) group, but to a lower degree than in the two clinical groups.

Table 5. Predictive power of BDI item 2 and 9 to BHS score

		BDI item 2		BDI item9	
		Beta	R^2	Beta	R^2
Group	Total sample	.75**	.56	.59**	.35
	With suicide attempt	.59**	.34	.42**	.17
	Without suicide attempt	.64**	.40	.40**	.15
	Control	.29**	.08	.28**	.07

**p < .01

Second, we analyzed how BHS scores of the SD group predict the fact that they had had suicidal attempts previously. Discriminant analysis indicated reliable concurrent validity between BHS and suicide attempts (Table 6). Even if discriminant analysis has been carried out on retrospective data, Wilkinson's lambda allows us making predictions concerning the probability of future suicide attempts. According to our results, the BHS has predictive value for suicide attempts.

Table 6. Discriminant analysis between BHS and suicide attempt

	Wilks' Lambda	Adjusted R^2
Suicide attempt	.87**	.13

**p < .01

DISCUSSION

Several studies were conducted in suicide research about the reliability and validity of the Beck Hopelessness Scale. Response to this questionnaire has been identified as a significant predictor of suicide-related ideation and self-harm, of note, to a greater degree than severity of depressive symptoms. The BHS is the most widely used instrument to assess this construct.

The Hungarian version of the BHS proved to be a reliable and valid measure also. The scale has strong internal consistency (Cronbach alpha .91). Convergent validity of the scale proved to be good also in all the three groups, showing strong correlations between BHS and BDI ($r = .76$, $p < .01$). Moderate convergent validity was found between BHS and DAS. Hopelessness and dysfunctional attitudes also turned out to move into the same direction, highly hopeless subjects can be characterized by several dysfunctional attitudes: Investigating the concurrent validity of BHS we found that the total score of BHS in the SD and D groups showed strong positive correlation with the second and ninth items of BDI, which assess expectancies about the future and the prevalence of suicidal thoughts. Interestingly, this relationship was not significant in the C group, which might indicate that negative expectancies about the future do not necessarily lead to pessimism. Our results support the findings by Dowd (1992) and Owen (1992) who both positively reviewed the effectiveness of the instrument, with Dowd concluding that the BHS was a well-constructed and validated instrument, with adequate reliability. Aiken (2002) reported that the internal reliability coefficients were shown to be reasonably high (Pearson r from .82 to .93 in seven norm groups) and we found that the Hungarian version of BHS could be characterized by similarly strong internal consistency (Cronbach alpha: .91). As recently Neufeld, O'Rourke, & Donnelly (2010) reported enhanced measurement sensitivity of hopeless ideation among suicidal older adults. It seems that BHS has predictive value also for suicide attempts meaning that statistical analysis allowed us to make predictions concerning the probability of future suicide attempts (Table 6).

Conclusion

Beck and his followers studying depression identified several risk factors such as negative view of the future, loss of perspective and hopelessness playing central role in attempted suicide. Recognition of these factors has always been essential in effective suicide prevention. The Beck Hopelessness Scale was developed in 1974 and became one of the most accepted predictive measures in suicide risk assessment. Numerous prospective as well as retrospective studies found that suicide risk could be predicted more reliably based on hopelessness than by the seriousness of depression only (Beck et al., 1993; Kuyken, 2004; Minkoff et al., 1973; Nekada-Trepka, Bishop, & Blackbur, 1983; Williams et al., 2005).

Considering the high suicide rate in Hungary the aim of our study was to investigate and introduce BHS in Hungary. Three hundred subjects (100 suicide depressed, 100 depressed without suicide attempt, 100 controls) participated in the project. Levels of hopelessness, dysfunctional attitudes and depression were assessed by standardized measures, and psychometric analysis of BHS was performed. The Hungarian version of the scale proved to be a valid, reliable and consistent measure. Our study has special relevance in Hungary because of the high suicide rates of the country, but the analysis should be carried out on a larger representative sample. We do hope that BHS will be widely used as a proper measure in suicide prevention in Hungary.

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