

Translation, Cultural Adaptation and Validation of the Hungarian Version of Self-Determination Scale

E. E. Marschalko, K. Kalcza-Janosi, I. Kotta, B. Bibok

Abstract—There is a scarcity of validated instruments in Hungarian for the assessment of self-determination related traits and behaviors. In order to fill in this gap, the aim of this study was the translation, cultural adaptation and validation of Self-Determination Scale (SDS) for the Hungarian population. A total of 4335 adults participated in the study. The mean age of the participants was 27.97 (SD = 9.60). The sample consisted mostly of females, less than 20% were males. Exploratory and Confirmatory Factor Analysis was performed for factorial structure checking and validation Cronbach's alpha was used to examine the reliability of the factors. Our results revealed that the Hungarian version of SDS has good psychometric properties and it is a reliable tool for psychologists who would like to study or assess self-determination traits in their clients. The adapted and validated Hungarian version of SDS is presented in this paper.

Keywords—Self-determination, traits, self-determination scale, awareness of self, perceived choice, adults, Hungarian, psychometric properties.

I. INTRODUCTION

SELF-determination theory considers the human being as an autonomous active agent that develops psychological processes and internal structures through participation in the environment. This inherent humanistic trait was named organismic integration by [1] and [2] and it was considered a fundamental aspect of human self-regulation. Organismic self-regulation is delineated as the natural tendency of internalizing values and regulations of behavior from the environment, in order to apply them personally. This is the fundamental element of effective psychological accommodation and self-determination [3], [4]. The psychological basic needs (autonomy, competence and relatedness), which are contributing both to self-determination and to psychological wellbeing [5] were evidenced in many individualist and collectivist countries [6]-[8], but also some cultural relativism and moderation on the self-determination concepts and mechanisms were already highlighted in the literature [9]-[12]. Self-determination means a self-aware functioning with a high

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perceived personal control in one's behavior and decisions, and the assessment of these was made possible through the development of the SDS [13], [14]. The SDS was designed to assess individual differences in people considering the tendency to function in a self-determined manner. The inclination to act in concordance with personal self-determination is an aspect of one's personality and it is related to awareness of personal feelings and sense of self and to the feeling of free choice and personal freedom in choices. The more self-determined a person is, the more self-awareness and the stronger personal freedom/personal control he or she feels while acting and making decisions. This scale was applied in studies on Hungarian speaking population and there were aspects highlighted with a possible link to cultural moderation [11], [12]. At the moment, knowledge is scarce on the possible explanation of the assumed differences and a validation of the SDS as an adequate assessment instrument can contribute to more exact further studies on the topic.

A. Aim of the Study

Considering the chance of possible cultural differences which probably can moderate self-determination in Hungarians, our objective was the translation, cultural adaptation and validation of the Hungarian version of SDS, in order to have a reliable and valid instrument for future research and for Hungarian speaking psychologists who would like to use this instrument in their work with clients and in research.

II. RESEARCH METHOD AND PROCEDURE

A. Participants

To achieve the validation of the scale, a total of 4335 participants were recruited. Everybody was informed that their participation in the survey was anonymous and completely voluntary. Participants completed the self-reported scale online and agreed with the terms. Incomplete scales were excluded from the study. The mean age of participants was $M(SD) = 27.97(9.60)$, age ranged between 19 and 80, 17.35% (749) were male and more than 80% were female participants. Considering the residency of participants, 93.4% (4047) of the participants were from Hungary and 6.6% Hungarian adults from Romania (288). The group was heterogeneous in terms of occupational and educational level. Descriptive statistics and demographic information are presented in Table I.

B. Instrument

The SDS [13], [14] was designed to assess individual differences in self-determination related behavior. The scale

has a total of 10 items, all consisting of two complimentary sentences (A, B), and it is evaluated on a 5-point Likert scale, where 1 is marked “if only A is true”, and 5 is marked “when only B is true”. In every other case, when the intermediary options fit the clients’ appreciation better, they can mark 2, 3 or 4. Reversed items are: 1, 3, 5, 7, 9. The two subscales are related to *Awareness of Self* (2, 4, 6, 8, 10) and the *Perceived Choice* (1, 3, 5, 7, 9). Both subscales comprise 5 items. The Awareness of Self-subscale measures the tendency of being aware of personal feelings and self. The Perceived Choice factor assesses the tendency to feel control in personal behavior. Subscale scores are calculated by averaging the item scores. Total SDS score is calculated by averaging the scores of all the items. The more self-determined a person is, the more self-awareness and the stronger personal freedom/personal control he or she feels while acting and making decisions.

TABLE I
DEMOGRAPHIC DATA OF PARTICIPANTS (N = 4335)

Age (mean ± SD)	27.97 (9.60)	
Gender	Male	749 (17.35%)
	Female	3586 (82.7%)
Education level	Elementary school	120 (2.8%)
	Middle school	1129 (26.0%)
	High school	1231 (28.4%)
	College/University	1814 (41.8%)
Occupation	Doctoral	41 (0.9%)
	Student	1562 (36.0%)
	Working	2230 (51.4%)
	Unemployed	197 (4.5%)
Perceived economic status	Other	346 (8.0%)
	Poor	923 (21.3%)
	Moderate	3166 (73.0%)
Country	Good	246 (5.7%)
	Hungary	4047 (93.4%)
	Romania	288 (6.6%)

Note: Values are frequency and percentage, unless indicated otherwise.

C. Procedure

The items of SDS were translated into Hungarian and back into English two times, for a high-quality translation by two trained/professional translators. Two clinical psychologists assessed and confirmed the content validity of the items.

Calculations were performed using SPSS (Statistical Package for the Social Sciences) version 23.0 and SPSS AMOS package 22.

Univariate outlier analyses were conducted using z-score analysis among the variables. Normality distribution assumptions were checked applying a specific statistical method, exploratory data analysis. Firstly, in order to determine the construct validity of the scales, the distribution was checked (Skewness and Kurtosis values). The values for asymmetry and kurtosis between -2 and +2 are considered acceptable in order to prove normal univariate distribution [15].

To evaluate the utility and validity of the scale we examined the structure and reliability of this measure. To examine the factorial structures of the scale we conducted Exploratory

Factor Analysis (EFA) and for validating them we used Confirmatory Factor Analysis (CFA). To examine the reliability of these measures, we used Cronbach’s alpha to investigate the internal consistency of the subscales of the SDS.

In the final step, a descriptive statistic of the scale was made, gender differences were tested with independent t test and the correlation of scales with age were tested with Pearson correlation test, separately for the subscales and overall scale.

TABLE II
SDS ITEMS IN ENGLISH AND HUNGARIAN

Nr.	Items in English	Items in Hungarian
1.	A. I always feel like I choose the things I do. B. I sometimes feel that it’s not really me choosing the things I do.	A. Mindig úgy érzem, hogy én döntöm el, mit cselekszem. B. Néha úgy érzem, hogy nem igazán az általam választott dolgokat teszem.
2.	A. My emotions sometimes seem alien to me. B. My emotions always seem to belong to me.	A. Úgy tűnik, mintha a saját érzéseim idegenek lennének számomra. B. Mindig úgy tűnik, hogy az érzelmeim hozzám tartoznak.
3.	A. I choose to do what I have to do. B. I do what I have to, but I don’t feel like it is really my choice.	A. Azt teszem, amit kell. B. Megteszem, amit kell, de nem tölt el jó érzéssel, hogy ez nem az én választásom.
4.	A. I feel that I am rarely myself. B. I feel like I am always completely myself.	A. Ritkán vagyok önmagam B. Azt érzem, mindig teljesen önmagam vagyok.
5.	A. I do what I do because it interests me. B. I do what I do because I have to.	A. Azt teszem, ami érdekes számomra. B. Azt teszem, amit tennem kell.
6.	A. When I accomplish something, I often feel it wasn't really me who did it. B. When I accomplish something, I always feel it's me who did it.	A. Amikor elérek valamit, akkor gyakran érzem úgy, hogy nem én vagyok, akinek ez sikerült. B. Amikor elérek valamit, akkor mindig úgy érzem, hogy én vagyok, aki ezt megcsinálta.
7.	A. I am free to do whatever I decide to do. B. What I do is often not what I'd choose to do.	A. Szabadon megteszem, amit eldöntöttem, hogy meg fogok tenni. B. Amit cselekszem az gyakran nem az, ami az én döntésem lenne.
8.	A. My body sometimes feels like a stranger to me. B. My body always feels like me.	A. Néha úgy érzem a testem idegen számomra. B. Mindig úgy érzem, hogy a testem az enyém.
9.	A. I feel pretty free to do whatever I choose to. B. I often do things that I don't choose to do.	A. Úgy érzem, szabadon megteszem, amit meg akarok tenni. B. Gyakran érzem azt, hogy nem teszem, amit akarok.
10.	A. Sometimes I look into the mirror and see a stranger. B. When I look into the mirror, I see myself.	A. Néha, amikor belenézek a tükörbe, akkor azt látom, hogy egy idegen néz vissza rám. B. Amikor belenézek a tükörbe, akkor magamat látom.

Note: Subscales are: Awareness of Self (2, 4, 6, 8, 10) Perceived Choice (1, 3, 5, 7, 9). Subscale scores are calculated by averaging the item scores for the 5 items within each subscale. Reversed items are: 1, 3, 5, 7, 9.

III. RESULTS

A. Face Validity

The first version of the translated scale was applied to 10 Hungarian subjects. After completion, we conducted interviews with the subjects to determine the face validity of the scale. The final Hungarian version of the scale is presented in Table II.

B. Confirmatory Factor Analysis

CFA was conducted using the SPSS AMOS package. The original two-factor structure model was tested (see Fig. 1).

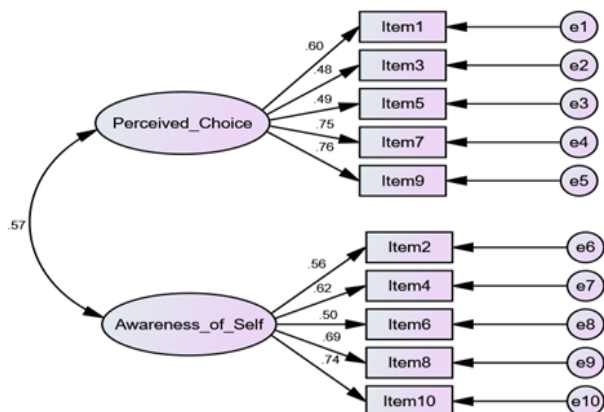


Fig. 1 Factor structure of the Hungarian version of SDS

The Maximum Likelihood procedure was used. A guideline for interpreting the results of the model fit indices is the following: for the *CFI-Comparative Index* [16] acceptable values are close to or greater than .90-.95; the *RMSEA values*-the root-mean-square error of approximation [17] must be less than .08, indicating a good fit of the model, or lower than .05 excellent fit [18].

TABLE III
HUNGARIAN VERSION SDS MODEL FIT INDICES

Constructs	χ^2	df	p	CF		TLI	RMSEA
				I	FI		
2-factor structure/ total of 10 items	645.25	3	.00	.94	.94	.909	.064
	3	4	0	4	1		

The *Likelihood Ratio Test*, better known as the “*Chi-square*” (*CMIN*) statistic and its associated “probability” or p-value were significant in our study. This measure is very sensitive to large sample size and in our study it is no longer the basis of acceptance or rejection criteria, even if it is significant, because more than 4335 people participated in the study [19], [20]. Based on the other statistical models used in the current study, the 2-factor structure of SDS is adequate, indicated by the model fit indices (see Table III).

C. Reliability/Internal Consistency

The Hungarian version of SDS produced good internal consistencies in each of its subscales: *Awareness of Self* subscale $\alpha = .75$, *Perceived Choice* subscale $\alpha = .74$, and total SDS $\alpha = .80$.

D. Descriptive Statistics for the Scale

In the case of all three dimensions, the scores of the male participants were significantly higher than those of the females’ (see Table IV).

From the measured dimensions the *Awareness of Self* subscale ($r = .080^{**}$) and the total SDS ($r = .054^{**}$) show weak, but significant positive correlation with age, the *Perceived Choice* subscale ($r = .011$) was not significant.

TABLE IV
GENDER DIFFERENCES IN AWARENESS OF SELF, PERCEIVED CHOICE AND SDS TOTAL SCORES

	Total sample (N = 4335)	Male (n = 749)	Female (n = 4335)	t(df)
Awareness of Self subscale	3.90 (.83)	3.99 (.84)	3.88 (.83)	3.15 (4333)**
Perceived Choice subscale	3.41 (.81)	3.50 (.83)	3.39 (.81)	3.35 (4332)**
Total SDS	7.31 (1.40)	7.49 (1.40)	7.281(.40)	3.83 (4332)**

Note: mean \pm SD; * $p \leq .05$, ** $p \leq .01$

III. DISCUSSION AND CONCLUSIONS OF THE STUDY

The aim of the current study was the adaptation and validation of the SDS [13], [14] for Hungarian-speaking population. EFA, CFA and Reliability Analysis showed the adequacy and reliability of the scale for Hungarian-speaking population. All items were kept from the original scale; there was no need for items to be deleted. Significant gender differences were highlighted in total SDS score and in case of both factors (self-awareness and perceived choice), males reached higher scores than females. Age was highlighted as a positive associative of self-awareness and total SDS.

The initial two factors (*Awareness of Self* and *Perceived Choice*), identified by the authors in the scale development, were identified in our sample as well and they showed a good model fit in the statistical analysis. The size of the sample (N = 4335) influenced the CMIN indicator, but considering the large sample size this was not essential, while it is very sensitive with large sample sizes and it is not suggested to be considered in these cases [16], [17]. Based on the EFA, CFA and Internal Consistency data, we consider that this scale is valid and reliable for the Hungarian population and can be used by professionals in their work, and can serve as a valid assessment of self-determination traits in clients or as an adequate tool in research. Furthermore, the statistically significant difference in SDS total and subscale scores in favor of males is to be considered in this population.

IV. LIMITATIONS AND FUTURE DIRECTIONS

The study was conducted on a socio-demographically heterogenic sample; a more equally balanced sample in terms of participants’ gender would have been more preferential. The convenience sampling method did not assure the representativeness of the sample. Another limitation is linked to the risks of self-reporting. Subjectivity, social desirability factors were not assessed or examined. Further studies on SDS and gender differences are needed in the Hungarian population, for possible explanations.

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