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Education, Reflection, Development**ROMANIAN TRANSLATION AND LINGUISTIC VALIDATION OF
THE CAREER DECISION-MAKING SELF-EFFICACY- SHORT
FORM**

Emanuel-Sebastian Turda (a)*, Ion Albulescu (b)

*Corresponding author

(a) Faculty of Psychology and Educational Sciences, Babeş-Bolyai University, 7 Sindicatelor Street, 400015, Cluj-Napoca, Romania, turdasebastian@gmail.com

(b) Faculty of Psychology and Educational Sciences, Babeş-Bolyai University, 7 Sindicatelor Street, 400015, Cluj-Napoca, Romania

Abstract

Adolescence is one of the most significant stages of human development, a stage that launches multiple challenges, both for the adolescent himself and for the significant adults in his life. Career development represents a life long process which includes physical, cognitive and emotional development and career decision-making self-efficacy is a pivotal construct in understanding adolescents' career behaviors. Choosing the right career can be one of the most crucial decisions in adolescent's life. Career decisions are filled with uncertainty and daunting challenges. According to Taylor and Betz career decision self-efficacy means the degree a person believes they can successfully complete tasks involved in making significant career decisions. The aim of this study is to provide a translated, linguistically validated and pre-tested version of CDMSE-SF among the adolescent population in public schools. The Romanian translation of the questionnaire could be of real use for school counselors to assess and identify the level of adolescents career decision-making self-efficacy in choosing a profession. Following a backward and forward translation of the instrument, data were collected from 30 Romanian adolescents aged 17-18, who completed the English-Romanian pencil-paper versions of the CDMSE-SF. According to the results of the Wilcoxon Test, the two CDMSE-SF versions (i.e. Romanian, English) are not linguistically equivalent. In addition, there were statistically significant positive correlations between subscales, except for the insignificant correlations of the last item of the second subscale and the last subscale.

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1. Introduction

Self-efficacy is the self-perceived ability to cope with specific situations. "This concept of self-efficacy is related to the judgments of individuals regarding their ability to act in a specific task or situation" (Opre & Boroş, 2006, p. 142).

A group of researchers (Markham et al., 2002) found that we are motivated throughout life by perceived self-efficacy rather than the ability to establish goals, as well as our perceptions that affect our moods and our behaviors. Self-efficacy starts with the concept locus of control. The locus of control is a generalized construct that refers to "the general belief that an individual has in the power of his actions for a variety of situations, while self-efficacy refers to self-confidence in performing certain specific tasks or situations" (Boyd & Vozikis, 1994).

Bandura's (1977) theory of self-efficacy is based on the following assumption: psychological processes, regardless of their nature, serve as a means of creating and consolidating self-confidence. Personal effectiveness is a part of the individual that interacts in a complex way with the environment, as well as with other motivational and self-regulated mechanisms or with personal skills and achievements (Bandura, 1986). Beliefs about self-efficacy influence thinking, motivation, performance, and emotional activation.

Bandura evokes four great sources through which we form this feeling of self-efficacy. The first and most influential is the direct experience, by evaluating one's own performance or the past experiences. The second source is vicarious learning, that is, by observing the consequences of other people's actions, called role models. The third most effective source of self-efficacy is verbal persuasion; others can convince us by the judgments they make about our abilities.; others can convince us by the judgments they make about our abilities. The emotional states of the person represent the fourth source, which has a relationship of mutual influence with the perceived self-efficacy. (Opre & Boroş, 2006, p. 143)

Career decision self-efficacy was defined by Taylor and Betz (1983), as an individual's belief that he or she has the ability to complete successfully the tasks related to decision making in relation to his or her career.

Adolescents with a high level of career decision-making self-efficacy prefer decisions that are more challenging and complex (Tabernero & Wood, 2009) and are more motivated to seek as much information when making decisions (Seijts et al., 2004).

CDMSE-SF is the short version of the Career Decision Self-Efficacy scale (CDSES) which contains 50 items (Betz & Taylor, 2012) and represents a tool for assessing how people perceive their ability to make educational and vocational decisions. The five subscales of this instrument were defined on the basis of by Crites' (1961) theory of career maturity.

Over the years, the CDMSE-SF has been administered along with numerous other measures, in order to examine the concurrent and construct validity. The results showed that there are negative relationships with Osipow et al. Career Decision scale (1987), used to assess the levels of indecision in

career choices and positive relationships with the Holland et al. Vocational Identity Scale (1980), used to assess the clarity of the view of his or her career goals (Betz et al., 2005).

Besides these aspects, Robbins (1985) reported a moderate positive association with self-esteem and a negative correlation with anxiety and Taylor and Popma (1990) demonstrated a negative association between the scale and vocational indecision and external locus of control. Moreover, Luzzo (1993) found a positive relationship between the CDMSE-SF total scores and career maturity.

2. Research Question

The question from which we started this research is the following: Is there any correlation between the CDMSE-SF Romanian version and the English version?

3. Purpose of the Study

The aim of the present study was to translate and linguistically validate the Career Decision-Making Self-Efficacy- Short Form Scale (CDMSE-SF), (Taylor & Betz, 1983) in Romanian for helping the school counselors in the adolescents process of evaluating regarding the choice of vocational path.

4. Research Methods

4.1. Research hypothesis

This study tests the following hypothesis: the Romanian language version of the CDMSES-SF instrument is equivalent to the English version of the same instrument.

4.2. Participants

The CDMSE-SF (Career Decision-Making Self-Efficacy-Short Form Scale), (Taylor & Betz, 1983) was tested on a group of 30 adolescents aged 17-18 years ($M_{age} = 17.48$ $SD_{age} = 0.32$), students of the National College "Dragoș-Vodă" and the Pedagogical College "Regele Ferdinand" from Sighetu-Marmației, Maramureș.

From the total of the 30 teenagers, 15 were male and 15 were female. This sample of respondents was established based on their knowledge of English, thus, the participants are part of the specializations philology-intensive English and mathematics-computer science-bilingual.

4.3. Measure

4.3.1. Career decision- making self-efficacy- short form scale (CDMSE-SF), (Taylor & Betz, 1983)

This tool measures confidence in one's ability to make optimal career decisions. It contains 25 items rated on a Likert scale from 1 to 5, where 1 represent "total confidence" and 5 represent "full

confidence"; the items are divided into the following five subscales: Self-appraisal, Occupational information, Goal selection, Career planning and Problem solving.

Betz et al. (1996) reported a high consistency of items, the Cronbach's α coefficient being between .73-.83 for subscales and .94 for the total score for the 25 items. Also, Gloria and Hird (1999) validated this scale on a group of white students and a group of students from the ethnic minorities and found that among white students was obtained a coefficient α Cronbach of .95 and for those among the minorities was obtained a Cronbach's α coefficient of .97. Instead, Watson et al. (2001) validated this scale on a sample of South African students and reported only one subscale with a Cronbach α coefficient below .70, and for the entire questionnaire they obtained a Cronbach α coefficient of .91. Moreover, Hampton (2006) validated this scale on a group of Chinese adolescents and obtained a α Cronbach between .68-.80 for subscales and an α Cronbach .93 for the entire scale. Gaudron (2011) obtained a α Cronbach coefficient of .69-.73 for subscales and a α Cronbach coefficient of .87 following the validation of this scale on a group of French adolescents, while Presti et al. (2013) obtained a α Cronbach coefficient of .58-.69 for subscales and a α Cronbach coefficient of .89 after the validation of this scale on a group of Italian adolescents, while Buyukgoze-Kavas (2014) after the validation of this scale on a sample of Turkish teenagers obtained a α Cronbach coefficient of .64-.77 for subscales and a α Cronbach coefficient of .88 for the whole scale.

This scale can be completed in pencil-paper version, individually, or in groups, and the time allotted for completion is not restricted.

4.4. Procedure

The first step was to obtain the consent of the authors to use the Career Decision-Making Self-Efficacy- Short Form Scale (CMDSE-SF), (Taylor & Betz, 1983) in the present study by submitting a permission letter specifying the purpose of its use. They submitted online the documents related to the questionnaire (items of the questionnaire, their rating and relevant articles on its validation).

Subsequently, the translation process took place according to the model proposed by Tsang et al. (2017) (see figure 1). Initially, the team for translating the scale from English into Romanian was established. This team included a psychologist, a translator who is familiar with the concepts of psychology and an English teacher. Afterwards, the next step, the retroversion was to translate the scale from Romanian into English by an authorized translator. Then, the obtained versions were compared with the original version of the scale and the final version of the translated scale was made.

In the first step of the study (T1), the participants completed the questionnaire translated into Romanian and three weeks after the first completion, the participating adolescents were asked to complete the original scale, in English, this being the second step of the study (T2).

Participants were informed that their participation was voluntary and anonymous before being asked to complete both language versions of the instruments within three weeks. The scales were completed in pencil-paper version and the completion time was not restricted.

Statistical analyzes were made in IBM SPSS Statistics 20 (2011).

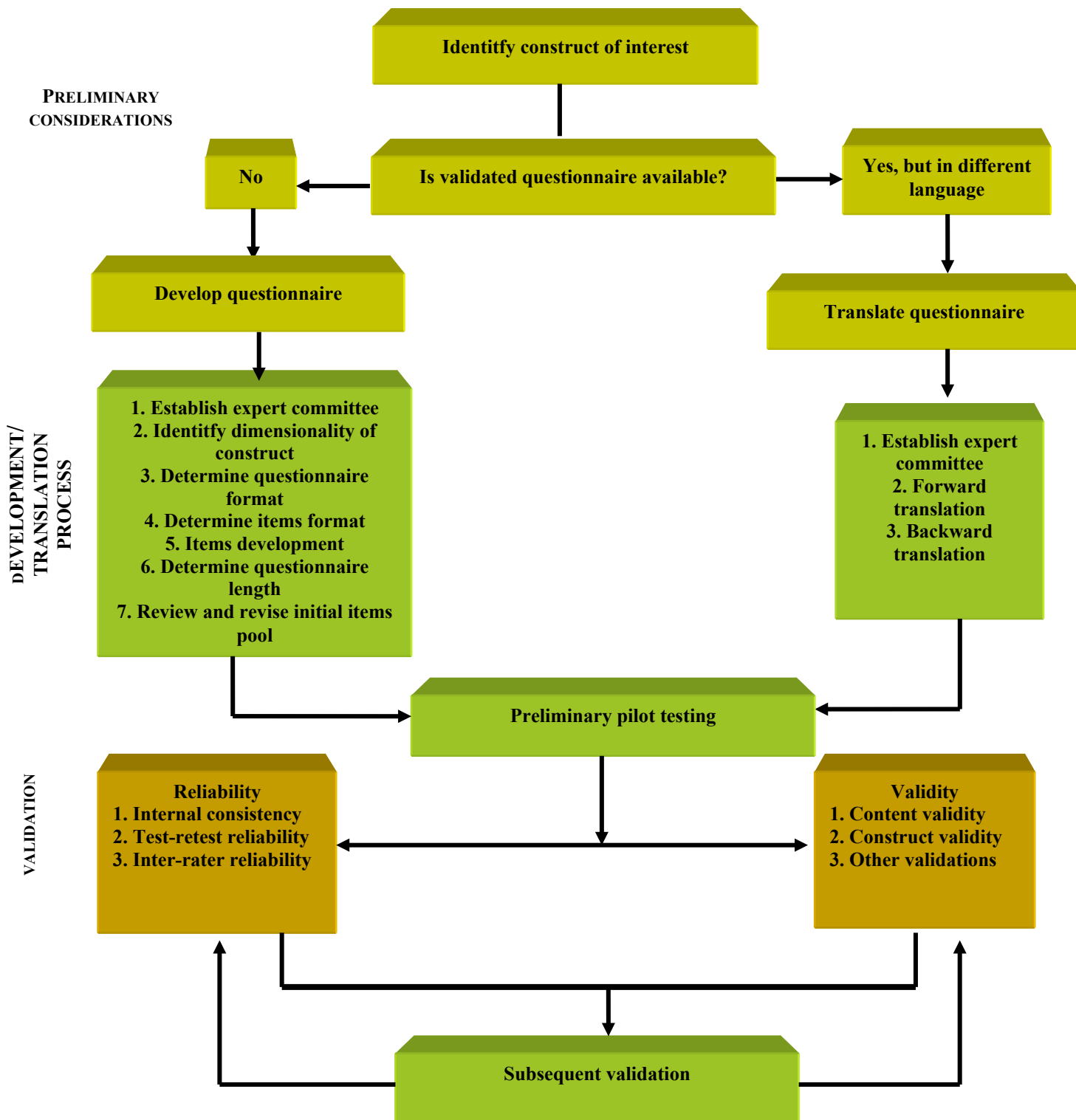


Figure 1. Questionnaire development and translation process (Tsang et al., 2017)

5. Findings

Firstly, the internal consistency coefficients were calculated for each subscale (Self-appraisal, Occupational information, Goal selection, Career planning, and Problem solving) and descriptive statistical analyzes were performed for the two versions of the scale (original and translated).

Table 1. Means, standard deviations, medians and Cronbach's Alpha (based on standardized items) for the selected CMSE-SF subscales

	Pre-Test (English version)				Post-Test (Romanian version)			
	M	SD	Mdn	α	M	SD	Mdn	α
CDMSE-SF Subscales								
1. Self-appraisal	3.66	.68	3.8	.736	3.53	.66	3.60	.739
2. Occupational information	3.48	.70	3.50	.764	3.53	.78	3.60	.828
3. Goal selection	3.65	.71	3.70	.796	3.60	.87	3.80	.857
4. Career planning	3.50	.55	3.60	.541	3.44	.53	3.40	.510
5. Problem solving	3.39	.57	3.40	.516	3.39	.57	3.60	.497

According to the results obtained from the first table (table 1), we obtained for : the 5 items of the first subscale an α Cronbach coefficient of .736, the 5 items for the second subscale an α Cronbach coefficient of .764, the 5 items for the the third subscale has an α Cronbach coefficient of .796, the 5 items for the penultimate subscale have an α Cronbach coefficient of .541 and the 5 items for the last subscale have a coefficient of .516 in the English version. Similarly, for the equivalent of items in Romanian, Alpha Cronbach's coefficients were .739 for the Self-Appraisal subscale, .828 for the Occupational Information subscale, .857 for the Goal Selection subscale, .510 for the Career Planning subscale, and .497 for the Problem Solving subscale, with a general scale of .872.

Secondly, to test the equivalence of the two language versions of the questionnaire we applied the Wilcoxon signed-rank test and the Spearman correlation (ρ).

Table 2. Wilcoxon Signed Ranks Test for the selected CASQ CDMSE-SF subscales

	Z	p (2-tailed)
CDMSE-SF OVERALL SCALE	-.195	.846
CDMSE-SF SUBSCALE		
1. Self-appraisal	-1.155	.24
2. Occupational information	-.038	.97
3. Goal selection	-.456	.65
4. Career planning	-.405	.68
5. Problem solving	-.361	.71

The results obtained in table 2 indicate that there is no statistically significant difference between the two CDMSE-SF subscales selected between the two language versions ($Z = -.195$, $p = .84$), but even at the individual level, it is observed that there is no significant differences between, indicating that there is no equivalence of the two language versions. Then, Spearman correlations (ρ) were made for subscales and item pairs to test the association between the two versions of CDMSE-SF.

Table 3. Spearman Correlations for the two versions of the subscales (Romanian and English)

CDMSE-SF Subscales (English version) (N=30)	CDMSE-SF Subscales (Romanian version)				
	1	2	3	4	5
1. Self-appraisal	.636***				
2. Occupational information		.635***			
3. Goal selection			.610***		
4. Career planning				.571***	
5. Problem solving					.728***

*** $p < .001$

Analyzing the results in table 3, it is observed that there is a positive and statistically significant correlation between: Self-appraisal subscales with a coefficient of $r(28) = .63, p < .01$, Occupational information subscales with a coefficient of $r(28) = .63, p < .01$, Goals selection subscales with a coefficient of $r(28) = .61, p < .01$, Career planning subscales with a coefficient of $r(28) = .57, p < .01$ and Problem solving subscales with a coefficient of $r(28) = .72, p < .01$.

Table 4. Spearman Correlations for the CDMSE-SF Self-appraisal subscale item pairs

	CDMSE-SF Self-appraisal Item pairs ¹
Self-appraisal subscale items (English version)	
How much confidence do you have that you could:	
Accurately assess your abilities ?	.536 ^{***}
Determine what your ideal job would be?	.564 ^{***}
Decide what you value most in an occupation?	.759 ^{***}
Figure out what you are and are not ready to sacrifice to achieve your career goals?	.732 ^{***}
Define the type of lifestyle you would like to live?	.086
Romanian version- N=30, ^{***} p<.001	

After the calculation of the Spearman correlation coefficient for the paired items of the first subscale (table 4), it is observed that the first items correlate significantly, except for the last item $r(28) = .08, p = .65$.

Table 5. Spearman Correlations for the CDMSE-SF Occupational information subscale item pairs

	CDMSE-SF Occupational information Item pairs ¹
Occupational information subscale items (English version)	
How much confidence do you have that you could:	
Use the internet to find the information about occupations that interest you ?	.590 ^{***}
Find out the employment trends for an occupation over the next ten years?	.495 ^{**}
Find out about the average yearly earnings of people in an occupation?	.550 ^{**}
Talk with a person already employed in a field you are interested in?	.763 ^{***}
Find information about graduate or professional books ?	.325
Romanian version- N=30; ^{**} p<.01; ^{***} p<.001	

Also in the case of the second subscale, the first pair items correlate significantly from a statistical point of view, except for the last item that obtained a coefficient $r(28) = .32, p = .08$ (see table 5).

Table 6. Spearman Correlations for the CDMSE-SF Goal selection subscale item pairs

	CDMSE-SF Goal selection Item pairs ¹
Goal selection subscale items (English version)	
How much confidence do you have that you could:	
Select one major from a list of potential majors your are considering ?	.511 ^{***}
Select one occupation from a list of potential occupations your are considering?	.449 [*]

Choose a career that will fit you preferred lifestyle?	.481 ^{***}
Make a career decision and then not worry whether it was right or wrong ?	.679 ^{***}
Choose a major or career that will fit your interests?	.611 ^{***}
Romanian version- N=30; *p<.05; ***p<.001	

Table 6 shows the Spearman correlation coefficients of the pair items of the third subscale where were obtained the following statistically significant coefficients: for item 1 a coefficient $r(28) = .51$, $p < .001$; for item 2 a coefficient $r(28) = .44$, $p < .05$; for item 3 a coefficient $r(28) = .48$, $p < .001$; for item 4 a coefficient $r(28) = .67$, $p < .001$ and for the last item a coefficient $r(28) = .61$, $p < .001$.

Table 7. Spearman Correlations for the CDMSE-SF Career planning subscale item pairs

Career planning subscale items (English version)	CDMSE-SF Career planning Item pairs ¹
How much confidence do you have that you could:	
Make a plan of your goals for the next five years?	.591 ^{***}
Determine the steps you need to take to successfully complete your chosen major?	.663 ^{***}
Prepare a good resume?	.445 [*]
Identify employers, firms, and institutions relevant to your career possibilities?	.734 ^{***}
Successfully manage the job interview process?	.474 ^{**}
Romanian version- N=30; *p<.05; **p<.01; ***p<.001	

In order to calculate the Spearman correlation coefficients of the pair items of the penultimate subscale (table 7), were obtained the following statistically significant coefficients: for item 1 a coefficient $r(28) = .59$, $p < .001$; for item 2 a coefficient $r(28) = .66$, $p < .001$; for item 3 a coefficient $r(28) = .44$, $p < .001$; for item 4 a coefficient $r(28) = .73$, $p < .001$ and for the last item a coefficient $r(28) = .47$, $p < .001$.

Table 8. Spearman Correlations for the CDMSE-SF Problem solving subscale item pairs

Problem solving subscale items (English version)	CDMSE-SF Problem solving Item pairs ¹
How much confidence do you have that you could:	
Determine the steps to take if you are having academic trouble with an aspect?	.514 ^{***}
Persistently work at your major or career goal even when you get frustrated?	.561 ^{***}
Change majors if you did not like your first choice?	.780 ^{***}
Change occupations if you are not satisfied with the one you enter?	.625 ^{***}
Identify some reasonable major or career alternatives if you are unable to get your first choice?	.289
Romanian version- N=30, ***p<.001	

For the last scale it is observed that there is a statistically significant correlation between the first four pair items, but the last pair item does not correlate, obtaining a coefficient $r(28) = .28$, $p = .12$. (see table 8).

6. Conclusions

The present study aimed to translate and linguistically validate the Career Decision-Making Self-Efficacy- Short Form Scale (CDMSE-SF; Taylor & Betz, 1983) in Romanian for helping the school counselors in the adolescents process of evaluating regarding the choice of vocational path and can be used with other tools necessary for this process.

According to the results of the Wilcoxon Test (1945), the two CDMSE-SF versions (i.e. Romanian, English) are not linguistically equivalent. In addition, there were statistically significant positive correlations between subscales, except for the insignificant correlations of the last item of the second subscale and the last subscale.

The same direction regarding the adaptation and validation of this instrument was reported in our country by Ms. lect.univ.dr. Perțe Andra-Maria. In the case of the research conducted by Ms. Perțe (2013), the questionnaire showed a good fidelity, both in terms of the overall score (α Cronbach = .85) and for the two subscales, self-efficacy in decision-making and self-efficacy in obtaining information (α Cronbach .72). Calculating the test-retest correlation coefficients, the results indicated a good stability over time, for the total score and for the subscales, the values of r Bravais-Pearson being over .90 (N = 50) for the overall scale, .895 for the first subscale (a satisfactory value) and .903 for the second.

A first limitation of this study would be the sample size. As this study was conducted on a small number of participants (N = 30) it is not possible to talk about the validation of the scale on the Romanian population. A study with a small sample may not have the statistical power to expose a small effect size that can lead to type II error (Jones et al., 2003).

Another limitation of this study would be the lack of investigation of a metric invariance (MI) because some items of the questionnaire have changed over time. An example would be the first item (e.g. "Finding information at the library or bookstores about your interests?"); nowadays, adolescents don't have to go to the library because most of the people now use the internet to search for information about the occupations they are interested in.

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