International Conference on Education and Educational Psychology (ICEEPSY 2012)

Designing a psychologists' core competencies validation method using Behaviorally Anchored Rated Scales

Mihai Anitei [a], Mihaela Chraif [b*]

[a]University of Bucharest,Kogălniceanu 36-46 street,Bucharest,050107, Romania
[b] University of Bucharest,Kogălniceanu 36-46 street,Bucharest,050107, Romania

Abstract

The current study presents a model for validation of a battery of aptitude tests for psychologists using the criterion method of behavioural anchors based on core competences. The participants were 173 psychologists registered at the Romanian College of Psychologists, aged between 24 and 48 years old (M=36.71; S.D.=3.84), both man and woman, rural and urban areas. Using Communication competences, Focused Attention and Social Skills competences and dependent variable total performances measured by BARS, the results provide a 57.4% reduction in the prediction error relative to using only the predictive model.
© 2012 The Authors. Published by Elsevier Ltd. Open access under CC BY-NC-ND license.
Selection and peer-review under responsibility of Dr. Zafer Bekirogullari of Cognitive – Counselling, Research & Conference Services C-crcs.
Keywords: core competences, behaviorraly anchored rated scales, comunication competences, social skills competences, factorial analysis.

1. Theoretical framework

Core competences might be specific to any occupation but from time to time they suffer transformation because of the technological development and globalization. Considering the European orientation towards competences, psychologists participate to periodical professional trainings in order to adapt to new competences such as: flexibility, adapting to new technologies and techniques, personal development. In this way, the psychological tests must be selected and validated to a criterion such as performances at workplace.

A measurement scale for the performances and competences at the workplace can be Behaviourally Anchored Rating Scales (BARS) which combine, the objective scales with Lickert levels which express the behaviours that need to be scored and behaviours shown in the workplace while performing the tasks and activities appropriate with those certain competences. Maiorca (1997) cited by Pitariu & Chraif (2009); Chraif (2010) and Anitei & Chraif (2012) highlighted that the period for designing BARS is of 2-3 months for any proposed objective of measuring the recorded behaviours in different contexts and situations.

The procedure shown by Maiorca (1997) cited by Pitariu & Chraif (2009); Chraif (2010) and Anitei & Chraif (2012) consists in eight steps: 1. Collecting critical elements; 2. Sorting critical elements into categories; 3. Analysing the categories; 4. Creating critical elements; 5. Retransforming the scale; 6. Realizing the numeric value

scales for critical elements; 7. Preparing the final structure of the instrument; 8. Validity, pretesting and eliminating minor flaws.

Based on previous studies Pitariu, Radu & Chraif (2009), Pitariu & Chraif (2009); Chraif (2010) and Anitei & Chraif (2012) the present study highlights a possible model of validation using the Behaviorally Anchored Rating Scales (BARS).

2. Objective and hypothesis

2.1 The objectives of the research:

1) to construct a system of Behaviorally Anchored Rating Scales designed as descriptors of psychologists' workplace behaviours according to the technological development and the European Union Standards Requirements;
2) to design a psychologists' core competencies validation method using behaviourally anchored rating scales.

2.2. The hypothesis:

Coping styles, positive and negative emotions are predictors of the performances measured by competences behaviorally rating anchored scales.

3. The method:
3.1. The participants:

The participants are 173 psychologists registered at the Colegium of Psychologists from Romania, aged between 24 and 48 years old (M=36.71; S.D.=3.84), both man and woman, rural and urban areas.

3.2. The instruments:

- The core competences as behaviorally anchored rating scales: verbal and written linguistic competences, focused attention, nonverbal language comprehension, modern technology abilities, empathy, openness to new information, flexibility, civic attitude, personal development, emotions management (Adapted from the core competences of the Romanian Agency for Employment (Aniței & Chraif, 2012);
- the psychological testing battery according to the core competences.

A model of behavioural anchors is shown in figure 1.

Category/cluster: Interpersonal skills/ competences
Pozition: empathy
Dimension: knowing, understanding and using emotional management strategies.

Definition: The psychologists shows knowledge, understanding and the correct use of emotional management strategies in interacting with customers. The following are analysed: behavior recorded as behavioural patterns with respect to the activities of the psychologist at the workplace .

Ratings	Examples/ Anchors

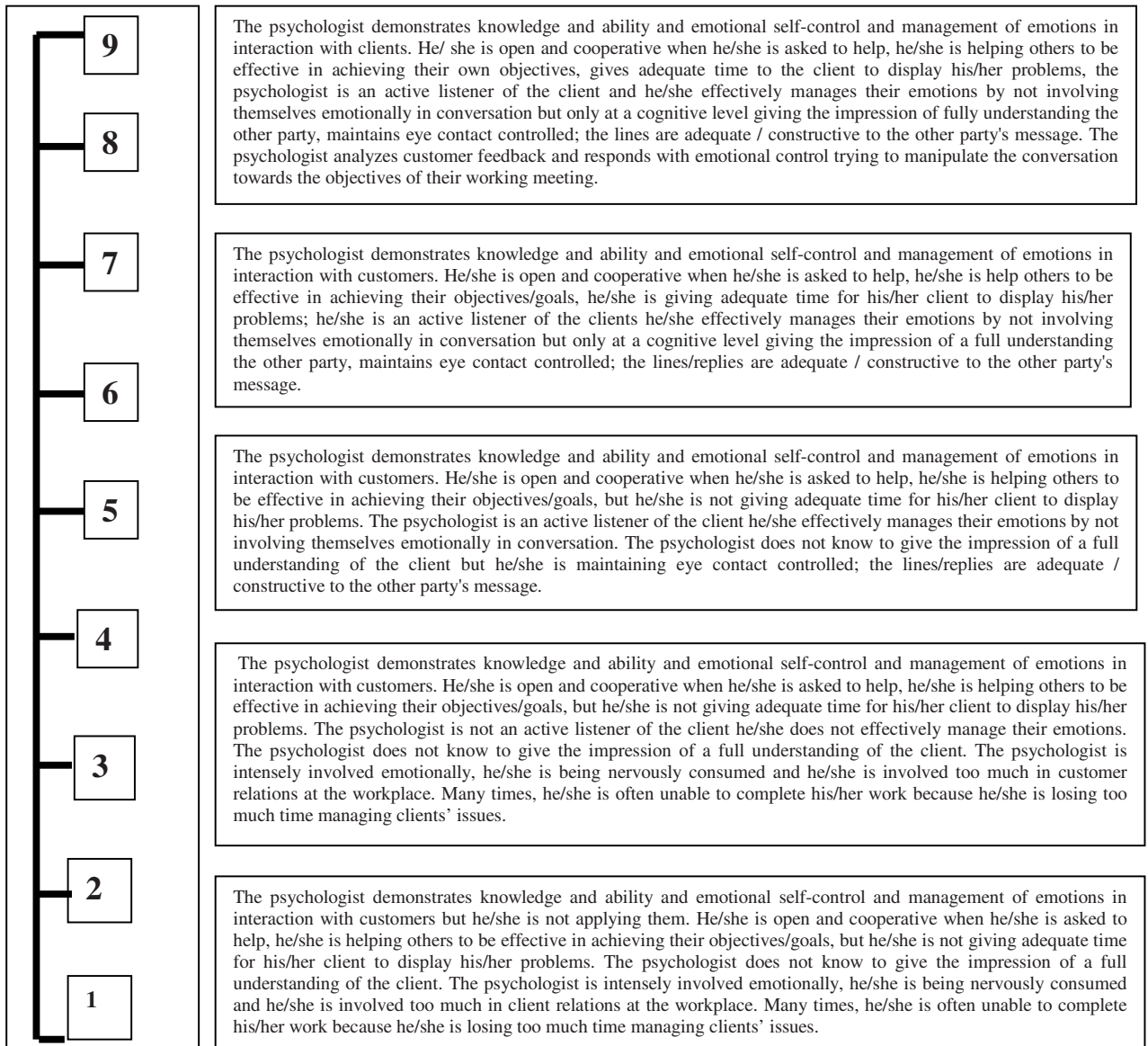| 9	The psychologist demonstrates knowledge and ability and emotional self-control and management of emotions in interaction with clients. He/ she is open and cooperative when he/she is asked to help, he/she is helping others to be effective in achieving their own objectives, gives adequate time to the client to display his/her problems, the psychologist is an active listener of the client and he/she effectively manages their emotions by not involving themselves emotionally in conversation but only at a cognitive level giving the impression of fully understanding the other party, maintains eye contact controlled; the lines are adequate / constructive to the other party's message. The psychologist analyzes customer feedback and responds with emotional control trying to manipulate the conversation towards the objectives of their working meeting.
8	
7	The psychologist demonstrates knowledge and ability and emotional self-control and management of emotions in interaction with customers. He/she is open and cooperative when he/she is asked to help, he/she is help others to be effective in achieving their objectives/goals, he/she is giving adequate time for his/her client to display his/her problems; he/she is an active listener of the clients he/she effectively manages their emotions by not involving themselves emotionally in conversation but only at a cognitive level giving the impression of a full understanding the other party, maintains eye contact controlled; the lines/replies are adequate / constructive to the other party's message.
6	
5	The psychologist demonstrates knowledge and ability and emotional self-control and management of emotions in interaction with customers. He/she is open and cooperative when he/she is asked to help, he/she is helping others to be effective in achieving their objectives/goals, but he/she is not giving adequate time for his/her client to display his/her problems. The psychologist is an active listener of the client he/she effectively manages their emotions by not involving themselves emotionally in conversation. The psychologist does not know to give the impression of a full understanding of the client but he/she is maintaining eye contact controlled; the lines/replies are adequate / constructive to the other party's message.
4	
3	The psychologist demonstrates knowledge and ability and emotional self-control and management of emotions in interaction with customers. He/she is open and cooperative when he/she is asked to help, he/she is helping others to be effective in achieving their objectives/goals, but he/she is not giving adequate time for his/her client to display his/her problems. The psychologist is not an active listener of the client he/she does not effectively manage their emotions. The psychologist does not know to give the impression of a full understanding of the client. The psychologist is intensely involved emotionally, he/she is being nervously consumed and he/she is involved too much in customer relations at the workplace. Many times, he/she is often unable to complete his/her work because he/she is losing too much time managing clients' issues.
2	The psychologist demonstrates knowledge and ability and emotional self-control and management of emotions in interaction with customers but he/she is not applying them. He/she is open and cooperative when he/she is asked to help, he/she is helping others to be effective in achieving their objectives/goals, but he/she is not giving adequate time for his/her client to display his/her problems. The psychologist does not know to give the impression of a full understanding of the client. The psychologist is intensely involved emotionally, he/she is being nervously consumed and he/she is involved too much in client relations at the workplace. Many times, he/she is often unable to complete his/her work because he/she is losing too much time managing clients' issues.
1	

Figure 1. Behavioural anchors which aims at workgroup adaptation (Aniţei & Chraif, 2011)

4.   The results

Collected data were computed using program SPSS 15. The results can be observed in tables 1, 2 and 3.

Table 1. The Descriptive statistics for the independent and dependent variables

Variable	Mean	Std. Deviation
1. Performances measured with BARS (total score)	67.53	8.45
2. verbal and written linguistic competences	8.59	1.12
3. focused attention	7.63	1.85
4. nonverbal language comprehension	7.18	0.73

5. modern technology abilities	4.92	2.46
6. empathy	5.37	0.58
7. openness to new information	6.23	2.41
8. flexibility	5.45	2.63
9. civic attitude	5.67	2.39
10. personal development	5.28	1.52
11. emotions management	5.87	2.61

In the table 1 the descriptive statistics of the independent variables can be observed (measured by the testing battery): verbal and written linguistic competences, focused attention, nonverbal language comprehension, modern technology abilities, empathy, openness to new information, flexibility, civic attitude, personal development, emotions management and the dependent variable performances measured with BARS (total score).

Table 2. The correlation matrix of the variables

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Performances measured with BARS (total score)	1.00										
2. verbal and written linguistic competences	.45**	1.00									
3. focused attention	.19*	.08	1.00								
4.nonverbal language comprehension	.29**	.02	.18*	1.00							
5. modern technology abilities	.21**	.25**	.22**	-.06	1.00						
6. empathy	.23**	.06	.04	.28**	.03	1.00					
7. openness to new information	.25**	.11	.07	.26**	.18*	.24**	1.00				
8. flexibility	.27**	.03	.12	.30**	.05	.33**	.27**	1.00			
9. civic attitude	.24**	.09	.11	.22**	.02	.35**	.36**	.26**	1.00		
10. personal development	.28**	.24**	.04	.36**	.12	.30**	.23**	.31**	.46**	1.00	
11. emotions management	.31**	.20**	.06	.42**	.08	.41**	.43**	.28**	.44**	.37**	1.00

*p < .05, **p < .01

Table 2 shows the correlation between the independent variables and the dependent variable total performances measured with BARS (total score) and verbal and written linguistic competences, focused attention, nonverbal language comprehension, modern technology abilities, empathy, openness to new information, flexibility, civic attitude, personal development, emotions management. Hence, there is a strong positive statistically significant correlation between total performances and verbal and written linguistic competences (r=.45; p<0.01); total performances and focused attention (r=.19; p<0.05); total performances and nonverbal language comprehension (r=.29; p<0.01); total performances and modern technology abilities (r=.21; p<0.01); total performances and focused attention (r=.19; p<0.05); total performances and nonverbal empathy (r=.23; p<0.01); total performances and openness to new information (r=.25; p<0.01); total performances and verbal and flexibility (r=.27; p<0.01); total performances and civic attitude (r=.24; p<0.05); total performances and verbal and personal development (r=.28; p<0.01); total performances and emotions management (r=.31; p<0.05).
As table 2 shows, the independent variables strongly and statistically significant correlates. In this sense, one could apply a reduction of the factors by using the main components method involving the Factor Analysis procedure. After rotating the factors, the independent variables which strongly statistically significant correlate are distributed to a smaller number of factors (table 3).

Table 3 Rotated component matrix

	Component		
	Comunication competences	**Focused attention**	**Social skills competences**
Zscore(verbal and written linguistic competences)	***.921***	.073	.011

Zscore (nonverbal language comprehension)	**.853**	.082	-.087
Zscore(modern technology abilities)	**.507**	.034	-.109
Zscore(openness to new information)	**.281**	.016	-.063
Zscore(flexibility)	**.193**	.215	.279
Zscore(focused attention)	.054	**.692**	-.111
Zscore(empathy)	.014	-.203	**.376**
Zscore(civic attitude)	-.009	-.104	**.768**
Zscore(personal development)	-.201	-.032	**.674**
Zscore(emotions management)	-.024	-.041	**.817**

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Thus, in table 3 the three factor remaining can be observed after the redistribution of the independent variables: Comunication competences, Focused Attention and Social Skills competences. Following this stage, the linear model of multiple regression can be applied having as independent variables these three factors and as dependent varaible total perormances neasured with BARS.

For the criterion total performances, the following regression model has been applied (table 4):

Table 4. The multiple regression model for the dependent variable: adaptive performances

Dependent variable: adaptive performances		Standardized coefficients	t	p
Independent variables		β		
1. Constant		67.21**	11.83	0.000
2.Communication competences	X1	.47**	3.67	0.000
3. Focused attention	X2	.32**	2.94	0.000
4. Social Skills competences	X3	0.51**	6.43	0.001
F	9.621**			0.0001
R	0.758			
R2	0.574			
R2 Adjusted	0.568			

*p<0.05 and **p<0.01

As we can observe in table 4, the regression model explains 57.4% of the variance (R square value). Also, that the model is statistically significant (F=9.621; p=0.0001) and the R square value is 0.574.

Using Communication competences, Focused attention and Social Skills competences and the dependent variable total performances measured by BARS, the results provides a 57.4% reduction in the prediction error relative to using only the predictive model.

The regression model provided by the table 4 could be the following:

Y= 67.21+.47*X1+.32*X2+.51*X3

These findings suggest that the psychologists need to gain core competences in Social skills, communications and focused attention tasks in order to interact with clients efficiently.

5. Conclusions

Previous studies concerning the design of core competences and their introduction as a compulsory periodic evaluation for the employees of the ANOFM agencies. They must participate to periodic professional trainings in order to adapt to these new competences such as: flexibility, adapting to new technologies and techniques, teamwork (Aniţei & Chraif, 2012). The same authors highlighted in a previous study that the psychological tests must be predictively validated (Pitariu, Radu & Chraif, 2009) to a composite criterion which has as dimensions Behaviourally Anchored Rating Scales designed as descriptors of workplace behaviours according to the technological development and globalization (Aniţei & Chraif, 2012).

In the current research a model of validation for behavioural anchors which measure core competences of psychologists starting from behavioural anchors used for employees of the ANOFM agencies, built and validated by the same authors. After rotating the factors and the extraction of the main components, three factors are being highlighted (table 3) which do not correlate with each other and represent three dimensions of the psychological test battery applied to periodic psychological assessment: communication competences, focused attention and social skills competences. Thus, the regression model obtained (table 4) shows a reduction of the variant error with 57.4% being a good predictive model for performance measurement performed with behavioural anchors BARS built.

References

Anitei, M. & Chraif, M. (2012). A Model for the Core Competences Validation Using Behavioral Anchored Rated Scales within the Romanian Agency for Employment as Changing Organization, Proceedings of the International Conference on Humanity, History and Society , IPEDR vol.34, pp. 52-57.

Chraif, M. (2010).Counterproductive behaviour [Comportamentul contraproductiv], Ed. Universitară, Bucharest.

Maiorca, J. (1997). „How to construct behaviorally anchored rating scales (BARS) for employee evaluations". *Supervision*, 58 (8), 15-18.

Pitariu, H.D. &. Chraif, M. (2009). The validation of scales with behavioural anchors, The Psychology Journal, Ed. Academiei Române, 55, 3-4, 2009, pp.279-294.

Pitariu, H.D. & Chraif, M. (2009). Amateur and scientific approaches in the selection and the psychological evaluation of personnel. The issue of conjectural tests. Proceedngs of The International Congress "Modern Research in Psychology: Directions and Perspectives", Sibiu, pp.110-118, Ed. Universitara.

Pitariu, H.D., Radu, I. & Chraif, M. (2009). Selection and psychological evaluation of personnel, Supplement for The Journal of Human Resources Psychology, Editura Asociaţiei de Ştiinţe Cognitive, Cluj.

Pitariu, H.D. & Chraif, M. (2009). Assessing professional performance, Supplement for TheJournal of Human Resources Psychology, Edit. Asociaţiei de Ştiinţe Cognitive, Cluj.