International Journal of Education and Psychology in the Community
IJEPC
2016, 6 (1 & 2), July, 154-167

MODIFICATIONS TROUGH THERAPEUTIC PROCESSES OF MALADAPTIVE CAUSAL ATTRIBUTIONS AND COGNITIONS OF DEPRESSIVE PATIENTS: CBT VS. PHARMACOTHERAPY

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Abstract
Most research designs utilized in clinical studies of cognitive therapy of depression haven't sufficiently included the influence of treatment. Thus, in the present study we aimed at identifying the causal attributional predictors and their mediating role in the reduction of depression. We constructed three study groups in order to take into account the role of therapy. In our sample we employed a number of 13 inpatients diagnosed with depression from Arad and Nucet hospitals (the Pharmacotherapy group), the Cognitive-behavioral group was constructed of 12 participants from rural and urban backgrounds with no prior admissions to hospitals for dispositional or other psychological disturbances and a control group consisted of 13 randomly sampled participants from the population. The patients within the neuropsychology clinics have undergone specific treatment. The cognitive-behavioral group underwent the following therapeutic strategies and intervention techniques: 1. problem conceptualization; 2. choosing a therapeutic strategy; 3. choosing an intervention technique; 4. evaluation of the efficacy of these intervention techniques. The results obtained in our study show that a set of socio-cognitive constructs play a mediator role in the cognitive behavior therapy. Even in such a case it seems that they are not a sufficient cause due to the fact that the relationship between the modifications at the socio-cognitive level and the later improvement depressive in symptoms has not been justified in pharmacotherapy.

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Keywords: depression; attributional style; mediation; cognitive-behavior therapy

Introduction

There isn't a sufficient number of studies that indicate the manner in which the reduction of symptoms is mediated by cognitive therapy. It is rational to assume that cognitive therapy reduces symptoms by modifying cognitive processes, however it is difficult to observe such a mediation process due to the inherent difficulties associated with this problem.

Baron and Kenny (1986, p. 1179) showed that the evidence for the cognitive mediation for the cognitive therapy of symptoms reduces effects and may be the result of the following set of relations: 1. Cognitive therapy reduces depressive symptoms more than other alternative treatments (the effect of treatment over the modification of symptoms); 2. Cognitive therapy produces important changes in the cognitive variables more than alternative treatments (the effect of treatment over cognitive modifications); 3. The changes in cognitive variables covary with changes in symptoms even when the treatment variable is held constant (statistically); and 4. The inclusion of the cognitive variable as a covariate reduces the effect of the treatment over the changes in symptoms.

Most research designs utilized in clinical studies of cognitive therapy of depression haven't sufficiently included the influence of treatment (e.g. Marian & Filimon, 2010; Roman, 2011; Rotaru, Petrov, & Oprea, 2014; Rotaru, Hîngănescu, & Alexa, 2015). Due to this reason the first condition described by Baron and Kenny (1986) hasn't been satisfied in previous studies.

Researchers have attempted to demonstrate de mediation effect in different ways, for example DeRubeis, Evans, Hollon, Garvey, Grove, and Tuason (1990) focused on the differences between cognitive and pharmacotherapy. Cognitive changes were present in both types of therapies and thus the researchers concluded that "the cognitive element acts more as a symptom rather than a cause (p. 684). Hollon, DeRubeis, and Evans (1987) showed that the reduction of symptoms trough pharmacotherapy and cognitive therapy are equivalent and thus the evidence sustains the conclusion that the cognitive variables have been mediators of the treatment and also consequences of the changes of depression. We consider that it is important to take into

consideration the cognitive mediation only if the modifications within the cognitive variables are not caused by the changes in symptoms.

In another attempt to highlight cognitive mediation Eaves and Rush (1984) indicated that there was no difference between the magnitude of change and symptoms in the case of cognitive and pharmacotherapy in the early stages of treatment. Based on their research the authors concluded that "the data offers indirect support for the cognitive therapy of depression" (p. 37). On the basis of the presented researches we observe that there is no support for the idea according to which the cognitive changes precede (and thus may possibly cause) the disposition and vegetative modifications in depression; if such a chain of events were actually be present then it should have also been observed in the case of the pharmacotherapy groups. In previous studies a "moderator" variable in the prediction of dispositional modifications towards cognitive changes has been identified. The moderator variable in the published studies was the treatment (cognitive versus pharmacotherapy) because this variable was able to affect the "power" of the predictions from cognitions to later depression.

Objective

In our study on cognitive modifications and the reduction of depressive symptoms trough cognitive-behavior therapy and pharmacotherapy we would like to indicate the possibility of modifications trough therapeutic processes of maladaptive causal attributions and cognitions. We aim at identifying the causal attributional predictors and their mediating role in the reduction of depression thus sustaining the fundamental role of maladaptive attributional mechanisms in the triggering and maintenance of depression and dispositional disturbances.

Method

Participants

Pharmacotherapy group (PhT)

In this study we employed a number of 13 inpatients diagnosed with depression from Arad and Nucet hospitals (Romania). All participants had at

least a high-school degree and some had higher education. The patients' age was between 19 and 49 years (m=28,38; SD=8,76); four of them were male and nine of them female. For all patients this was their first admission to hospital and they were diagnosed with dysthymia or major depressive episode by the psychiatrists and received adequate treatment.

Cognitive-behavior therapy group (CBT)

The participants within the cognitive-behavioral group did not have prior admissions to hospitals for dispositional or other psychological disturbances. This group had a number of 12 participants from rural and urban backgrounds. The age of the participants was between 20 and 38 years (m=27,66; SD=5,58) of which eight were males and four females. These participants were selected on the basis of their results on the SCL-90, DEP (depression) scale, using the C Norm for psychiatric patients and according to the DSM IV^{TM} (200) criteria.

Control group (C)

The control group consisted of 13 randomly sampled participants from the population; nine students and four persons with higher education. These participants had an age that ranged from 19 to 38 (m=27,15; SD=7,7); four of them were males and nine of them were females. The participants of this group were selected based on their results on the SCL-90, DEP (depression) scale, using the B Norm and later the C norm for patients.

Instruments

Satisfaction with Life Scale (S.L.S.) devised by Pavot and Diener (1993); it measures one's global satisfaction with life. The scale was not designed to measure satisfaction in specific domains such as health or financial status however it allows the subjects to integrate such issues in the global index. After a rigorous item analysis five items remained to which the subjects respond on a seven point Likert scale. The scale shows high internal consistency and temporal stability (*see* Marian, 2007; Stevens, Constantinescu, Lambru, Butucescu, Sandu, & Uscătescu, 2012; Marcu, 2013).

Multidimensional Scale of Perceived Social Support (M.S.P.S.S.) devised by Zimet, Dahlem, Zimet, and Farley (1988); it consists of 12 items loaded on three factors: a. family, b. friends, and c. significant others. Each item

is structured according to the three factors. Internal consistency is .91 . The test-retest coefficient for the two testing phases was between .67 and .80 (*see* Marian, 2006; 2008).

Current Thoughts Scale (C.T.S.) devised by Heatherton and Polivy (1991); it consists of 20 items loaded on three factors: a. performance self-esteem, b. social self-esteem, and c. appearance self-esteem. This instrument was designed to asses one's thoughts at certain times. Marian (2009; 2008) reported a .84 alpha coefficient for this scale.

Attributional Style Questionnaire (A.S.Q.) devised by Peterson, Semmel, von Baeyer, Abramson, Metalsky, and Seligman (1982); it is a measure of explanatory style patterns which in turn reflects one's tendency to select certain causal explanations for favorable or unfavorable events. The internal consistency reported by Marian (2008; 2010) was α=.82 for positive events, and α=.72 for negative events. This moderate internal consistency is supported by other findings.

Symptom Check List 90-R (Derogatis, 1994) is an instrument which evaluates the gravity of the symptoms reported by patients. *The internal consistency* of its subscales is situated between .75 and .86 and for ISG it is .97. *Test-retest trust quotient* of the two testing phases (T1 and T2) is between .77 and .87 (*see* Marian, 2008).

Procedure

The participants were selected based upon the SCL-90 (Derogatis, 1994) and the BDI (Rippere, 1994; Groth-Marnat, 2003). The patients in the initial evaluation stage were at their first day of admission into the hospital and thus had no prior treatment. The scales and questionnaires were administered by the psychiatrists in each stage (Time 1, 2 and 3).

The patients from the psychotherapy group have requested a specialized intervention (psychotherapy) and have not been undergoing any prior psychotherapeutic or pharmacotherapy treatment for depression or other psychological disturbances. The cognitive-behavioral therapy group and were included in the experimental group have been diagnosed similarly to those in the inpatient group (SCL-90 and BDI) and on the basis of the DSM IV^{TM} (2000). In the diagnosis stage the patients were given a batch of scales similar to those in the pharmacotherapy group. This batch was reapplied after 6-7 weeks and also at the end of treatment. The patients were given other

instruments as well which were not included in the study but which are part of the procedure for recording the patients progress and change between sessions.

The patients admitted to the study were divided into three groups: Pharmacotherapy (PhT), Psychotherapy (CBT) and control (C); the duration of treatment was between 12 and 15 weeks.

Treatments

Pharmacotherapy (PhT)

The patients within the neuropsychology clinics have undergone specific treatment. They were given systematic information about their treatment and its effects, about the doses of their medicine and the side-effects they might have and also regarding the finalization of treatment.

Cognitive-behavior Therapy (CBT)

Beck, Rush, Shaw, and Emery (1979) presented specific cognitive intervention techniques and methods for the treatment of depression. In our study the patients from the psychotherapeutic group have participated to 18-20 sessions in a period of maximum 15 weeks, the sessions were about one hour in duration. In the first five weeks the patients had two sessions a week and later one session a week. In this study we aimed at presenting the psychotherapeutic process in the case of each treatment and identify the manner in which cognitive behavior therapy produces modifications in the case of negative causal attributions or other socio-cognitive variables.

Several studies have indicated that non-depressive subjects make internal attributions for success and external for failure (Abramson, Seligman, & Teasdale, 1978; Alloy & Ahrens, 1987; Marian & Filimon, 2010). In the case of emotional disturbances information processing is frequently inclined in the negative direction. In general, the following therapeutic strategies and intervention techniques were used (Marian, 2004; 2008): 1. problem conceptualization; 2. choosing a therapeutic strategy; 3. choosing an intervention technique; 4. evaluation of the efficacy of these intervention techniques.

Results and discussion

Correlations between changes from the first part of the treatment over depression and cognitive variables

In order to examine the inter-relationships between the scales used in our study to measure the changes within the first half of the treatment (T) we calculated the score for the residual changes for the measurement of depression using the formula Depression T2 - Depression T1 (Baron & Kenny, 1986; DeRubeis & al., 1990) and also for every other variable in the study. In table 1 we present the correlation matrix between the variables in our study. The changes within the socio-cognitive variables have been moderately correlated the other variables which we think rather indicates an overlapping of variables. However they were sufficiently independent in order to justify our interest in keeping these variables separate.

Table 1. Correlations of changes at T2 over the socio-cognitive variables and depression

	CTS	MSPSS	SLS	IN	SN	GN	CN	I-S
CTS	-							
MSPSS	,10	-						
SLS	,04	,18	-					
IN	,00	-,05	,08	-				
SN	,13	-,00	-,16	,56**	-			
GN	,09	-,12	-,58**	,32	,65**	-		
CN	,10	,13	-,31	,49*	,76**	,65**	-	
I-S	,22	,00	-,52**	,03	,29	,56**	,34	-
DEP	,23	,17	-,41*	,15	,48*	,61**	,34	,78**

Nota 1: CTS – Current Thoughts Scale; MSPSS – Multidimensional Scale of Perceived Social Support; SLS – Satisfaction with Life Scale; In – Intern Negative; SN – Stable Negative; GN – Global Negative; CN – Composite Negative; I-S – Interpersonal Sensibility; DEP - Depression
Note 2: * $p < .05$; ** $p < .01$

A frequently occurring correlation in this study was between the negative causal attributions and depression, and between these and interpersonal sensitivity. An increase in the global negative attributions will

lead to the decrease in the satisfaction with life due to the fact that these produce universal or pervasive deficits (*see* table 1).

The prediction of subsequent change in depression due to early changes in cognitive variables

In order to investigate the relationship between the changes that occur in the first half of treatment (at T2) and at the end of treatment (at T3) at the level of the socio-cognitive variables that have an effect on the later diminishment of depression we calculated scores that reflect residual changes in depression from T2 to T3 (by use of the formula Depression T3 - Depression T2).

In the case of each socio-cognitive scale the correlation between the residual change at T2 and the residual change of depression at T3. We presume that there is no relationship between these variables and nether between the therapeutic groups CBT and PhT. In table 2 we observe that changes at T2 of the stable and global internal negative causal attributions in the explanation of events and also the depressive attributional style have been significantly predictive of changes in depression at T3 in the case of the CBT group.

Table 2. The prediction of changes in the symptomatology of depression and interpersonal sensitivity at T3 based on changes at the level of the socio-cognitive variables at T2 for the CBT and PhT groups

	Cognitive-behavioral group		Pharmacotherapy group	
	I-S	DEP	I-S	DEP
CTS	-,18	,03	-,21	-,56
MSPSS	-,30	,17	-,01	-,09
SLS	,26	,25	,24	-,18
IN	-,09	-,65*	,21	-,14
SN	,02	-,61*	-,15	-,14
GN	-,04	-,59*	-,67*	,07
CN	-,32	-,77**	-,28	,15

Nota 1: CTS – Current Thoughts Scale; MSPSS – Multidimensional Scale of Perceived Social Support; SLS – Satisfaction with Life Scale; In – Intern Negative; SN – Stable Negative; GN – Global Negative; CN – Composite Negative; I-S – Interpersonal Sensitivity; DEP – Depression
Note 2: * $p < .05$; ** $p < .01$

In the case of the PhT group the depressive attributional style decreases in the case of interpersonal sensitivity along with the decrease in the number of life experiences (probably due to hospitalization). We consider that cognitive-behavior therapy is superior to pharmacotherapy in inducing changes at the level of cognitive symptomatology which indicates a better prognosis after treatment and a lower relapse rate.

In the case of the CBT and PhT groups no other predictive relationship has been observed, such as in the case of state self esteem, life satisfaction or the perception of social support. Thus we consider that the above mentioned variables are not to be considered significant predictors of later changes in any of the groups (at least in our study).

In table 3 we present the results of the analyses recommended by Baron and Kenny (1986, pp. 1174-1776) for testing the relationship between the modification in symptomatology from T2 to T3 (residual score) across the treatment groups (this being a moderator variable). In this case the moderation implies an interaction effect between the two variables (the socio-cognitive modifications from T1 to T2 and the type of group: CBT or PhT).

Table 3. Comparison of the changes in symptomatology from T2 to T3 as a function of the changes at T2 of the negative internal causal attributions and type of group

Source	Sum of squares	df	Mean squares	F	p
Group type	1,185	1	1,185	10,487	,004
Intern negative	2,230	1	2,230	19,728	,001
Group type x intern negative	1,169	1	1,169	10,341	,004

Note: R^2 = ,514 ($R^2_{ajust.}$ = ,444)

In order to further sustain the previous point we analyzed the manner in which socio-cognitive variables represent causal factors of the changes in depression (at T3) in the case of the CBT and PhT groups. As it may be seen in table 3 the interaction effect is significant in the case of internal negative causal attributions. Thus an improvement in the case of the negative internal causal attributions at T2 is differentially predictive for a later improvement of depressive symptoms across the treatment groups.

The statistically significant result for the interaction between the group type and internal negative shows that the two factors do not act independently

(*see* Table 3), they are in a moderation type of relationship. Both variables are statistically significant which lead us to believe that each factor acts as a moderator in the relationship of the other factor with the dependent variable (the modification of symptomatology of depression from T2 to T3).

Changes in the case of negative causal attributions (which also lead to a deterioration of self esteem) are present after the first 6-7 sessions of treatment (CBT), and are predictive for the later improvement of depression for the CBT group as it could be observed in the present study. The interaction between the type of group (CBT or PhT) specifies in this case when the effect of the internal causal attributions would be certain on depression. Thus, the interaction between these two is the element that determines the direction or the magnitude of the relationship between internal negative causal attributions and depression. Opposed to our expectations the other socio-cognitive variables do not offer sufficient support for the later improvement of depression (at least in the experimental sense).

Conclusions

Research regarding mediation effects in the reduction of depressive symptomatology in cognitive-behavioral therapy (and pharmacotherapy) hasn't been able to offer a satisfactory response in the past. Beck (1991) shows that symptoms and effective mechanisms of treatment are reciprocally caused. DeRubeis et al. (1990) show that the results of published studies regarding cognitive-behavioral therapy of depression make it difficult to distinguish cause from effect. Thus identifying the causal mechanisms of cognitive-behavioral therapy is important from both theoretical and practical points of view.

The results obtained in our study show that a set of socio-cognitive constructs measured by the ASQ, MSPSS, SLS, and CTS play a mediator role in the cognitive behavior therapy. Even in such a case it seems that they are not a sufficient cause due to the fact that the relationship between the modifications at the socio-cognitive level and the later improvement depressive in symptoms has not been justified in pharmacotherapy.

The success of cognitive-behavior therapy is conditioned by the changes that are produced at a cognitive level, thus in order to benefit from therapy the patients must employ in everyday life the methods and strategies that are learned in therapy. In order for therapy to be useful, patients must have

already experienced some significant changes in thinking, attitudes and attributions. Patients must be confident (indicated by the change in the level of hopelessness of the ASQ), must begin to restructure the way they think about themselves and be able to generate and maintain much healthier reactions towards live events. In the case that these changes have started patients will (a) engage in putting into practice of what they have learned in the therapy sessions (such as defining the problems, making inferences) and (b) will have success in their attempt. Thus if (a) and (b) are present we consider that the patients symptoms will improve.

This explanation is different from the perspective in which the socio-cognitive constructs measured by us sufficiently mediates the improvement of depressive symptoms. None of the studies on the issue of cognitive modifications was able to sustain the later improvement of symptoms in the pharmacotherapy group, as opposed to the fact that the cognitive modifications from the first part of treatment were produced in the pharmacotherapy group DeRubeis et al. (1990). The changes at the cognitive level in the pharmacotherapy group still do not equal the modifications that occurred in the cognitive-behavioral group because the changes in the cognitions of these patients are accompanied by learning and utilizing behavioral and cognitive strategies.

Beck, Rush, Shaw, and Emery (1979) and Beck (1991) showed that there is a relationship between the improvement of symptoms and the degree to which patients are encouraged to employ specific strategies for dispositional correction.

In this study we aimed at identifying moderation/mediation effects based on the recommendations of Baron and Kenny (1986) which implied the inclusion in the research design of a minimal treatment or at least the influence of treatment, a necessary condition for the results to produce a change in the syndrome. This less influential condition could be an inferior version of the treatment package such as weekly sessions (as opposed to two sessions a week).

We propose that alongside measuring constructs with instruments such as the ASQ, SCL-90, SMSSE (Scale for Measuring State Self-Esteem), SLS, MSPSS, these socio-cognitive constructs be examined as mediators: (a) the acquisition of problem solving and "compensatory" abilities of patients that may be applied in the response to disturbing effects, and (b) the frequency with

which patients apply daily these skills or abilities that they have acquired in therapy.

References

Abramson, L. Y., Seligman, M. E. P., & Teasdale, J. D. (1978). Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology, 87*, 49-74.

Alloy, L. B., & Ahrens, P. (1987). Depression and pessimism for the future: biased use of statistically relevant information in predictions for self versus others. *Journal of Personality and Social Psychology, 53*, 666-678.

American Psychiatric Association (2000). *Diagnostic criteria from DSM-IV*. American Psychiatric Pub.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.

Beck, A. T. (1991). Cognitive Therapy. A 30-Year Retrospective. *American Psychologist*, *46*(4), 368-375.

Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). *Cognitive therapy of depression*. New York: Guilford Press.

Derogatis, L. R. (1994). *SCL-90-R: Administration, scoring, and procedures manual*. Minneapolis, MN: National Computer Systems.

DeRubeis, R. J., Evans, M. D., Hollon, S. D., Garvey, M. J., Grove, W. M., & Tuason, V. B. (1990). How Does Cognitive Therapy Work? Cognitive Change and Symptom Change in Cognitive Therapy and Pharmacotherapy for Depression. *Journal of Consulting and Clinical Psychology, 58*(6), 862-869.

Eaves, G., & Rush, A. J. (1984). Cognitive patterns in symptomatic and remitted unipolar major depression. *Journal of Abnormal Psychology, 93*, 31-40.

Groth-Marnath, G. (2003). *Handbook of Psychological Assesssment. Fourth Edition*. Hoboken, NJ: John Wiley Sons, Inc.

Heatherton, T. F., & Polivy, J. (1991). Development and Validation of a Scale for Measuring State Self-Esteem. *Journal of Personality and Social Psychology*, *60*(6), 895-910.

Hollon, S. D., DeRubeis, R. J., & Evans, M. D. (1987). Causal mediation of change in treatment for depression: Discriminating between nonspecificity and noncausality. *Psychological Bulletin, 102*, 139-149.

Marcu, R. (2013). New psychometrical data on the efficiency of Satisfaction With Life Scale in Romania. *Journal of Psychological and Educational Research, 21*(1), 77-90.

Marian, M. (2004). *Introduction to clinical psychology*. Oradea, Ro.: University of Oradea Publishing House.

Marian, M. (2006). Validarea Scalei Multidimensionale a Suportului Social Perceput (SMSSP). Caracteristici psihometrice [Validation of the Multidimensional Scale of Perceived Social Support. Psychometric characteristics]. *Analele Universităţii din Oradea, Fascicula Psihologie, X*, 21-35.

Marian, M. (2007). Validarea Scalei de Satisfacţie în Viaţă. Caracteristici psihometrice [Validation of the Satisfaction with Life Scale. Psychometric Characteristics]. *Analele Universităţii din Oradea, Fascicula Psihologie, XI*, 58-70.

Marian, M. (2008). *Psychological correlations of the helplessness. Clinical and social implications* (Unpublished doctoral dissertation thesis) University Babeş-Bolyai, Cluj-Napoca.

Marian, M. (2009). Validarea unei scale de măsurare a stimei de sine ca stare [Validation of a scale for measuring state self-esteem]. *Revista de Psihologie Şcolară, 2*(4), 40-49.

Marian, M. (2010). Chestionarul Stilului Atribuţional: studiu de validare pe populaţia românească [The Attributional Style Questionnaire: A validation study on the romanian population]. *Analele Universităţii din Oradea, Fascicula Psihologie, XVII*, 124-141.

Marian, M., & Filimon, L. (2010). Cognitive restructuring and improvement of symptoms with cognitive-behavioural therapy and pharmacotherapy in patients with depression. *Annals of general psychiatry, 9*(1), 1.

Pavrot, W., & Diener, E. (1993). Review of the Satisfaction with Life Scale. *Psychological Assessment, 5*, 164-172.

Peterson, C., Semmel, A., von Baeyer, C., Abramson, L. Y., Metalsky, G. I., & Seligman, M. E. P. (1982). The Attributional Style Questionnaire. *Cognitive Therapy and Research, 6*, 287-300.

Rippere, V. (1994). Depression. Investigation. In S. J. E. Lindsay, & G. E. Powell (Eds.), *The Handbook of Clinical Adult Psychology. Second edition.* London: Routledge.

Roman, O. T. (2011). Rational Emotive Behaviour Therapy features on intrinsically religiously oriented people. *Journal of Psychological and Educational Research, 19*(2), 67-95.

Rotaru, T. Ș., Hîngănescu, A. R., & Alexa, T. (2015). Intervention for chronic dysthimia: A case study on diagnostic uncertainty. *Journal of Psychological and Educational Research*, *23*(2), 90-110.

Rotaru, T. Ș., Petrov, I., & Oprea, L. (2014). A short psychotherapeutic intervention on depression complicated by a chronic B virus infection: A case study. *Journal of Psychological and Educational Research*, *22*(2), 102-115.

Stevens, M. J., Constantinescu, P. M., Lambru, I., Butucescu, A., Sandu, C. G., & Uscătescu, L. (2012). Romanian adaptation of the Satisfaction With Life Scale. *Journal of Psychological and Educational Research, 20*(1), 17-33.

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment, 52*, 30-41.

Received April 15, 2016
Revision received May 12, 2016
Accepted June 11, 2016