Journal of Cognitive and Behavioral Psychotherapies,
Vol. 12, No. 2, September 2012, 159-174.

THE DEVELOPMENT AND VALIDATION OF THE FREEMAN-GAVITA PRESCRIPTIVE EXECUTIVE COACHING (PEC) MULTI-RATER ASSESSMENT

Oana Alexandra GAVITA[*1, 2]*, Arthur FREEMAN*[3]*, Florin A. SAVA*[2]

[1]Babes-Bolyai University,Cluj-Napoca, Romania
[2]West University of Timisoara, Timisoara, Romania
[3]Midwestern University, Illinois, USA

Abstract

Executive coaching has become a usual practice in organizations as a means for enhancing motivation, self-understanding, positive affect, self-efficacy for change, and specific goal achievement. Prescriptive Executive Coaching (PEC) is based on the cognitive-behavioral approach to coaching. This study aims to develop and validate the Freeman-Gavita PEC Assessment as a new multi-rater measure of managerial skills relevant for the PEC process. Results obtained show a viable unifactorial solution for the PEC Assessment and the possibility to offer a valid prescriptive profile for executive coaching based on its predictive capabilities for performance. The PEC Assessment was found to be strong psychometrically, evidencing adequate reliabilities and validity.

Keywords: executive prescriptive profile, cognitive behavioral coaching

Nowadays, more and more managers are using specialized assistance in order to better manage distress and organizational pressures, build more effective behaviors, leadership skills, increase team productivity, and cope more effectively with employee problems. Executive coaching has been described as a customized, individual training intervention (Bono, Purvanova, Towler, & Peterson, 2009), having the overall goal of providing the manager with skills, tools, and knowledge, in order to develop him/herself and become more effective at work (Baron & Morin, 2009). While the field began as a means to overcome task

* Correspondence concerning this article should be addressed to:
E-mail: oanagavita@psychology.ro

This work was supported from a grant awarded to Oana Alexandra Gavita by the Romanian National Authority for Scientific Research, CNCS – UEFISCDI, project number PN-II-RU-PD-2011-3-0131.

performance deficiencies, it has evolved beyond mere performance improvement, towards facilitation of excellence and peak performance (Feldman & Lankau, 2005). Targeted outcomes of coaching may include enhanced motivation, self-understanding, positive affect, self-efficacy for change, and specific goal achievement (Grant & O'Connor, 2010). Although initially developed for working with highest-level executives, today executive coaching is geared toward learning and performance enhancement of the middle- and senior-level managers, as well as CEOs (Baron & Morin, 2009).

Cognitive behavioral coaching (CBC) is based on the cognitive-behavioral approach in psychotherapy and rooted in the works of Ellis (1962; 1972) and Beck (1976). CBC assists clients to better manage their emotions, by identifying, examining and changing their thinking, and developing more productive behaviors. The empirical data to support the effectiveness of CBC has been growing lately in both personal and executive coaching (e.g. Anderson, 2002; Grant & Greene, 2001; Kodish, 2002).

Based on the cognitive-behavioral theory, research, and practice, *Prescriptive Executive Coaching* (PEC) was developed by Arthur Freeman as an executive coaching model. PEC offers a contemporary approach to executive coaching, having a robust empirical basis, a strong theoretical base, and a number of real-world applications. PEC as a model of coaching uses the cognitive-behavioral orientation (Freeman & DeWolf, 1990) to build an understanding of the needs, interests, impediments, and goals of coaching. Both CBT and PEC examine the multiple relationship(s) between thoughts, feelings, actions, the social/cultural context, situations and circumstances, and the interpersonal context.

Assessment and feedback are important components of coaching and represent the starting points of the process. The cognitive-behavioral approach and PEC emphasize the role of the assessment and organizational diagnosis components in establishing coaching goals and in guiding the coaching plan and contract. However, since cognitive-behavioral coaching has a short history, there is a lack of instruments to assist professionals in accomplishing these phases. While many coaching texts make great claims for the effectiveness of coaching, presently they lack robust empirical data to support such claims (Neenan, 2008). Measures used in coaching and the human resources field lack rigorous investigation and data to support validity claims. Therefore, there is a strong need for developing assessment instruments with good psychometric properties in order to provide more evidence-based proofs of the efficacy of any CBT-oriented coaching method. We also need to note that 360 degree or multi-rater assessments are preferred in the organizational field in the evaluation and diagnosis processes (Tornow, 2006). This strategy of measurement is also effective in reducing the risk of common method bias, that self-reported instruments usually possess (Podsakoff et al., 2003). Based on these considerations, the aim of our paper is to develop a new 360 degree assessment tool as a mean to accomplish the evaluation

as an integrated part of the PEC, and to provide preliminary support for its psychometric properties, both in terms of its validity and its reliability.

On the theoretical level, the existence of such an instrument will be helpful in gathering data on the efficacy / effectiveness of the PEC intervention in an evidence based-framework, as well as in developing theoretical models that account for the enhancement of the work-related improvements based on changes in the level of irrational cognitions assessed by PEC (mechanisms of change), which will guide any change in the format of PEC in order to obtain an optimized intervention. On the practical side, such an instrument will be helpful: (a) to assess the current status of client from a PEC perspective; (b) to monitor the progress of a client within the coaching process based on periodical testing; and (c) to predict its chances of evolution (future work performances) based on their present evaluation made from a PEC perspective.

Development of the Freeman-Gavita PEC Assessment

The Freeman-Gavita PEC Assessment was developed based on the PEC model, as a tool for accomplishing the assessment and then structuring a coaching plan. By examining the scores on the PEC Assessment, the coaching specialist can determine the *perceived* and *expressed* areas of concern.

The items of PEC Assessment were generated by a panel of three experts in the field of cognitive-behavioral coaching, based on five domains that are salient both to managerial performance and mental health. The statements are neutrally-worded and have been built based on many personological factors associated with the BIG Five model ("Five Factor Model"; Costa & McCrae, 1992), that have been modified to tap in "organizationological" factors. Five relevant areas, based on cognitive-behavioral theory and research, were included in each per domain; thus each domain comprises a pool of 10 questions, with 2 questions in each area. The 2 questions per area were intended as internal validity check, as if problematic or not problematic, responses being keyed in the same direction. Responses to the items are based on a 6 point Likert scale, ranging from 0 (Not an issue) to 5 (Severe problems most of the time). Alternatively, the 6 point Likert scale can be used conversely for identifying the resources of the manager, case in which it would range from 0 (poor skills) to 6 (excellent skills).

The Environmental (A) domain refers to the work ambient, perceived support and acceptance from others and comprises the following areas: Resources, Agreeableness, Collegiality, Rewards, Team work. The Behavioral (B) domain refers to manager's abilities to accomplish the tasks and to have positive influence on the people at work, with the areas: motivation, assertiveness, leadership, skills, and action orientation. The Cognitive (C) domain refers to the adequacy of the manager's knowledge and abilities, like task complexity, cognitive balance, activation, adaptability, and ideas. The Emotional (E) domain refers to stress-related variables at work, respectively to distress, frustration

tolerance, excitement seeking, emotional stability, and locus of control. The Cultural (D) domain refers to work comfort and the convergence of organizational and personal values and expectations (diversity, hostility, predictability, values, and comfort). The PEC Assessment was built to yield a total score in each domain with higher numbers indicating more problematic issues.

Method

Participants

472 respondents participated to this study, ages ranging from 18 to 62 years old (M = 36.57, SD = 8.31), 38.8% being men and 61.2% being women. The mean experience in the same company of the respondents was 6.62 years (SD = 5.33) and the mean experience in the actual role towards to the appraised person was 3.93 (SD = 3.57) years. 88 middle-managers were assessed, 30.7% males and 61.9% women, having a mean experience in their current role of 6.64 years, (SD = 5.31) and a previous mean work experience of 8.66 (SD = 7.80) years. 70 of the managers were assessed by their direct superiors, 79 of the managers were assessed by their subordinates, 86 by at least one peer, and 73 managers were assessed by their clients.

Measures

Demographic variables. Managers provided basic demographic information concerning age, sex, experience, and completed several scales independently.

PEC Assessment. The PEC Assessment was filled in by the managers themselves (Self-Assessment), along with a Supervisor-Assessment, Subordinate-Assessment, Peer-Assessment and Client-Assessment.

Performance. The percent of monthly target accomplishment was used in order to assess work performance. Respondents reported their current performance (performance at assessment) at the time when they filled the other measures and then were contacted at six months follow-up in order to report again their performance (performance at 6 months).

Profile of Emotional Distress (PED; Opris & Macavei, 2007). The PED is a measure of psychological distress for adults and consists of 39 items. The subject is asked to rate each item (adjectives describing emotions) in assessing how he/she has felt during the last 2 weeks, on a 5 point Likert scale. The scores can be summarized in functional negative emotions (e.g., concern, sadness), dysfunctional negative emotions (e.g., anxiety, depressed mood) and positive emotions at the same time. The PED has good internal consistency for the total score (Cronbach's Alpha = 0.94) and its subscales (Cronbach's Alpha between 0.80 and 0.94; Opris & Macavei, 2007).

General Attitudes and Beliefs Scale – Short Form (GABS-SF; Lindner, Kirkby, Wertheim, & Birch, 1999). The GABS is a 26-item self-report measure

for irrational cognitive processes (e.g., demandingness, awfulizing, global evaluation, low frustration tolerance). Items refer to cognitive processes such as "I must be treated fairly by people and I will not accept unfairness"; "It is awful and terrible to be treated unfairly by people in my life") and additionally include sets of irrational and rational items. Adequate psychometric properties have been reported in the literature (Lindner, Kirkby, Wertheim, & Birch, 1999).

Procedure

Questionnaires presented above were administered to participants based on a strict protocol regarding the ethical handling of the data, approved by the Institutional Review Board of the Babes-Bolyai University, and were completed by them online.

Results

In order to test the factorial structure of the PEC Assessment measure, we used exploratory factor analytic (EFA) techniques both for the case of the aggregate scores (the mean score for a manager as resulted from multiple inputs – self-report, and other-reports – peers, clients, the direct supervisor, whenever they were available), and for each case in part (e.g. EFA based on self-report data etc.). The EFA was conducted on item parcels instead of singular items. The parcels are aggregate-level indicators (in our case the sum of two items). This decision offers a higher stability (reliability) for the factorial structure then the decision of conducting EFA on individual item scores, therefore it would be helpful, particularly when the sample sizes are relatively small (Bagozzi & Edwards, 1998).

Factor Analyses

Principal axis factors on item parcels of the PEC Assessment was the method of choice for conducting EFA. Both the case of the aggregated mean scores for all the assessments (N = 117), and the cases based on a specific source score (i.e. client-provided assessment) suggest that a single factor solution can be seen as the most appropriate solution based on Cattell's scree plot. For instance, in the case of the aggregate score, the component matrix for the one-factor solution extracted explained 65.90% of the variance and showed loadings between .68 and .91 for all the parceled items of the scale.

Exploratory Constrained Factor Analyses

Similarly, the same one-factor solution was considered as more appropriate when including self-report data exclusively, having each parceled item loading between .60 and .85.

Likewise, the one-factor solution extracted from the parceled items was found to be more appropriate for the PEC based on Cattel's scree plot, when using

the superior assessment (having a loading between .59 and .86), the subordinate assessment (with loadings between .76 and .93), the peer assessment (with loadings between .66 and .86) or client assessment (with loadings between .68 and .87).

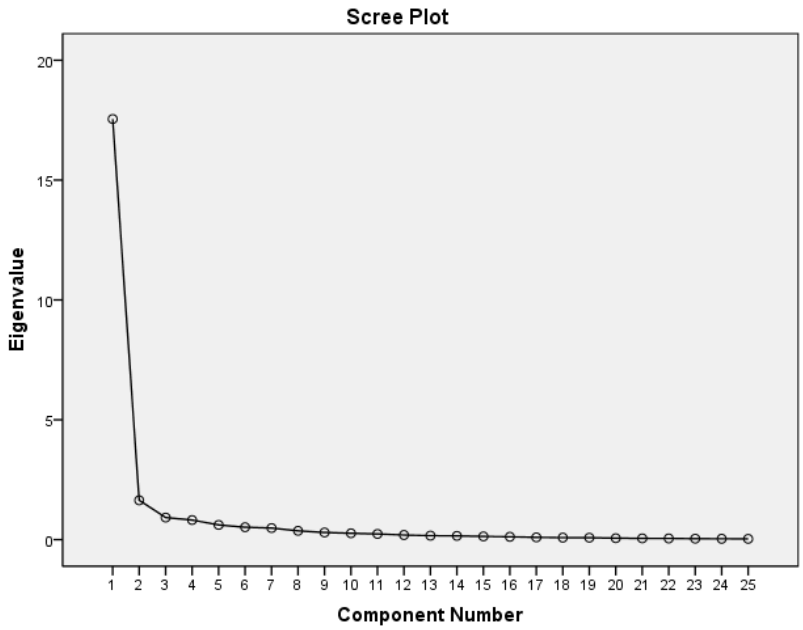

Figure 1. Scree plot indicating the factors and eigenvalues of the mean scores of the PEC Assessments parceled

Reliability analyses

In table 2 we present the descriptive data for the PEC Assessment, based on the types of report, and the Chronbach's Alpha reliability coefficients.

Table 1. Factor loadings for the one-factor solution extracted based on parceling for the aggregated mean scores of the PEC Assesments

Items parceled	Domain	Area	Factor Loadings
45/50	D	Diversity	.910
34/39	E	Emotional Stability	.902
12/17	B	Assertivity	.886
9/10	A	Teamworking	.881
13/18	B	Action orientation	.876
31/36	E	Stress	.860
11/16	B	Motivation	.855
32/37	E	Frustration tollerance	.854
22/27	C	Activation	.833
43/48	D	Values	.830
35/40	E	Locus of Control	.817
3/7	A	Agreabileness	.814
15/20	B	Leadership	.813
1/5	A	Colegiality	.797
25/30	C	Adaptability	.795
33/38	E	Satisfaction Seeking	.794
42/47	D	Predictability	.790
2/6	A	Resources	.777
23/28	C	Ideas	.771
24/29	C	Cognitive Equilibrium	.766
44/49	D	Comfort	.756
41/46	D	Hostility	.737
4/8	A	Rewards	.733
21/26	C	Task Complexity	.722
14/19	B	Skills	.682

Extraction Method: Principal Component Analysis.

1 component extracted.

Table 2. Descriptive statistics and reliability coefficients for the PEC Assessment on types of assessment and aggregate score

	N	Minimum	Maximum	Mean	*SD*	Alpha Chronbach
PEC Self-Assessment	85	0	187	49.64	34.28	.96
PEC Superior-Assessment	66	3	137	45.92	32.71	.96
PEC Subordinate-Assessment	59	2	140	44.66	39.08	.98
PEC Peer- Assessment	84	0	173	52.85	37.42	.97
PEC Client- Assessment	61	1	190	44.93	37.63	.97
PEC Assessment aggregated mean scores	117	0	187	46.88	.33	.97

Internal Consistency

Internal consistencies were examined and we obtained high internal consistency of the total score for all types of rating (Cronbach's Alpha = .97; N = 466), Self-appraisal (α = .96; N = 87), Superior Appraisal (α = .96, N = 69), Subordinate Appraisal (α = .98, N = 79), Peer Appraisal (α = .97, N = 155) and Client Appraisal (α = .97, N = 76). Based on the aggregated mean scores for all the assessments, we also obtained high internal consistencies for the Environmental domain (α = .92, N = 117), for the Behavioral domain (α = .91, N = 117), for the Cognitive domain (α = .94, N = 117), for the Emotions domain (α = .92, N = 117), and for the Culture domain (α = .93, N = 117).

Validity related analyses

Inter-rater and inter-domains correlations

Data from the EFA, as well as the strong link between the five domains assessed by the PEC, recommend the use of the global score as a valid psychometric indicator for the intensity of the problem the client experiences from a cognitive-behavioral perspective. Yet, besides the total score, we recommend to additionally take into account the score for each of the five domains included in the global scores. This decision is based both on rational basis (the theoretical relevance of each domain within the coaching context) and on empirical evidence (see below some proofs of divergent validity of considering individually each of the five-related domains included in the PEC).

Table 3. Inter-rater correlations of the PEC Assessment

		Self-appraisal PEC	Superior Appraisal PEC	Subordinate Appraisal PEC	Peer Appraisal PEC
PEC Supervisor- Appraisal	*r*	.48**			
	p	.00			
	N	64			
PEC Subordinate- Appraisal	*r*	.30*	.35*		
	p	.024	.015		
	N	56	45		
PEC Peer- Appraisal	*r*	.60**	.38**	.45**	
	p	.00	.002	.001	
	N	71	59	54	
PEC Client-Appraisal	*r*	.28*	.21	.10	.59**
	p	.031	.140	.50	.00
	N	57	48	46	56

Note. All correlations (*r*) are Pearson Correlations. ** Correlations were significant at the .01 level (*p* two-tailed). * Correlations were significant at the .05 level (*p* two-tailed). *N* = sample size.

Table 4. Inter-domains correlations of the PEC Assessment aggregated scores (N = 99)

	A aggregated	B aggregated	C aggregated	E aggregated	D aggregated
A aggregated		.78**	.68**	.74**	.78**
B aggregated	.78**		.88**	.86**	.67**
C aggregated	.68**	.88**		.87**	.62**
E aggregated	.74**	.86**	.87**		.73**
D aggregated	.78**	.67**	.62**	.73**	
Mean PEC Assessment	.87**	.89**	.81**	.87**	.88**

Note. All correlations (*r*) are Pearson Correlations. ** Correlations were significant at the .01 level (*p* two-tailed). * Correlations were significant at the .05 level (*p* two-tailed).

Inter-domain correlations

For the A – Environmental domain, we obtained significant correlations between the Self-report PEC Asessment and Superior Assessment ($r(62) = .40$), Subordinate Assessment ($r(53) = .34$), Peer Assessment ($r(70) = .48$), Clients Assessment ($r(56) = .30$). Superiors Assessment PEC correlated significantly with subordinates Assessment ($r(43) = .30$), Peer Assessment ($r(58) = .42$), and Clients Assessment ($r(47) = .36$). Further significant correlations were registered between Clients Assessment PEC with Peer Assessment ($r(56) = .66$).

For the B – Behavioral domain, we obtained significant correlations between the Self-report PEC Asessment and Superior Assessment ($r(62) = .43$), Subordinate Assessment ($r(53) = .38$), Peer Assessment ($r(70) = .54$), Clients Assessment ($r(56) = .33$). Superiors Assessment PEC correlated significantly with the B domain of Subordinates Assessment ($r(43) = .33$), and Peer Assessment ($r(58) = .25$). Further significant correlations were found between Clients Assessment PEC and Peer Assessment ($r(56) = .48$) and between the Peer Assessment and Subordinates Assessment ($r(53) = .36$).

Concerning the C – Cognitive domain, we obtained significant correlations between the Self-report PEC Asessment and Superior Assessment ($r(62) = .37$), Subordinate Assessment ($r(53) = .36$), Peer Assessment ($r(70) = .48$), and Clients Assessment ($r(56) = .23$). Superiors Assessment PEC correlated significantly with Subordinates Assessment ($r(43) = .29$), Peer Assessment ($r(58) = .34$), and not significanlty with Clients Assessment. Further significant correlations were found between Clients Assessment PEC had with Peer Assessment ($r(56) = .42$).

For the E – Emotions domain, we obtained significant correlations between the Self-report PEC Asessment and Superior Assessment ($r(62) = .38$), Subordinate Assessment ($r(53) = .39$), Peer Assessment ($r(70) = .56$), and Clients Assessment ($r(56) = .33$). Superiors Assessment PEC correlated significantly with Subordinates Assessment ($r(43) = .24$), Peer Assessment ($r(58) = .30$), and with Clients Assessment ($r(46) = .23$). Further significant correlations were found between Clients Assessment PEC and Peer Assessment ($r(56) = .58$).

Concerning the D – Cultural domain, we obtained significant correlations between the Self-report PEC Asessment and Superior Assessment ($r(62) = .42$), Subordinate Assessment ($r(53) = .40$), Peer Assessment ($r(70) = .64$), and Clients Assessment ($r(56) = .28$). Superiors Assessment PEC correlated significantly with Subordinates Assessment ($r(43) = .54$), Peer Assessment ($r(58) = .43$), and with Clients Assessment ($r(58) = .28$). Further significant correlations were found between Clients Assessment PEC and Peer Assessment ($r(56) = .60$).

Concurrent and predictive validity

Emotional Distress

The aggregated mean scores of all the PEC assessments showed a robust positive correlation with sadness reported by the managers ($r(97) = .42$, $p = .012$), and negative correlation with positive emotions ($r(84) = -.32$, $p = .05$). The PEC Self-Assessment score is positively and significantly correlated with sadness ($r(77) = .35$, $p = .001$), depression ($r(77) = .22$, $p = .051$), concern ($r(77) = .23$, $p = .041$), anxiety ($r(77) = .25$, $p = .025$), negative functional emotions ($r(77) = .32$, $p = .003$), negative dysfunctional emotions/distress ($r(77) = .33$, $p = .002$), and indirectly with positive emotions ($r(77) = -.29$, $p = .009$). The PEC Superior Assessment correlates positively with the following emotions reported by the manager: sadness ($r(63) = .29$, $p = .017$), anxiety ($r(63) = .30$, $p = .013$), negative

functional emotions ($r(63) = .27$, $p = .026$), negative dysfunctional emotions/distress ($r(63) = .30$, $p = .013$).

Environmental domain (A) Self-assessment significantly correlated with self-reported sadness ($r(77) = .28$, $p = .012$), concern ($r(77) = .29$, $p = .009$), anxiety ($r(77) = .24$, $p = .03$), negative functional ($r(77) = .33$, $p = .004$), and dysfunctional emotions ($r(77) = .25$, $p = .023$).

Behavioral domain (B) of the PEC Aggregated assessments showed significant correlations with self-reported sadness ($r(85) = .21$, $p = .042$). Also, the B domain of PEC Superior Assessments showed significant correlations with self-reported concern ($r(63) = .29$, $p = .017$), anxiety ($r(63) = .40$, $p = .001$), negative functional ($r(63) = .33$, $p = .006$), and dysfunctional emotions ($r(63) = .37$, $p = .002$).

Cognitive domain (C) of the PEC Aggregated assessments showed significant correlations with self-reported sadness ($r(85) = .29$, $p = .006$), negative functional ($r(85) = .21$, $p = .04$), and positive emotions ($r(85) = -.24$, $p = .021$). The C domain of PEC Self-Assessments showed significant correlations with self-reported sadness ($r(77) = .43$, $p = .001$), anxiety ($r(77) = .25$, $p = .02$), negative functional ($r(77) = .35$, $p = .001$), and dysfunctional emotions ($r(77) = .26$, $p = .017$), and positive emotions ($r(77) = -.36$, $p = .001$). Also, the C domain of Superior Assessments showed significant correlations with self-reported anxiety ($r(63) = .31$, $p = .011$) and dysfunctional emotions ($r(63) = .25$, $p = .040$).

Emotions domain (E) of the PEC Aggregated assessments showed significant correlations with self-reported sadness ($r(85) = .27$, $p = .010$) and positive emotions ($r(85) = -.29$, $p = .006$). The E domain of PEC Self-Assessments showed significant correlations with self-reported sadness ($r(77) = .35$, $p = .001$), positive emotions ($r(77) = -.34$, $p = .002$), and negative functional emotions ($r(77) = .28$, $p = .001$). The Emotions domain (C) Superior-Assessments showed significant correlations with self-reported sadness ($r(63) = .26$, $p = .001$) and anxiety ($r(63) = .24$, $p = .048$).

Culture domain (D) Self-Assessments showed significant correlations with self-reported sadness ($r(77) = .23$, $p = .037$), depression ($r(77) = .23$, $p = .041$), anxiety ($r(63) = .24$, $p = .030$), negative functional emotions ($r(63) = .23$, $p = .037$), and negative functional emotions ($r(77) = .27$, $p = .014$).

Irrational cognitions

The Self-Assessment PEC is directly correlated with Fairness Irrational Cognitions (GABS) of the managers ($r(74) = .27$, $p = .01$). The Other-Assessment or aggregate scores of the PEC Assessment do not correlate with manager's irrational cognitions ($ps > .05$). Fairness Irrational Cognitions (GABS) of the managers correlate specifically with the Environmental domain of the Self-Assessment PEC ($r(74) = .24$, $p = .03$), Cognitive domain of the Self-Assessment PEC ($r(74) = .30$, $p = .008$), and Emotions domain of the Self-Assessment PEC

($r(74) = .25$, $p = .028$). No correlations were found between the Behaviors and Culture domains and irrational cognitions of the managers.

Performance

The PEC Assessment aggregated mean scores correlate negatively with performance at 6 months ($r(48) = -.28$, $p = .047$). The PEC Superior-Assessment is the only assessment negatively correlated with performance at 6 months ($r(36) = -.34$, $p = .032$); the other PEC Assessment perspectives did not correlate with performance based on target achievement. Performance at 6 months showed correlations with the Behavioral domain (B) of the PEC Superior-Assessment ($r(36) = -.36$, $p = .026$), Cognitive domain (C) of the PEC Superior-Assessment ($r(36) = -.49$, $p = .002$), Emotions domain (E) of the PEC Superior-Assessment ($r(36) = -.37$, $p = .02$). No correlations were found with the Environmental (E) or the other ratings within the domains.

Performance at assessment correlates with performance at 6 months after the assessment $r(49) = .70$, p = .001. When past performance levels and PEC Assessment aggregated mean scores were entered in a regression equation, with performance at 6 months as dependent variable, both remained significant (Adjusted R Square = .53, $F(2,46) = 28.26$, $p = .001$), showing that the PEC Assessment mean scores has good predictive properties for future performance.

Table 5. Multiple regressions for the PEC Assessment as predictor for performance at 6 months

	B	*SD*	Beta	*t*	*P*
(Constant)	40.44	7.78		5.12	.000
Performance at Assessment	.609	.087	.691	6.99	.000
PEC Superior- Assessment	-.085	.035	-.23	-2.41	.020

a. Dependent Variable: Performance at 6 months

When past performance levels and PEC Superior-Assessment were entered in a regression equation, with performance at 6 months as dependent variable, both remained significant (Adjusted R Square = .62, $F(2,34) = 30.86$, $p = .001$), showing that the PEC Self-Report Assessment has excellent predictive properties for future performance.

We further tested predictive validity of the Cognitive domain of the PEC Superior-Assessment by entering it in a regression equation, with past performance level and performance at 6 months as dependent variable; both remained significant (Adjusted R Square = .68, F(2,34) = 39.80, p = .001), showing that the Cognitive domain of PEC Assessment specifically predicts future performance. We also tested the predictive validity of the Emotions domain of the PEC Superior-Assessment by entering it in a regression equation with past performance level and performance at 6 months as dependent variable; both

remained significant (Adjusted R Square = .61, $F(2,34) = 30.24$, $p = .001$), showing that the Emotions domain of PEC Assessment specifically predicts future performance.

Table 6. Multiple regressions for the PEC Assessment as predictor for performance at 6 months

	B	*SD*	Beta	*t*	*P*
(Constant)	39.48	7.78		5.07	.000
Performance at Assessment	.629	.088	.730	7.133	.000
Supervisor-Assessment PEC	-.101	.027	-.376	-3.674	.001

a. Dependent Variable: Performance at 6 months

Discussion and Conclusions

The Freeman-Gavita PEC Assessment evaluates several dimensions including behavior, emotion, thoughts, situations, and socio-cultural context important to be further considered in PEC as coaching recommendations made along these same dimensions.

We found the PEC Assessment to be strong psychometrically, evidencing high internal consistencies and concurrent validity. The factor structure of the scale was examined through exploratory factor analysis based on parceled items of the PEC Assessment. The scree plot indicated a one-factor model. The PEC Assessment one-factor model appeared to be also the most parsimonious. All of the items had greater than very high factor loadings for the PEC aggregated mean scores and each of the multiple-rating assessments separately. The Cronbach's alpha of the PEC Assessment Total score as well as each factor score suggested that the items have high internal consistency.

It seems that he PEC Assessment Total score allows for a great practical utility of the scale, suggesting that higher total score indicate greater valence of problem(s). However, we also obtained high internal consistencies for the domain scores, both aggregated and separated based on rater assessment. We obtained moderate correlations between the different sources of assessment, both for total scores and domains scores, with the most robust correlations found between the clients' and peers' ratings. This finding shows the halo effect manifested in the organizations.

In terms of convergent and predictive validity, the PEC Self-Assessment score was directly correlated with managerial self-reported sadness, depression, concern, anxiety, functional negative emotions and distress, and indirectly with positive emotions. Both PEC Supervisor-Assessment and the aggregated Mean Scores for all perspectives of the PEC Assessment were directly associated with sadness and indirectly with positive emotions. We obtained the most generalized

correlations of the Cognitions and Emotions domains with negative and positive emotions experienced, showing that these domains are more relevant when predicting emotional distress. Our results support the initial theoretical bases for the Prescriptive Profile, derived from the rank ordering of scores on each domain (first letter indicates most problematic area and so on), each playing their role in predicting aspects to be tackled in PEC.

Significant correlations were obtained between the PEC Self-Assessment with the absolutistic demands for fairness of the managers, indicating that the PEC Assessment highlights important managerial cognitive vulnerability factors, as irrational cognitions were conceptualized in the literature (David, 2004; David, Schnur, & Belloiu, 2002). In other words, managers holding a rigid demand regarding fairness will present a higher level of problems on the PEC Assessment.

In terms of performance, the PEC aggregated score and Superior-Assessment were significantly correlated with performance at six months. In other words, the problems reported by multiple raters altogether and superiors, based on the PEC Assessment, can accurately predict performance six months later. Furthermore, the scores obtained on the PEC Assessment were found to be good predictors for performance as past performance, which shows that the PEC Assessment has very good predictive properties. The highest correlations with future performance were obtained for the Cognitive domain of the aggregated scores on PEC Assessment, which is once again an argument for using the separate domains in order to plan for the PEC.

One of the limits of the present study is that based on our sample, we were not able to perform confirmatory factor analyses. Future studies will need to expand our exploratory findings in order to investigate the domain structure of the PEC Assessment.

Our present study brings important contributions to the literature on both theoretical and practical levels. On the theoretical level, PEC Assessment can be used in studying the efficacy/effectiveness of PEC intervention in an evidence based-framework. On the practical side, The PEC Assessment can be informing on the current functioning status of managers from a PEC perspective, monitoring their progress within the coaching process, and can also predict future work performance.

In conclusion, the PEC Assessment is a new 360-degree tool for predictive executive coaching. The PEC Assessment can be administered to both the executive manager and to its direct supervisor staff in its team, subordinates, peers and clients. PEC Assessment evaluates several dimensions including behavior, emotion, thoughts, situations, and socio-cultural context, each having specific prescriptive roles. Based on the PEC Assessment, the coaching specialist can determine the perceived and expressed areas of concern along these dimensions, which will be considered further objectives for improvement in PEC. Results can be presented as feedback to the executive and subsequent to the PEC Assessment, the coach will be able to derive individualized prescriptions for

change. The individualized "prescription" of the PEC based on the PEC Assessment has consistent ecological validity since it uses both self-report or other-reported data as its base.

REFERENCES

Anderson, J. P. (2002) Executive coaching and REBT: Some comments from the field. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 20*(3/4), 223-233.

Bagozzi, R. P., & Edwards, J. R. (1998). A general approach to representing constructs in organizational research. *Organizational Research Methods, 1,* 45-7.

Baron, L., & Morin, L. (2009). The coach-coachee relationship in executive coaching: A field study. *Human Resource Development Quarterly, 20*, 85-106.

Beck, A. T. (1976). *Cognitive Therapy for Emotional Disorders*. New York: International Universities Press.

Bono, J. E., Purvanova, I., Towler, A., & Peterson, D. (2009). A Survey of Executive Coaching Practices. *Personnel Psychology, 62*, 361-404.

Costa, P. T., Jr., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) manual.* Odessa, FL: Psychological Assessment Resources.

David, D. (2004). Special issue on the cognitive revolution in clinical psychology: Beyond the behavioral approach—conclusion: Toward an evidence-based psychology and psychotherapy. *Journal of Clinical Psychology, 60*, 447-451.

David, D., Schnur, J., & Belloiu, A. (2002). Another search for the "hot" cognition: Appraisal irrational beliefs, attribution, and their relation to emotion. *Journal of Rational Emotive and Cognitive Behavior Therapy*, *20*, 93-131.

Ellis, A. (1962). *Reason and emotion in psychotherapy*. New York: Lyle Stewart.

Ellis, A. (1972). *Executive leadership: A rational approach*. New York: Albert Ellis Institute for REBT.

Feldman, D. C., & Lankau, M. J. (2005). Executive coaching: A review and agenda for future research. *Journal of Management, 31*(6), 829-848.

Freeman, A., & DeWolf, R. (1990). *Woulda, coulda, shoulda: Overcoming regrets, mistakes, and missed opportunities*. New York: Harper Perennial.

Grant , A. M., & O'Connor, S. A. (2010). The Differential Effects of Solution-focused and Problem focused Coaching Questions: A Pilot Study with Implications for Practice. *Industrial and Commercial Training, 42*(2), 102-111.

Grant, A. M., & Greene, J. (2001). *It's your life—what are you going to do with it?* Harlow: Pearson Education.

Kodish, S. P. (2002) Rational emotive behaviour coaching. *Journal of Rational-Emotive &Cognitive Behavior Therapy, 20*(3/4), 235-246.

Lindner, H., Kirkby, R., Wertheim, E., & Birch, P. (1999). A brief assessment of irrational thinking: The Shortened General Attitude and Belief Scale. *Cognitive Therapy and Research, 23,* 651-663.

Neenan, M. (2008). Tackling procrastination: An REBT perspective for coaches. *Journal of Rational-Emotive & Cognitive Behavior Therapy. Special Issue on Cognitive-Behavioural Coaching, 26*(1), 53-62.

Opris, D., & Macavei, B. (2007). The Profile of Emotional Distress. *Journal of Cognitive and Behavioral Psychotherapies*, *7*(2), 139-159.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method bias in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*, 879-903, doi: 10.1037/0021-9010.88.5.879

Tornow, W. W. (2006). Perceptions or reality: Is multi-perspective measurement a means or an end? *Human Resource Management, 32*(2), 221-229.