

Developing Managerial Skills Through Coaching: Efficacy of a Cognitive-Behavioral Coaching Program

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Abstract Managerial coaching is currently seen as an effective leadership practice facilitating learning process of the employees for performing better and being more effective in organizations. This article builds on recent research on the importance of the managerial coaching by empirically investigating the effects of a cognitive-behavioral coaching programme over mid-level managers. Due to the similarities between managerial coaching behaviors and transformational leadership behaviors, we have adopted the transformational leadership model as theoretical framework for evaluating management behaviors. The study used a pre-posttest approach to test the effects of the coaching program especially designed for 23 mid-level managers having as responsibility the supervision of production teams in a multinational organization. The major aims of the program consisted of: developing managerial coaching skills, assertive communication skills, motivation of subordinates. Overall, the analysis of results elicited an increase of scores in the leadership behavior dimensions measured by multifactor leadership questionnaire that are part of the managerial coaching skills. Besides, the effectiveness perceived as an indicator of performance was significantly higher upon completion of the coaching program. Findings suggest that coaching, as a professional development method, has great potential to contribute to the managerial behaviors that facilitate development at subordinate level, as they are captured by some transformational and transactional scales. Such knowledge can be informative for practitioners as well in developing effective managers and leaders and understanding and managing employee attitudes and behaviors in organizations.

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Introduction

The complexity, uncertainty and unpredictability of the environment have increased organizational interest for enhancing the effectiveness of managers' activity, as well as that of their leaders. In order to change and optimize leadership behaviors and to increase professional performance, coaching is being used increasingly (Grant and Cavanagh 2004; Ellinger and Kim 2014; Feldman and Lankau 2005; Joo 2005; Palmer et al. 2003). Coaching is a tool for professional development of management, both on a personal level, and on organizational level (De Meuse et al. 2009; Ellinger et al. 2008).

An overview of the literature concerned with the study of coaching psychology suggests a discontinuity between research on executive coaching and that on management development (Elliot 2011). Although only a third of executive coaching are evaluated (Ely et al. 2010; McDermott et al. 2007), reported empirical findings confirm the effectiveness and value of coaching both on a personal level, and on organizational level (Dagley 2006; Hernez-Broome and Boyce 2011; Passmore and Gibbes 2007).

The main effects of executive coaching are displayed in the form of leadership skills, over the ability to manage complex situations within the organization, as well as over the relationship with subordinates, which is optimized (Bowles et al. 2007; Diedrich 1996; Hall et al. 1999; Perkins 2009). By definition, the target of coaching is learning and behavioral change in the case of the client (manager or leader); therefore, it is not at all surprising that most studies report a positive relation between coaching and behavioral change (Levenson 2009).

Besides executive coaching, a tendency that is now expanding, both on practical level, as well as theoretically, is managerial coaching (Agarwal et al. 2009). Managerial coaching is defined as the process by which a supervisor (manager or leader) facilitates the learning and development processes of his subordinates by activating their behaviors and professional skills (Beattie 2006; Ellinger and Bostrom 1999). Moreover, Hagen (2012) deems managerial coaching as an effective leadership practice facilitating learning process of the employees for performing better and being more effective. Empirical research indicates that this type of coaching is a developmental intervention with significant impact not only on individual level, but also at the level of organizations (Agarwal et al. 2009; Ellinger et al. 2003; Ellinger and Bostrom 1999; Evered and Selman 1989; Elmadağ et al. 2008; Hamlin et al. 2006; Liu and Batt 2010; Yukl 2002). Despite the fact that this form of development is acquiring a growingly important role within organizations (Heslin and Latham 2004; Latham et al. 2005; Pousa and Mathieu 2015), the data that should support the value of development coaching for employee's career is inconclusive (Heslin et al. 2006).

In fact, the concept of coaching in the management context adds a new perspective to the role of manager or leader. A coaching leadership style engenders a balance between directive and participatory behaviors in interactions with subordinates. Ellinger et al. (2003) claim that the coaching approach was developed in response to managerial

relations of command and control. Unlike these, managerial coaching places the emphasis on creating a working environment where supervisors support their subordinates in the increase of their professional performance, in their adaptation to new situations, gives them active guidance, feedback and support. Therefore, managerial coaching becomes an interaction whereby leaders offer constructive feedback to their subordinates, suggestions for completing their tasks, support throughout difficult situations, and create opportunities for development (Hunt and Weintraub 2002). Despite its benefits on subordinates and on organizational performance, assimilating managerial coaching skills and their transfer to real interactions with subordinates has proved difficult.

Within this theoretical framework, the present study aims at investigating the effects of a cognitive-behavioral coaching programme over mid-level managers. Specifically, this present study targets the alterations in management behaviors as a result of the coaching. What is more, the results of the coaching program are analyzed through the dimensions of managerial coaching. Due to the similarities between managerial coaching behaviors and transformational leadership behaviors, that shall be subsequently presented, we have adopted the transformational leadership model as theoretical framework for evaluating management behaviors.

Empirical Research Evaluating Coaching

Generally, coaching studies are largely theoretical, aimed at conceptual clarifications, theoretical underpinning and the elaboration of valid models to guide practitioners. Our search of the PsycArticles database of the American Psychological Association (APA), using the term search of “executive coaching” through the abstract, revealed 65 studies published between 1990 and 2015. Out of these, a percentage of around 29 % are empirical studies. The SAGE Journals online database published 23 studies in the field of executive coaching precisely, but the term frequency within studies of management-related topics, of management and organizations is significantly higher. The ProQuest Psychological Journals database contains 69 articles targeted specifically at executive coaching. The number of articles has seen a growing evolution since 1990 and it corresponds to the figures reported by other authors that estimate a growth by 300 % in scientific journals (De Meuse et al. 2009). Published papers elicit a lack of consistent empirical data and report that the evaluation of coaching effectiveness appears in a small number of articles (De Meuse et al. 2009; Evers et al. 2006; Feldman and Lankau 2005; Kampa-Kokesch and Anderson 2001).

Results of Coaching

The diversity of both the examined factors, and of the measurement instruments, makes it difficult to integrate the results of executive coaching. Based on the evaluation models taken from the field of training or other disciplines, the results may be included into three categories: (a) changes in managerial behavior; (b) client’s

perception of the coaching process; (c) objective performance measurement (De Meuse et al. 2009).

Distal results of coaching seem to include life-work balance, well-being, stress reduction (Gyllensten and Palmer 2005), and a better alignment of personal goals to organizational goals and mission. These results are based on clients' perception of the impact of coaching or on the will to repeat the coaching experience, but they do not demonstrate objectively the efficacy of the intervention. Some studies, apart from the clients' perception, report evaluations from supervisors, subordinates or human resources department, thus offering a more complete perspective on the success of the intervention (Diedrich 1996; Joo 2005; McGovern et al. 2001; Smither et al. 2003).

Also, task performance was reported in some studies that demonstrate the effect of coaching on executive performance, but also the difficulty in isolating it from the impact of other factors (Bowles et al. 2007; Olivero et al. 1997).

McGovern et al. (2001) distinguish between tangible results of coaching (increase in productivity) and intangible ones (teamwork, professional satisfaction). Tangible results are expressed as return of investment (ROI), which estimates the profit percentage as opposed to the invested amount. ROI is generally an important indicator in evaluating the investment of organizational interventions, whereas the empirical demonstration of the recovery of the investment has been a challenge in the study of results in the case of coaching (Bowles et al. 2007). There have been reported ROI values of six (McGovern et al. 2001), and even seven times greater (Parker-Wilkins 2006) as an effect of coaching. Despite being an objective indicator, its interpretation needs to be done with caution, as the calculation was often based on questionnaires or interviews, subjectively influenced.

Overall, the meta-analysis points to positive effects of executive coaching, but the small number of studies it comprises does not allow for generalizing the results. What is more, these results need to be interpreted with precaution due to the inconsistency of interventions, from one study to another. Besides, the lack of some details makes it impossible for an interpretation of the conditions that favor better results in coaching.

Methodological Aspects in the Study of the Effects of Coaching

The methodological approach to the evaluation of coaching results is constantly being refined. The available literature on coaching is still dominated by studies having a modest number of participants, by descriptive studies, whereas explanatory ones are much less numerous.

Descriptive studies underline the lack of uniformity of evaluation instruments, of approaches, goals, and results measurement methods. The methodology in use is mainly qualitative (phenomenological analysis, narrative analysis and content analysis), an approach which, despite bringing valuable nuances, does not always identify the predictors of success.

A significant number of published studies are based on questionnaire data collection, which only evaluates clients' perceptions of efficiency and areas of intervention (De Meuse et al. 2009). Data may also be collected by gathering feedback from colleagues, regarding one's performance, skills and managerial behavior. Despite being useful, such

data do not fulfil the requirements for rigor and control that are generally imposed on studies of applied psychology (MacKie 2007).

Explanatory studies aimed at identifying a causal relationship between the coaching and its results are based on quasi-experimental design (Smither et al. 2003; Evers et al. 2006), rarely an experimental one (Libri and Kemp 2006; Burke and Linley 2007). The reduced number of experimental studies is caused by the difficulties in isolating the factors and variables that may arise. Another shortcoming is the low number of longitudinal research identified (Diedrich 1996; Blattner 2005; Evers et al. 2006). Coaching, as a mechanism for human change, imperatively needs to be understood and observed longitudinally, through research that could explain the process of change over time. Few of the studies report results at the level of the intervention group as opposed to the control group (Smither et al. 2003). Such an approach would prove extremely useful in illustrating the effects of the coaching process and their delineation from other sources of learning. The data is obtained by case studies, interviews and observation.

Paired sample design, both pre- and post-types is more frequently used in coaching to elicit change in the intervention group. This type of research design offers a measure of individual progress and learning, and the size of the effect is higher than in the case of a control group design. When the dependent variable is measured reliably, studies of paired samples may be superior to independent samples, yielding results with higher statistical power and better control over participants' responses (Hunter and Schmidt 1990).

Another difficulty that often arises in coaching research concerns the sample size. Most research uses a small number of participants in the attempt to build frameworks and relations between client intervention and the achieved results.

Part of the studies do not use psychometric instruments, instead provide accounts of experience and results of coaching or results of idiographic instruments, especially developed for a certain study (Laske 2004; Orenstein 2006). These methodological peculiarities make it difficult to compare results of case studies, and the attempt to replicate results is difficult to achieve.

Given such methodological challenges, future studies need to focus on integrated, summative assessment designs, that should include both proximal and distal results, but also on formative ones, exerting rigorous control over variables that might influence results, having an extended approach also at the level of organizational effects. Also, using diverse research methods—for example, diary study or experience sampling method—allow researchers to examine real-time experiences of coaching and chart their patterns over time.

Managerial Coaching

Facing increasingly complex requirements from the organizational environment, manager's role has been extended and diversified from managing organizational processes and duties to facilitating subordinates learning and development through mentoring, training or coaching (Humphrey and Stokes 2000; Senge 1990). Thus, the concept of manager as coach has gained popularity and it has become more and

more obvious that such role is essential for executives while interacting with subordinates (Antonioni 2000; Bianco-Mathis et al. 2002; Ellinger et al. 2008; Hunt and Weintraub 2002; Pousa and Mathieu 2015).

Despite the importance of the role of manager as coach and the recognition of such importance, coaching studies are generally prescriptive and only some of them are based on empirical data (Ellinger et al. 2003, 2008; Kampa-Kokesch and Anderson 2001). Empirical research in the field of managerial coaching has described a series of behaviors that may operationalize the construct of managerial coaching: giving and receiving feedback on performance, communication and clearly setting expectations, creating and fostering an environment that sustains learning, offering resources for the accomplishment of tasks, enlarging subordinates' perspectives, etc. (Beattie 2006; Ellinger and Bostrom 1999). The above-mentioned behaviors are largely consistent with managerial effectiveness (Ellinger et al. 2008; Hamlin et al. 2006).

The role of manager as coach pertains to the new paradigm of participative management, opposed to that of command and control type, emphasizing the empowerment of subordinates, their learning and development (Ellinger et al. 2003; Hagen 2012; Kim et al. 2013). Beyond the paradigm shift, Bass (1999) highlighted the need to go beyond the transactional style, towards the transformational leadership style in order to better respond to complex organizational environments (Avolio and Bass 2002, 2004).

Transformational leadership theory postulates that transformational leadership style encourages subordinates to engage with tasks and actively contribute to solving work-related problems. Also, transformational leaders are considerate of their subordinate's needs and treat them individually, generating feelings of trust and satisfaction (Podsakoff et al. 1990). Such behaviors motivate subordinates to achieve higher-level results (Wang et al. 2011). Motivating subordinates by leaders may be achieved in several ways. First of all, the leader offers subordinates an integrated vision of the organization, by means of which they can perceive their role as meaningful within the company (Bono and Judge 2003; Zhu et al. 2009). Besides, transformational leaders support their subordinates to confidently pursue their goals (Howell and Hall-Merenda 1999).

Meta-analytical studies have shown that the transformational type of leadership exerts positive influence on the satisfaction and commitment with work of subordinates (e.g. Dum Dum et al. 2002). This influence varies according to the type of performance, which may be contextual performance and task performance. Regarding performance type, transformational leadership has significantly higher impact on contextual performance than on task performance (Wang et al. 2011). The explanation of such differences is based upon the type of processes involved; particularly task performance is significantly dependent upon skills, knowledge and working habits, whereas contextual performance is based upon attitudinal and motivational factors (Borman and Motowidlo 1993). In fact, the essence of transformational leadership is the stimulation of subordinates to engage in behaviors that transcend their organizational role (Podsakoff et al. 1990). Through its characteristics and influence on subordinates, the transformational leadership model exhibits a series of similarities with managerial coaching and offers the possibility of assessing leadership behavior through Multifactor Leadership Questionnaire (MLQ).

Hypotheses

The present study is based on a pretest–posttest design and pursues the following hypotheses:

H1 Mid-level managers participating in the coaching program will improve their scores on inspirational motivation, as a mean of stimulating individual as well as team spirit among their subordinates.

H2 Mid-level managers participating in the coaching program will improve their scores on individual consideration, as a behavior whereby managers display interest for the developmental needs of their subordinates.

H3 At the end of the coaching program, mid-level managers will report higher scores on the contingent reward scale, as effective transactional behavior.

H4 The efficiency of self-rated leadership will increase by the end of the coaching program.

Bearing in mind that the cognitive-behavioral coaching program was constituted based on the development needs identified and acknowledged at the level of the organization, as well as on the contextual characteristics specific to the organization, we expect that results should be compelling for the enactment of behavioral change at the leadership level, in the absence of a control group.

Method

Participants

The group of participants initially included 23 mid-level managers in a multinational company producing electronic equipment for mobile communications located in the central region of Romania. Their age varies between 23 and 46 years ($M = 33.11$; $SD = 6.47$). According to gender, participants were 69.6 % men and 30.4 % women. In statistical data analysis, only data regarding 11 of the participants were included (age $M = 31.63$; $SD = 6.47$), out of which 81.18 % were men and 18.19 % were women. The participants took part in a coaching skills training on a voluntary basis.

Procedure: The Cognitive-Behavioral Coaching Program

The coaching program—The Rational Managerial Coaching Program (rMCP)—was especially designed for mid-level managers having as responsibility the supervision of production teams in a multinational organization. The program for enhancing managerial coaching was based on cognitive-behavioral approach targeting managerial coaching skills and other connected leaderships skills, assertive communication skills, motivation of subordinates, on the one hand, and developing stress management strategies, on the other hand (David and Matu 2013). The study

was approved by the University Institutional Review Board, and participants expressed their agreement to participate using online informed consent.

The intervention was delivered by professionals certified in cognitive-behavior therapy by the National Board of Psychologists, and with specific coaching expertise, based on a protocol developed by Oana David (see David and Matu 2013).

Prior to the actual commencement of the program, participants were assessed using MLQ scales for leadership behavior. Upon completion of the program, participants were again assessed, using the same psychometric instruments.

The program extended over the course of 8 months and its structure consisted of group sessions and individual sessions. The coaching program began with a group coaching session and training session of 4 h, where the bases of coaching were discussed and the above-mentioned aims were approached through experiential exercises, case studies and role playing. The first session of the rMCP was guided by principles of (a) a solution-focused model for managerial coaching (the GROW model; Grant et al. 2009), (b) efficient communication and feedback skills, (c) motivating and empowering employees, and (d) self-coaching for emotional intelligence and stress management. This first session organized in groups of 12 managers revealed the changes and advantages of a managerial coaching style both for the manager, and the subordinates. Each participant formulated individually both their short-term development goals, as well as medium-term and long-term, and created together with the coach, an action plan mentioning the specific steps to achieving their goals. According to the organization's objectives, the individual goals targeted the development of managerial coaching behaviors, as they appeared following the initial assessment, and of the general aim of the intervention program, that was agreed upon together with the organization.

Individual coaching sessions addressed the progress in achieving one's goals, identifying resources, as well as obstacles being faced. Consecutively, the action plans and goals suffered adjustments, while incorporating the results of the feedback offered subsequently by participants, colleagues or superiors. Individual executive coaching sessions lasted 50 min and had the following format: establishing the connection with the previous session, collaboratively establishing the agenda, discussing the agenda, establishing the between sessions tasks, summarization and feedback. The individual executive coaching session had the aim to facilitate the application of the skills gained during the first group session.

In the shadowing session a subordinate of the manager joined him/her for 15 min and they discussed a recent task at work while the managers were told that their managerial coaching behaviors will be registered. For the rest of the session, feedback was provided regarding the interaction and other concerns related to the implementation of learned skills. The shadowing session consisted of an observed typical coaching interaction related to a current issue, between the manager and a subordinate and afterwards receiving feedback for improvements (David and Matu 2013). The final session consisted of group coaching of 4 participants and lasted an hour and half. The aim of this session was for participants to share experiences regarding the skills that were practiced over the course of the coaching program, as well as difficulties they had. Meanwhile, post-intervention assessments were conducted to evaluate the overall effectiveness of the coaching program. Participants unanimously expressed

positive reactions towards the coaching program and positive changes in distress, managerial coaching and performance (David and Matu 2013). These results proved consistent with findings of other studies concerning the positive results of the coaching intervention (Smither et al. 2003).

Over the course of the post-test assessments, the company where the intervention took place announced major changes which brought by effects that could not be neglected. The program was continued, but on a background of increased tensions and of uncertainty regarding the near future of their jobs, both on the part of managers, and that of their subordinates.

Instruments

The main assessment instruments of leadership behaviors were the MLQ scales (Multifactor Leadership Questionnaire). MLQ is a broadly used instrument whose efficiency in identifying leader's characteristics was tested by numerous studies (Avolio et al. 1999; Bass and Avolio 2000; Bass and Stogdill 1990; Sarros et al. 2002). The version applied in the present study was MLQ (5X short form) adapted for the Romanian population by Iliescu et al. (2007).

MLQ contains 45 items identifying and measuring leadership behaviors and managerial effectiveness as fundamental. Such behaviors have been identified and demonstrated by research studies as being strongly related to individual and organizational success. MLQ, in its most recent version (Avolio and Bass 2004) is constituted from 12 scales, out of which nine scales and subscales evaluate leadership behaviors, and three scales measure performance and results associated to these behaviors.

Participants in the present study were asked to assess to what extent they adopt leadership behaviors mentioned by each item, in relation to their subordinates. The assessment scale was a five-point scale, with verbal descriptors being attached to numbers (from 0 indicating not at all, to 4 indicating frequently or always).

The scales utilized for the assessment of the dimensions of leadership behavior displayed internal consistency indices comparable to those reported by the authors who adapted the MLQ instrument on Romanian population, self-assessed version (Table 1). Also, we note the fact that variations in internal consistency from pre- to post-intervention were minimal and confirm the stability of measurements over time (Latham and Frayne 1989).

Apart from assessing their leadership behaviors, participants also assessed, at the end of the coaching program, their satisfaction with the acquired experience. The items were independently administered to participants based on a strict protocol regarding the ethical handling of the data.

Dropout and Data Handling

As it was mentioned above, participation in the coaching program and consequently in the study was voluntary and the managers had the option to quit at any point or not filling the questionnaires. Four participants (17.39 %) quitted the program at various points. Also, some of the managers that completed the program did not fill

Table 1 Internal consistency indices for MLQ scales

Scales	α Cronbach
IA	0.72
IB	0.73
IM	0.68
IS	0.56
IC	0.86
CR	0.64
MBEA	0.62
MBEP	0.62
LF	0.70
EE	0.88
EFF	0.76
SAT	0.75

IA idealized attributes, IB idealized behaviors, IM inspirational motivation, IS intellectual stimulation, IC individualized consideration, CR contingent reward, MBEA management by exception active, MBEP management by exception passive, LF laissez-faire, EE extra effort, EFF effectiveness, SAT satisfaction with the leadership

all of the measures. The rate of missing data for the variables included in the study varied between none and 52.17 %. We decided to conduct intent-to-treat analyses on the variables with missing data at post-intervention, by assuming that no change had occurred in those cases.

Results

The dropout¹ rate throughout the study and the coaching program that comprised the participants was 52.17 %. The differences between the final group of participants and the dropout group that had to abandon, upon statistical analyses of pre-intervention data using t-test for independent samples, proved non significant for variables included in the study (inspirational motivation scale $t(21) = 1.69$, *ns*; individualized consideration scale $t(21) = 0.94$, *ns*; contingent reward scale $t(21) = 0.94$, *ns*; effectiveness scale $t(21) = 0.68$, *ns*). Statistical analyses of pre-intervention data therefore did not show a specific variable included in the present study that might explain participants dropping out of the coaching program or the post-intervention evaluation phase.

We also run an analysis of the patterns of the missing data within dropout group. The datasets were tested using Little's MCAR test if the datasets were missing completely at random (MCAR; e.g. Schlomer et al. 2010). The result of Little's MCAR ($\chi^2 = 21.856$, $df = 25$, $p = 0.644$) showed that the missing data of the datasets were MCAR (Little 1988). Consequently, data that have been calculated in subsequent analyses of the present study only included those collected from

¹ The dropout rate from the coaching program and implicitly, the study, was caused by major changes that installed over the course of post-intervention assessment. The company employees were notified that the factory in that location would close, and therefore they would lose their jobs. Despite these changes, the coaching program was continued and completed as planned, but with a significantly lower number of participants. Also, as the influence of these unexpected changes over participants became clearly apparent, it was tackled within individual coaching sessions.

participants who completed the coaching program and filled in the utilized scales for post-intervention assessment in their entirety ($N = 11$).

Subsequent to the inspection of internal consistency of the scales, data from the assessment of leadership behavior before and post intervention are presented in the form of means, standard deviations, and correlations between variables (Table 2).

Table 3 shows assessment data of the leadership behavior after conducting the coaching.

Statistical analyses performed on data assumed the purpose of examining the influence of the intervention over dimensions of leadership behavior. *T*-test for paired samples was used, opting for a significance level of 0.10, usually utilized in the case of small samples. In spite of identifying pre–post intervention differences in the sense anticipated by our hypotheses, graphically illustrated in Fig. 1, these differences were only significant for part of the dimensions. Therefore, the hypothesis concerning the inspirational motivation as a stimulation for individual and team spirit of subordinates was *not confirmed*, but graphically, we can observe an increasing trend of pre- and post-intervention scores [$t(10) = 1.372$, ns].

Pre–post intervention difference analysis indicated a significant statistical increase for the IC dimension (individual consideration), $t(10) = 2.324$, $p < 0.05$, $d = 0.50$, which *confirmed the second hypothesis*. Another dimension that showed a significant pre–post intervention difference is CR (contingent reward), $t(10) = 1.845$, $p < 0.10$, $d = 0.55$, *confirming the third hypothesis*. As for self-assessed performance, a significant increase was identified on the EFF scale (effectiveness), $t(10) = 2.141$, $p < 0.5$, $d = 0.33$ whereby *the fourth hypothesis is confirmed*.

On the dimensions of transactional leadership, results of the present study indicate variations from pre to post intervention scores. As a result of the coaching program, we can see a decrease from predominantly active management, whereby leaders focus on monitoring and preventing mistakes, but the statistical analysis of differences does not depict any statistically significant decrease.

Despite the fact that solely self-assessed effectiveness differed significantly subsequent to the coaching program, there has been an increase in results of scales EE (extra effort) and SAT (satisfaction with the leadership) as indicated by the Fig. 1.

Therefore, following the statistical analyses performed, three out of the four hypotheses formulated for this study are confirmed.

Results of the self-assessment leadership performance scales tend to increase at the time of post-intervention measurement, but as previously mentioned, the difference from the initial measurement time is statistically significant only on the leadership effectiveness scale.

Discussion

The present study investigated the effectiveness of a coaching program applied to mid-level managers in a multinational company. More specifically, through a longitudinal design, the study aimed at modifying leadership behavior on the dimensions of managerial coaching, assessed by the scales of transformational leadership and transactional leadership. As anticipated, overall, the analysis of

Table 2 Means, standard deviations and correlations between variables measured during pre-intervention

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. preIA	3.06	0.560	1											
2. preIB	3.27	0.361	0.547*	1										
3. preIM	3.20	0.610	0.118	0.005	1									
4. preIS	3.18	0.488	0.064	0.505	0.282	1								
5. preIC	2.79	0.332	0.015	0.251	0.196	0.368	1							
6. preCR	3.36	0.408	0.509	0.700**	0.203	0.356	0.234	1						
7. preMBEA	3.18	0.448	0.244	0.023	0.033	0.661*	0.443	0.660*	1					
8. preMBEP	1.34	0.451	-0.151	-0.512	0.516	-0.111	-0.156	-0.604*	-0.553*	1				
9. preLF	0.50	0.316	0.071	-0.492	0.356	0.081	-0.060	-0.242	-0.176	0.614*	1			
10. preEE	3.27	0.696	0.525*	0.834**	0.012	0.232	0.121	0.524*	0.466	-0.273	-0.643*	1		
11. preEFF	3.15	0.503	0.711**	0.562*	0.157	0.049	-0.048	0.602*	0.081	-0.180	-0.471	0.743**	1	
12. preSAT	3.22	0.467	0.699**	0.559*	0.259	0.239	0.007	0.375	0.201	0.307	0.000	0.662*	0.735**	1

N = 11

* $p < 0.05$, ** $p < 0.01$

Table 3 Means, standard deviations and correlations between variables measured post-intervention

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. postIA	3.22	0.505	1											
2. postIB	3.40	0.407	0.535	1										
3. postIM	3.50	0.370	0.700*	0.786**	1									
4. postIS	3.34	0.422	0.771**	0.598	0.798**	1								
5. postIC	3.00	0.158	0.235	0.097	0.107	0.000	1							
6. postCR	3.56	0.337	0.523	0.596	0.800**	0.698*	0.117	1						
7. postMBA	2.81	0.902	0.100	0.189	0.206	0.540	0.219	0.086	1					
8. postMBEP	1.40	0.562	-0.426	-0.531	-0.720*	-0.699*	-0.070	-0.756**	-0.295	1				
9. postLF	0.79	0.804	-0.811**	-0.634*	-0.775**	-0.804**	0.147	-0.612*	-0.185	0.715*	1			
10. postEE	3.45	0.500	0.736**	0.754**	0.898***	0.652*	0.105	0.489	0.109	-0.549	-0.739**	1		
11. postEFF	3.40	0.490	0.797**	0.705*	0.824**	0.647*	0.161	0.494	0.072	-0.486	-0.653*	0.931***	1	
12. postSAT	3.40	0.422	0.838**	0.674*	0.918**	0.857**	0.094	0.619*	0.264	-0.617*	-0.777**	0.925***	0.921***	1

N = 11

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

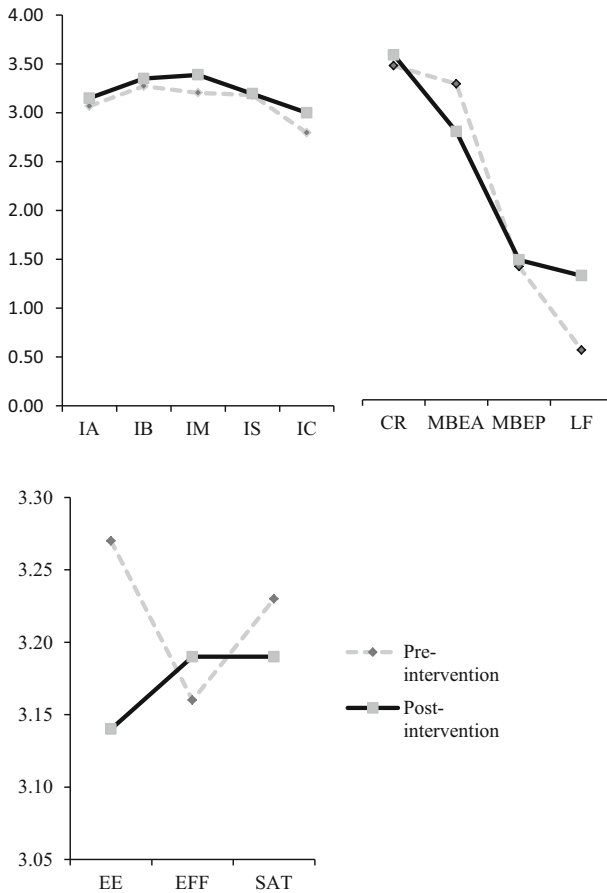


Fig. 1 Plot of differences pre–post intervention on transformational leadership dimensions (*IA, IB, IM, IS, IC*), transactional behaviour (*CR, MBEA, MBEP, LF*) and on leadership performance dimensions (*EE, EFF, SAT*)

results elicited an increase of scores in the leadership behavior dimensions that are part of the managerial coaching skills, at the end of the coaching program. Besides, the effectiveness perceived as an indicator of performance was significantly higher upon completion of the coaching program. These results are considered to be consistent with results reported by previous studies attesting the efficacy and effectiveness of coaching for executives, in general (Grant and Cavanagh 2004; Feldman and Lankau 2005; Joo 2005; Palmer et al. 2003).

A first contribution of the present study is the adoption of the transformational and transactional leadership model as framework for the study of leadership behavior, optimized by coaching. The effect of coaching on transformational leadership has been previously investigated by a study identified in the literature, but the reported results have been considered inconclusive due to the heterogeneity of participants in the study group (Cerni et al. 2010). Specifically, in the current

study, we followed those behaviors that target effective interactions with subordinates which are part of managerial coaching competence. Therefore, we studied transformational leadership characteristics, understood as an influencing process and change the manner by which subordinates acknowledge what is important and determine a new perspective over work assignments and environmental opportunities. Effective leadership is additionally ensured by the leader's capacity to enact effective transactions with his subordinates. Through their focus on development, the display of behaviors that exceed the sheer concentration on rewarding effort, transformational scales and some transactional scales of the MLQ as a measurement instrument for leadership behaviors, may sustain the study of managerial coaching skills, in the scarcity of specific psychometric instruments.

Leadership behaviors, measured by MLQ and followed throughout the study, are part of the range of behaviors implied by managerial coaching, in the absence of a specific instrument of managerial coaching: clarifying expectations regarding subordinates' performance, communicating the vision of one's organization, offering feedback, being considerate of subordinates' needs for development (Charan et al. 2001). Also, avoiding corrective actions in the place of encouragement, so as for subordinates to overcome their problems autonomously, to exploit their potential, giving them constructive feedback and outline professional goals in terms of individual benefits (Charan et al. 2001). MLQ contains some aspects of support, development and leadership by one's own example, but it does not incorporate consultancy, empowerment and recognition behaviors (Yukl and Michel 2006).

Consultancy is important because the manager can provide his subordinates with opportunities to reflect upon decisions and concerns (Yukl 2002). Empowerment is relevant for its effect upon subordinates' flexibility and effectiveness within the organization (Arnold et al. 2000).

Nevertheless, Bass and Riggio (2006) mentioned that empowerment develops in subordinates as a result of individual consideration and intellectual stimulation. The inclusion of recognition is important because it is a personal way of rewarding effective individual performance, as opposed to material performance (Michel et al. 2011; Rafferty and Griffin 2004; Yukl 2002).

Therefore, future studies should develop measurement scales on the dimensions of consultancy, empowerment and recognition that, corroborated with the MLQ scales, would allow a more integrated assessment of managerial coaching behavior.

The second relevant result of the present study is the alteration of individual consideration behaviors and of those included by the contingent reward scale, following the coaching. More specifically, managers included in the study enhanced their behaviors of exhibiting attention towards the developmental needs of each subordinate, acting as a *coach*, allocating time, effort and individual resources in order to help subordinates value their potential and develop themselves. What is more, these behaviors were complemented by those of contingent rewarding, operationalized as managers' capacity to perform coherently in positive transactions, to actively establish their subordinates' responsibilities, their performance standards and consecutively, their due rewards.

Results on these dimensions have been endorsed by the trend towards development on other dimensions of MLQ, relevant for managerial coaching

behavior, even though empirical data within this study did not statistically confirm any change. We also recorded behaviors included by the inspirational motivation scale that identified those managers who stimulate individual and team spirit, increase enthusiasm and especially optimism of the team. The changes announced by the organization where the coaching program was deployed and data for this study was collected, affected the results obtained for the inspirational motivation scale, although a slight alteration of results towards the positive has been observed. Thus, our results were heavily influenced by the changes in the environment—dissolving the local production unit. Such influences have not been quantified, only evaluated in an aggregate manner, and have been approached during the final sessions of the coaching program.

The results of the present study contribute to expanding research in the fields of coaching and leadership alike. In between the multitude of leadership approaches, transformational leadership theory has been identified as having among the widest validity regarding leadership behavior, due to its positive results associated with organizational performance (Den Hartog et al. 1997). Within complex organizational environments, leadership efficiency is ensured by maximizing transformational behaviors, concurrently with reducing transactional leadership or avoidant behaviors (Avolio and Bass 2002, 2004).

The current complex and competitive environment makes it imperative to adopt transformational leadership through the leaders who contribute to enhancing subordinates' trust, to organizational learning, and encourage the exchange of professional knowledge among the members. Also, previous studies have mentioned the positive impact of transformational leadership on employees' results (Dvir et al. 2002; Podsakoff et al. 1996), on psychological capital (Goody et al. 2009), and on organizational performance (Judge and Piccolo 2004).

With regard to the importance of leadership for the performance of subordinates, as well as the organization, the management literature highlights the role of coaching as a means for developing into a learning organization (Dunphy et al. 1997). The metaphor leader as coach (Senge 1990) consistently implies this orientation and brings our attention upon the redefining relationship between leader and subordinates and upon the need for studying this dyad.

On the other hand, studies in the field of managerial coaching have described the behaviors of the coaching role for the manager, but they mentioned less training practices for developing behaviors of this type (Beattie 2006; Ellinger and Bostrom 1999).

Alongside the development of managerial coaching dimensions, another result that was supported by empirical data of the present study is the increase in self-assessed effectiveness of mid-level managers of the multinational company where the coaching program took place.

Leadership effectiveness is particularly evaluated in terms of leadership role, not necessarily of goal attainment. Individuals scoring higher on this dimension are leaders effective at fulfilling personal needs of their subordinates and representing them in the face of a superior authority, but also at satisfying organizational requirements. A general conclusion is that, given the changes in leadership behaviors, these should also have an impact on organizational performance. Optimized leadership behavior, focusing on the

better capitalization of employees' potential, will lead to better results at the level of the entire organization. These are behaviors that managers are directly responsible for, and that, if actively presented, shall lead to an increase in performance.

Results of the present study can be explained by the type of intervention, which was a personalized cognitive-behavioral coaching program, costumed for the needs of both participants and the organisation, with the specific developmental component of managerial coaching. The present study was pre-test—post-test type, for mid-level managers. Although it envisaged a control group, such group could not be constituted, which finally lead to a pre-test—post-test design. The aim of the program was stress management, the development of coaching skills in managers for their interactions with subordinates, as well as tackling specific problems. The aims were redefined in the course of the program, as the coaching process in fact requires.

Besides MLQ employed in the present study for evaluating management behaviours, the literature reports other measures. For instance, (McLean et al. 2005) developed a scale for coaching behaviors based on content analysis of the related literature and factor analysis of empirical data. A more recent instrument is MCAS—The Managerial Coaching Assessment System—an instrument for the assessments of managerial coaching behaviors and skills which benefited from an initial validation indicating good indices of reliability and validity (David and Matu 2013).

The present study is qualitatively different from previous studies on results of coaching, that were most frequently evaluated only at the level of participant's reactions, and only by retrospective, or that omit the evaluation of the program. Thus, our empirical data support the effectiveness of coaching for improving managerial coaching skills and leadership effectiveness.

Nevertheless, we mention a few limitations, together with envisaged solutions, formulated for future studies. First of all, the lack of a control group largely affects internal validity, and determines that favourable differences in measured behaviors be potentially explained by the intervention of maturation effect or of other exogenous variables that have not been controlled for. The effect of experience over the time span between participants' evaluation for the present study could have influenced negatively their participation in the coaching program, their motivation and results. As indicated by the results and statistical analyses, the effect was positive.

Another possible limitation could be given by the testing effect, but bearing in mind that the time span between pre- and post-assessment on was considerably high, we exclude such negative influence on our results. The study drop out effect as a limitation to the pre–post-test design has also been tested. The careful analysis of results from pre-intervention assessment did not highlight any of the factors or variables in the study that might have influenced the decision of dropping out. The drop-out rate was explained primarily by external conditions, namely the unpredictable changes of closing the company location which managers included in the study were part of.

Despite the vulnerable internal validity as a result of the type of design we used, the present study displays two considerable strengths: its explanatory power and the minimization of the error variance associated with individual differences. In an independent sample design, even in the case of random distribution of participants, the two groups may differ in relation to important factors affecting the independent

variable. In the paired sample design, individual variables are identical at both times of testing and thus the error variance associated with individual differences is reduced.

Coaching results, as well as the demonstration of managerial coaching skills depend to an important extent on the organizational culture and climate, a relationship still hypothetical, but depicted in studies that link successful development of management with a supportive organizational climate (Yukl and Lepsinger 2005). Therefore, it would have proven relevant that the control group be part of the same organization in order to avoid the influence of other variables over the results. Also, having recourse to a control group with equivalent characteristics to those of the intervention group may influence participant's motivation, which is an important factor for any type of intervention. To be precise, the motivation of the study group would be increased by the assigned advantage, while the control group may experience a decrease in motivation.

To conclude, in order to provide a causal explanation for our results, they would need to be compared to the results of a control group, often difficult to involve in natural conditions. In coaching, even studies with no control group are not very frequent. 29 % of studies used a pre-post intervention design and only 14 % undertake a control group for comparison (Ely et al. 2010).

More generally, other future research should clarify the types, purposes and approaches of managerial coaching. Second, the evaluation of the effectiveness and outcome of coaching should be extended and validated in different cultural settings. Then, given that the most research has collected data from only one member of the coach-coachee dyad, multisource data should be used and analysed. Lastly, future research should examine the impact of managerial coaching through three-wave longitudinal studies to evaluate the distal outcomes of coaching, too.

Conclusions

Beyond the elaboration of models that would guide practice, executive coaching studies have focused on evaluating the efficacy of interventions. Studies generally show positive effects of coaching, supported by statistically significant results, but the lack of a control group or the use of other research designs limit us from generalizing the conclusions. Besides, the rigors imposed by confidentiality in the practitioner-client commitment determine that only a part of the results be subject to interpretation.

In spite of the studies advancing the research on coaching results, there is currently no comprehensive agenda that guides research (Boyce and Hernez-Broome 2011). The approaches are mainly situational, without being constituted by a consensus regarding essential variables required.

The present study yields results regarding coaching at managerial level, following behaviors that facilitate development at subordinate level, as they are captured by some transformational and transactional scales. In the absence of a control group to validate the differences between results measured prior and following the intervention, it may be admitted that managers reported changes in the

scores of variables under assessment, but they cannot be completely attributed to the intervention.

Changes in individual performance, goal attainment and organizational culture are considered as dimensions that evaluate the effectiveness of coaching, but they are harder to isolate by research. Also, we may enumerate other indicators of performance within the organization—sales, productivity, quality, profit, income—that may be positively influenced by coaching, but with no available data. Therefore, it is imperative that new studies be deployed with regard to the effectiveness of coaching and to the differences in leadership behaviors and other individual and organizational results (job satisfaction, employee productivity, organizational performance). The lack of consensus over the definition of effectiveness and of an evaluation protocol or a guide is an impediment to conducting such studies (De Meuse et al. 2009).

The study is preceded by a broad critical analysis of empirical research on the assessment of coaching, of models evaluating results, as well as of factors moderating the effect of coaching and methodological aspects.

One of the depicted conclusions is that coaching is less prone to being studied in the laboratory or to being cut down to components in order to be thoroughly investigated. Still, the present paper, through the data presented brings about data regarding the effectiveness of a coaching program within a real environment. Using a longitudinal design, the study followed leadership behavior changes on the dimensions of managerial coaching, evaluated with scales of transformational leadership and transactional leadership. Overall, as anticipated, the results analysis highlighted an increase in scores of leadership behavior that are part of managerial coaching skills, by the time the coaching program was concluded. Besides, the effectiveness perceived as indicator of performance was significantly higher upon completion of the coaching program. Because of the similarities between managerial coaching behaviors and transformational leadership behaviors, as well as the lack of validated results by research models on coaching results, the transformational leadership model was adopted as theoretical framework for the study of leadership behaviors.

In summary, the results of the present research offers important theoretical developments, by clarifying aspects related to coaching components. What is more, our research brings methodological innovations in the field. An important aspect of this research is that, once we identify the mechanisms that favor access to coaching, as well as the factors influencing the process, the results of intervention can be significantly improved.

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