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Exploring the influence of Outdoor Management Development (OMD) program on leadership and teamwork competencies

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ABSTRACT

This paper aims to ascertain: whether (1) there were any immediate effects on managers' leadership competencies, leadership outcomes and teamwork as a result of the Outdoor Management Development (OMD) program and (2) there were any differences among managers' competencies in relation to demographic variables. Specifically, a sample of 51 Greek business managers participated in a 2-day low-ropes course were assessed before and after training, using questionnaires and observation instruments. The most significant aspect of this study was that business managers, were found to reconsider their perceptions on adapting more transformational either transactional type of leadership when necessary, or trying harder to achieve business success and increasing their teamwork level. There were also significant differences of managers' leadership and teamwork competencies based on gender, age and tenure. The results of this study strengthen the support of the effectiveness of applying OMD in the corporate sector, where existing research is still limited.

Introduction

The main goal of Outdoor Management Development (OMD) is to create a short-time simulation of the collective completion of select problem-solving tasks. OMD is a management development approach that seeks to develop team performance and managerial competencies (Burke & Collins, 2004). A more in-depth perspective of OMD's contribution to professional development is explored through its representative goals which include: (a) discovering participants' strengths and weaknesses; (b) testing personal limits (in reality limits are broader than previously imagined); (c) working together as a team; (d) having fun; (e) developing an understanding of one's essential nature and (f) permitting intrapersonal and interpersonal barriers to be crossed (Dubrin, 2007). From this perspective, OMD is considered a powerful educational tool as participants are given an opportunity to develop their responses to situations occurring within the course.

The literature on business models supports the idea that OMD programs are effective at developing team-building skills. These range from fostering teamwork and cooperation (Gass, 1993); improving communication skills; developing leadership, problem-solving and organisation skills; refining planning; showing care and compassion (Horne, Crossley, & Rogers, 2005); and increasing levels of trust (Goldenberg, Klenosky, O'Leary, & Templin, 2000). Moreover, a number of studies researching management in the financial sector report improved managerial outcomes and achievements in banking corporations and financial institutions. One example is Gass and Priest (2006) who report lasting benefits of managerial interventions targeting German and European bank-employees

that were felt up to 1 year later. A related outcome was found in Rodenbaugh's study (2002) that reported greater awareness of self and others' behavior amongst a group of employees following a team-building quality improvement project. He records significant increases in employee satisfaction in relation to team interaction (85%) and relationships with authority figures (75%). Generally, he reports an effective improvement in work performance (70%) as well as the ability to transfer learning to the routine work environment (58%). According to O'Bannon's findings (2000), the overall team performance of employees at various multinational financial institutions improved after group-participation in a 2-day OMD program. Specifically, there was evidence of over-targeting performances, changes to role-expectations and greater accountability of members. Other improvements include increased levels of membership and effective communication, as well as upgrading performance indicators with regard to decision-making, use of member talents and team morale.

A similar study conducted by Bryan and Starr (2005) investigated aspects of leadership during OMD and at work. Commonly observed leadership behaviors include challenging the process, clarifying the vision, encouraging a climate of sharing ideas, recognizing group talents and encouraging new initiatives. Researchers also observed behaviours such as encouragement and recognition of teammates contributions, utilization of the group talents, responsibility for actions and an uptake of engagement with the feedback process. Merritt's findings (2010) provide further evidence for the effectiveness of OMD applied to the business sector by pointing out that managers reported attitude changes after training; increased level of self-awareness; developed trust and a sense of support; stronger feelings of belonging in the workplace; and greater team collaboration. Research findings from Sail and Alavi (2010) also indicate that institutional trainers and industry training coaches who participated in an OMD program noticed an improvement in social skills and values. Improvements were also documented in communication and teamwork skills.

In graduate management education, significant improvements have been mentioned in MBA students following participating in an OMD program. Positive changes were identified in key executive skills such as leadership, decision-making and communication (Hoover, Giambatista, Sorenson, & Bommer, 2010) and in behaviors such as challenging the process; inspiring a shared vision; the ability to speak with conviction; setting a stronger personal example; and building confidence in group members' abilities (Kass & Grandzol, 2010). Relevant positive effects of OMD have been also documented on the emotional intelligence of tourism university undergraduates in Spain (Fernández-Gámez, Rosales-Pérez, Molina-Gómez, & Mora-Lucena, 2018; Gómez, Gámez, Pérez, & Melé, 2019). The students significantly increased their capacity to manage others' emotions, perceive emotions and maintain a sense of optimism. Respectively, at a social level the tourism undergraduates showed improved teamwork and collaboration, effective communication and developed leadership competencies.

The OMD context

Typically, OMD programs include a variety of outdoor activities ranging from wilderness expeditions to high and low-ropes courses. The choice of program is made according to the participants' level of physical and mental training. The participants have to negotiate new situations and respond to problem-solving tasks which are unfamiliar to them (Priest & Gass, 2005). Selection and complexity of outdoor tasks, as well as the duration and the time spent on structured facilitated reviews are considered critical elements of an OMD program (Burke & Collins, 2004; Jones & Oswick, 2007, 1993; Lau & McLean, 2013; McEvoy & Buller, 1997; Stokes, 2008). Apart from the above program-level predictors, there are also participant-level predictors such as age, gender, previous similar experience with adventure programs and group functioning which are considered instrumental in developmental processes (McKenzie, 2003; ; Sibthorp, Paisley, & Gookin, 2007).

The OMD training method is based on the model of experiential learning, or learning by doing, by encouraging participants to deal with one other, reflect on what happened and why (Greenaway, 2002). Outdoor environments encourage enhance the development of team skills through unknown

and physically challenging tasks. In addition, each individual's or team's actions are directly related to the outcomes of the problem-solving task. Within this theoretical approach, the design of OMD programs offers valuable opportunities for analysis, critical review and reflection. The facilitator's role and the debriefing process are critical for high impact learning (McEvoy & Buller, 1997). From a learning perspective, facilitators allocate time for discussing group interaction following each completed problem-solving task. Through the process of reflection, participants evaluate the options they had, the decisions they made and determine whether they will take the same or different actions in the future (Thorpe, 2016).

Since the role of experience in learning is arguably the most significant determinant of executive learning design reported in the literature in recent years, business and organizations have begun to value experience as the most essential lever for talent performance and growth (Galagan, Hirt, & Vital, 2020; Gurvis, McCauley, & Swofford, 2016). Even though there is a wide choice of leadership training and development methods available in the literature, one unique aspect of OMD is that participants passed over their work roles, and hierarchical positions and thus they are able to act in new and innovative ways with colleagues during the given problem-solving tasks.

Problem statement and research question

The rationale for investing in staff development is based on the premise that cohesive teams deal with market and environmental forces more effectively than their competition. Staff retention and other challenges facing modern corporations' has led to an acknowledgement of the need for continuous developmental growth in the workplace. Corporate training is a major industry with 130 USD billion spent annually worldwide, and 35% of the entire training budget invested exclusively on leadership development (Bersin, 2014). According to Association for Talent Development 2014 report, it is estimated that organizations spend on average 1,208 USD per employee on training and development (Miller, 2014).

As discussed above, the literature on agile businesses supports the view that OMD programs are effective at developing managerial and organizational competencies. As such the primary purpose of this study was to investigate the immediate effect of OMD on Greek business managers' leadership and teamwork competencies. The following research questions are examined in this study: (1) What, if any are the immediate effects on managers' leadership competencies, leadership outcomes and teamwork as a result of the OMD program? (2) Are there differences among managers' leadership and teamwork competencies in relation to demographic variables?

Literature review

Aspects of leadership and teamwork development

Instead of a sole leader, leadership is distributed through an organization. This means there are leaders arising in many different sectors. It is expected that leadership roles can occur at all levels of the hierarchy (Lord & Hall, 2005). From this perspective, leadership is best conceived as a group process where each person, in all organizational levels and functions acts as a leader to a group of followers (Goleman, Boyatzis, & McKee, 2002). There are several identifiable core components in distributed leadership theory, namely that it is a process which involves influence and goal attainment within a group context (Northouse, 2007). In a leadership development training, anticipated success often depends on developing collaboration as a competency, assuming responsibility and overcoming individual obstacles such as 'egos' (Bendixen, Campbell, Criswell, & Smith, 2016).

Research findings from Kiffin-Petersen and Cordery (2003) reported on employee attitudes towards working in teams as a factor influencing team effectiveness. Further, they identify that team members have multiple roles. As such they recommend the development of team skills that

promote knowledge transfer; joint decision-making and problem-solving, effective communication methods and negotiation, conflict management and planning for success.

The role of leadership and teamwork competencies

The following section provides an overview of competencies associated with an effective leader. Several researchers have tried to identify global leadership competencies for use in a competency approach to encourage successful outcomes. Among those global competencies, it was found that transformational leaders inspire a climate of change, are strong motivators towards change, and motivate their subordinates to work harder than would normally be expected (Polychroniou, 2009). In their attempts to investigate the impact of leader behavior in business effectiveness, and specifically on service quality, Pantouvakis and Patsiouras (2016) report that one's leadership style not only positively correlates with service quality, but also with customer satisfaction. Specifically, transformational leadership behaviors affect team success by motivating employees to put increased effort into their duties and encouraging staff to achieve better performances.

In the financial sector, the role of leadership behavior in a bank salesperson is considered as a regulative factor in building and retaining customer relationships. Moreover, there is strong evidence that transformational leadership can alter the marketing dynamics between the salesperson and the customer relationship level (Jayakody & Sanjeewani, 2006). In terms of organizational culture, Erkutlu (2012) emphasizes the importance of team members feeling recognized and supported within their team as they undertake the responsibility, cooperate and commit to team's goals. In fact, establishing mutual trust and respect allows supervisors to effectively manager their team during challenging circumstances by promoting the team's proactive behavior.

Finally, DuBois, Hanlon, Koch, Nyatuga, and Kerr (2015) research the value of role-modelling amongst leaders, recommending that leaders should assume responsibility, even in demanding circumstances. Among the wide variety of leadership traits and behaviors, some traits emerge as significant moderators for business project success. These include being open to experiences, being ready to take risks, communicating effectively, building and supporting powerful relationships, providing emotional support when needed and inspiring the team to perform at optimum levels.

There are empirical studies which explore the degree to which individuals respond differently to challenges in the workplace, based on their demographic characteristics. Establishing the importance of diversity, Kiffin-Petersen and Cordery (2003) claim that long tenure employees demonstrate less teamwork behaviors than their younger colleagues. Furthermore, they note differences between men and women in their leadership styles. Female managers more frequently acted with integrity, honesty, showed an inner drive for results, the will to lead, to be active and to practice self-development compared to male managers (Folkman, 2012). In another study, females in leadership roles were reported to adopt a more democratic and participative style of managing people (Merchant, 2012). This behavior tendency is related to transformational leadership, recognizing more female staff as transformational leaders than male staff (Avolio, 2010) as well as being a more cooperative team-player (Eagly, Johannesen-Schmidt, & Van Engen, 2003).

Methodology

Participants and design

In this study, a single group pretest-posttest design was used. The appropriateness of a single group approach is highlighted by Carlson and Schmidt (1999) who argue it can be used to monitor feedback on the effects of training as well as to measure individual growth and the impact of learning. The sample of this study consisted of 51 Greek participants, with the majority being male ($n = 26$), aged between 24 and 58 years old ($M = 36.35$, $SD = 9.12$). With regard to role, the sample included 20 bank executive directors, 18 managers and 13 administrators across a variety of private

companies. With regard to work experience, the greater proportion of participants had more than 8-years experience (39.2%), held a senior manager role for more than 4 years (39.2%) and had experienced at least one change in the workplace throughout their career (70.6%). Most of the participants had completed postgraduate studies (n = 37) and belonged to the annual income category of 0–30.000euro (60.8%). The summary of the demographic information of the participants is provided in Table 1.

Measurement Tools

Leadership behavior was measured by Bass and Avolio (1997) Multifactor Leadership Questionnaire (MLQ-self-evaluation) which is widely used and covers what is known as the full range leadership model. It contains 45 self-report items that participants rate on a 5-point Likert-type scale, ranging from (0 = Not at all) to (4 = Frequently, if not always). It measures three categories of leadership behaviors: transformational, transactional, and passive-avoidant leadership. It also contains three outcomes of leadership styles: co-worker extra effort; perceived effectiveness of leadership; and follower satisfaction with leadership. The five scales used to measure transformational leadership are: (1) idealized influence-attributes (4-items); (2) idealized influence-behavior (4-items); (3) inspirational motivation (4-items); (4) intellectual stimulation (4-items); and (5) individual consideration (4-items). The following two scales are used to measure transactional leadership: (1) contingent reward (4-items); and (2) management by exception-active (4-items). Passive-avoidant leadership is measured using two scales: (1) management by exception-passive (4-items); and (2) laissez-faire leadership (4-items). In addition, leadership outcomes are measured by using three scales: (1) extra effort; (3-items); (2) effectiveness (4-items); and (3) satisfaction (2-items).

Perceptions of team effectiveness are measured with the short version of the Team Development Indicator (TDI-s) which consists of 10-items. The rationale for using the TDI is that it is one of the most commonly used scales in evaluating experienced-based training interventions, and team

Table 1. Demographic profile of participants.

	Frequency = N	Percent %
Gender		
Male	26	51
Female	25	49
Age, M, SD (range)	36.4 ± 9.1 yrs (24–58)	
Education		
Undergraduate	14	27.5
Master	37	72.5
Working experience		
1–4 years	12	23.5
5–7 years	19	37.3
8 ≥	20	39.2
Number of workplace environments		
1–2	36	70.6
3≥	15	29.4
Years of senior manager role		
0 years	20	39.2
1–4 years	11	21.6
4≥ years	20	39.2
Annual income		
0–30.000€	31	60.8
30.001€-50.000€	13	25.5
50.001€-100.000€	7	13.7

development in particular by providing information to team members about individual performance as well as the overall team performance (Bronson, 1991). It involves 10 items related to team development such as understanding and commitment to goals, prompt decision-making and solution initiation. Participants responded to each item by indicating each member's level of agreement using a five-point Likert scale, ranging from 1 (poor) to 5 (exceptional).

The questionnaires (TDI and MLQ) used in this study were translated from English into Greek by the authors and validated (content validity) by a panel of experts which included academics and professionals in the field of sports and business management. In order to assure the psychometric properties of the translated questionnaires, internal consistency measures of reliability were computed for both instruments used in the study by calculating Cronbach's alpha coefficients. In the case of the TDI questionnaire, the average of total alpha score of the Greek version (.90) was in accordance with the original alpha score (.95) reported by Bronson, Gibson, Kichar, and Priest (1992). Respectively, the MLQ average of total alpha was found to be .90.

Description of the OMD program

The OMD training program was a low-ropes course designed to address team building and leadership development. Its total duration was 2 days and participants were assigned to groups of 8–10 people. The main categories of the problem-solving tasks during the first day were icebreaking and socialization tasks (name-game, everybody up and human knot), as well as more demanding tasks with an average duration of 30–45 minutes each (nitro crossing, spider's web, the perfect square, outside of the circle and toxic waste). The second day of training included a scenario with the task of monopoly intended to draw out a team strategy. Each group chose four out of the five given problem-solving activities. Their aim was to gather the maximum possible points, adding the points gained from each task. Each team was given time to design its strategy for scoring. The task options were the following: the islands, lean on me, space escape, human ladder and stepping stones. The total duration of this game was 4 hours.

At the end of each task, the facilitator arranged a short debrief session about the progress of the group. All the teams gathered and exchanged their views on their respective successes and failures in each problem-solving task. Meanwhile, all the facilitators shared the results from their group observation using TDI-observer sheets to address strong or weak points observed during group functioning. A discussion followed to draw lessons from the experience by capturing interpersonal dynamics among participants and identifying those behaviors and competencies that participants demonstrated effectively to reach the teams' goals. The use of metaphor was a crucial element in the debrief session as it allowed transferral of lessons learned during the 2-day OMD training, such as tasks that participants had to solve and reproduce in real-world situations.

Procedure

Both the MLQ and TDI questionnaires were administered at the end of the 2-day OMD program. The pre-test was not given at the beginning of the OMD program but simultaneously with the post-test, a method which is called retrospective pretest-posttest (RPP) design. RPP has met with approval from researchers who find it the preferred method for collecting data when using self-report measures in training programs (Sibthorp, Paisley, Gookin, & Ward, 2007). Also, the use of retrospective design is favoured over the traditional pre-post approach because it has been shown to reduce response-shift bias, thereby providing more accurate assessments of the actual effect of a short-term training program (Moore & Tananis, 2009; Thomas et al., 2019).

In an effort to triangulate the analysis of findings, this study provided additional criteria for the evaluation of the OMD program. A TDI observation sheet was completed by a facilitator for each group of participants. Facilitators were outdoor company instructors who were well-informed about the content of the chosen tasks. Each facilitator provided safety directions and explanations of the

specific rules of each problem-solving task and completed TDI-observer sheet evaluating the ongoing teamwork of the whole group.

Statistical analysis

Since normality assumption was not satisfactory, non-parametric statistical analysis was performed. In particular, Wilcoxon signed-rank test was used to analyze the variance of differences between pre and post scores in leadership and teamwork perceptions of the participants. Furthermore, for the estimation of magnitude of change, the *r* Effect Size (ES) was used. This is the equivalent non-parametric ES which is suggested by Corder and Foremane (2009) as an appropriate ES for matched-pair samples. This particular ES was calculated manually through excel software using the following formula: $r = |z|/\sqrt{N}$. Specifically, in this formula $|z|$ is the absolute value of Z-score that SPSS produces. Moreover, it is worthwhile to mention that N is the number of observations and not the number of subjects (Gray & Kinnear, 2012). The value of the calculated *r* ES indicates the degree of association between the percentage of successful training interventions before and after the implementation of training. On the basis of the *r* ES approach it uses existing research of Cohen's effect size estimates. Cohen (1988) and Lipsey (1990) suggested the following three categories of *r* range: small (*r* = .10), medium (*r* = .30), and large (*r* = .50).

Results

This study was designed to investigate the immediate effect of OMD on leadership and teamwork behaviors. MLQ and TDI were used as pre-test and post-test survey instruments to determine the training program impact.

According to pre-test leadership self-assessment, the most dominant transformational behaviors seemed to be 'acting with integrity' (*M* = 3.17) and 'inspiring others' (*M* = 3). Referring to transactional behaviors, 'rewarding achievement' (*M* = 2.98) was rated higher than 'monitoring mistakes' (*M* = 2.48). Respectively, estimation of their passive/avoidant leadership behaviors indicated that participants 'avoid involvement' (*M* = 1.09) more often than 'fight fires' (*M* = 0.84). Lastly, based on their estimations of leadership outcomes, participants were inclined to 'generate satisfaction' (*M* = 3.17) or 'generate extra effort' (*M* = 2.84) for their colleagues.

In an attempt to answer the first research question, it was expected that if the OMD training program was effective, managers' post scores in leadership would be significantly higher than pre-test scores. Wilcoxon signed-rank test was used to determine whether there is a significant difference between the pre- and post-test average scores of participants for each leadership behavior. It was found that transformational (*Z* = 4.11, *p* < .001, *r* = .41) and transactional (*Z* = 4.03, *p* < .001, *r* = .40) leadership behaviors were displayed frequently, indicating a moderate change, where passive/avoidant behaviors tended to decrease significantly (*Z* = 3.97, *p* < .001, *r* = .39). It is interesting in this dataset that only the outcomes of extra effort (*r* = .42) and effectiveness (*r* = .30) demonstrated a moderate change compared with satisfaction (*r* = .11) which had an ES value of low practical significance. Results obtained from the preliminary analysis of leadership factors showing the differences between pre and post-training are presented in Table 2.

By bringing up the working pre-existing team climate of the participants, an overall 22.2% considered it to be great, 17.5% considered it to be good, 15.9% considered it to be exceptional, and 5.3% considered it adequate. In parallel, self-reporting analysis revealed weak and strong points regarding their team attitude before participating in the OMD training program. Referring to items with the lowest score, behaviors such as 'listening and understanding' (*M* = 3.69) as well as 'confrontation of conflict' (*M* = 3.76) were recognised. Also, comparisons between facilitator rating through group observation and self-frequency rating showed minor and non-significant differences in overall teamwork (M_{dif} = 0.02). In an attempt to answer the second research question, changes in perceived teamwork pre-post training were compared using Wilcoxon signed-rank test. Null

Table 2. Differences between pre and post-test leadership scores.

	Pre Training	Post Training	Z	Sig (2-tailed)	r	(Lipsey, 1990 r ranges)
Transformational	3,03	3,23	−4,113	,000***	.41	moderate
Transactional	2,69	2,95	−4,027	,000***	.40	moderate
Passive/Avoidant Leadership	0,97	0,74	−3,971	,000***	.39	moderate
Outcomes: 1. Extra effort	2,84	3.19	−4,251	,000***	.42	moderate
2. Satisfaction	3,14	3.22	−1,139	,255	.11	low
3. Effectiveness	3,17	3.30	−3,035	,002**	.30	moderate

0 = never, 1 = once in a while, 2 = sometimes, 3 = fairly often, 4 = frequently if not always Z = wilcoxon signed rank test, * p <.05 level, ** p <.01 level, *** p <.001 level,
r = effect size, Standart value ES r: 0.1 = low size, 0.3 moderate size, 0.5 large size

hypothesis for Hypothesis 2 was rejected for all dimensions of teamwork with an exception of the following three: (i) the commitment to goals (Z = 1.53, p = .127, r = .15), (ii) decision making and solution initiation (Z = 1.58 p = .11, r = .16) and (iii) seeking help on resolving challenges (Z = 1.06, p = .29, r = .11).

Further, r effect size value suggested a low to moderate practical significance in the remaining seven dimensions. With an exception in two dimensions, the remaining five moderate changes were found in confrontation of conflict (Z = 3.46, p = .001, r = .34), listening and understanding (Z = 3.67, p = .000, r = .36), respecting individual differences (Z = 3.67, p = .001, r = .34), setting high standards for performance (Z = 3.75, p = .000, d = .37) and encouraging and appreciating feedback (Z = 3.79, p = .000, r = .38). In total 36 of 51 participants scored positive in post-test and only 6 scored negative, with overall teamwork perceived higher after training (Mdn = 4.30) than before training (Mdn = 4.00) Z = 4.18, p < .001, indicated a moderate change (r = .41). The results obtained from the preliminary analysis of teamwork factor differences between pre-post training are presented in Table 3.

To address potential differences among participants, nonparametric tests for independent-samples were conducted for each of the demographic variables (gender, age, education level, years of work experience, annual salary, number of different workplaces, and years in a position of responsibility). In relation to gender, significant difference was found only in transformational leadership behaviors (U = 480.5, p = .003), with female reporting greater levels than male respondents. Correspondingly, participants' frequency score distribution was significantly different among the three age categories only in teamwork ($X2$ = 10.06, p = .007) with those belonging to the first age category (23–29 years) displaying the highest frequency compared with the remaining categories of 30–34 and over 35 years old. Also, it was found that participants holding a master's degree education reported greater levels of teamwork (U = 401.5, p = .003) compared to participants holding an undergraduate degree. Interestingly, teamwork distribution was significantly different among the

Table 3. Differences between pre- and post-test Teamwork scores.

	Pre Training	Post Training	Z	Sig (2-tailed)	r	(Lipsey, 1990 r ranges)
Commitment to goals	4,06	4,22	−1,528	,127	.15	low
Interest in one another	3,92	4,27	−2,800	,005**	.28	low
Confrontation of conflict	3,76	4,20	−3,461	,001***	.34	moderate
Listening & understanding	3,69	4,18	−3,668	,000***	.36	moderate
Decision making & solution initiation	3,78	3,94	−1,579	,114	.16	low
Respect individual differences	3,98	4,29	−3,411	,001***	.34	moderate
High standards for performance	3,80	4,22	−3,752	,000***	.37	moderate
Look for help on resolving challenges	4,02	4,16	−1,063	,288	.11	low
Reward of team efforts	4,14	4,47	−2,591	,010**	.26	low
Encourage & appreciate feedback	3,84	4,39	−3,794	,000***	.38	moderate
Total teamwork	**3,90**	**4,23**	**−4,176**	**,000***	**.41**	**moderate**

1 = poor, 2 = adequate, 3 = good, 4 = great, 5 = exceptional
Z = wilcoxon signed rank test, * p <.05 level, ** p <.01 level, *** p <.001 level,
r = effect size, Standart value ES r: 0.1 = low size, 0.3 moderate size, 0.5 large size

three categories of working years (*X2* = 9.34, *p = .009)*; responders with more than 8 years of working experience acquired a lower level than those with five to 7-years experience. Also, participants with more than 4 years of work experience in a senior manager role had a lower level of teamwork behaviors than those with no experience (*X2* = 11.21, *p = .004)*. Participants who earned an annual salary between 50.000€ and 100.000€ were affiliated with lower levels of teamwork behaviors than participants who earned 0–30.000€ annually (*X2* = 8.14, *p* = .017). Lastly, participants who changed working environments more than three times were affiliated with a higher level of extra effort behaviors than participants with experience of only one or two working environments (*X2* = 9.79, *p* = .002).

Discussion

This study examined the immediate effect of OMD program on leadership and teamwork behaviors. The first aim was to determine if the OMD training program could improve managers' leadership and teamwork competencies. It appears there were several positive effects on managers' leadership perceptions and behaviors such as their willingness to empower his/her colleagues to put extra effort in their duties. This perception is accompanied by employees' attitudes such as: work harder and be more proactive than expected; expand readiness for trying harder; and desire higher levels of job success. Similar improvements in increased performance goals and efforts are mentioned by O'Bannon (2000) and Gass and Priest (2006) in the financial sector, with higher employee performance standards and increased effectiveness in their field of responsibility. Furthermore, they referred to behaviors such as over-targeting performance and considerable expectations. This outcome of leadership, called 'extra effort', is related to transformational leadership where a leader drives his/her subordinates to work harder than normally expected and to achieve better performance results (Pantouvakis & Patsiouras, 2016; Polychroniou, 2009).

A second finding seemed to be a general increase in total transformational leadership behaviors amongst managers. Considering the manager profile of a transformational leader, he/she is expected to build trust; inspire others; be confident; recognize individual differences; be a good mentor; and act with integrity. Common transformational leadership characteristics have also been observed in the study of Kass and Grandzol (2010) where MBA students, after active involvement in an OMD program frequently demonstrated the following behaviors: challenge the process; inspire a shared vision; set a stronger personal example; and build confidence in group members' abilities. Another important finding was that managers seemed to give greater thought to their transactional leadership behaviors such as: following the standards; monitoring advice; and identifying mistakes through prevention or resolution. In parallel, it was found that participants also decreased their passive leadership behaviors: appearing to not to take action when a problem arises, being absent when needed and avoiding making decisions. Regarding the last behavioral element of taking decisions, there is evidence in the literature (Hoover et al., 2010; O'Bannon, 2000) that by participating in OMD activities, participants' decision-making ability is increased. Managers are constantly called upon to make decisions in order to solve the given tasks and to move forward to the next level of more complicated problem-solving tasks. The critical role of such ineffective leadership behaviors was also identified through the observation of group functioning where facilitators spent time with the participants during the debriefing sessions to discuss and provide future problem-solving solutions for real work situations.

According to the demographic variables' effect, female managers were found to demonstrate greater levels of transformational leadership than men. Female engagement with transformational leadership is supported by research: observing behaviors of acting with integrity (Folkman, 2012); adopting a more participatory style of leading (Merchant, 2012); and being team-players (Eagly et al., 2003). Lastly, it was found that the number of different workplaces plays a significant role in the

amount of effort an employee puts into his/her job. Those who changed work environments more than three times tended to try harder to achieve success.

In accordance with the immediate effect of OMD program on managers' teamwork competencies, although all dimensions displayed a mean increase, a significant effect was only apparent in five out of the 10 competencies. More specifically, managers seemed to realize the importance of encouragement and the appreciation of feedback. Relevant effect is also mentioned by Bryan and Starr (2005), who discuss the value of feedback in professional development, specifically requesting and giving. Furthermore, managers were able to recognize the importance of setting high standards for performance. This finding is in agreement with the research evidence on behavior changes such as over-targeting performance (O'Bannon, 2000) and challenging the process by inviting group members to try more (Bryan & Starr, 2005). Another significant effect was noticed in listening and understanding competency, again which is widely supported in the literature (Hoover et al., 2010; O'Bannon, 2000; Sail & Alavi, 2010). The last two competencies that showed significant improvement were the respect of individual differences and the confrontation of conflict. Similar behavioral improvements are cited in the study of Rodenbaugh (2002), who claims that a group of employees who participate in an OMD program are able to gain a greater awareness of their own and each other's behavior.

Based on the effect of demographic characteristics on teamwork, it was found that managers with job tenure of more than 8 years, held greater responsibility positions such as executive directors of a company, earned an annual salary >50.000€, and were above the age of 35 were less frequently observed adapting teamwork behaviors. These findings are consistent with other empirical study results (Eagly et al., 2003; Kiffin-Petersen & Cordery, 2003) strengthening the concept of the job tenure affect in teamwork.

The major conclusion of this study was that business managers from the private sector, after their participation in an OMD program, were found to gain significant improvements in leadership and teamwork competencies. Mainly they reconsidered their perceptions on adapting more transformational leadership behaviors, either by following a transactional type of leadership when necessary, or trying harder to achieve business success and increasing their teamwork level. There is an increased need for adapting more transformational leadership behaviors which are thought to have a major contribution to business success. Having highlighted the role and importance of transformational leaders, this study builds on prior research that has indicated that transformational leaders display behaviors such as inspiring and supporting change, motivating their employees to put more effort into their job and achieving better performance results (Avolio, 2010; Bendixen et al., 2016; Polychroniou, 2009). Moreover, it is strongly believed that adapting the transformational type of leadership has a positive impact on team effectiveness as those leaders build strong team relationships, provide support in very demanding circumstances as well as inspire the team to perform at an optimal level (DuBois et al., 2015; Erkutlu, 2012).

Originality/value

This study provides evidence that OMD training can contribute to the improvement of leadership and teamwork competencies by offering observed improvements to managers of private businesses in Greece. The results support the claims that such training programs are effective in the corporate sector where existing research is still limited.

Implications

Summarizing the main findings of this research, managers improved their teamwork, transformational and transactional leadership competencies, as well as their extra effort behaviors. Those positive behavior improvements are considered to have a significant contribution to job performance enhancement. More specifically, any improvements made in personal growth are considered to have a major effect in the way that managers and employees, in general, respond to the variety of challenges that the business sector is

facing. In the contemporary business climate, a greater focus is given to the collaboration of organizational members. By identifying the increasingly important role of collaboration within and among organizations, managers at all levels of hierarchy require strong teamwork competencies.

There is widespread agreement on the significant value of leadership and teamwork development in employee retention rates. Successful businesses and organizations invest in people, training and development, and seeking opportunities to grow. By providing such professional development opportunities, organizations make employees feel important, and increase their engagement and loyalty levels. This study supports the idea that OMD can contribute to the improvement of leadership and teamwork competencies. There is still limited evidence in the existing literature that this particular training method is effective in the corporate world. Thus, with respect to leadership development, it is considered crucial that managers at all organizational levels should participate in appropriate training. Focusing on leadership and teamwork improvements, it can be argued that OMD participants gain greater awareness into behaviors such as recognizing and showing respect to individual needs and aspirations, as well as recognizing the value of diversity. Diversity is another important factor for companies, as within a diverse environment, employees can benefit and learn from others' ideas.

One significant issue that emerged from OMD training is that participants try to identify the strong points of each team member in their group, and take advantage of different ideas and innovative thinking through participatory behaviors. Through this developmental process, an individual gains experience in dealing with conflict situations more effectively. This approach has a number of advantages as it provides rich experiences for personal growth and development. Perceiving the advantages of training intervention, the participants become more involved and they add value to the process of learning. They gained valuable insights into problematic areas of working behaviors that they may encounter in their work environments.

Limitations of the study and future directions

By using self-evaluation questionnaires, it cannot be confirmed whether the improvements found in this study were due to the OMD program or other common causes. Suggested methods for future research pertain to: the conduction of interviews; note-taking in debrief sessions; and more detailed participant observation which could enrich the originality of perceptual effects. Respectively, this paper was limited to study only private businesses, and for this reason the findings cannot be generalized in the public sector. Additional questions for future investigation that emerged from this study concern the transferability of such leadership and teamwork skills in the job setting. This particular area of investigation could be achieved by follow-up measurements and 360 evaluation assignments from colleagues of the participants. Additionally, the results of this study refer to a unique OMD which focused on low-ropes courses and can only be applicable to this training program or similar design programs.

The study seeks to understand the powerful value of outdoor management development in professional development as a useful tool for diagnosis, and yields reliable and distinguished measures of managerial competencies such as leadership and teamwork. While initial findings linking OMD experiences with learning are promising, further empirical research is necessary to provide greater evidence of the impact of such training interventions.

Disclosure statement

Notes on contributors

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