

THE EFFECTS OF MEDITATION ON EXECUTIVES' PERFORMANCE IN BUSINESS ORGANIZATIONS

INVOLVING STRESS LEVELS, CHANGE ASSIMILATION, CONFLICT MANAGEMENT AND LEADERSHIP

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Abstract

In the last four decades, evidence has accumulated addressing effects of transcendental meditation (Meditation) as an influential factor on stress reduction, assimilation of changes increase, conflict management capabilities development and leadership performance enhancement. Drawing from this, a combined meditation practice was designed in order to seek for evidence which may present a relation between meditation practice and four research variables' behaviour: stress reduction, change assimilation, conflict management and leadership performance.

INTRODUCTION

In the last four decades, evidence has accumulated addressing effects of transcendental or mindfulness meditation (meditation) as an influential factor on stress reduction, assimilation of changes increase, conflict management capabilities development and leadership performance.

Extensive research refers to meditation as a strong source of stress diminishing at work (Frey, D.R., 1974; Bruning, N.S. & Frew D.R., 1985; Narayanan, J. & Moynihan, L, 2006).

Results obtained as evidence from research works, point towards meditation as a powerful tool used to trigger changes assimilation increase and conflict management capabilities development (Warshal, D., 1980; Alexander, C.N. et al., 1991; Chen G.M. and Ringo Ma, 2001; Travis, F., 2002; Davis, J., 2006).

Additionally, evidence presenting empathy and compassion as outstanding enhancers on leadership performance by dramatically reducing “power stress” defined by McClelland D.C., Ross, G., & Patel, V. (1985), has been produced in the last years (Boyatzis, R.E., Smith, M.L. & Blaize, N., 2006).

Scientific evidence on affective neuroscience stress the fact that systematic training of the mind for the cultivation of happiness, and the genuine inner transformation by deliberately selecting and focusing on positive mental states and challenging negative mental states, is possible because of the very structure and function of the brain as the wiring of our brains is not static, not irrevocably fixed. This has been confirmed by using neuroimaging methods to prove changes in patterns of activation and transmitter function that might be produced by the

systematic practice of techniques such as meditation that are designed to promote the cultivation of positive affect (Davidson, R.J., 2004).

Extensive literature can be accessed, in which specific meditation methods are appointed as effective processes for the purpose of generating compassion within human beings’ minds and performance (Humphreys C., 1973; Rimpoché, S., 1992; Trungpa, C., 1998; Capriles, E., 2000; Gyatzo, T., 2001).

CONSIDERATIONS

Previous evidence of meditation practice effects on different aspects related to business management performance has been gathered at short-term studies linked to meditation practicing, nine weeks at the most, therefore providing limited evidence which needs to be confirmed through results derived from practice submitted to longer periods of time (Frey, D.R., 1974; Davidson R.J. et al, 2003).

If any, very little collaboration from organizational structures has been included within previous studies’ development, which derives onto extremely limited control and evidence on meditation practice’s effects and consequences related to organizations’ performance.

As previous studies focused solely on individual participants development, organizations’ participation was practically left aside; therefore, a link between evidence based knowledge generated has not been seriously taken into consideration by business organizations to gain long term benefits from results.

Meditation practice’s methodology applied within previous studies is vaguely defined, failing to provide sufficient evidence on what exactly has to be implemented by organizations in order to

achieve similar results to those revealed within previous studies, in order to improve their HR development programs on the long term (Frey, D.R., 1974; Bruning, N.S. & Frew D.R., 1985; Narayanan, J. & Moynihan, L, 2006; Slagter, H.A, et al, 2007).

METHODS

Drawing from this a combined meditation practice was designed, as further on described, in order to seek for evidence which may present a relation between meditation practice and four research variables' behaviour: stress reduction, change assimilation, conflict management and leadership performance.

The following research questions were considered for configuring the study profile towards gathering enough and serious scientific evidence from its development, which eventually could be conveniently used by organizations to enhance HR development programs on the long term.

By practicing a combined meditation technique specifically designed to focus attention and to cultivate compassion, applied on executives who work for business organizations:

Could stress levels, including work and power stress, be diminished?

Could changes implemented in organizations become better assimilated?

Could conflict management in organizations be improved?

Could leadership performance in organizations become enhanced?

Overview

The study was designed to take place during a period of 20 weeks, scheduling two formal meditation practice sessions every week, during 60 minutes of practice

per session, programming no activity during one Easter holidays week; first session would be scheduled on January 8, 2008 and last session on May 30, 2008; formal meditation practice sessions were programmed every Tuesday and Thursday from 6 pm to 7 pm, at suitable facilities and under guidance of expert instructors, applying two combined meditation techniques further on described for (i) attention focusing development, and (ii) mind introspection oriented towards cultivation of compassion; additionally, participants would be instructed to practice by themselves at home every day for at least 20 minutes, following the meditation technique learned for attention focusing development purposes, as well as during everyday, when possible, following the meditation technique learned for cultivation of compassion.

Meditators Group – Individuals, who would be included as meditators in the study, should meet specific selection criteria, and participants' selection was to be performed directly by companies they work for, and would be assigned to this special in-house study as part of company's HR development program.

Co-Workers Group (Control Group 1) – Companies involved in the study development would provide a second group of individuals, presenting a similar profile to those to be included as meditators, in order to gather a control group to raise useful information to confirm evidence on meditation effects obtained from participants' practice.

Evaluators (Control Group 2) –In order to provide information on variables, which evaluation at control points could imply any doubt on participants' judgement objectivity, an evaluation group was to be appointed by companies, by designating participants' direct bosses as evaluators

and, additionally in some cases on which companies decided to do so, they also would designate participants' co-workers, who should not be involved in the study as members of Control Group 1, to assist the project on this purpose.

Meditation practice methodology was carefully selected and designed by specialists' instructors and thoroughly described to establish a properly defined technique, susceptible to become reproduced and applied by companies, in case results came out to be worth it for them.

Research Instruments – Three different questionnaires were designed as research instruments, to be applied at six control points during the study: (i) One of these was meant to gather information from participants, regarding only one variable's behaviour, (ii) Another identical one, was meant to raise information from members of Control Group 1 on the same variable's behaviour which Participants were answering to, and (iii) Another questionnaire was designed to be answered by members of Control Group 2, meant to gather information related to the remaining three research variables included in the study, evaluating Participants' as well as Control Group 1 members' behaviour and capabilities observed by Evaluators at certain control points along the study's development.

Control Points – In order to measure and register results every month, 6 Control Points were scheduled during the study development, starting with an a priori evaluation, right before meditation practice's kick off deadline on January 8; after this, other 4 evaluations would take place subsequently on the first session of February, March, April and May, and a final evaluation will be executed on May 30th.

Funding – Full funding for the project was provided by the Business Intelligence Research Centre, a research entity managed by Secured Assets Yield Corporation Limited, an investment banking firm based in London, UK, through its Mexican operation's Business Intelligence Research Centre after project's budget approval. These funds included taking care of project's planning and preparation, human resources salaries, project's expenses, space leasing and any other required materials to go ahead with the project design and development.

Hypotheses

Based on evidence accumulated along the last four decades of research on existing relation between meditation and compassion and the four primary research variables to be included in the study (executives' work and power stress levels, executives' capabilities on changes assimilation, executives' performance on conflict management, and executives' leadership performance), four primary research hypotheses were to be explored:

H1 – Meditation practice is positively related to executives' stress experienced levels reduction.

H2 – Formal practice of meditation is positively related to the development of changes assimilation capability on executives' performance in business organizations.

H3 – Gains in executives' capabilities to manage conflicts within business organizations environment increase as the practice of meditation oriented towards cultivating compassion is introduced.

H4 – Gains in executives' leadership performance within business organizations increase by introducing formal practice of meditation oriented to develop compassion.

Meditation practice

In order to present a comprehensive view of meditation practices techniques applied in the study, a definition of meditation, as this term should be understood for this study's purpose, and a description on procedures followed towards achieving this study's goals is further on provided.

As meditation practice has declined over time, this word's meaning has become quite vague. For many years now, especially within western civilization, this word has been used to describe practically any sort of mind culture or spiritual project, including actions like reading, thinking, speaking or listening; it has been used to refer things completely different one to other, like mental relaxation, awaken dreams, free association of ideas and even autohypnosis.

Meditation definition and methodology selection – For this research project's purposes, Meditation is understood as originally known in traditional Buddhist meditation, referring to specific mental practice's exercises and precise techniques to focus attention and to purify the mind, consisting of two steps: (i) Attention focusing in an object (usually called as *Anapana* or *Samatha* meditation), and (ii) Introspective meditation by performing observation of reality with equanimity (usually called as *Vipassana* meditation), and by cultivating compassion applying similar procedures to those described within extended referred literature for this specific purpose (Humphreys, Ch., 1973; Trungpa, Ch., 1995).

Attention focusing meditation: By practicing *Samatha* meditation technique we seek to train practitioners' minds on attention focusing in an object (in this case the object will be the breathing process),

as extensively described within technical literature (Trungpa, Ch. 1995), and turn them into a sharp tool to develop proper capabilities to access the *Vipassana* meditation technique process. This first meditation stage will be practiced by participants during 20 minutes every session, before starting *Vipassana* meditation technique as stage two on every session; additionally, participants will be instructed to practice *Samatha* meditation at one daily session of 20 minutes, by themselves at home, when not attending to formal guided sessions.

Regarding attention focusing meditation, using breathing as the object attention will be focused at, has to take into consideration that this is not a breathing exercise meant to control breathing, but an exercise involving attention focused on the act of breathing without manipulating the act itself, just observing it for as long as possible without letting any distraction to deviate attention from this object.

This technique must be practiced in a quiet room, where attention distractions should be avoided as much as possible, where meditators sit down on a straight but comfortable position with their eyes closed. Attention is focused on the natural happening of breathing as it may be at the time (long or short, light or heavy, rough or soft, etc.) and, specifically focusing attention on breath coming in and going out through the nose's windows.

As easy as it may seem, this practice is extremely difficult, because as we start focusing attention on the breathing process, a number of thoughts, feelings, images, etc. will almost immediately arise deviating attention towards them; when this happens, meditator's attention must not hook to these thoughts; they must just let them go and shall come back focusing

attention on the breathing process, as many times as necessary during the 20 minutes period of time established for the study's practice.

Introspective meditation: By practicing *Vipassana* meditation we seek to train practitioners' minds on generating compassion feelings to others, which we assume will derive into a change of participants' attitude improving proactive involvement of individuals on every activity related to working with others, as we presume they will be able to better understand why people does things in a certain way and work with them seeking for their wellbeing, instead of opposing to them as a result of self-centred attitudes (Gyatzo, T., 2001).

It is mandatory to understand, at this point, that feeling compassion to others does not mean acting to satisfy their wishes, but wishing and working to seek for their wellbeing and development, being aware of our own situation and limitations within a certain life and job condition.

The introspective meditation chosen technique implies visualization practice during formal sessions, scheduled twice a week for 35 minutes periods on each session, starting after practicing attention focusing meditation technique during the first 20 minutes of every formal session.

Visualization practice at every formal session will be divided by three sub-sessions under guidance of meditation instructor: (i) first sub-session will take place during the first 10 minutes following attention focusing meditation practice, and will consist of visualizing participants' most beloved person performing a number of activities; (ii) second sub-session will take place during the following 10 minutes; practice would consist of participants mentally choosing a person, whose emotions from participant's relation

to the chosen person could be consider as irrelevant; then participant must visualize the face of participant's most beloved person on this person's head while this "emotionally irrelevant" individual performs a number of activities; and (iii) third and last sub-session of every formal session will take place during the following 15 minutes; practice would consist for participants choosing a person, whose emotions from participant's relation to the chosen person could be consider of aversion, hate, wrath or dislike; then participant must visualize the face of participant's most beloved person on this person's head while this "emotionally averse" individual performs a number of activities.

Instructor would properly guide participants on specific details on each visualization practice, would allow one to two relaxation minutes between each sub-session and would instruct participants to practice this technique frequently every day, especially when facing any situation that could start generating aversion feelings against others.

Posture and dressing code – As meditation would be practiced by western first timers' practitioners; it was decided to include suitable western traditional chairs to favour a more comfortable meditation posture, instead of traditional meditation cushions used for these purposes by experienced practitioners.

Meditators were instructed to sit down on the chairs, as close as possible to the edge of the seat, maintaining a straight position for the back by aligning the spine and the neck; facing the instructor and keeping their eyes closed gently, with their hands resting comfortably on their thighs; by keeping a straight position for the spine and the neck it is not meant to become uncomfortably rigid but just straight,

letting the rest of the body (shoulders, elbows, etc.) to hang and relax. Once this posture was adopted, meditators should avoid any sort of movement as long as the practice lasts.

As most participants would come to the practice straight from their work places, any special dressing code was avoided, though shoes, belts, ties and any other dressing accessory which could make meditators uncomfortable during practice, should be placed in the lockers outside of the meditation room.

Meditation facilities: Meditation work was planned to be developed within suitable facilities, at a meditation teaching centre conveniently located in the central area of Mexico City at the Napoles neighbourhood, close to public transportation facilities and surrounded by a wide number of in-town roads; this would allow participants to access from any spot within Mexico City's metropolitan area as easy and fast as it can be done, taking into consideration traffic complications in this city. Collaborating companies located far from meditation facilities, would have to grant allowance for participants to leave work on Tuesday and Thursday at around 5 p.m. Facilities included car parking service in a safe car park by the meditation centre, reception service including participants' session register, an individual locker assigned to each meditator for uncomfortable wearing accessories, handbags, briefcases, laptops, coats and shoes storage, and regular meditation centre's services.

Instructors – Two instructors were chosen to guide meditation practice's formal sessions and to coach participants on private sessions, for questions answering and doubts solving after formal practice sessions termination. Every formal practice session would be guided

by only one of the coaches, and the other one would provide coaching to participants on private sessions after sessions. Both instructors were experienced long term meditators, each one with over 8 years of daily practice on Buddhist meditation and strong theoretical knowledge on Buddhist philosophy.

Written Guide – Participants would receive a written guide containing detailed information on the project's profile, purposes, goals, methodology and procedures; detailed description on their role as participants, highlighting relevance about their participation, as well as detailed description of meditation practice's techniques to be applied during the development of the study and description of instructors and coaches' roles.

Business organizations' collaboration

In order to achieve the study purposes, a mandatory condition would be gaining companies collaboration and involvement, agreeing to back the research project on regard of the following activities:

Admitting the project as an in-house study, taking into consideration this could provide useful information to improve their internal HR development programs.

Selecting ad hoc individuals to take part as participants to the project; each one of them should meet participants' profile criteria.

Obtaining commitment from participants' bosses, in order to provide participants with convenient back up on study's demands regarding time availability and disposition to practice.

Selecting suitable individuals, who present similar profiles to those of participants, in order to integrate a Co-Workers' control group for research

variables' behaviour evolution comparison purposes to that shown by Meditators during the study's development.

Obtaining commitment from participants' and control group individuals' bosses and selected co-workers, to accurately complete monthly evaluation instruments on research variables' behaviour regarding about Meditators and control group individuals' practice.

Accepting commitment to avoid submitting individuals included in the Meditators group of participants in any other HR development programme different to the one established within the study's methodology for as long as the study lasted.

In order to achieve this, a project prospectus was prepared, containing extensive disclosure on information about the project's profile, goals, hypotheses, methodology, potential benefits to the companies, and disclaimer on funds provision to the project exclusively from the Business Intelligence Research Centre; collaboration and confidentiality agreements drafts were also included as attachments to the project's prospectus.

A list of 208 suitable companies, located within the Mexico City's metropolitan area, was elaborated, including business organizations from different industries (none government institutions or departments were included), which withhold a current employee base of between 50 and 1000, working for them within the above mentioned metropolitan area.

For project's prospectus presentation purposes, and after making contact by telephone with 136 of them, this list was cut down to 68 companies which HR managers or directors mentioned to be interested on taking part in the study and

agreed to schedule appointments for prospectus presentation purposes.

Between October and December 2007, project prospectus was presented to 62 companies' HR managers or directors, and 27 of them formally agreed, on behalf of their organizations, on taking part in the study and actually executed collaboration and confidentiality agreements to submit their organizations' commitment in the study to the project's methodology requirements compliance.

These 27 companies develop their business activities within the following industries: Insurance, personnel hiring and training, automobiles retailers, tires and spear parts, advertising, hardware manufacturing, hospitality and entertainment, real estate development and sales, home equipment manufacturing, consumer products production, retailing, security services, pharmaceutical products manufacturing, telecommunication services, financial services, software design and development, media services, textile manufacturing, courier services, mining and steel production. All of them are considered on basis of withholding a workforce within a range from 75 to 1000 employees, with operations established in the Mexico City's Metropolitan Area.

As a result of this, companies performed recruitment among their executives, managers and leaders to specifically select 65 participants to be enrolled in meditation practice whose profile met the study's requirements, further on explained, as well as 65 members of the Control Group 1 whose profile should be similar to those of Meditators, and 40 bosses and co-workers of participants, whose intervention in the study would consist on observing and registering measures on research variables' behaviour at every control point on

Meditators and Control Group 1 members during the study's development.

Meditators group

Participants were chosen to meet the following criteria: Project's development was designed to include executive, management and leadership positions level individuals as participants, living and working within Mexico City's metropolitan area under highly stressful conditions, regardless of age, sex or marital condition. Not having previous meditation practice's experience and not being under any psychotropic medicament treatment were required as mandatory conditions. For the study's purposes, individuals living within the 20 million inhabitants' metropolis of Mexico City would meet both: criteria requirement and convenient distance from meditation practice's centre location.

Besides considering desirable individuals' profile criteria, selection and recruitment process developed by companies, it was took into consideration the fact that, participants had to be chosen among individuals showing a clean personal record sheet on attendance and responsibility towards their job commitments.

As a result of previously described recruitment process, companies submitted a total number of 76 profiles on selected individuals who should be considered as candidates to become participant meditators in the study. After these 76 individuals' profiles analysis and evaluation, and though research facilities and data processing infrastructure was established to manage up to 65 participants, only 57 of these individuals were finally qualified as suitable to become participants in the study, by

conveniently meeting required criteria, desirable attitude and disposition.

Additionally, companies agreed to avoid including these individuals in any other HR development course, seminar or event, different to the study's designed meditation practice for as long as the study would take place.

A letter of commitment to formally comply with participation requirements during the study was executed by these 57 individuals, which included an Addendum consisting of the Written Guide for Participants, mentioned above, prepared to provide sufficient information to meditators to enhance their meditation practice during the study process; the letter was addressed to participants' employers and to the Business Intelligence Research Centre representatives in Mexico City.

Within this participant group of 57 individuals, the average position level in organizations was at executive level, average income level was ranked between 36 and 72 thousand dollars a year, average academic level was of graduate (Bachelor degrees), average age was 39, 36 were male and 38 were married (Refer to Addendum 1, Table I).

Protocol

Established protocol for this research process implied instructing participants to avoid any alcohol or any psychotropic drug consumption during a previous period of 24 hours to formal meditation sessions starting time, and any caffeine or nicotine containing substance during a minimum period of 3 hours before sessions starting time.

Control group 1 – Co-Workers

Individuals who would take part in the study as members of this control group should meet analogue criteria to the one required from participant meditators but in this case companies were asked to, at their own best interest, introduce their own selection parameters on designating control group participant co-workers, additionally to those parameters used for meditators recruitment; in some cases they preferred to choose individuals subjected to traditional in-house HR development programmes on leadership or motivation, in order to be included as members of Control Group 1; on other cases they just did not discriminate individuals by any other criteria, but the one applied for the study's purpose.

In any case, companies were asked to provide as many members for Control Group 1, as they had provided for meditation practice participants. Therefore, 57 individuals' profiles were submitted by companies and admitted as suitable for the study's purposes as members of Control Group 1.

As it was done with participants, a letter of commitment to formally comply with participation requirements during the study was executed also by these 57 individuals, which included a detailed description of what their involvement would be in the study as well as procedures they would be subjected to.

This group of individuals turned out to be outstandingly similar to individuals selected to participate as meditators in the study; within this participant group of 57 individuals, the average position level in organizations was at executive level, average income level was ranked between 36 and 72 thousand dollars a year, average academic level was of graduate (Bachelor

degrees), average age was 39, 43 were male and 42 were married (Refer to Addendum 1, Table II).

Control group 2 – Evaluators and observers

This group of individuals would be designated by the companies to evaluate participants and control group individuals' behaviour during the study development, and to provide specific information on three different behavioural variants measured at every control point: Conflict management capability, change assimilation capability and leading others capability. Therefore, individuals appointed as evaluators should have sufficient contact with participants and group control members during their performance at work, and should be considered as withholding a trustable judgement on their employees or co-workers behaviour and capabilities; preferably, direct bosses of participants and HR executives who were not taking part in the study neither as meditators or members of Control Group 1, were considered as ideal evaluators for this study's purposes.

In any case, companies were asked to provide as many members for Control Group 1, as they thought to be more convenient for evaluating objectivity and accuracy. As a result, companies appointed a total number of 40 individuals' profiles, which were admitted as suitable for the study's purposes as members of Control Group 2.

Most of these individuals turned out to be bosses of meditators or of members of Control Group 1, though in some cases, executives working at HR departments of the companies, and participants' or Control Group 1 members' co-workers were additionally designated by companies

to provide evaluations with information gathered from different perspectives.

As it was done with participants and members of Control Group 1, a letter of commitment to formally comply with evaluation requirements during the study was executed also by these 40 individuals, which included a detailed description of what their involvement would be in the study as well as procedures they would be subjected to.

Within this evaluators group of 40 individuals, the average position level in organizations was at high executive level, average income level was ranked between 55 and 72 thousand dollars a year, average academic level was of graduate (Bachelor degrees), average age was 41, 29 were male and 33 were married (Refer to Addendum 1, Table III).

Research instruments

Company's profiles – In order to gather companies' basic relevant information, a Company Profile Register Sheet was designed and companies were asked to provide the following data: Company name, type of industry, address, telephone number, fax number, contacts' names, positions and e-mails, number of employees, number of employees working in the Mexico City's metropolitan area and date of data registration.

Groups' members' profiles – In order to properly gather participants, co-workers and evaluators general data, an Individual Profile Register Sheet was designed and companies were asked to provide the following information on each individual, during recruitment and selection process development: Company's name, study's group assignment (meditators, co-workers or evaluators), individual's name, address, telephone number, position in the company, gender, age, marital status,

academic level, organizational level and income level, and date of data registration.

Control points questionnaires – In order to gather relevant data for measurements' requirements, two different questionnaires were designed:

Meditators and co-workers groups' questionnaire – A one page questionnaire, meant to register data on only one of the four variables submitted to research process (stress levels experienced) from these two groups' members was distributed among these groups of individuals at each control point, and included the following information: Group (Meditators or Co-workers), name, company and date; level of stress experienced by individual during the last week, previous to questionnaire fulfilment.

Evaluators' questionnaire – In every company, some specific evaluators were designated to observe specific individuals performance regarding the other three variables introduced in the study, besides stress level experienced (changes assimilation capabilities, conflict management and leadership performance); these observation results were to be registered at every control point during the study by evaluators, for which purposes, a one page questionnaire was designed, including the following required data fulfilment by evaluators: Company and date, name of evaluator, name of individual submitted to evaluation, group of participants, evaluated individual is assigned into (Meditators or Co-workers); changes assimilation capability level observed on evaluated individual's performance during last month previous to questionnaire fulfilment, conflict management performance level observed on evaluated individual's work development during last month previous to questionnaire fulfilment, and leadership

performance level observed on evaluated individual during the last month previous to questionnaire fulfilment.

Measurements

Groups' members' profiles classification – Three variables included in these profiles were measured using a 5.0 point Likert scale ranging from lowest level, 1.0, to highest level, 5.0. These three variables were: (a) Organisational level for individual's position; (b) Individuals' income level, and (c) Individuals' academic level.

Companies involved in the study were asked to provide this data, using standard designed questionnaires in order to gain data homologation and classification simplicity, based on the following criteria.

Organisational level	
Operational level	1.0
Assistance level	2.0
Executive	3.0
High Executive	4.0
Top Management	5.0
Income Level	
Less than US 24000 year	1.0
From 24000 to 35999 year	2.0
From 36000 to 54999 year	3.0
From 55000 to 72000	4.0
Above 72000 year	5.0
Academic level	
Undergraduate	1.0
Technical graduate	2.0
Graduate (Bachelor's level)	3.0
Graduate (Master's level)	4.0
Graduate (Doctor's level)	5.0

Therefore, companies were asked to avoid any use of their own internal classifications for each one of these variables measurement.

Research variables measurements – As previously explained, there were four research variables behaviour to measure results from: (a) Stress levels experienced during the last week previous to questionnaire fulfilment at every control point, by individuals submitted to the study's procedures (meditators or co-workers); (b) Individuals' capability regarding to assimilation of changes introduced by companies to their jobs routine, during the last month previous to questionnaire fulfilment at every control point; (c) Individuals' performance regarding conflict management during the last month previous to questionnaire fulfilment at every control point; and, (d) Individuals' performance regarding leadership, during the last month previous to questionnaire fulfilment at every control point.

Stress Level – Stress level experienced by meditators and co-workers measurement, during the last week previous to measurement procedures application, was performed using a 5.0 point Likert scale ranging from highest level of stress, 1.0, to lowest stress level, 5.0.

This was the only variable of the four submitted to research, which answer was provided directly by Participants (Meditators) and by Co-workers (members of Control Group 1), and therefore, the only one included within questionnaires distributed among these groups of individuals at every control point during the study; both groups received exactly the same questionnaire and all individuals included within these groups were asked to register their stress level experienced during the a short period of only one week previous to answering, in order to avoid any confusion derived from recalling emotional reactions on a longer period.

This is also the only variable which measurement was designed by applying the 5.0 point Likert scale ranging highest levels experienced with lowest points, and lowest levels experienced with highest points, in order to provide results with congruent comparison parameters, against measurement methodology applied for the other three variables behaviour.

Stress level experienced	
Very highly stressed	1.0
Highly stressed	2.0
Mediumly stressed	3.0
Lowly Stressed	4.0
Very lowly stressed	5.0

Changes Assimilation – Meditators' and Co-workers' performance measurement, regarding their capability on assimilation of changes introduced by companies on their jobs, or by any special circumstance which could be considered under some sort of change classification worth to mention so by companies, during the last month previous to questionnaire fulfilment, was performed using a 5.0 point Likert scale ranging from highest observed level of capability to assimilate changes, 5.0, to lowest observed level of capability, 1.0.

As in the previous case, data gathered for this variable's measurement was provided by evaluators who were designated on observation of each meditator and co-worker participating in the study, on dates at every control point along the research process, and derived directly from evaluators' observation of meditators and co-workers performance at work.

Change assimilation capability	
Very low capability	1.0
Low capability	2.0
Average capability	3.0
High capability	4.0
Very high capability	5.0

Conflict Management – Meditators' and Co-workers' performance measurement, regarding conflict management during the last month previous to questionnaire fulfilment, was performed using a 5.0 point Likert scale ranging from highest observed conflict management performance level, 5.0, to lowest observed performance level, 1.0.

Data meant for this measurement was provided by evaluators assigned to each meditator and co-worker submitted to participate in the study on dates at every control point along the research process, and derived directly from evaluators' observation of meditators and co-workers performance at work.

Conflict management performance	
Very poor performance	1.0
Poor performance	2.0
Average performance	3.0
High performance	4.0
Very high performance	5.0

Leadership Performance – Meditators' and Co-workers' performance measurement, regarding their capability on leading others, understanding this process as a combination of a number activities like motivating, coaching, assisting others towards company's goals achievement, etc., during the last month previous to questionnaire fulfilment, was performed using a 5.0 point Likert scale ranging from highest observed, by evaluators, conflict management performance level, 5.0, to lowest observed performance level, 1.0.

As on the previous two cases, data gathered for this variable’s measurement, was provided by evaluators designated to the observation on behaviour of each meditator and co-worker submitted to participate in the study, on dates at every control point along the research process, and derived directly from evaluators’ observation of meditators and co-workers performance at work.

Leading others’ capability	
Very low capability	1.0
Low capability	2.0
Average capability	3.0
High capability	4.0
Very high capability	5.0

It is worth mentioning that, as long as evaluators’ group members were mostly participants’ bosses, their judgment while registering measurements on participants’ performance for these three last research variables’ behaviour could be considered of relevance, as it is not only expressing an individual opinion but a corporate judgement on company’s executives performance.

RESULTS

Measures were processed considering two groups of results.

The first group refers to results achieved on each research variable linked to our four hypotheses: Stress Levels experienced Change Assimilation capability, Conflict Management performance and Leadership performance.

The second group refers to results presumably derived from application, independently, of each one of the two meditation techniques used during the study:

(a) Meditation practice oriented to achieve attention focusing, and

(b) Meditation practice oriented to cultivate compassion.

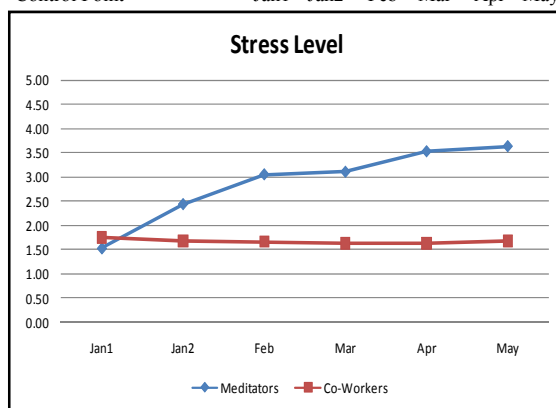
Processing of this second group of results may be useful to business organisations’ in house HR development programmes related to meditation practice’s orientation towards specific development goals achievement.

Stress Level Experienced

Results on this variable’s measures reveal that stress level was practically unchanged for Co-Workers (Control Group 1) along the six different measures practiced at control points during the study.

On the other hand, relevant changes were observed on Meditators’ stress levels reduction starting at control point number 2, one month after meditation practice’s start up. Additionally, this stress levels’ reduction effect experienced by Meditators increased at practically every measure at further control points, bringing stress levels experienced by this group of participants to significantly low levels by the end of the study.

Stress Level						
Meditators	1.53	2.44	3.05	3.11	3.53	3.63
Co-Workers	1.75	1.68	1.67	1.63	1.63	1.68
Control Point	Jan1	Jan2	Feb	Mar	Apr	May



It is worth mentioning that stress levels experienced reduction observed on Meditators, after measures registration, evidences a cumulative effect on stress levels experienced at each control point, showing a substantial decrease after the first, second and fourth months of practice, and moderate one after the third and fifth months.

These results stress the fact that Hypothesis 1, stating that meditation practice is positively related to executives' stress experienced levels reduction is confirmed by evidence.

Change Assimilation Capabilities

Measures on this variable's behaviour revealed again a substantial gap built between results achieved by Co-Workers and Meditators groups of participants during the study.

Along the six control points at where results were registered, evidence shows that Co-Workers change assimilation capabilities remained practically unchanged by applying whatever in house organisations' HR development programmes oriented to achieve this goal.

Evidence of change assimilation capabilities increase arouse on results registered for Meditators on every measure practiced at each control point after the first one, which took place before meditation practice start up. This change assimilation capabilities increment, above levels registered at every previous control point remained constant, deriving on a sort of accumulative effect that, as on the previous stress levels variable's measures, ended showing evidence of a substantial cumulative difference between results achieved by each group of participants.

Derived from these results, evidence confirmed Hypothesis 2, which states that formal practice of meditation is positively related to the development of changes assimilation capability on executives' performance in business organizations.

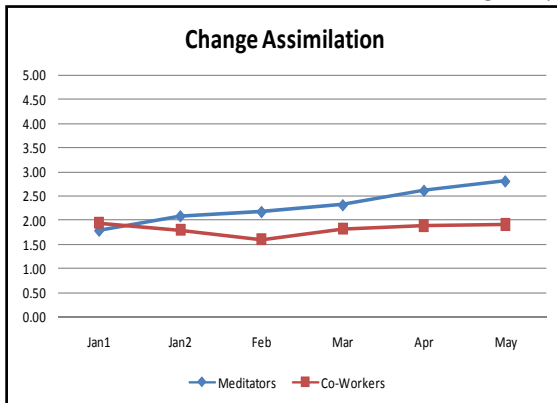
Conflict Management Performance

As on previous variables' measures results, evidence on relevant differences appeared between achievements obtained by each group of participants, related to conflict management performance of individuals included in the study.

Organisations' in house HR development programmes applied on Co-Workers to influence conflict management performance generated practically no evidence of any change on this variable's measures results along the study, showing constant levels of performance on conflict management for this group of participants.

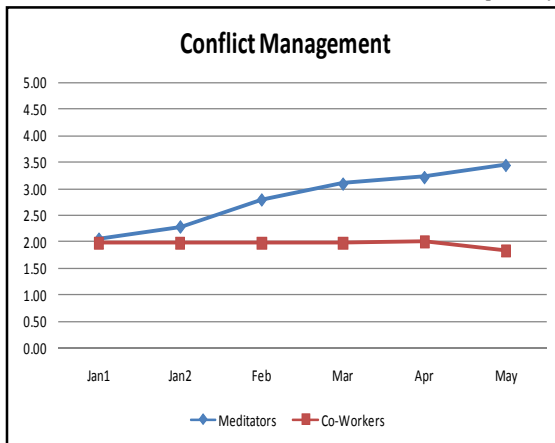
Contrary to this, and much like for previous variable's measures behaviour results, evidence was clear for Meditators relevant changes observed along the study, showing a significant relation between performance improvement for conflict management of these individuals and meditation practice over time.

Change Assimilation						
Control Point	Jan1	Jan2	Feb	Mar	Apr	May
Meditators	1.79	2.09	2.18	2.32	2.61	2.81
Co-Workers	1.93	1.79	1.6	1.81	1.88	1.89



Additionally, evidence reveals a constant improvement between measures practiced at every control point during the study, deriving into an overall relevant cumulative increment for conflict management performance on this group of participants.

Conflict Management						
Meditators	2.05	2.28	2.79	3.09	3.21	3.44
Co-Workers	1.96	1.98	1.96	1.98	2.00	1.82
Control Point	Jan1	Jan2	Feb	Mar	Apr	May



Derived from these measures, evidence provides confirmation for proposal included in Hypothesis 3, which states that gains in executives' capabilities to manage conflicts within business organizations environment increase, as the practice of meditation oriented towards cultivating compassion is introduced.

Leadership Performance

Though at the end of the study this variable's measures present similar results to those observed on previously analysed variables, measures registered at early control points show evidence of some atypical behaviour regarding Co-Workers' leadership performance, when tendency is compared against that observed on all previously mentioned variables' behaviour.

When other variables' tendency regarding Co-Workers measurements (stress levels experienced, change assimilation capabilities and conflict management performance) is observed, evidence shows a lack of significant change practically on every registered result from the first to the last control points.

Nevertheless, when it came to registering measures regarding leadership performance achieved by the Co-Workers group of participants, substantial increase was shown by evidence at the second control point's registered results, this is only one month after the study's start up, followed by a sensible decrease on measures registered at the third control point, on the end of February.

At further control points' measurements, this decreasing tendency was presented as a constant by evidence, bringing final levels of leadership performance for the Co-Workers group of participants down to practically the same registered levels to those observed at the start up control point.

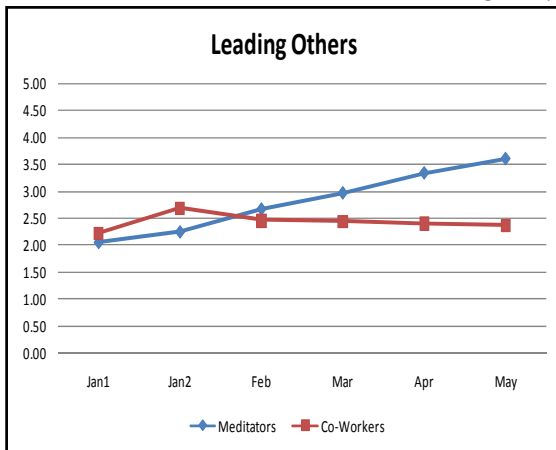
This behaviour can be explained by the fact that most companies involved in the study submit their executives' level personnel to leadership training courses or seminars at the beginning of each year; as start up control point's measures were registered on the first week of January, and second control point's results were observed at the end of the same month, the effect of motivation and new knowledge acquired by individuals included in the Co-Workers control group generated a sensible increase on their leadership performance at work, though this effect could be classified as a short term effect, as another sensible turn on tendency for this variable's behaviour was evidenced by measures registered only one month later,

to the end of February, showing a decrease on these individuals' leadership performance, which remained going downwards on subsequent control points' measurements and until the end of the study, on May 30.

On the other hand, regarding Meditators' leadership performance measured results along the study, tendency on results registered at each control point along the study presents evidence of an analogue behaviour to that observed on conflict management performance.

Evidence of a constant monthly increase on Meditators' leadership performance was registered by Evaluators included in this control group until the end of the study, showing again a cumulative effect on this performance which built a substantial gap on final result compared to those registered for Co-Workers performance.

Leading Others						
Control Point	Jan1	Jan2	Feb	Mar	Apr	May
Meditators	2.05	2.25	2.67	2.96	3.33	3.60
Co-Workers	2.23	2.68	2.46	2.44	2.40	2.37



Derived from evidence obtained from results achieved from this variable's behaviour measures, Hypothesis 4, which states that gains in executives' leadership performance within business organizations increase by introducing formal practice of

meditation oriented to develop compassion, was confirmed.

Overall Average Results on Research Variables Behaviour

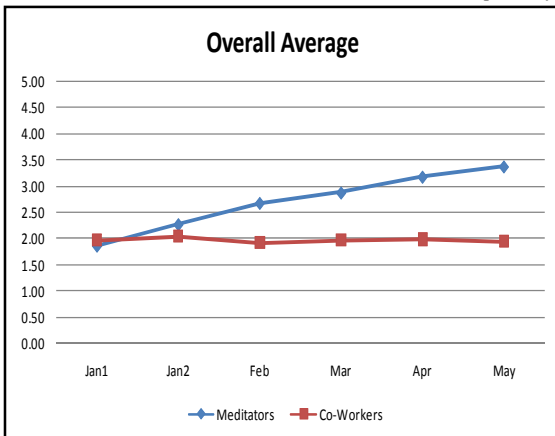
Measures for overall average were registered at every control point in order to evaluate meditation impact on general performance's change related to all four research variables for both groups of individuals submitted to the study (Meditators and Co-Workers).

As it was observed on evidence shown at research variables' individual behaviour, with exemption of behaviour experienced on Leadership Performance measurements, overall average results achieved by the Co-Workers group of individuals registered marginal changes, when it happened, with overall average remaining practically unchanged after the six control points' registers were executed.

These individuals were submitted to different in house HR development programmes organised by companies along the study which, again exempting leadership programmes introduced during the first month of the study, present practically no evidence of change on Co-Workers group members' stress levels experienced, change assimilation capabilities or conflict management performance.

Additionally, referring to companies' organised leadership development courses and seminars introduced for this group of individuals' training on the first month of the study, evidence show, as it has been already stated, relevant increase of leadership performance on the same month individuals were submitted to these programmes and immediate decrease to closely the same levels shown at the study's start up performance levels.

Overall Average						
Meditators	1.86	2.26	2.67	2.87	3.17	3.37
Co-Workers	1.97	2.04	1.92	1.96	1.98	1.94
Control Points	Jan1	Jan2	Feb	Mar	Apr	May



On the other hand, and again in a similar behaviour to that observed in measures practiced for research variables' individual behaviour, regarding Meditators' overall average performance measured results along the study, tendency on results registered at each control point along the study presents evidence of steadily increasing performance.

Evidence of a constant monthly increase on Meditators' overall average measurements was registered by Evaluators included in this control group until the end of the study, showing again a cumulative effect on this performance which built a substantial gap on final result compared to those registered by Co-Workers performance.

Derived from evidence obtained from results achieved from overall average of variable's behaviour measures, all four Hypothesis statements were confirmed, finding a relation between meditation practice, introduced as explained on described methodology for this study, to stress levels experience reduction, changes assimilation capabilities improvement, conflict management and leadership performances development.

Derivative Results

As derivative results of the study's measures, a relation between meditation practice oriented to achieve attention focusing and the first two research variables measured (stress level experienced reduction and changes assimilation capability development) was assumed.

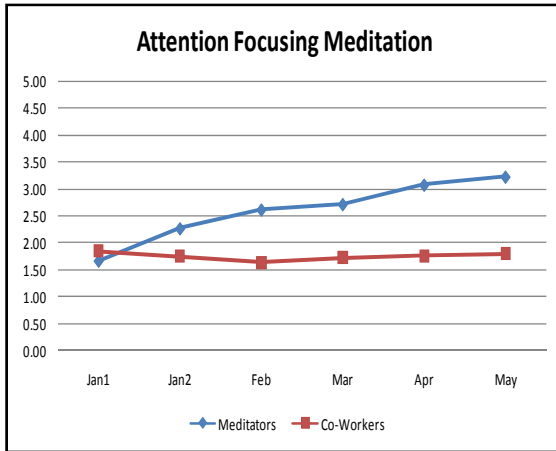
At the same time, assumption was made implying a direct relation between meditation practice oriented to cultivate compassion and the last two research variables measured (conflict management and leadership performances improvement).

These assumptions were based on theoretical knowledge gathered towards the study's methodology design as further on discussed, and as explained above, a second group of results were processed by relating research variables' behaviour and each one of these specific meditation practices, aiming to provide business organisations with useful information to design specific in house HR development programmes oriented to achieve specific goals on executives' development.

Attention Focusing Meditation

By combining data obtained from results after measuring stress experienced levels and changes assimilation capability on Meditators and Co-Workers, an assumption is made that through attention focusing meditation practice, a gain on stress experienced levels reduction and on development of capabilities to assimilate changes is achieved, with no evidence of significant change obtained through any in house HR development programme Co-Workers were submitted to during the time the study took place.

Attention Focusing Meditation						
Meditators	1.66	2.26	2.61	2.71	3.07	3.22
Co-Workers	1.84	1.74	1.63	1.72	1.75	1.79
Control Points	Jan1	Jan2	Feb	Mar	Apr	May

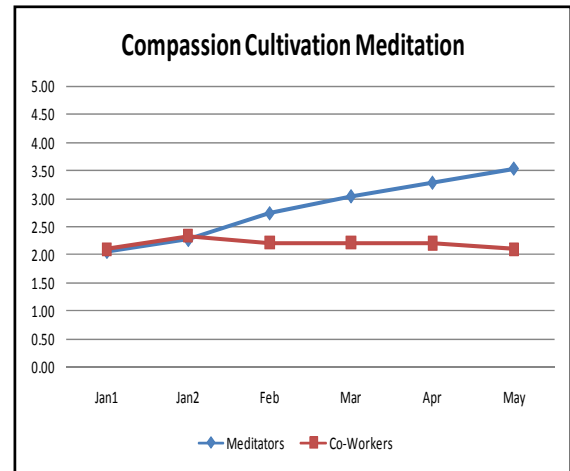


Compassion Cultivation Meditation

Following the same methodology applied on attention focusing meditation derivative results assumption, by combining data obtained from results after measuring conflict management and leadership performances on Meditators and Co-Workers, assumption is made that through compassion cultivation meditation practice, a gain on conflict management performance and on leadership performance are achieved.

On the other hand, evidence of practically unchanged Co-Workers group of individuals' performance regarding conflict management and leadership was shown, after submitting these individuals to companies' in house HR development programmes for as long as the study lasted.

Compassion Cultivation Meditation						
Meditators	2.05	2.26	2.73	3.03	3.27	3.52
Co-Workers	2.10	2.33	2.21	2.21	2.20	2.10
Control Points	Jan1	Jan2	Feb	Mar	Apr	May



DISCUSSION

This study may be interpreted as demonstrating evidence of the relation between meditation practice and benefits achievements for executives' performance in their business organizations, related to stress reduction at work – including power stress –, capabilities to assimilate changes introduced by their organisations, conflict management performance improvement and leadership performance enhancement.

As it was evidenced in previous research work (Frew, D., 1974), gains in job satisfaction and performance and improved interpersonal relations were significantly more positive to meditators at higher organisational structure levels than those meditators who work at low levels of organisations.

These findings were seriously taken into account during this study's design, especially at defining criteria regarding participants' profile, and should be considered one of the probable reasons why evidence on benefits gained by meditators group of individuals happens to be so strong after results measurements on every one of the four variables submitted to research.

By evidence gathered along the study it becomes quite clear that introduction of a combination of both meditation techniques practiced during the study (attention focusing meditation and compassion cultivation meditation) deliver above mentioned benefits to executives' performance at work.

Nevertheless, regarding which specific meditation technique practice presents a direct relation to changes observed on behaviour of each specific research variable, evidence derived from the study should not be considered definitive, but just as assumptions based on previous research evidence, enhanced by derivative results obtained from combining data which was originally meant to provide results measured on the four research variables.

Extensive technical information and scientific evidence address attention focusing meditation as a suitable practice to become fully aware of impermanence in reality and, therefore, to focus on whatever may be happening at the present time, improving meditator's capabilities to assimilate changes (Shecter, H.W., 1978; Travis, F., 1979; Rimpoché, S., 1992; Trungpa, Ch., 1995).

Additionally, scientific evidence has accumulated stressing the fact that meditation oriented to compassion cultivation, triggers changes in patterns of activation and transmitter function, developing empathy by stimulation of mirror neurons in the brain (Banquet, J.P. and Lesevre, N., 1980) enhancing conflict management performance (Rueyling Ch. & Hale, C.L., 2001; Alexander, C.N. et al., 2003) and leadership performance, as the experience of compassion evokes responses within the humans body that arouse the parasympathetic nervous

system (Davidson, 2002; LeDoux, 2002; Sapolsky, 2004).

Though there is all this evidence available, much more empirical work is needed to validate the results and conclusions proposed herein with analogue strength of evidence, as that of conclusions achieved regarding evidence obtained by measuring results on the four main research variables behaviour.

Organisations' direct participation in the study through evaluators' intervention at observing and registering Meditators and Co-Workers performance regarding research variables behaviour is considered of high relevance due to a number of reasons.

In the first place, and taking into consideration that most of these evaluators act within the companies' organisational structure as bosses of Meditators and Co-Workers, their judgement on the study's participants performance derives from first hand witnessing of effects of meditation on these executives development and, therefore, withholds a direct incidence on this Evidence Based Knowledge close link to their organisations' performance and results.

Evaluators' opinion will be seriously weighted by organisations to back either further research works on this field of knowledge, or to explore the possibility of making a decision oriented to introduce some of these tools as part of their companies' HR development programmes.

In any case, the study's structure and development presented an outstanding opportunity to, in practice, stress the fact that business organisations, executives, managers, directors – management practitioners – from any field of industry and business, gladly offer their contribution and serious commitment to external academician's research projects,

when these are properly designed and proposed to them, aiming to provide business organisations with better tools derived from evidence based knowledge, favouring a two way road bridge between both fields of action in order to establish collaborative work and information exchange for the benefit of both: practice and evidence based knowledge research.

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ADDENDUM 1

Table I – Meditators group of individuals' profile

Department	Position	Executive level	Income level	Gender	Age	Marital status	Academic level
Sales	Manager	3	3	F	31	M	3
Finance	Manager	3	3	M	38	M	3
Sales	Manager	3	4	M	42	M	3
Operations	Supervisor	3	3	F	34	S	2
Sales	Director	4	5	M	29	S	3
HR	Manager	3	3	M	44	M	3
HR	Director	4	4	F	31	M	3
Finance	Manager	3	3	M	40	M	4
Sales	Director	4	5	M	47	S	4
HR	Manager	3	3	F	42	M	3
Sales	Manager	3	3	F	27	S	3
HR	Manager	3	2	F	29	S	3
Sales	Vicepresident	4	4	M	30	M	3
Collections	Manager	4	4	M	26	M	3
Finance	Manager	4	4	M	43	M	4
HR	Manager	4	3	F	34	M	3
Operations	Director	4	4	F	49	S	4
Sales	Director	4	3	M	52	M	3
Public Relations	Manager	3	3	F	27	M	3
HR	Manager	3	3	F	36	M	3
Sales	Director	4	5	M	39	M	1
Finance	Director	4	4	F	58	M	4
Sales	Executive	2	5	M	30	M	1
Operations	Manager	4	4	M	42	S	3
Operations	Trainer	3	4	F	43	S	4
Operations	Trainer	3	3	M	37	S	4
Operations	Trainer	3	3	M	51	M	3
Sales	Manager	3	4	M	39	M	3
HR	Manager	3	3	M	36	S	3
Sales	Manager	3	3	F	29	M	3
Operations	Manager	3	3	F	33	S	2
Operations	Supervisor	3	3	F	44	M	2
Operations	Manager	4	4	M	49	M	3
Collections	Manager	3	4	M	28	S	2
Sales	Manager	3	4	M	41	M	1
Sales	Manager	4	4	M	40	M	4
HR	Manager	4	3	F	42	M	3
Sales	Manager	3	4	M	50	M	3
Finance	Director	4	3	F	47	M	4
Collections	Manager	3	4	M	33	S	2
HR	Manager	4	3	M	40	M	3
Sales	Manager	4	4	F	53	M	3
Collections	Executive	2	4	M	24	S	1
Collections	Director	5	4	M	28	M	1
Finance	Manager	4	3	M	39	M	3
HR	Manager	3	3	M	34	M	3
Production	Manager	4	3	M	38	S	2
Productions	Supervisor	3	3	M	37	S	2
HR	Manager	4	4	M	48	S	3
Operations	Director	5	4	F	39	S	4
HR	Manager	4	3	M	46	M	3
Production	Supervisor	4	3	F	47	M	2
HR	Manager	4	3	M	38	M	3
Production	Manager	4	3	M	54	M	1
Finance	Director	5	4	F	46	M	4
Operations	Spervisor	3	4	M	31	M	1
Sales	Executive	2	4	M	29	S	1

Table II – Co-Workers group of individuals' profile (Control Group 1)

Department	Position	Executive level	Income level	Gender	Age	Marital status	Academic level
Sales	Manager	3	3	M	33	S	3
Sales	Manager	3	4	M	29	M	3
HR	Manager	3	3	M	37	M	3
Collections	Supervisor	3	4	M	31	M	1
Sales	Vicepresident	4	4	M	44	M	4
Finance	Manager	3	3	M	38	M	4
Product	Manager	3	4	M	28	S	3
Finance	Manager	3	3	F	43	S	3
Sales	Director	4	5	M	52	M	3
HR	Manager	3	3	M	36	M	4
Sales	Manager	3	3	M	29	M	1
HR	Manager	3	2	M	21	S	3
Sales	Vicepresident	3	4	M	37	M	4
Collections	Manager	4	4	F	31	S	1
Finance	Manager	3	3	M	51	S	3
HR	Vicepresident	4	4	M	31	M	3
Logistics	Manager	3	3	M	55	M	3
Marketing	Director	4	5	M	42	M	4
Public Relations	Executive	2	3	M	30	M	1
Sales	Manager	3	4	M	44	M	3
HR	Director	4	4	F	28	S	3
Sales	Director	4	5	M	47	M	3
Sales	Supervisor	3	5	M	33	S	3
Sales	Manager	3	5	F	39	M	1
Operations	Trainer	3	3	M	50	M	3
Operations	Trainer	3	4	M	41	M	3
Operations	Trainer	3	4	M	48	M	3
HR	Manager	3	3	M	36	S	3
Sales	Manager	3	4	M	39	M	3
Sales	Manager	3	4	M	31	S	1
Sales	Manager	3	3	M	37	M	3
Operations	Manager	4	4	M	40	M	2
Operations	Supervisor	3	3	M	43	M	2
Sales	Executive	3	4	M	34	S	1
Operations	Supervisor	3	3	M	48	M	2
Sales	Manager	4	4	F	34	S	3
Marketing	Manager	4	4	F	38	M	4
Sales	Manager	3	5	M	46	M	1
Sales	Director	4	5	F	52	M	3
Collections	Director	3	5	M	29	M	3
Sales	Manager	4	4	M	38	M	3
Operations	Manager	4	4	M	46	M	3
Collections	Manager	3	4	F	29	M	1
Collections	Manager	4	4	M	33	S	1
Finance	Executive	3	3	M	44	M	3
Finance	Manager	3	3	F	31	S	3
Production	Manager	4	4	M	45	M	3
Productions	Supervisor	3	3	M	32	M	2
Sales	Manager	4	5	F	52	M	3
Operations	Manager	4	4	M	44	M	3
Legal	Manager	4	4	F	39	S	4
Production	Director	4	4	M	38	M	3
Sales	Manager	4	5	F	45	M	1
Production	Supervisor	3	3	F	42	M	2
Finance	Manager	4	3	F	39	M	3
Collections	Spervisor	3	3	M	35	M	1
Sales	Manager	3	5	M	34	M	1

Table III – Evaluators group of individuals' profile (Control Group 2)

Department	Position	Executive level	Income level	Gender	Age	Marital status	Academic level
HR	Director	4	4	M	42	M	4
Corporate	Partner	5	5	M	51	M	4
Corporate	Director	5	5	M	48	M	4
Corporate	Director	5	5	M	49	S	3
Finance	Vicepresident	5	5	M	39	M	4
Sales	Director	4	5	F	40	M	4
HR	Director	4	5	M	41	M	4
Corporate	Partner	5	5	M	44	M	4
Corporate	Partner	5	5	F	36	M	4
HR	Director	5	5	F	45	S	3
Corporate	President	5	5	F	49	M	4
Operations	Director	4	5	M	37	M	3
Corporate	Director	5	5	M	52	M	3
Corporate	Partner	5	5	M	42	M	4
Operations	Trainer	3	4	M	45	M	3
HR	Director	4	4	M	39	M	3
HR	Director	4	5	M	37	S	3
Sales	Director	4	5	M	46	M	3
Operations	Director	5	4	F	39	S	3
Sales	Director	4	5	M	38	M	3
Marketing	Director	4	4	M	36	M	3
HR	Director	5	4	M	44	M	3
HR	Director	4	5	M	32	M	3
HR	Director	5	5	M	41	M	4
Sales	Manager	4	4	M	44	M	1
Collections	Executive	1	4	F	26	S	2
Corporate	Director	5	4	M	54	M	4
Clients Service	Manager	4	3	M	36	M	3
HR	Director	5	5	M	39	M	3
Production	Director	5	5	F	34	S	2
Productions	Director	4	4	M	35	M	3
HR	Director	5	4	F	39	M	3
Commercial	Director	5	5	M	37	M	4
HR	Director	5	4	M	33	S	3
Production	Manager	5	4	M	41	M	4
HR	Director	5	4	M	35	M	3
Corporate	Director	5	5	F	44	M	3
Marketing	Director	5	5	F	56	M	2
Operations	Manager	4	5	M	38	M	3
Sales	Manager	4	5	F	35	M	3

ADDENDUM 2

Table II – Measurements on Control Group 1 (Co-Workers) performance

Part No.	Stress level						Conflict Management						Change Assimilation						Leading Others						Overall Avg						
	Jan	Jan	Feb	Mar	Apr	May	Jan	Jan	Feb	Mar	Apr	May	Jan	Jan	Feb	Mar	Apr	May	Jan	Jan	Feb	Mar	Apr	May	Jan	Jan	Feb	Mar	Apr	May	
	Control Group						Bosses and Co-Workers																								
1C	2	2	2	1	2	2	2	2	2	2	1	1	2	2	1	1	2	2	2	2	3	2	2	2	2	1.8	1.8	1.8	1.8		
2C	2	2	2	2	1	2	2	2	2	2	2	1	2	2	1	2	2	2	3	3	3	4	3	3	2.3	2.3	2	2.5	2	2	
3C	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	2.3	2.3	2	2.3	2.3	2.3		
4C	1	2	2	1	1	1	3	2	2	2	2	2	3	2	2	2	2	2	3	3	2	2	2	2.3	2.3	2.3	1.8	1.8	2		
5C	1	1	2	1	2	2	3	3	2	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.8		
6C	1	1	1	1	1	1	2	2	3	3	3	2	1	1	1	1	1	2	2	2	2	2	2	1.5	1.5	1.8	1.8	1.8	1.5		
7C	1	1	1	1	1	2	2	2	2	3	3	3	2	2	1	2	2	2	3	3	3	3	3	1.8	2	1.8	2.3	2.3	2.5		
8C	2	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	4	3	3	3	3	2	2.3	2.3	2.3	2.3	2		
9C	2	1	1	2	2	2	3	3	2	2	2	2	2	2	2	2	2	1	3	3	3	3	3	2.5	2.3	2	2.3	2.3	2		
10C	2	2	2	1	2	2	1	2	2	3	2	3	2	2	2	2	2	2	2	3	3	2	2	2	1.8	2.3	2.3	2	2	2.3	
11C	2	2	2	2	2	2	1	1	2	2	2	2	2	1	1	1	1	2	2	3	3	2	2	2	1.5	1.8	2	1.8	1.8	2	
12C	2	2	2	2	2	2	1	1	1	1	1	1	1	3	2	2	2	3	2	2	2	2	2	2	2	1.8	1.8	1.8	2	1.8	
13C	2	1	1	2	2	2	1	1	1	1	1	1	1	3	3	2	2	2	2	2	2	2	2	2	2	1.8	1.8	1.8	1.8	1.8	
14C	2	1	2	1	2	2	2	2	2	2	2	1	2	2	2	1	2	2	3	3	3	3	3	3	2.3	2	2	2	2.3	2	
15C	2	2	1	2	2	2	2	2	2	1	2	1	2	2	2	1	1	2	3	3	3	3	3	3	2.3	2.3	1.8	1.8	2.3	2	
16C	2	2	2	2	2	2	2	2	1	2	2	2	2	3	3	2	2	3	3	3	3	3	3	2.5	2.5	2	2.3	2.5	2.3		
17C	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	2	2	2	2	2	1.8	1.8	1.8	1.8	1.8	1.8		
18C	2	2	2	2	2	2	3	3	2	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2.3	2.3	2	2.3	2.3	2		
19C	1	2	1	2	1	2	2	2	3	2	2	2	2	2	1	1	1	2	2	4	3	3	3	2	2.3	2	2	2	2.3	2	
20C	2	1	1	1	2	1	2	2	2	2	2	2	2	2	1	1	2	1	2	2	2	2	2	2	1.5	1.5	1.8	1.8	1.8	1.8	
21C	1	1	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	2	3	2	2	2	2	1.8	1.8	1.5	1.5	1.5	1.5	
22C	1	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1	2	2	3	3	3	3	1.5	1.8	1.8	1.8	1.8	2.3	
23C	1	2	1	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	1.8	1.8	2	1.8	1.8	2	
24C	2	2	1	2	2	2	2	2	2	2	2	2	2	2	1	1	2	2	2	3	3	3	3	3	2	2	1.8	2	2.3	2.3	
25C	2	1	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	1	1	2	2	2	2	2	1.8	1.8	2	1.8	2	1.5	
26C	2	1	1	2	1	2	3	3	2	2	1	2	2	2	2	1	2	2	2	3	2	2	2	2	2.3	2.3	1.5	2	1.5	2	
27C	3	1	1	3	1	1	1	2	2	2	2	2	2	2	2	2	1	2	2	3	3	2	2	2	2	2	2	2.3	1.5	1.8	
28C	2	2	2	1	1	2	1	1	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	2	2	2.3	2	2	2.3	
29C	1	2	3	2	2	1	2	2	2	2	2	1	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2.3	2	2	1.5	
30C	2	1	1	2	2	1	2	2	2	2	2	1	2	2	2	2	2	2	2	2	3	3	3	2	2	1.8	2	2.3	2.3	1.5	
31C	1	2	1	2	2	1	2	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1.8	2	1.8	2	1.8	1.5	
32C	1	1	1	1	2	2	2	2	2	2	2	1	2	2	3	3	3	2	2	2	2	2	2	2	1.8	1.8	2	2	2.3	1.8	
33C	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	1.8	2	1.8	2	
34C	1	3	2	2	1	2	2	2	2	2	2	2	2	2	2	1	2	2	2	3	2	2	2	2	1.8	2.5	1.8	2	1.8	2	
35C	2	1	2	2	2	2	1	1	1	1	1	3	1	1	1	1	1	2	2	4	3	3	3	3	1.5	1.8	1.8	1.8	1.8	2.5	
36C	3	1	1	2	2	2	2	2	2	2	1	2	1	2	1	1	2	2	2	3	2	2	2	2	2	2	1.5	1.8	1.8	2	
37C	1	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	3	3	3	3	3	3	2	2.3	2.3	2.3	2.3	2	
38C	1	2	2	1	2	2	2	2	2	2	2	1	2	2	2	2	2	2	1	1	1	2	2	2	1.5	1.8	1.8	1.8	2	1.8	
39C	2	3	2	2	1	3	2	2	2	2	2	2	2	2	2	2	2	2	1	2	1	1	1	1	1.8	2.3	1.8	1.8	1.5	2	
40C	2	2	2	3	2	2	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.3	2.3	2.3	2.5	2	2	
41C	2	3	2	1	1	2	3	3	3	2	3	2	3	3	3	3	3	3	2	2	2	2	2	2	2.5	2.8	2.5	2	2.3	2.3	
42C	2	2	2	1	1	1	2	2	2	3	3	3	2	2	2	2	2	2	2	3	3	3	3	2	2	2.3	2.3	2.3	2.3	2	
43C	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	3	4	3	3	3	3	2.3	2.5	2.3	2	2	2	
44C	2	2	1	1	1	2	2	2	2	2	2	2	2	2	2	1	2	2	2	4	3	3	3	3	2	2.5	1.8	2	2	2.3	
45C	3	3	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	3	4	3	3	3	3	2.5	2.8	2.3	2.3	2.3	2	
46C	1	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	2	2.3	2.3	2	2	2.3	
47C	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.8	2	2	2	2	
48C	2	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	2.3	2	2	2.3	2.3	2.3	
49C	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.8	1.8	1.8	1.8	
50C	1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	2	2	3	2	2	2	2	1.5	2	1.8	1.8	2	2	
51C	2	1	2	2	2	1	2	2	2	2	2	3	1	1	1	1	1	1	2	3	3	3	3	2	1.8	1.8	2	2	2	1.8	
52C	2	2	2	2	2	1	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.3	1.8	
53C	1	1	1	2	2	1	1	1	1	2	3	2	1	1	1	1	1	1	3	3	3	3	3	3	1.5	1.5	1.8	2	2.3	1.8	
54C	2	2	2	2	2	1	1	1	1	1	2	1	2	1	1	2	2	2	2	2	2	2	2	2	1.8	1.5	1.5	1.8	2	1.5	
55C	2	2	2	2	2	1	2	2	1	1	2	1	1	1	1	1	1	2	3	3	3	3	3	3	2	2	1.8	1.8	2	1.8	
56C	2	2	2	1	2	2	2	2	2	1	2	2	2	2	1	1	2	2	2	3	2	2	2	2	2	2	1.8	1.5	2	2	2
57C	2	2	2	2	1	2	2	2	2	1	2	2	2	3	2	2	3	2	2	2	2	2	2	2	2.3	2.3	2	2	1.8	2	
Tot.	100	96	95	93	93	96	112	113	112	113	114	104	110	102	91	103	107	108	127	153	140	139	137	135	112	116	110	112	113	111	
No.	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57		

