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THE EFFECT OF MEDITATION AND PSYCHOTHERAPY IN CHANGING THE PERSONALITY TRAITS OF THE ADULTS

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The Effect of Meditation and Psychotherapy in Changing the Personality Traits of the Adults

Maria Nicoleta MOCANU¹

Abstract

Meditation and mindfulness may mediate emotion regulation and this has an impact on the social behaviour of the adult. The sample was composed of 24 adults, 12 males and 12 females, aged between 22 and 44 years old, with an average age of 29 years old. The group of experiment (6 males and 6 females), participated in the group sessions between May 2023 – February 2024, whereas the control group (6 males and 6 females) did not participate in the group sessions. For all dimensions of the personality traits studied higher results were obtained in the retest for the experimental group, compared to the control group, which confirmed our hypothesis that meditation and integrative group sessions can improve personality traits of the adults. Combining meditation with psychotherapy can significantly change the adult's personality traits. This concludes that adult's neuroflexibility can be therapeutically trained, which is of great importance for patients with psychiatric disorders and neurodegenerative disorders. Also, for individuals without psychopathology this points to the fact that personality traits are flexible no matter the age and as a result social behaviour and adaptability can be improved in adulthood.

Keywords: personality traits; meditation; integrative group research; social behaviour.

Introduction

Well-being is a complex phenomenon related to a variety of factors, including cultural differences, socioeconomic status, health, quality of interpersonal relationships, and specific psychological processes (Dinero *et al.*, 2008). Clinical research suggests that the ability to distance oneself and observe the ongoing internal train of thought plays a vital role in psychological well-being (Farb *et al.*, 2007). The cognitive development of the individuals who use meditation as a

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daily activity is significantly influenced by this practice and also, they share some common traits, such as personality and lifestyle dispositions.

In the field of cognitive psychology, it is argued that our thoughts and emotions have a direct impact on the functioning of the brain (Hoffman *et al.*, 2012). Thus, there is research investigating the neural mechanisms underlying emotion regulation that have been directly linked to brain regions associated with cognitive control, including the dorsomedial, dorsolateral, and ventrolateral prefrontal cortex, as well as the posterior parietal cortex (Ochsner & Gross, 2004; 2005). Key factors involved in emotion regulation include reappraisal, exposure, extinction, and reconsolidation (Hölzelet *et al.*, 2011a), while additional findings suggest that mindfulness practice leads to increases in positive reappraisal.

Research findings suggest that mindfulness practices facilitate “positive reappraisal,” with reappraisal functioning as an adaptive process whereby stressful events are reconstructed as beneficial, meaningful, or benign (Hanley & Garland, 2014). Meditation and mindfulness strengthen prefrontal cognitive cortex and as a result may mediate top-down emotion regulation of the amygdala. Thus, one of the proposed primary mechanisms by which contemplative practices affect well-being is by targeting and altering maladaptive self-referential thought patterns (Dahl *et al.*, 2015). There are notable similarities between brain regions influenced by mindfulness meditation and those involved in mediating fear extinction, namely the hippocampus, amygdala, medial prefrontal cortex, and ventromedial prefrontal cortex (Luders *et al.*, 2009).

During mindfulness meditation, one allows oneself to be affected by the experience while refraining from engaging in internal reactivity to it, while cultivating acceptance of bodily and affective responses, a fact supported by findings suggesting that meditation practice can help facilitating increased awareness and reduced reactivity to the content of our ongoing internal dialogue (Hölzelet *et al.*, 2011b).

It was found that participants who were trained in compassion meditation showed increased connectivity in response to emotionally challenging images between the dorsolateral prefrontal cortex, a region typically linked to cognitive functions such as reappraisal, and the nucleus accumbens, thought to be a key hub in the reward network associated with positive affect (Weng *et al.*, 2013). Subsequently, diminished amygdala activations in response to emotional stimuli were observed in meditation practitioners (Tang *et al.*, 2015). In a study of mindfulness meditation with combat veterans with PTSD, it was found that although mindfulness meditation recipients did not show significant reductions in PTSD symptoms compared to an active control group, they did demonstrate a change significant in their relationship to their symptoms (e.g., meta-awareness and self-regulation), so they were not as easily triggered by events perceived as adverse (e.g., emotion regulation (Wahbeh *et al.*, 2016). Another study output that the amygdala response to emotional images and resulted in the fact that the

amygdala diminished its reactivity during the exposure at the emotional images, while the connection with the ventromedial prefrontal cortex heightened. Another longitudinal study found that reduced right amygdala activity can be transferred from meditation to non-meditative states (Leung *et al.*, 2018).

It is yet to be finished the study of the effectiveness of meditation and in this regard, some efforts have been made to develop EEG, respiration, and ERP models to assess meditation proficiency (Atchley *et al.*, 2016). Furthermore, one of the major factors and potential confounds related to research studying the neuroscientific and physiological effects of short- and long-term meditation practice remains self-selection bias, therefore delineating the interaction between the baseline effects, the effects of state and long-term training trait effects (Braboszcz *et al.*, 2017). Longitudinal design studies may allow to manipulate in order to draw a conclusion about the confounding effects of meditation on the everyday lifestyle. It is particularly important that researchers involved in both basic research and clinical trials remain cautious about the degree to which the results of their respective research are translational and generalizable to clinical practice (Van Dam *et al.*, 2018).

Today, the neural circuits associated with the psychiatric disorders and the effects of psychotherapy can be measured by functional imaging. In this way we can gradually achieve a more precise identification of the symptomatic improvement. In contrast, prediction studies aim to provide a basis for treatment stratified by likely response, potentially allowing clinicians to more effectively tailor therapies for individual patients (Fu *et al.*, 2013). The changes in the neural pathways after therapy provide a better understanding of the recovery of symptoms, as well as of the medical treatments. Reviews in recent years have highlighted the benefits of functional neuroimaging studies in this area for depression and anxiety disorders (Wise *et al.*, 2014).

Methodology

Design

The research had 24 adult participants (12 males and 12 females), aged between 22 and 44 years old (average age 29 years old). The group of experiment (GE) was formed of 12 adults (6 males and 6 females), who participated in the group sessions for between May 2023 and February 2024. The group of control (GC) was also formed of 12 adults (6 males and 6 females), who however, did not participate in the group sessions.

The groups were formed taking into account the results obtained on the self management scale of CPI before the group sessions. In order to check the homogeneity of the results in both groups, we used the non-parametric Mann-

Whitney U test, no statistically significant differences were obtained at the significance threshold $p < 0.05$.

The criteria to select the participants in the groups referred to the age (adults between 22-65 years old), approval to participate in the group sessions and motivation.

Participants

The adults were divided into groups of 12 persons, 22 - 44 years old, the sample of the groups is shown in Table 1.

Table 1. Sample of the groups

	N	Min	Max	Mean	St. deviation
Experimental group age	12	22	44	29.1667	6.68558
Control group age	12	24	38	29.3333	4.45856

Table 1 presents the structure of the sample of the two groups that participated in the present study. The first group is the experimental group ($M = 29.1667$, $SD = 6.68$) who participated in the intervention group program, the second group is the control group ($M = 29.3333$, $SD = 4.45$) who did not participate in the intervention group program.

Psychotherapy modality

The objectives of the group sessions were obtained by conducting 20 integrative group sessions, held for a couple of hours twice a month, the approach being eclectic, as in Table 2.

Table 2. The integrative approach of the personality traits of the adult

MODALITY	INTERVENTION METHODS AND TECHNIQUES
Emotional	Mindfulness Meditation Connecting with the sensations in the body
Cognitive	Perspective change Ease in taking decisions
Behavioural	Awareness of the consequences Mirroring the other's behavior

At the beginning of every session, we used guided meditation techniques (breathing, attention focused, sensations in the body) for about 20 minutes and afterwards the group worked on the theme of the session using psychotherapeutic techniques: cognitive-behavioral, psychosomatic, NLP, experiential, psychodrama,

art therapy, EMDR and modern neuroscience techniques (mind movie, heart – brain coherence).

We opted for group sessions because based on the contributions of the social and human sciences (sociology, psychopedagogy, social psychology), they satisfy the need of belonging, sharing of social values and observe the others. In this way, the group experience offers the chance to review the behaviour, the skills in a secure environment, because the group changes the subject.

Measures

For personality assessment we used one instrument, a personality inventory, CPI 434, which include 434 items about the person's perspective in life, the way he/she perceives and compares self with others, regarding a series of characteristic features that are important in work and in everyday life. The person is evaluated on 26 dimensions and 5 categories: interaction with others, personal management, motivations and thinking style, personal characteristics, work-related evaluations.

For this research we used only the *personal management scale* in order to study the impact of meditation techniques and group sessions to change the personality traits.

Procedure

Participants in the experimental group were offered 20 sessions of group therapy at no cost, on behalf of their participation in the research. They signed an informed consent form describing the study design and purposes and completed baseline assessment. After completing the intake, adults were split into two similar groups, group of experiment and group of control (6 males and 6 females in each group). As detailed above, participants in the experimental group received 20 group therapy sessions and were assessed afterwards. Participants in the control group had a 10-months waiting period and were assessed after waiting, they did not participate in the group sessions.

Statistical analysis

To evaluate the effectiveness of our intervention program we performed a comparative analysis of the results obtained by adults in the experimental group (GE) at the initial test and retest, the results of adults in the control group (GC) at the initial test and retest, as well as the results of adults in the experimental group at retest compared with the results of adults in the control group at retest. This analysis will allow us to assess the impact of our program and determine whether there are significant differences between the groups in terms of the evolution of outcomes over time.

By comparing the initial and retest results, we will be able to assess whether there is a significant improvement in the behavior and results of the participants in the experimental group after the intervention. We will also be able to assess whether this improvement is greater than that seen in the control group. This will give us important information about the impact of our program and the effectiveness of the intervention.

Therefore, through this comparative analysis, we aim to gain a more complete and detailed view of the impact of our group session program and determine whether there are significant differences between the experimental and control groups. This information will be valuable in evaluating the effectiveness and relevance of our program and making further recommendations.

The results of the group session to improve / change the personality traits was verified by applying personality inventory on the group of experiment and the control group, the results obtained were processed by Mann-Whitney U test (comparison of the group of experiment and the group of control) and the Wilcoxon statistical test (for the comparison of the group of experiment in the test and post-test and of the group of control in the test and post-test).

Results

The first stage carried out by us was to compare the results of the subjects in the experimental group with those of the control group after the formative experiment. For this purpose we administered the non-parametric U Mann – Whitney statistical test. The data presented reflect the impact of the psychological intervention on the experimental group (GE) and the control group (GC). The analysis was carried out by comparing the scores obtained on the retest of the CPI, self management scale, as it can be seen in Figure 1.

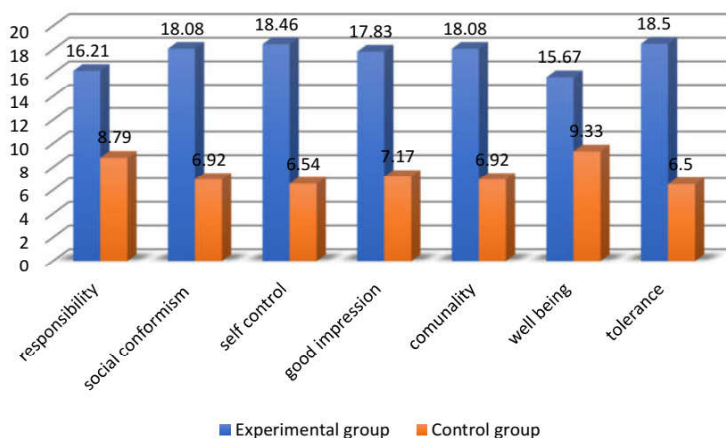


Figure 1. The control experiment. CPI retest GE – GC self-management scale.

For all scales of the self-management dimension of the CPI, higher results were obtained in the retest for the experimental group, compared to the control group, which leads to the conclusion that the experiment had a favorable impact for all these personality traits.

The following retest results were obtained when administering the CPI inventory, self management scale: GE responsibility scale = 16.21; GC = 8.79; social conformity scale GE = 18.08; GC = 6.92; GE self-control scale = 18.46; GC = 6.54; good impression scale GE = 17.83; GC = 7.17; communality scale GE = 18.08; GC = 6.92, health scale GE = 15.67; GC = 9.33, tolerance scale GE = 18.50; GC = 6.50.

On all the dimensions of this scale, statistically significant differences were obtained in the results of the subjects in the experimental group compared to those in the group of control, U Mann Whitney test ($p=0.0001$): responsibility ($U=27.5$, $p=0.01$), social conformity ($U=5$, $p=0.0001$), self-control ($U=0.5$, $p=0.0001$), good impression ($U=8$, $p=0.0001$), communality ($U=5$, $p=0.0001$), health ($U=34$, $p=0.02$), tolerance ($U=0$, $p=0.0001$).

Step number 2 refers to the group of experiment, namely the results of the subjects in the group of experiment obtained in the test (before the group sessions) and in the retest (after the group sessions). This statistical comparison was performed by means of the non-parametric Wilcoxon statistical test (for paired samples), as it can be seen in Figure 2.

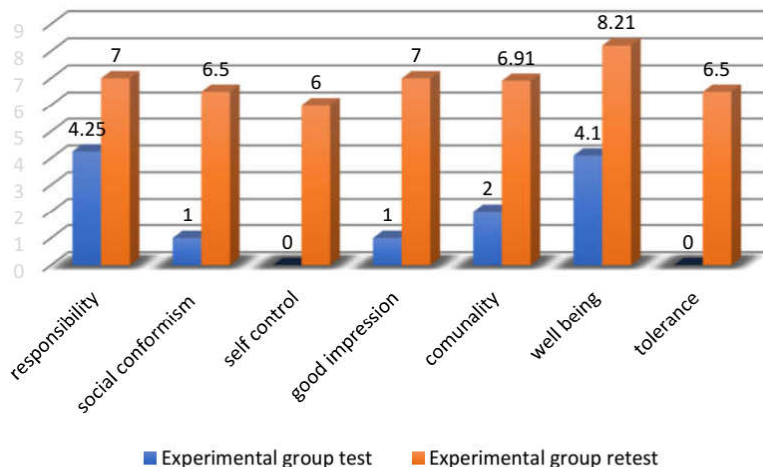


Figure 2. The control experiment. Experimental group test – retest CPI self-management scale

The values obtained by the subjects of the group of experiment in the pre- and post-test are the following: responsibility: pre-test = 4.25, post-test = 7; social conformity: pre-test = 1, post-test = 6.5; self-control: pre-test = 0, post-test = 6; good impression: pre-test = 1, post-test = 7; communality: pre-test = 2, post-test = 6.91; health: pre-test = 4.1, post-test = 8.21; tolerance: pre-test = 0, post-test = 6.5.

At all scales of the CPI self-management dimension, we find a significant increase in the quantitative results for subjects in the experimental group in the post-test (responsibility $W=-1.424$, $p=0.015$; social conformity $W=-2.861$, $p=0.004$; self-control $W=-2.937$, $p=0.003$; good impression $W=-2.923$, $p=0.003$; health $W=-3.074$, $p=0.002$).

In conclusion for step 2, when comparing the results obtained by the subjects of the experimental group in the test (before group sessions) and the retest (after the group sessions) we can state that the group sessions supported the changes for all personality traits in the self-management scale of the CPI.

Step number 3 consists in performing the third comparison in the statistical analysis of the results of the group of control subjects obtained in the test (before group sessions) and in the retest (after the group sessions). This statistical comparison was performed by means of the non-parametric Wilcoxon statistical test, as it can be seen in Figure 3.

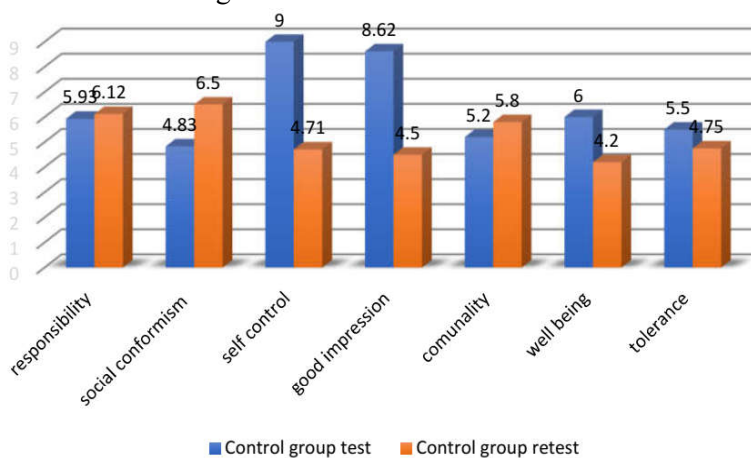


Figure 3. The control experiment. Gr. Control test – retest. The CPI self-management scale

The values obtained by the subjects of the group of experiment in the pre- and post-test are the following: responsibility: pre-test = 5.93, post-test = 6.12; social conformity: pre-test = 4.83, post-test = 6.5; self-control: pre-test = 9, post-test = 4.71; good impression: pre-test = 8.62, post-test = 4.5; communality: pre-test = 5.2, post-test = 5.8; health: pre-test = 6, post-test = 4.2; tolerance: pre-test = 5.5, post-test = 4.75.

In none of the scales of the CPI self-management scale did we find a significant difference in the quantitative results for subjects from the control group in the post-test: responsibility: $W = -0.760$, $p = 0.447$; social conformity: $W = -0.154$, $p = 0.878$; self-control: $W = -0.471$, $p = 0.637$; good impression: $W = -0.134$, $p = 0.894$; communality: $W = -0.153$, $p = 0.878$; health: $W = -0.179$, $p = 0.858$; tolerance: $W = -0.715$, $p = 0.475$.

As a conclusion for step 3, comparing the results obtained by the subjects of the control group in the test (before group sessions) and the retest (after group sessions) allow us to draw the conclusion that no changes in the studied characteristics appeared, the adults in this group keeping their level of development of personality traits constant, because they did not participate in the group sessions program.

Discussion

The hypothesis of the formative experiment was confirmed: we assumed that integrative psychological group sessions, in which we included meditations techniques, contributed to the improvement/change of the adult's personality traits.

First, we compared the results in the retest CPI self-management scale (after group sessions) of the experimental group with the control group. We observe the favorable outcome of the group sessions, considering the fact that significant changes were achieved in all the personality traits of this experiment.

For all the dimensions of the self-management scale of the CPI higher retest results were obtained for the experimental group than for the control group, which leads to the conclusion that the formative experiment had a favorable impact for all these personality traits, as can be ascertained by the Mann Whitney U test: responsibility, social conformity, self-control, good impression, communality, health, tolerance, empathy. We therefore increased in the group of experiment compared to the group of control, the level to assume the consequences of own actions, the level of respecting social rules, coregulate emotions, pay attention to the way they are perceived, appropriate behaviour, as well as the level of well-being and health and individual tolerance towards others.

Secondly, when comparing the results (Wilcoxon test) obtained by the subjects of the group of experiment in the test (before group sessions) and the retest (after the group sessions), we can state that through the group sessions we managed to achieve changes for all personality traits studied.

We managed to increase in the experimental group in the retest compared to the time of the test the level of adults to assume the consequences of their own actions, the level of respecting social rules, controlling their emotions, paying attention to the way they are perceived, appropriate behaviors, as well as the level of well-being and health, individual tolerance. This fact allows us to talk about

the effectiveness of the group sessions that allowed the significant modification of the studied personality traits.

Thirdly, we compared the results (by Wilcoxon test) obtained by the subjects of the control group in the test (before group sessions) and retest (after group sessions). There were no changes in the studied characteristics, the adults in this group keeping constant the level of development of personality traits from the initial profile, because they did not participate in the group sessions.

Conclusion

Personality traits of the adult can be modified by group psychological interventions using meditation for each session along with an integrative protocol, which include cognitive-behavioral, psychosomatic, NLP, experiential, psychodrama, art therapy, EMDR and modern neuroscience techniques (mind movie, heart – brain coherence).

The fact that by combining meditation with psychotherapy techniques we can significantly change the adult's personality traits in an average time, contributes to the conclusion that the adult's neuroflexibility can be therapeutically trained. This is of great importance in the treatment of patients with psychiatric disorders but also for those with neurodegenerative disorders, because in this way we stimulate the neuroplasticity of the brain and as a consequence we create new neural routes that support the healing process of the person. Also, for individuals without psychopathology this points to the fact that personality traits are flexible no matter the age and as a result social behaviour and adaptability can be improved in adulthood.

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