

In-Depth Relationships between Emotional Intelligence and Personality Traits in Meditation Practitioners

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Objective: Meditation can elicit trait-like changes in psychological and social styles, as well as enhancement of emotional regulatory capacity. We investigated the relation between personality traits and emotional intelligence in meditation practitioners.

Methods: Seventy-two long-term practitioners of mind-body training (MBT) and 62 healthy comparative individuals participated in the study. The participants completed emotional intelligence questionnaires and the Myers-Briggs Type Indicator (MBTI).

Results: The MBT group revealed higher scores on all five emotional intelligence factors than did those in the control group, such as emotional awareness and expression, empathy, emotional thinking, emotional application, and emotional regulation (all $p \leq 0.001$). MBT practitioners also had higher scores on the intuition of perceiving function ($t = -2.635$, $p = 0.010$) and on the feeling of the judging function ($t = -3.340$, $p = 0.001$) of the MBTI compared with those in the control group. Only the MBT group showed a robust relationship with every factor of emotional intelligence and MBTI-defined intuitive styles, indicating that higher scores of emotional intelligence were related to higher scores for intuition.

Conclusion: Emotional intelligence of meditation practitioners showed notable relationships with some features of personality trait. In-depth associations between emotional intelligence and personality traits would help to foster psychological functions in meditation practitioners.

KEY WORDS: Meditation; Mind-body training; Emotional intelligence; Personality; Intuition.

INTRODUCTION

Meditation constitutes a family of complex emotional and attentional regulatory training practices aimed at improving an individual's core psychological capacity, alleviation of stress, and/or achieving spiritual and religious goal.^{1,2} Various forms of meditation, such as mindfulness meditation, mantra meditation, yoga, tai chi, and chi gong, have been used to cultivate well-being and emotional balance.³ For example, those trained in mindfulness-based stress reduction showed decreased negative

emotional experiences during a breath-focused attention task, suggesting that this training may reduce emotional reactivity while enhancing emotional regulation.⁴ Even brief meditation, for a short duration, can reduce perceived stress and improve a negative mood,^{5,6} as well as change the interaction between the central and autonomic nervous systems.⁷

The potential regulatory function of meditation on attentional and emotional processes can have a long-term impact on the brain and behavior in terms of changes in traits and relatively short-term states.^{8,9} Improved self-monitoring and self-regulation have been reported as long-term trait effects of engaging meditation training.^{8,10} Long-term meditation practitioners also reveal different personality profiles compared with those of control subjects, such as increased extraversion and openness to experience on the Neuroticism-Extraversion-Openness Five-Factor Inventory.¹¹ Recent neuroscience of medita-

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tion^{2,10}) imply that enduring changes in baseline or default modes of brain functioning in regions related to internalized attention may explain the trait-like transformation.^{1,12}

In this study, we aimed to investigate whether personality traits of meditation practitioners are associated with emotional regulatory capacity or not. The effects of mind-body training (MBT), a type of moving meditation, on stress reduction and positive affect,¹³ plasma catecholamines and oxidative stress response,^{14,15} and plastic changes in brain structure and function have been studied.^{12,16} The present study examined emotional intelligence and the Myers-Briggs Type Indicator (MBTI) to assess emotional regulation capacity, personality traits, and their relationships in long-term meditation practitioners.

METHODS

Participants

The MBT group consisted of 72 participants who practiced meditation regularly, and the control group consisted of 62 healthy individuals who had no experience with meditation or yoga. The Structured Clinical Interview for the Diagnostic and Statistical Manual, Fourth Edition-Non-patient Edition, was used to assess psychiatric disorders in the participants. Exclusion criteria included history of a psychiatric illness, substance abuse or dependence, significant head injury, seizure disorder, or mental retardation. This study was approved by the Institutional Review Board at Seoul National University Hospital (No. 1003-061-313), and informed consent was obtained from all participants. This study was conducted in accordance with the Declaration of the World Medical Association.

Participants in the MBT group had been practicing MBT for a median of 36 months (range, 3-144 months). Most of participants were engaging in meditation for a long-term over one year. This study included participants who were homogeneous in age and who practiced the same type of meditation, called "Brain Wave Vibration" MBT. This MBT is designed to facilitate relaxation of the mind and release of negative emotions through natural rhythmic movements and a focus on bodily sensations. For this purpose, the method emphasizes heightened awareness of the movement of energy within the body by concentrating

on bodily sensations and emotions. The detailed methods have been described in our previous report.¹³

Emotional Intelligence

Emotional intelligence represents an individual's ability to perceive, facilitate, understand, and manage emotions in a proper and compromising manner.¹⁷ An emotionally intelligent person is successful in adapting to circumstances that elicit emotions, either through effective regulation of the emotion itself or by applying more general coping and interpersonal skills.¹⁸

Emotional intelligence was measured using the Korean version of the instrument¹⁹ developed based on the ability model of emotional intelligence.²⁰ Emotional intelligence was measured with 50 questions categorized into five simplified factors of emotional awareness and expression (EAE), empathy (EP), emotional thinking (ET), emotional application (EA), and emotional regulation (ER). Each of these five simplified factors consisted of 10 questions describing different feelings and emotions. Each question was scored on a 5-point Likert-scale of "not at all" (1), "somewhat" (2), "moderately" (3), "very much" (4), or "absolutely" (5). Each factor was scored, and higher scores indicated greater emotional intelligence.

Myers-Briggs Type Indicator

The MBTI is a psychometric questionnaire designed to measure psychological preferences concerning perceptions of the world and decision-making. Theories about the psychological types, reflected by the MBTI and the psychological tests based on the analytic psychology of Carl Gustav Jung,²¹ have achieved popular consensus. Jung proposed two dichotomous pairs of cognitive functions called the "rational" (judging) functions of thinking and feeling, and the "irrational" (perceiving) functions of sensing and intuition. The MBTI reflects intrapersonal preferences, such as extraversion-introversion (E-I), sensing-intuition (S-N), thinking-feeling (T-F), and judgment-perception (J-P).

The questionnaire used in this study was the standardized MBTI Form G containing 94 items. All questionnaires were scored according to routine MBTI methods. Preferences within dichotomous pairs were transformed into one serial score. For example, an extraversion score subtracted from 100 and an introversion score of +100 were combined to create one serial score for E-I.

Thus, low scores indicated extraversion, and high scores indicated introversion. In the same way, low scores represented sensing, thinking, and judgment, and high scores indicated intuition, feeling, and perception.

Statistical Analysis

Student's *t* test was used to analyze differences between the two groups. Pearson's correlation coefficient analysis was used to assess the relationships between variables. In addition, partial correlation analysis was also performed to control the effect of duration of meditation, while examining the associations between emotional intelligence and personality traits. The *p* values < 0.05 were considered significant.

RESULTS

Descriptive Characteristics

Table 1 shows that there were no significant group differences in the demographic characteristics of age, gender, educational level, and socioeconomic status. The MBT group showed higher scores on all five factors of emotional intelligence than did those of the control group

(Table 2). MBT practitioners showed responses reflecting greater intuition in the perceiving function and greater feeling in the judging function on the MBTI than did those of the control group (Table 2).

Correlations between Emotional Intelligence and MBTI in Each Group

We examined relationships between the five factors of emotional intelligence and the four serial MBTI scores in each group. Significant positive correlations were observed between each of the five factors of emotional intelligence and the S-N scores on the MBTI among those in the MBT group (Fig. 1B; EAE, $r=0.267$, $p=0.023$; EP, $r=0.288$, $p=0.014$; ET, $r=0.330$, $p=0.005$; EA, $r=0.273$, $p=0.021$; ER, $r=0.321$, $p=0.006$), indicating that higher scores of emotional intelligence were related to higher scores for intuition. However, no correlation was detected between emotional intelligence and the S-N scores in the control group (Fig. 1A). A positive correlation was observed between the EP scores of emotional intelligence and the T-F scores in the control group ($r=0.278$, $p=0.029$).

All five factors of emotional intelligence were inversely

Table 1. Demographic characteristics of participants

Variable	Healthy controls (n=62)	MBT practitioners (n=72)	t/χ^2	<i>p</i>
Age (yr)	25.5±3.6	26.1±3.2	-1.035	0.303
Education (yr)	14.8±1.5	14.8±1.7*	-0.088	0.930
Gender, male	38 (61.3)	35 (48.6)	2.160	0.142
Socioeconomic status, I/II/III/IV/V	1/23/22/8/2 [†]	0/13/27/2/1 [‡]	6.629	0.157
Duration of meditation (mo)	-	42.8±3.5	-	-

Values are presented as mean±standard deviation, number (%), or number only.

Class I of socioeconomic status represents the highest level and Class V represents the lowest level.

*n=71, [†]n=56, [‡]n=43.

Table 2. Group differences in emotional intelligence and four functions on the Myers-Briggs Type Indicator

Variable	Healthy controls (n=62)	MBT practitioners (n=72)	<i>t</i>	<i>p</i>
Emotional intelligence				
Emotional awareness and expression	34.7±5.4	37.8±4.0	-3.756	<0.001
Empathy	34.2±5.0	36.9±3.6	-3.458	0.001
Emotional thinking	32.9±5.3	39.5±4.1	-8.138	<0.001
Emotional application	33.0±4.7	36.3±5.2	-3.887	<0.001
Emotional regulation	33.4±5.9	37.5±4.9	-4.408	<0.001
Myers-Briggs Type Indicator				
Extraversion-Introversion	94.2±24.3	97.1±24.0	-0.692	0.490
Sensing-Intuition	86.1±23.1	95.4±17.0	-2.635	0.010
Thinking-Feeling	87.0±20.7	98.6±19.4	-3.340	0.001
Judgment-Perception	95.1±31.1	99.9±25.8	-0.986	0.326

Values are presented as mean±standard deviation.

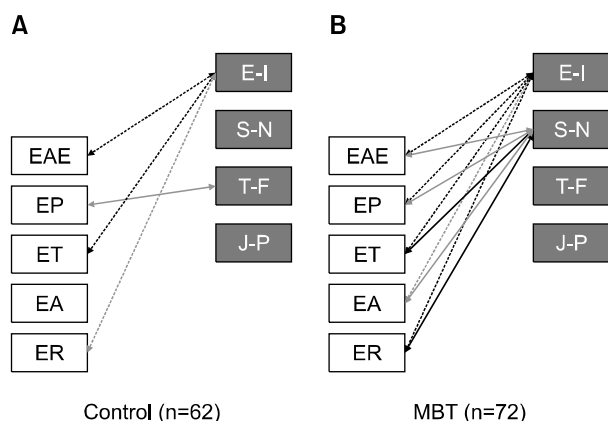


Fig. 1. Correlations between emotional intelligence and Myers-Briggs Type Indicator (MBTI) scores in the control (A) and MBT (B) groups. E, S, T, and J indicate low serial scores and I, N, F, and P indicate high serial scores.

Dotted arrows, negative correlations; line arrows, positive correlations; gray-colored arrows, $p < 0.05$; black-colored arrows, $p < 0.01$. MBT, mind-body training; EAE, emotional awareness and expression; EP, empathy; ET, emotional thinking; EA, emotional application; ER, emotional regulation; E-I, extraversion-introversion; S-N, sensing-intuition; T-F, thinking-feeling; J-P, judgment-perception.

correlated with the E-I scores in the MBT group (Fig. 1B; EAE, $r = -0.487$, $p < 0.001$; EP, $r = -0.384$, $p = 0.001$; ET, $r = -0.444$, $p < 0.001$; EA, $r = -0.297$, $p = 0.011$; ER, $r = -0.306$, $p = 0.009$), indicating that the higher scores for all components of emotional intelligence were associated with a high level of extraversion. In the control group, three factors of emotional intelligence were inversely correlated with E-I scores (Fig. 1A; EAE, $r = -0.401$, $p = 0.001$; ET, $r = -0.394$, $p = 0.002$; ER, $r = -0.292$, $p = 0.021$).

Above associations were remained significant, when duration of the MBT was controlled in partial correlation analyses.

DISCUSSION

The MBT practitioners demonstrated consistent relationships between every component of emotional intelligence and extraverted and intuitive types on the MBTI. In addition, they not only showed the higher levels of intuition in forming perceptions and using feelings for making judgments in personality traits, but also enhanced emotional intelligence compared to the control group.

Compassion meditation experts who have cultivated empathy and theory of mind for less than 10 years showed altered activation of related brain circuitry, suggesting that

a repeated practice could result in enduring change with regard to affective and social style.⁹⁾ Considering that the 8-week of MBT showed a positive effect on emotional intelligence,⁶⁾ it is likely that this study population of long-term meditators practicing over one year would also have an enduring trait-like change as other kinds of meditations. MBT, which combines ancient Eastern philosophy with modern scientific methods, is designed to relax the mind and body and to elevate awareness.¹²⁾ MBT helps to quiet the thinking mind and release negative emotions by performing natural rhythmic movements.¹³⁾ As part of this process, MBT places importance on focusing attention on emotions and bodily sensations.¹²⁾ The somatic marker hypothesis describes a mechanism by which our behavior can be guided by emotion and shows that this emotion arises from body feedback.²²⁾ MBT practitioners, who have learned the interaction between mind and the body, acquire reasonable proficiency in using their body signals to perceive and facilitate their emotions, which can be reflected on the higher emotional intelligence of the MBT group.

The MBTI-defined intuitive type is associated with a preference to focus on the future and perceive possibilities, whereas the sensing type is associated with a preference to focus on the present and use concrete information.²³⁾ Dual-process theories that distinguish a quick, intuitive, and effortless processing style²⁴⁾ from a slow, analytical, and deliberate reasoning style²⁴⁾ have been associated with functional activity in different brain regions.²⁵⁾ In particular, effortless intuition is related to activities in the insula and anterior cingulate cortex.²⁵⁾ Furthermore, the caudate is activated during quick automatic processes of intuition in experts, and activation of the caudate develops in novices after intuition training.^{26,27)} These subcortical areas related to intuition are closely associated with the limbic system, which supports a variety of functions including emotions. Thus, the distinct relationship between intuitive aptitude and emotional intelligence, which was observed in the MBT group, suggests that meditation practitioners can utilize their emotional intelligence for intuitive perception. As meditation can alter interactions between the central and autonomic nervous systems,⁷⁾ MBT seems to improve the efficiency of interactions between the emotional and intuitive aspects involved in perceiving irrational functions.

In addition, previous studies have reported increased

dopamine release from the striatum during Yoga Nidra meditation²⁸⁾ and an increase in the plasma dopamine level among MBT practitioners.¹³⁾ Considering a previous report that “gut-level” intuition may be related to the basal ganglia-dopamine system,²⁹⁾ this suggests that a greater reliance on intuition as the basis for perceiving in the MBT group may also be associated with long-term meditation practice. The greater preference for feelings in the MBT than that in the control group may also be associated with meditation training and increased emotional intelligence. The MBTI defines feeling types based on decisions regarding values and personal concerns, whereas thinking types base decisions on logic.²³⁾ Feeling individuals are more subjective, and intimate; they like to use persuasion, and are personable, humane, harmony oriented, sympathetic, and devoted.³⁰⁾ Given that MBTI feeling types report higher psychological well-being than that of thinking types,²³⁾ the regulatory effects of meditation on emotional processes, which also involve decision making, affect reliance on feelings to reach a decision.

The two groups showed a similar association between emotional intelligence and the propensity for extroversion, which was considerable in both groups. Extraverts may be better able to employ emotional information, as compared to introverts, as they are stimulated rather than overwhelmed by emotion information.¹⁷⁾ However, the more robust relationships between the MBTI-defined extroverted types and the emotional intelligence of the MBT group, compared to those in the control group, suggest that meditation strengthens the availability of emotional information to practitioners. This observation agrees with previous findings that extraversion is positively correlated with practicing meditation and that increasing emotional competence leads to long-term significant increases in extraversion.^{31,32)}

The present findings are limited by the cross-sectional design of this study, precluding an inference of the cause-effect relationships. Whether the associations between emotional intelligence and personality traits are the baseline characteristics of meditators or the influence of medication can be found out by a follow-up research while controlling for the pre-existing personality traits, lifestyle and other regular activities. Thus, the additional information on the baseline characteristics of the participants should be provided. Second, in this study population of long-term meditators, it is difficult to explore a

dose-response relationship in trait-like changes with duration of meditation. Further research on a heterogeneous group of meditators would be needed to find linear relationships between duration and effect of meditation. Furthermore, although there was no statistical group-difference in the gender composition, a considerable difference of the two groups should be considered in the interpretation of the results. Finally, emotional intelligence and personality were assessed by self-reported measures. Emotional intelligence is related to personality traits, and self-report measures overlap more with personality measures.³³⁾ However, the contributions of emotional intelligence to academic, social, and career outcomes go beyond the contributions of personality, suggesting that emotional intelligence is distinct from the major dimensions of personality.¹⁷⁾

In conclusion, MBT practitioners showed increased emotional intelligence, which was strongly correlated with extroverted and intuitive types of MBTI personality traits. The specific goal of the MBT, which cultivates emotional and bodily awareness and their interaction, is closely related to emotional intelligence. This emotional regulatory capacity, which involves ability to carry out accurate reasoning about emotions and use emotions to enhance thoughts and behavior,¹⁷⁾ can play a key role in non-pharmacological interventions in mental disorders such as cognitive-behavioral therapy. When increased emotional intelligence is connected to trait-like changes or enduring patterns of inner experience and behavior, therapeutic effects might be improved and/or maintained on mental disorders. A follow-up study on the impact of meditation in patients with depression, suicidality, or distress with general medication conditions^{30,34,35)} would help in developing alternative solving approaches in psychopathology.

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