The Scientific Journal of CosmoIntel
The First Scientific Journal in T-Consciousness Research

An Investigation of the Effect of Faradarmani Consciousness Field on Heart Rate Variability Parameters

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Abstract

Mohammad Ali Taheri has introduced the Faradarmani Consciousness Field (FCF), which is a new qualitative field (it is neither matter nor energy), as a complementary and alternative medicine. The present study was designed to investigate the effectiveness of this T-Consciousness Field on the function of the autonomic nervous system (ANS). For this purpose, heart rate variability (HRV) indices and skin conductance (SC) were measured as reliable indicators of autonomic nervous system changes under the influence of the FCF. To this end, 50 volunteers (23 women, 27 men, age 23 to 77 years) participated randomly in this double-blind study. In order to standardize the conditions for the volunteers, all recordings were performed under constant environmental conditions, between 10 AM and 12 PM, at least one hour after breakfast, and 10 to 15 minutes after the participant's arrival at the laboratory, in two 5-minute sessions. Data recording was performed in the first 5 minutes without applying the FCF to determine the baseline state of the autonomic nervous system for each volunteer. In the second 5 minutes, the participants were exposed to the FCF, and the corresponding data were recorded again. After extracting the HRV signal from the heart rate data obtained from the blood volume pressure signals using a biofeedback device, the data were analyzed in both time-domain and frequency-domain modes. Finally, the HRV and SC data were statistically analyzed using two-way ANOVA, followed by Tukey's post hoc test for comparing the Faradarmani state with the baseline state. In the parameters examined under the influence of Faradarmani, two types of changes (either increases or decreases) were observed. Two-way ANOVA analysis showed significant changes in HRV parameters (but not SC) compared to baseline. Comparison of the results from the frequency-domain and time-domain analysis of HRV revealed significant changes in the frequency-domain mode (VLF: P1=0.0016, P2=0.0147; LF: P1<0.001, P2=0.008; HF: P1=0.0338, P2=0.0086; LF/HF: P1=0.0011, P2=0.0119) compared to the time-domain mode (PNN50: P1=0.0464). Based on the findings of this study, the FCF not only produced significant changes in ANS function, but the different changes observed in the HRV parameters of different individuals also suggest a form of consciousness that takes each person's condition and needs into account.

Keywords: Faradarmani, T-Consciousness Fields, Heart Rate Variability, Skin Conductance, Autonomic Nervous System

Abbreviations used in the article

Autonomic Nervous System	ANS
Complementary and Alternative Medicine	CAM
Cosmic Consciousness Network	CCN
High Frequency	HF
Heart Rate	HR
Heart Rate Variability	HRV
Low Frequency	LF
the percentage of successive normal-to-normal (NN) intervals that differ by more than 50 ms.	PNN50٪
Skin Conductance	SC
Standard Deviation of Normal to Normal intervals	SDNN
T-Consciousness Fields	TCFs
Very Low Frequency	VLF

Introduction

Modern life has given rise to many problems, including physical inactivity, poor nutrition, and environmental stress, all of which contribute to physical and mental illness [1, 2]. The presence of illness impairs individuals' functioning and behavior [3, 4], which in turn leads to a range of social problems [5]. As these problems become more numerous and more complex, particularly those related to human health, diagnosis and treatment become increasingly difficult, especially when symptoms are hysterical and their cause is unknown [6]. Consequently, with the emergence of incurable and untreated diseases such as COVID-19, together with the fear of infection and reduced visits to physicians and psychologists, people's difficulties have increased [7].

In the current century, the nature of ‘consciousness’ and its place in the world of science have received much attention, and many philosophical and scientific theories have been proposed in this field. In the 1980s, Mohammad Ali Taheri introduced new fields with a non-material and non-energy nature, which are called Taheri's Consciousness Fields (T-Consciousness Fields). In this view, T-Consciousness is one of the three elements existing in the universe, besides matter and energy.

According to this theory, there are various T-Consciousness Fields with different functions, which are subsets of the cosmic internet network knows as the Cosmic Consciousness Network (CCN). The major difference between the theory of T-Consciousness Fields and other theoretical concepts related to consciousness is the practical application and use of T-Consciousness Fields. These fields can be applied to all living and non-living beings, such as plants, animals, microorganisms, materials, and so on [8].

Given that in the scientific approach, the probability of randomness is calculated to be less than 5%, and the result of a test is confirmed when there is a difference of more than 95% between groups, it can be said that if the results are significant, they are valid. At the same time, the accuracy of this method is determined by statistical analysis. According to the mentioned points, the aim of this study is to investigate the effect of the Faradarmani Consciousness Field (FCF) on the function of the autonomic nervous system (ANS) through measuring heart rate variability (HRV) indices and skin conductance (SC).

Research Methodology

Applying Faradarmani Consciousness Field

Fifty participants of both genders were exposed to the FCF according to the guidelines provided on the website for research in the field of T-Consciousness Fields. The request for Connection with

T-Consciousness Fields (*Nazar*) is freely available in the 'Connection Announcement Request' section on this website[6]. In order to study at any time and place, researchers register on the mentioned website and introduce the experiment to the support center. For example, it is necessary to specify the sample numbers, controls, and their designated names. This study was conducted in a double-blind manner. This means that not only were the participants and the data-recording technicians unaware of this treatment and the purpose of the experiment, but the *Faradarmangar* (Faradarmani practitioner) also did not know the participating individuals.

Only individuals with no history of cardiovascular disease and no use of related medications were included in the study. Before the experiment, participants completed a general health and medical history questionnaire to ensure normal cardiovascular function and the absence of medications affecting autonomic nervous system activity [9, 10].

Ultimately, 50 healthy volunteers of both genders (23 women and 27 men, aged 23 to 77 years, with education levels from bachelor's to doctorate), provided written informed consent and were enrolled in this study. Their HRV and SC were recorded. Since autonomic nervous system function can be affected by the environmental conditions of the testing site, the psychological state, or even the respiratory state of the participants [11], it is essential to conduct the experiment under stable and optimal conditions. For this purpose, all recordings were performed under identical environmental conditions (in a fixed room with specified environmental factors).

Furthermore, all recordings were performed between 10 AM and 12 PM (before lunch and at least one hour after breakfast) to avoid the effects of circadian rhythm [12]. Additionally, in order to eliminate the influence of daily physical factors on autonomic nervous system activity [13], participants were not allowed to engage in physical exercise the day before. On the study day, after arriving at the laboratory and before data recording, they were asked to sit still and relax their bodies for 10-15 minutes.

It is worth noting that since each participant's data is compared with their own baseline before exposure to the FCF (and not with each other), there was no need to match participants across groups. Still, all participants were asked to breathe calmly during both recordings to reduce measurement error.

Recording Heart Rate Variability and Skin Conductance Data

HRV and SC data were recorded using a four-channel biofeedback device (manufactured by Medinatab, Tehran) over six consecutive days (from 10 AM to 12 PM). For each participant, data were recorded in two 5-minute sessions after attaching heart rate and skin conductance electrodes to the fingers.

The first 5-minute recording was performed without any intervention for each participant to determine the baseline state of their autonomic nervous system. Then, in the second 5-minute session, remote Connection with the FCF was applied in a double-blind manner through the Faradarmangar (Faradarmani practitioner), and simultaneously the participants' data were recorded for comparison with their baseline state. Finally, each of the heart rate variability parameters (frequency-domain and time-domain) was calculated using power spectrum analysis of the recorded data, based on the model first proposed by Bianchi in 1997, using the biofeedback device [14].

Statistical Analysis

Statistical analyses were performed using GraphPad Instat-3 software, using two-tailed ANOVA followed by Tukey's post hoc test, and values are expressed as mean ± standard deviation. P values less than 0.05 indicate statistically significant differences.

Results

As shown in Table 1, based on the results obtained from two-tailed ANOVA analysis, the FCF caused

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Table 1. Comparison of values between the baseline and Faradarmani conditions.

Parameters	Base (mean)	± SEM	Faradarmani (mean)	± SEM	*P*-Value
VLF1	36.586	1.489	44.405	1.825	0.0016
VLF2	48.557	2.898	39.974	1.716	0.0147
LF1	26.29	1.417	37.494	1.644	0.001
LF2	35.859	1.995	27.074	1.425	0.008
HF1	21.627	2.529	29.78	2.721	0.0338
HF2	31.016	2.727	20.829	2.553	0.0086
LF/HF 1	1.2	0.1371	2.639	0.3954	0.0011
LF/HF 2	2.241	0.3792	1.156	0.1623	0.0119
PNN50 1	20.2	3.971	33.2	4.907	0.0464
PNN50 2	31.033	3.896	21.933	3.529	0.887
SDNN 1	53.652	6.806	73.739	9.002	0.0820
SDNN 2	86.333	10.979	65.519	10.633	0.1791

major changes in HRV parameters (some increasing and some decreasing) compared to the baseline state

Comparison of the frequency-and time-domain HRV parameters showed significantly greater changes in the frequency-domain measures (VLF: P1 = 0.0016, P2 = 0.0147; LF: P1 < 0.001, P2 = 0.008; HF: P1 = 0.0338, P2 = 0.0086; LF/HF: P1 = 0.0011, P2 = 0.0119) than in the time-domain measures (PNN50: P1 = 0.0464).

Frequency-Domain Analysis of Heart Rate Variability

Figure 1 shows the frequency-domain HRV parameters (VLF, LF, HF, LF/HF) for each participant before (red) and after Connection with the FCF (green).

In the initial plots of each frequency index (a, d, g, j), the changes appeared irregular and inconsistent. However, assuming that the effect of the FCF depends on the patient's needs, the plot of each index was divided into two groups: ,increased, (b, e, h, k) and ,decreased, (c, f, i, l), so that the changes in each individual under the influence of Faradarmani could be more clearly visualized. For example, the VLF index, which represents very low-frequency heart rates, increased in 29 out of 50 participants under the influence of the FCF (as shown in Figure 1, section b), while it decreased in 21 participants (Figure 1). Finally, as shown in Figure 2, statistical analysis showed significant and meaningful changes in each of the increased and decreased groups (indicated by numbers 1 and 2).

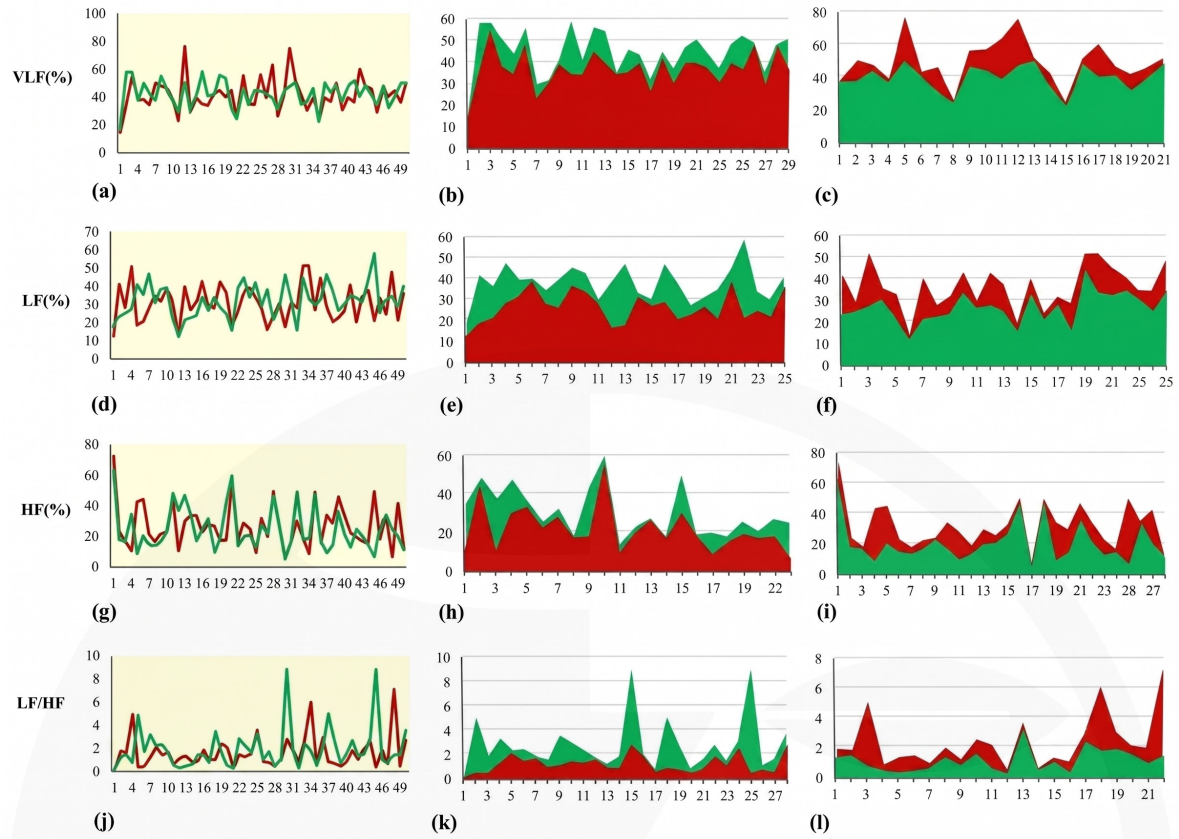


Figure 1. Comparison of frequency-domain HRV parameters (VLF, LF, HF, LF/HF) between baseline (red) and under the influence of the Faradarmani Consciousness Field (green) for each participant.

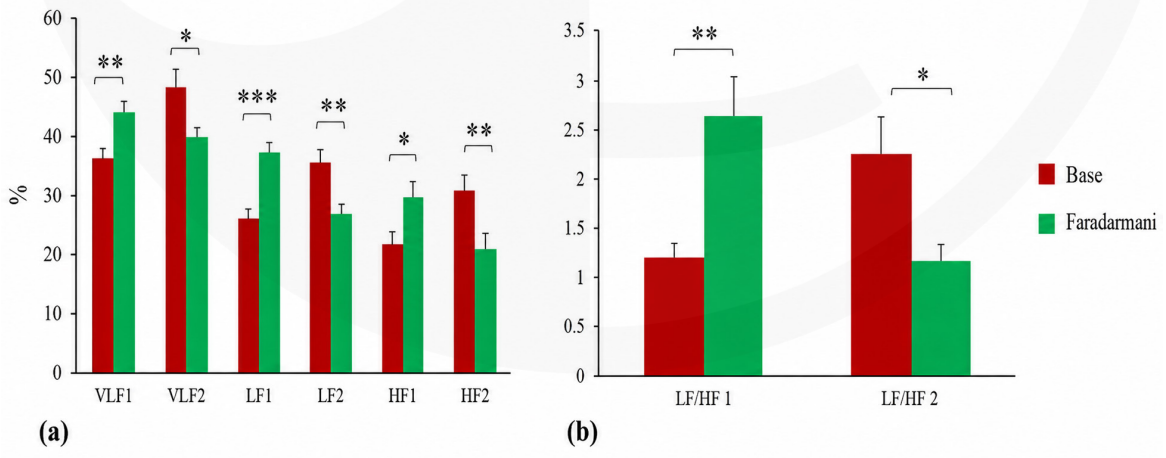


Figure 2. Statistical analysis of frequency-domain HRV parameters between baseline (red) and under the influence of the Faradarmani Consciousness Field (green). Labels 1 and 2 in each parameter indicate the increased and decreased groups, respectively (*: P values less than 0.05, **: P values less than 0.01, ***: P values less than 0.001).

Statistical analysis of frequency-domain HRV parameters showed significant changes in VLF between Faradarmani and baseline states (increase: P1=0.0016, decrease: P2=0.0147), LF (increase: P1<0.001, decrease: P2=0.008), HF (increase: P1=0.0338, decrease: P2=0.0086), LF/HF (increase: P1=0.0011, decrease: P2=0.0119) (Figure 2).

Time-Domain Analysis of Heart Rate Variability

Figure 3 shows the time-domain HRV parameters (PNN50, SDNN) for each participant before (pink) and after Connection with the FCF (green). Dividing each plot into two groups— "Increased" (b, e) and "decreased" (c, f)—makes the changes in each individual under the influence of Faradarmani more clearly visible. Analysis of time-domain HRV parameters showed statistically significant changes in PNN50 (increase: P1=0.0464) between baseline and the Faradarmani (Figure 4). No significant difference was observed in SDNN before and after treatment with the Faradarmani.

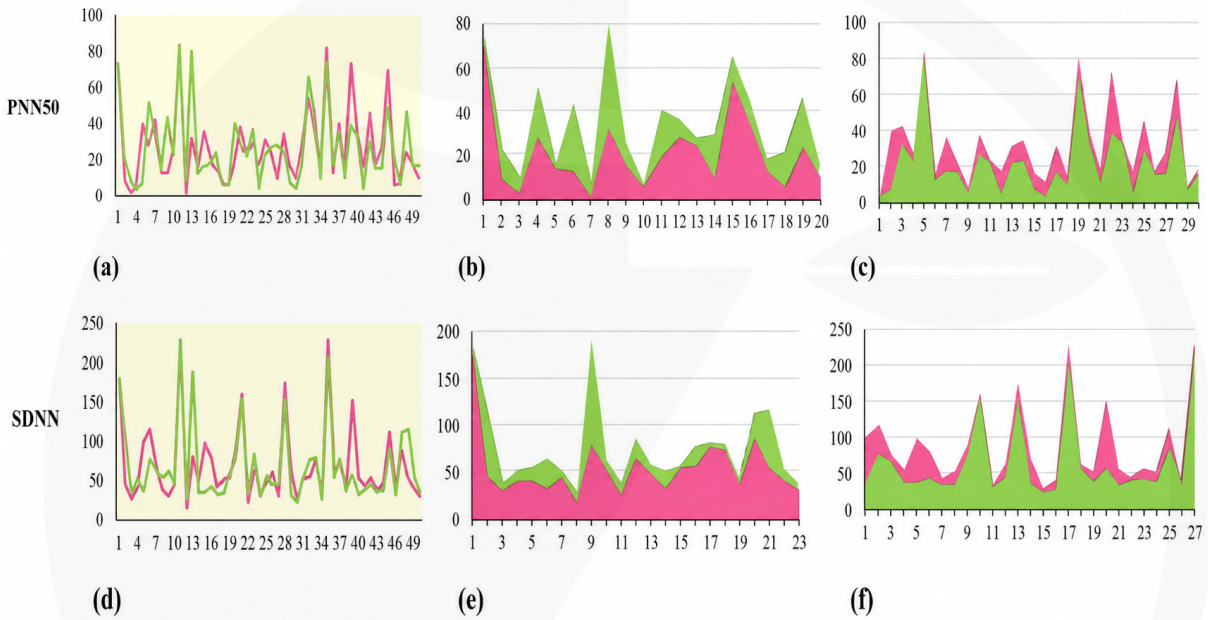


Figure 3. Comparison of time-domain HRV parameters (PNN50, SDNN) between baseline (pink) and under the influence of the Faradarmani Consciousness Field (green) for each participant.

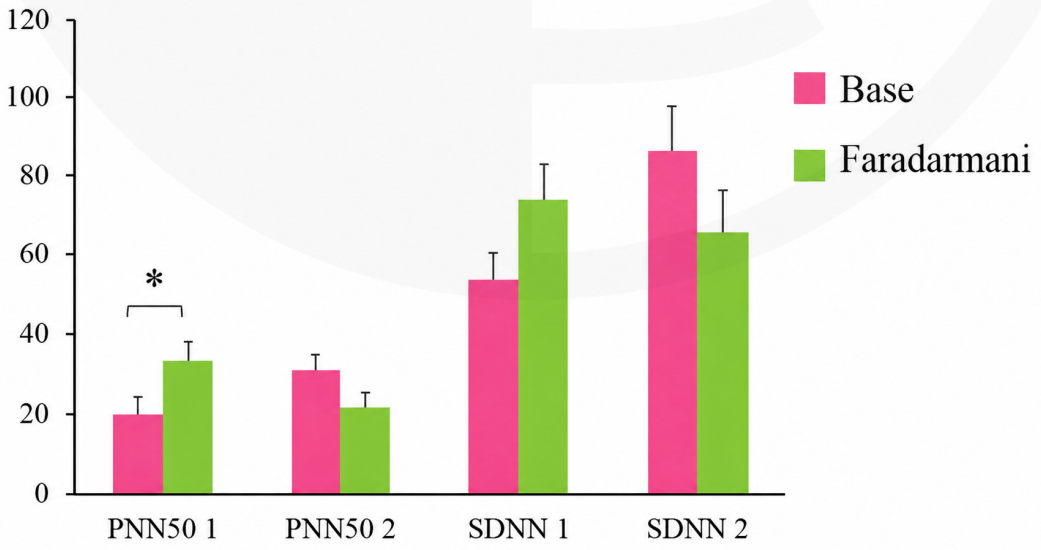


Figure 4. Statistical analysis of time-domain HRV parameters between baseline (pink) and under the influence of the Faradarmani Consciousness Field (green). Labels 1 and 2 in each parameter indicate the increased and decreased groups, respectively. *: p- value < 0.05

Skin Conductance Index

Based on two-tailed ANOVA analysis, no significant change was observed in the SC index under the influence of the Faradarmani Consciousness Field.

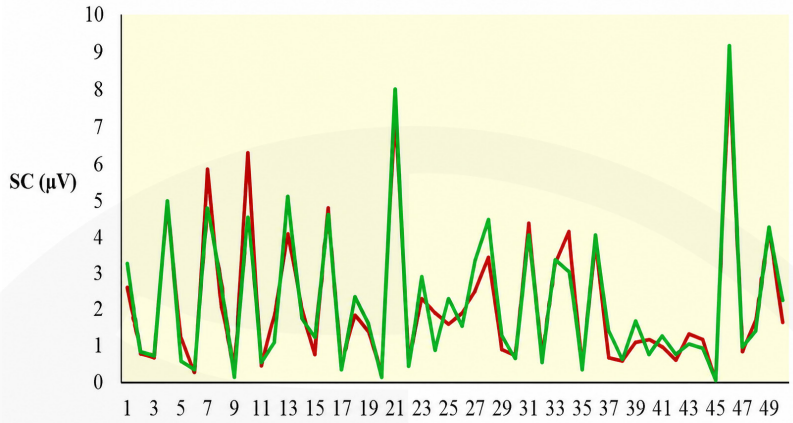


Figure 5. Comparison of SC index before (red) and after connection with the Faradarmani Consciousness Field (green) for each participant.

Discussion and Conclusion

Studying new therapies in the present era can be the starting point for a breakthrough or perhaps a change in the type of treatment in medical approaches. So far, much research has been conducted on the effect of various complementary and alternative medicine (CAM) therapies on heart rate and HRV. For example, there are studies on the effects of mindfulness [15–18] and acupuncture [19–21] on HRV, which often focus on their effectiveness, while their mechanism of action is still unclear.

Based on studies conducted so far on complementary therapeutic methods such as meditation and mindfulness, these methods show a consistent increase in HRV during practice sessions, regardless of the individual's conditions and needs [22, 23]. For example, a group of researchers from the UK, Brazil, and the United States published a systematic review article on meditation in 2020, in which they pointed out the side effects of meditation. According to this comprehensive review, which examined all relevant articles published from 1974 to 2019, both individuals with a history of mental health problems and those without any prior history may experience side effects during or after meditation practice, and may experience harmful effects such as anxiety and depression (with a prevalence rate of 8.3%). This rate is comparable to the frequency of similar cases reported in psychotherapy practices [24].

Regarding the Faradarmani Consciousness Field, as mentioned in the introduction, although it cannot be directly and quantitatively measured, its effects can be investigated through various experiments. In previous studies, we have investigated and observed the effects of this T-Consciousness Field on the MCF7 breast cancer cell line [25], cellular and mouse models of Alzheimer's disease [26], spatial memory and avoidance behavior in a rat model of Alzheimer's disease [27], wheat plants [28], bacterial population growth [29], viral growth [30], and electrical brain activity in a population of Faradarmangars during Faradarmani Connection [31].

Based on the results of the present study, not only does the FCF have significant effects (even remotely) on autonomic nervous system function, but it also applies different changes to HRV parameters in different individuals. This type of effect seems to indicate a kind of consciousness that takes into

account the individual's conditions and needs. However, more research should be conducted to identify the effects of the FCF.

Regarding the skin conductance index, according to studies conducted on the effect of various CAM methods on SC reactivity, it appears that significant changes require a long-term period with a time scale of several months [32]. Therefore, it is suggested that future studies investigate the effects of the FCF over longer periods.

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