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The First Scientific Journal in
T-Consciousness Research



**Investigating the Effects of
Taheri Consciousness Fields
in Microgravity Conditions on Living
Organisms and Inanimate Materials**



Mohammad Ali Taheri
Originator of T-Consciousness Theory
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Table of Contents:

Editorial	6
Considerations of This Issue	9
The Effect of Taheri Consciousness Fields on the Cell Cycle of Raji and HEK-293 Cell Lines under Microgravity Conditions	14
The Effects of Taheri Consciousness Fields on the Growth of <i>Escherichia Coli</i> BL21 and Absorption of Lead Heavy Metal by <i>Saccharomyces Cerevisiae</i> in Altered Gravity Conditions	19
The Effect of Faradarmani Consciousness Field on Several Growth Parameters of Wheat Plant in Microgravity and Earth's Gravity Conditions	26
Investigating the Influence of the Taheri Consciousness Field (1) on the Magnetic Properties of Pure Iron Atoms in Microgravity Conditions	31

Editorial

Mohammad Ali Taheri
Founder of T-Consciousness Theory



Investigating the Effects of Taheri Consciousness Fields in Microgravity Conditions on Living Organisms and Inanimate Materials

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Gravity, as one of the four fundamental forces in physics, constitutes the current form of the cosmos. From the perspective of classical Newtonian physics, the force of gravity, essentially the gravitational force between any two masses, is responsible for an apple falling from a tree to the ground and even the moon's orbit around the Earth. In Einstein's general theory of relativity, the source of spacetime curvature arising from the mass of any object is gravity. On the other hand, in particle physics, the Higgs boson or the Higgs field is responsible for endowing mass to all elementary particles. In fact, mass serves as a significant common point in almost all physics laws and formulations. The experience of gravity in any mass, after its "existence" is realized in the cosmos, becomes a determining reality in the evolutionary process of its "being." In other words, from the structure formation and functionality of atoms and primary molecules to the biological evolution of single-celled organisms and contemporary humans, gravity has been a universal, impactful, and ubiquitous law in the cosmos.

From the perspective of T-Consciousness cosmology, it is gravity that has bestowed meaning on space and time. If we exist and are aware of the cosmos' existence, it is due to the existence of gravity. Hence, it is through the existence of particles that we perceive a wave.

Furthermore, with the advancement of human sciences and the experience gained from space travel, coupled with distancing from Earth and exposure to minimal gravity conditions, humans encountered one of its significant experimental challenges: being in reduced-gravity conditions, the cells, organs, and body systems of the human body gradually deviate from their natural and fundamental functions, giving rise to various disruptions in most organs—from bone-forming tissues to the heart and the brain.

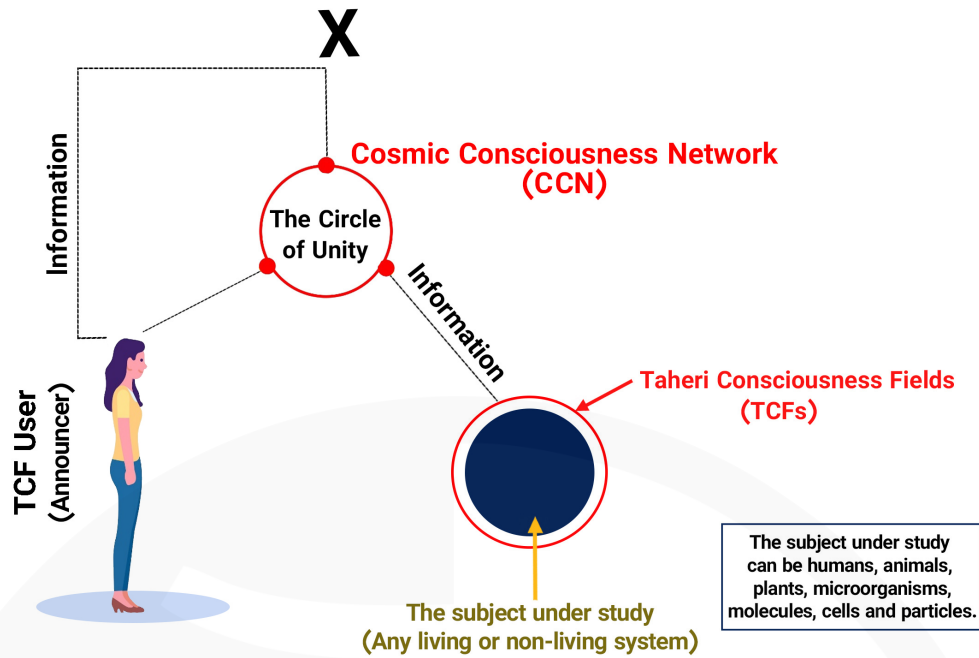
On the other hand, it has been revealed that microorganisms, some of which, like *Escherichia coli* bacteria, are integral components of the natural flora of the body and the human digestive system, become more active and abundant under conditions of reduced gravity (microgravity). In other words, the human body on Earth is structured based on its gravity, and gravity is an indispensable component of the health and homeostasis conditions underlying human life on Earth and its evolution. Humanity's aspiration for life beyond Earth and the undertaking of long-term space travel face a significant challenge, endangering life and compromising the necessary conditions for it. These observations have provided the necessary groundwork for revisiting hypotheses and theories that considered life as dependent and confined to Earth. In essence, they support the perspective that life, regardless of its intrinsic and essential nature, is influenced by terrestrial conditions.

Based on this, space research institutions worldwide, such as NASA and ESA, allocate significant scores and billions of dollars annually to ideas and projects. On the one hand, these initiatives aim to assist the human body in maintaining a stable biological state in microgravity conditions and during space travel. On the other hand, they seek solutions to physiological changes in their bodies upon returning from space journeys. These efforts encompass the design of medicines and specialized foods, as well as the development of tools and equipment capable of monitoring the body's internal conditions, regulating specific alerts, and initiating specific metabolic reactions and responses. Despite all these endeavors and expenditures, the achievements and advancements in this field over the past five decades have not been significant. The problem persists with its inherent complexity, lacking a fundamental solution.

On the other hand, nearly four decades ago, I introduced the theory of "Taheri Consciousness Fields", presenting a distinct definition of the cosmos and its foundation. In this perspective, "T-Consciousness" is considered the fundamental element of the cosmos, and what has led to the formation of the cosmos in its current state is motion. In essence, T-Consciousness imparts direction and purpose to the cosmos, considering motion as its fundamental fabric. Hence, gravity and all the defining principles of the cosmos are guided by this negligible yet qualitative aspect. Indeed, the information indices produced by T-Consciousness determine the behavior of every component within the ecosystem. Furthermore, life transcends living entities and is an elevated force independent of them. Living entities, or primitive cells at the inception of life, merely serve as receptors for information from T-Consciousness. They are not creators of life, and T-Consciousness and the life force possess a nature independent of living entities. With these explanations, according to the theory of TCFs, it is natural that gravity, as one of the constructive physical laws, is influenced by T-Consciousness rather than having an impact on it. In other words, the information that leads to the application of gravity to mass, resulting in the formation of specific structures and functions, is not beyond the information present in the T-Consciousness of existence.

Prior studies have demonstrated through numerous laboratory experiments that TCFs possess a non-physical nature and can exert an influence on the matter, energy, and biological systems. This effectiveness is observable, recordable, and documentable both in laboratory and field conditions. In this issue, CosmoIntel researchers have engaged in the design and implementation of a comprehensive set of studies where they established microgravity conditions in laboratory settings by creating standard conditions in the field of aerospace sciences. Utilizing precise and global tools in this domain, these studies were conducted on various living organisms, such as human natural and cancerous cells, Escherichia coli bacteria, yeast, wheat plants in the early stages of growth, and materials (pure iron atoms). In these experiments, the effectiveness of T-Consciousness under microgravity conditions was meticulously and repetitively examined compared to control conditions.

The results of these experiments not only confirm the entirely independent and distinct nature of these fields from the recognized physical force of gravity but also indicate that TCFs enhance the vitality and survival of cells under microgravity stress. Moreover, they bring the behavior of microorganisms and even the properties of materials closer to conditions under Earth's normal gravity. These observations substantiate the adaptability of information indices and the formation of a novel state under microgravity conditions, enabling the possibility of survival. Naturally, the experience of numerous and diverse studies employing TCFs, with the aim of introducing and elucidating the broad and practical dimensions of these fields through scientific experiments, seeks to enhance our understanding of the fundamental principles governing the cosmos. The objective is to unravel the profound mission of "being human." The hope is that researchers, as impartial observers, will be increasingly involved and diligent in this matter in every corner of the world.



Schematic picture of the application of Taheri Consciousness Fields (TCFs). The effects of TCFs are initiated through the connection to the Cosmic Consciousness Network (CCN), which is established via the Faradarmangar's (announcer) mind. There are variable TCFs that are a subset of this intelligent network and with applying them specific information is transmitted. This way, the subject under study, comprising living organisms or non-living matters, becomes exposed to the mentioned information. It is important to note that TCFs and proposed information by Taheri do not possess material or energetic entities, making direct quantitative measurement impossible. However, their effects can be recorded through the design of diverse experiments. To accomplish this, obtained data regarding the behaviors or other traits of the subjects under study is collected while under the influence of these fields. These observations are then compared with control groups (those not subjected to TCF treatment), and the results are subsequently analyzed statistically and reported.

Considerations of This Issue

Introduction

1-1 T-Consciousness and the New Science of ScienceFact

The nature of consciousness and its place in science has received much attention in the current century. Many philosophical and scientific theories have been proposed in this area. In the 1980s, Mohammad Ali Taheri introduced novel fields with non-material/non-energetic nature named Taheri Consciousness Fields (TCFs). In this perspective, T-Consciousness is one of the three existing elements of the universe apart from matter and energy. According to this theory, there are various TCFs with different functions, which are the subcategories of a networked universal internet called the Cosmic Consciousness Network (CCN). The major difference between the theory of TCFs and other theoretical concepts about consciousness is related to the practical application of the TCFs. These fields can be applied to all living and non-living creatures, including humans, plants, animals, microorganisms, materials, etc.

Mohammad Ali Taheri, the founder of Erfan Keyhani Halqeh, a school of thought, introduced a new science in 2020 as a branch of this school. He coined the term Sciencefact for this new science because it utilizes scientific investigations to prove the existence of T-Consciousness as an irrefutable phenomenon and a fact. Although science focuses solely on the study of matter and energy and Sciencefact, by contrast, explores the effects of the [non-material/non-energetic] TCFs, Sciencefact has provided a common ground between the two by conducting reproducible laboratory experiments in various scientific fields, and it has used the scientific approach in proving TCFs.

The influence of the TCFs begins with the Connection between CCN as the Whole Consciousness of the universe and the subjects

of study as a part. This Connection called “Etesal” is established by a Faradarmangar’s mind (a certified and trained individual who has been entrusted with the TCFs). The human mind has an intermediary role (Announcer) which plays a part by fleeting attention to the subject of study and then the main achievement obtained as a result of the effects of the TCFs. These fields cannot be directly measured by science, but it is possible to investigate their effects on various subjects through reproducible laboratory experiments (1).

1-2 Taheri's research methodology of T-Consciousness Fields

The research methodology in the study of T-Consciousness has been founded on the process of *Assumption, Argument, and Proof*, in which the basic Assumption is: The Cosmos was formed by a third element called T-Consciousness that is different from matter and energy.

The Argument: The existence of TCFs can be demonstrated by their effects on matter and energy (e.g., humans, animals, plants, microorganisms, cells, materials, etc.)

The Proof is the scientific verification of the effects of TCFs on matter and energy (according to the Argument) through various reproducible scientific experiments.

Accordingly, to investigate and verify the existence, effects and mechanisms of TCFs, the following five research phases (Phases 0 through 4), and the aims of each phase are outlined below.

Phase-0 studies aim to prove the existence of TCFs by observing their effects. The nature of T-Consciousness and what it is will not be addressed in this phase. Phase-1 explores the varied effects of different TCFs. Phase-2

examines the reason behind the varied effects of these fields. Phase-3 investigates the mechanism of TCFs effects on matter and energy. Finally, Phase-4 draws significant conclusions, particularly with regard to the *mind and memory of matter* and their relation to the T-Consciousness, etc.

2- Methods

2-1 Using T-Consciousness Fields

TCFs were applied to the samples according to protocols regulated by the COSMOintel research center (www.COSMOintel.com). A request for connection to CCN to utilize this field can be placed through the COSMOintel website in the “Assign Announcement” section. This access is available for everyone at no cost. To study and experience this connection, the researchers can register on the site above at any time and report the experiment to the COSMOintel research center. Specific details of the experiment must be provided to the center; for example, the characteristics or number and name of samples and controls must be specified.

This entire experiment was carried out as a double-blind method where lab technicians were completely unaware of TCFs theory, and the Faradarmangar at the COSMOintel research center who established the consciousness bond was unaware of the details of the study. Double blindness is a gold standard that is common in science experiments in medicine and psychology, involving theoretical and practical testing.

The T-Consciousness Fields used in the studies of this issue, apart from the two studies of the wheat plant and the magnetic properties of iron, which were only the T-Consciousness Field 1, was a combination of the T-Consciousness Fields 1, 2, and 3, which were used simultaneously. Based on Taheri's theory of T-Consciousness, the effect of TCF 1 is to optimize the subject under study based on the laws of the ecosystem. To use TCF2, a detailed request is made by the declarant according to the known rules of the desired field and introduced by the relevant

expert. The function of TCF3 is to remove negative and destructive factors affecting the behavior of the sample to adapt to its optimal conditions.

2-2 Simulating the Microgravity Environment on Earth

The International Space Station (ISS) has played a prominent role in biological research in space. For example, in this research, plant seeds are exposed to microgravity or space radiation, and after returning to Earth and germinating, it was possible to check the phenotypic and genotypic changes. Or, after growing and germinating the seeds in the space environment, and returning to Earth, the changes in cell structure, cell division, etc. will be investigated.

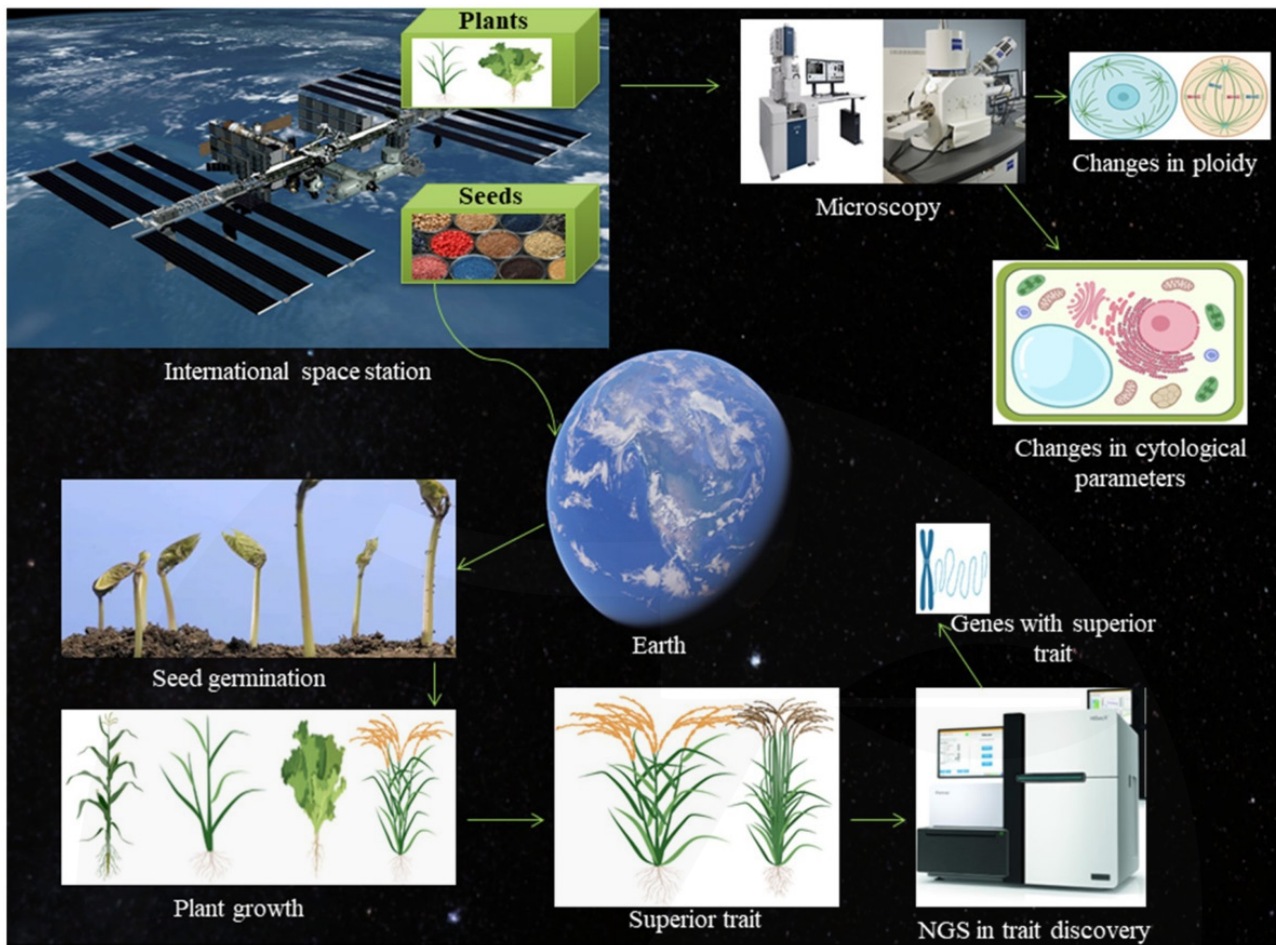


Fig.1 Schematic illustration of ISS research and biology experiments (2).

Although the existence of space stations has enabled humans to study the mechanisms of adaptation to the microgravity environment, regardless of the risks and other stressors such as cosmic radiation, a lot of funds should be spent to conduct these experiments. For this reason, the use of ground facilities such as the Clinostat device, which prevents the studied system from understanding the gravitational acceleration

vector, is one of the most appropriate ways to simulate microgravity conditions. Although microgravity is sometimes called "zero gravity", it is not so and is considered a simulation and approximation of it (expressed as 10^{-6} g). This device removes the effect of gravity through rotation.

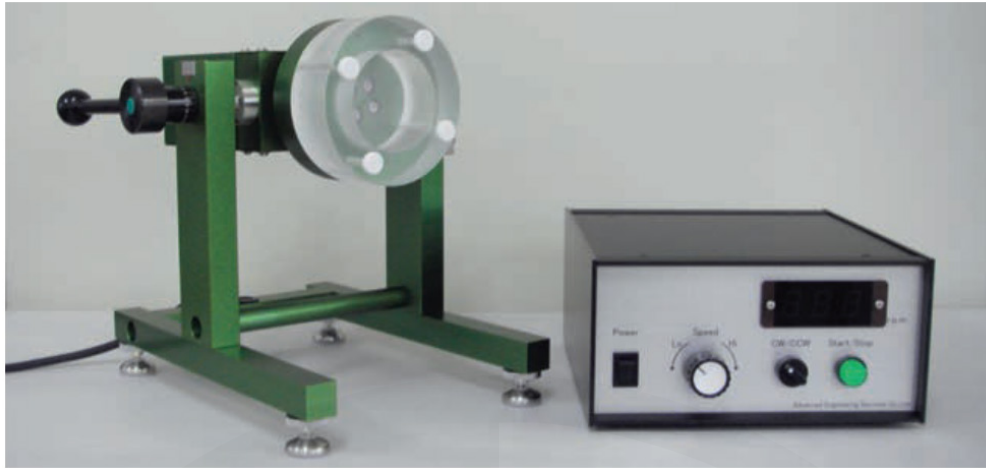


Fig 2. A single axis Clinostat

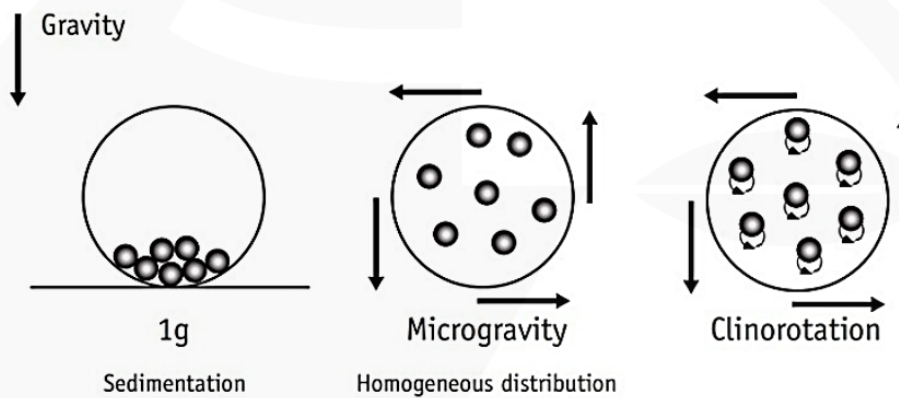


Fig.3. Rotation of 2D-Clinostat (3).

Using the clinostat device, it is possible to evaluate the behavior of substances and living organisms in microgravity conditions. As explained in the introduction of the effects of T-Consciousness Fields, the effects of T-Consciousness Fields on various subjects, both living and non-living materials, can be investigated. In these tests, half of the samples in the device have been affected by T-Consciousness Fields, and their results have been scaled and analyzed with the control group in microgravity conditions as well as the control group in earth gravity conditions.

In this stage of the tests, in addition to biological studies that included normal and cancerous human cell lines, *E. coli* bacteria, yeast, and wheat plants in the early stages of growth, pure iron metal was also chosen as the subject of study in the field of materials. Iron is the most abundant chemical element in the earth's

core and constitutes more than 85% weight of its mass, and it is the most abundant material element on the earth's surface (4).

In terms of magnetic properties, iron is one of nature's ferromagnetic materials. Therefore, it can be magnetized under the influence of an external magnetic field. The external magnetic field moves the iron away from its lowest energy state (random orientation), so its magnetization is associated with the application of energy. When the external magnetic field is removed, the arrays tend to become passive to some extent, but iron can retain a large amount of its magnetization, or in other words, its magnetization "memory" (5).

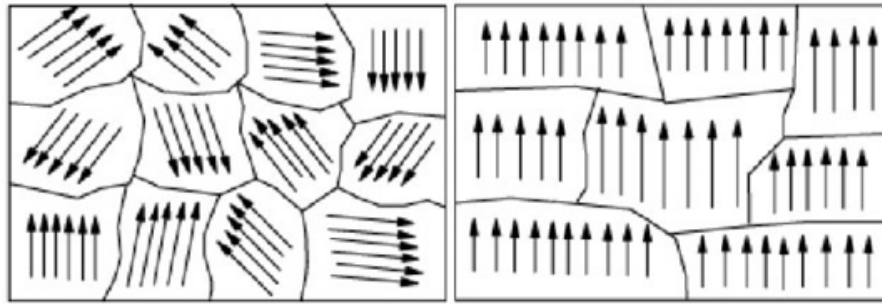


Fig 4. Rotation of the direction and increase in the size of the magnetic domains (from right to left) in response to the externally applied magnetic field (6).

VSM (Vibrational Scanning Magnetometer) device has been used in this study to investigate iron saturation magnetization. This experiment provides a possibility to investigate the effect of T-Consciousness Fields on materials in microgravity conditions and compare them with their effect on living organisms.

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The Effect of Taheri Consciousness Fields on the Cell Cycle of Raji and HEK-293 Cell Lines under Microgravity Conditions

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Abstract

T-Consciousness Fields (TCFs) as non-material and non-energy fields have been introduced by Mohammad Ali Taheri. Previously, the effect of these fields on the properties of materials was shown to be distinct and different from electric and magnetic fields. However, their effect in the absence of gravity has not been investigated. Gravity is one of the fundamental forces that affect everything in the universe. Its value is expressed as 1G on the surface of the earth. The clinostat simulates microgravity (MG) conditions, allowing experiments to be performed under near-weightlessness conditions. In the present study, two experiments were performed separately. First, the effect of the Faradarmani Consciousness Field, as one of the TCFs, was investigated on the Raji lymphoid cell line for 48 hours under MG stress. According to the data obtained from the flow cytometry assay, apoptosis was observed in the cells exposed to MG, and the percentage of sub-G1 phase in the samples without Faradarmani treatment increased by 85% compared to the treated sample. The percentage of G1 and S phases under Faradarmani was about 135% and 45% higher than the control sample, respectively. In the second experiment, the effect of three types of TCFs on the HEK-293 cell line was evaluated within 24 hours under MG conditions. The results showed that the percentage of the sub-G1 phase in microgravity stress conditions was twice as high as the sample under the influence of TCFs. Also, TCFs caused a significant increase in the S phase up to about 18.6%. According to the obtained results, the application of these fields inhibited the apoptosis caused by MG stress and increased cell survival. These results show that TCFs can function independently of gravity. According to Taheri's theory, the information transmitted due to the application of these fields has caused the development of a new system in the microgravity environment and the compensation of reduced gravity. To better understand the effect of T-Consciousness Fields, it is suggested to measure the state of cellular energy and ATP concentration under 1G and MG gravity with and without applying TCFs.

Keywords: Taheri Consciousness Fields, Faradarmani, Microgravity, Cell cycle, Raji, HEK-293

Introduction

Gravity is a known physical force that has been consistently present throughout Earth's history. Life has evolved in the presence of this fundamental force. For this reason, researchers have always been eager to investigate its effect on the formation and evolution of terrestrial life. The acceleration of any object or something towards the earth is 9.8 m/s^2 , which is expressed as normal gravity or 1G (1). Astronauts under reduced gravity suffer from numerous physiological problems such as muscle atrophy, cardiovascular problems, bone demineralization and immune system dysfunction (2). For this reason, reducing these physical problems is one of the concerns in the studies of this field (3). Although human space exploration enables scientists to study the mechanisms of adaptation to the microgravity environment, apart from other stressors such as cosmic radiation, large funds must be spent to conduct these experiments. That is why the use of ground facilities such as the clinostat device, which prevents the biological system from understanding the gravitational acceleration vector, is one of the most suitable ways to simulate the microgravity environment (4).

Previously, the effect of TCFs Fields on the magnetic properties of nickel, alumina, and copper has been investigated, and according to the reported results, the magnetization of these metals changed under the influence of these fields (5). This observation confirms the distinctive effect of TCFs. According to Taheri's theory, the information transmitted through these fields can change the properties of materials.

In the present study, the results of two experiments are presented. First, the effect of Faradarmani, as one of the T-Consciousness Fields introduced by Taheri, was investigated on the progression of the Raji cell line cycle under MG, and then, to repeat the observations, a similar experiment was designed on the HEK-293 cell line. This research makes it possible to investigate their effect on cell survival in the

MG stress environment of space, in addition to understanding the differences in the nature of these TCFs with gravity.

Materials and Methods

Using Faradarmani Consciousness Field: it is done in accordance with the considerations mentioned in this issue.

Applying microgravity

In this study, microgravity conditions were performed using a clinostat (donated by the United Nations Office for Space Affairs in Vienna to Iran Aerospace Research Institute). Although it is not possible to remove the gravity vector on the surface of the Earth, this device can provide a reliable example of real microgravity space experiments. For this purpose, first, the clinostat was sterilized with ultraviolet rays and ethanol (70%) and then it was placed in an incubator at a temperature of $37 \text{ }^\circ\text{C}$.

Cell culture

In this experiment, Raji human B-lymphoblastoid cells and HEK-293 cell line with epithelial morphology isolated from human embryo kidney were purchased from Pasteur Institute of Iran and cultured in Roswell Park Memorial Institute 1640-1640 culture medium containing (Gibco Laboratories, Grand Island, NY) 10% fetal bovine serum, 100 IU/ml penicillin and 100 $\mu\text{g/ml}$ streptomycin were cultured. The cells were kept in a $37 \text{ }^\circ\text{C}$ incubator (Memmert, Schwabach, Germany) with 5% CO_2 and a humidified atmosphere. To avoid the formation of air bubbles, the flasks were completely filled with the culture medium, and then the samples were placed in a circular holder. They were fixed in a clinostat medium. The rotation speed was 30 rpm (6) and was continued in the apparatus for 48 hours to provide doubling time for the Raji cell and 24 hours for the HEK-293 cell line

Flow cytometry

Harvested cells were washed twice with PBS and vortexed shortly after adding 50 µL of cold PBS (+2 to +8 °C). Then the cells were fixed in one ml of cold 70% ethanol (-20 °C) and vortexed again. After that, the cell suspension was centrifuged at 1000 rpm for five minutes at room temperature, and after removing the supernatant, the cells were washed once with PBS. Then PBS was slowly removed, and one ml MIX MASTER PI solution was added. The final concentration of cells in the said solution should be 5×10^5 cells per ml. Finally, the cells were incubated for 30 minutes at room temperature and read by flow cytometry.

The proportion of cells in different stages of the cell cycle was evaluated using a flow cytometer in the BD FACS caliber system (BD bioscience, San Jose, CA, USA). Cell cycle phases were monitored by FlowJo software (Tree Star, San Carlos, CA).

Master PI mix solution for cell cycle

Propidium iodide (PI) 1 mg/ml: 40 µl, RNase (DNaseFREE) 10MG/ML: 10 µl, PBS, ca+2, mg+2 Free: 950 µl

Statistical Analysis

Each experiment was repeated three times and data were presented as mean \pm standard error, then two-way analysis of variance along with multiple comparisons with a 95% confidence interval was performed using GraphPad Prism software (version 9), and significant values less than 0.05 ($p < 0.05$) was presented.

Results and discussion

As shown in Table 1, the sub-G1 phase is about 85% more than the field-affected samples. Therefore, the signs of apoptosis can be clearly observed for the cells in the clinostat. But Faradarmani Consciousness Field has significantly stopped this process. On the other hand, the G1 and S phases in the field-exposed

Table 1. Changes in the percentage of cell cycle phases in the Raji cell line.

Groups	Sub G1	G1	S	G2	Super G2
FCF-/MG	42.10 \pm 2.44	20.33 \pm 0.80	28.27 \pm 0.92	11.17 \pm 1.88	0.70 \pm 0.31
FCF+/MG	6.29** \pm 0.79	47.78* \pm 0.05	40.85** \pm 1.96	10.17 \pm 1.13	0.57 \pm 0.33

Significance compared to the control group (FCF-/MG) is shown with an asterisk: **: p-value<0.00001, *: p-value<0.0001. FCF: Faradarmani Consciousness Field, MG: microgravity.

Table 2 presents data related to changes in cell cycle phases in the HEK-293 cell line. As it is known, the percentage of the Sub-G1 phase in the control sample of the microgravity environment is almost twice as much as the sample under the influence of T-Consciousness Fields in these stress conditions.

Apoptotic cells are characterized by specific changes in cell morphology and a decrease in DNA content (sub-G1), and flow cytometry is one of the most important assays for its determination (7).

Table 2. Changes in the percentage of cell cycle phases in the HEK-293 cell line.

Groups	Sub G1	G1	S	G2	Super G2
TCFs-/MG	13.41±0.86	41.14±1.15	28.44±2.47	23.17±0.02	0.61±0.45
TCFs+/MG	7.49*±0.21	38.61±0.60	33.70*±1.65	21.89±0.27	0.42±0.08

Significance compared to the control group (TCF-/MG) is shown with an asterisk: p-value < 0.05. TCFs: T-Consciousness Fields, MG: microgravity.

samples were about 135% and 45% higher than the control sample, respectively. No significant changes were observed in the G2 and super G2 phases.

These changes in the Sub-G1 phase were consistent with other studies. Previously, it has been reported that microgravity stress hurts cell cycle progression and increases apoptosis (8). Another significant change in the cell cycle was the S phase. As shown in Table 2, under the influence of TCFs, the percentage of this phase is significantly higher by about 18.6%. This increase was in line with the changes in the Raji cell line. The induction of the S phase under the influence of TCFs in the MG environment may be related to the induction of growth and proliferation. Also, cell cycle arrest is another possibility that has been proposed as one of the DNA repair pathways under these stress conditions, because it can provide time to repair damaged DNA (9). The effect of TCFs has been investigated in various topics in Earth's gravity.

For example, in the case of the HEK-293 cell line, it was observed that the ATP concentration under the influence of these three types of TCFs and in the normal gravity of the earth was significantly higher than the control sample (10). Therefore, to complete the present study, it is suggested to measure ATP production under the influence of these fields and in microgravity conditions. In conclusion, these experiments provide evidence of increased cell survival under microgravity stress. According to Taheri's theory, the information transferred via TCFs has generated a new state in the system under study, which compensated for the reduced gravity and suppressed apoptosis.

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The Effects of Taheri Consciousness Fields on the Growth of *Escherichia Coli BL21* and Absorption of Lead Heavy Metal by *Saccharomyces Cerevisiae* in Altered Gravity Conditions

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Abstract

In previous experiments, the growth of different microorganisms under the influence of T-Consciousness Fields (TCFs) was investigated. These fields with non-material and non-energetic properties can have traceable effects on the system under study, and it has been determined that they are different from magnetic, electric, and gravity fields. This study aims to investigate the effects of T-Consciousness Fields on the growth of *Escherichia coli* (*E. coli*) strain *BL21* as a prokaryotic model organism under microgravity (MG) conditions and also to investigate the bioabsorption behavior of the heavy metal lead by *Saccharomyces Cerevisiae*, a eukaryotic model, in MG and Earth's gravity (1G). In these experiments, which were conducted separately, samples without the influence of T-Consciousness Fields were considered as controls, and the duration of the experiment was 24 hours. First, bacterial growth was evaluated by measuring optical density at 600 nm (OD600). The results showed that the microgravity environment increased the growth of bacteria by about 1.4% compared to the earth's gravity (1G). While under the influence of T-Consciousness Fields, no significant difference was observed between MG and 1G samples. In the second study, the inductively coupled plasma mass spectrometry (ICP-MS) technique was used to evaluate heavy metal absorption. The results showed that yeast was able to absorb heavy metal in both gravities and MG environment increasing the absorption significantly and about 13.5% compared to Earth's gravity. Although the effect of TCFs on the MG sample was not statistically significant, it significantly reduced the absorption of lead metal by about 9% in the conditions of the earth's gravity. In conclusion, the microgravity environment increased the growth of this strain of *E. coli* bacteria, and the application of T-Consciousness Fields inhibited this growth induction. Also, these fields affected the eukaryote model differently in 1G and MG gravity. It is suggested to investigate the effect of TCFs on the behavior of prokaryotic and eukaryotic organisms under microgravity stress in further studies.

Keywords: Taheri Consciousness Fields, Microgravity, *Escherichia coli*, Growth, Yeast, Lead

Introduction

Microorganisms can withstand harsh environmental conditions and grow and reproduce even at very high temperatures (1). Therefore, it is important to know if they can live in different stresses of space. In other words, it is necessary to conduct studies on microbes in the space environment to understand their possible risks and maintain the health of the crew in long missions (2). The growth of *Escherichia coli* (*E. coli*) has been repeatedly investigated in microgravity (MG) conditions, and there are various reports about their physiological responses and altered gene expression in this stress (3). The yeast *Saccharomyces cerevisiae* is one of the best-known eukaryotic models. This model has also attracted attention due to its ability to absorb heavy metals (4). Heavy metals can be a threat to living organisms. Today, due to the Industrial Revolution, human life has been affected by the high production of heavy metals. For this reason, several studies have been conducted to investigate their effects on the food chain and its long-term harm (5). Various techniques are used to remove these pollutants, including non-biological methods such as electrochemical technologies and bioremediation methods that rely on the use of microorganisms (6).

In this study, firstly, the effect of the combination of three types of T-Consciousness Fields (TCFs) on the growth of *E. coli* strain *BL21* in MG conditions were investigated, and after observing the results, another experiment was designed on the bioabsorption behavior of lead metal by *Saccharomyces cerevisiae* in two environments of earth's gravity (1G) and MG under the influence of these fields.

Materials and Methods

Using T-Consciousness Fields: according to the explanations given in the considerations section of this issue, the samples were affected by these Fields.

Bacteria culture medium

First, *Escherichia coli* strain *BL21* was cultured using Luria-Bertani (LB) liquid culture medium, which contains (per 100 ml): one g of peptone (QUELAB), 0.5 g of yeast extract (QUELAB), one g of NaCl (Merck, Germany) was used. Then five μL of bacterial stock were cultured in LB liquid culture medium with five μL of ampicillin and incubated in a shaker incubator at 37 °C for 16-18 hours.

Applying microgravity

In this study, microgravity conditions were performed using a clinostat (donated by the United Nations Office for Space Affairs in Vienna to Iran Aerospace Research Institute). Although it is not possible to eliminate the gravity vector on the Earth's surface, this device can provide a plausible example of real microgravity space experiments. For this purpose, the clinostat was sterilized with UV light and ethanol (70%) and then placed in an incubator at 37 °C.

To prevent the formation of air bubbles, the samples were fixed in 50 ml syringes in the circular holder in the clinostat. There were six syringes in the clinostat, three of which were exposed to TCFs for 24 hours, and the rotation speed of the machine was 30 rpm (7).

In the yeast test, the rotation speed of the device was set to 15 rpm (8) and it was performed at a temperature of 27 °C inside a standard incubator. The samples were placed in the incubator next to the clinostat under 1G conditions.

Three types of T-Consciousness Fields were applied to half of the samples simultaneously with the rotation of the clinostat and continued for 24 hours. Samples without TCFs influence in MG medium and earth's gravity conditions were considered as controls. The groups and samples tested on yeast are as follows: a standard sample with specific and initial amounts of heavy metals, a sample under the influence of T-Consciousness Fields in microgravity

conditions (MG-TCFs), a control in microgravity conditions (MG-Control), a sample under the Fields in Earth's gravity conditions (1G-TCFs) and control located in Earth's gravity conditions (1G-Control).

Measuring optical density (OD)

Bacterial cell growth was measured by measuring OD₆₀₀ for samples under the influence of T-Consciousness Fields in Earth's gravity and microgravity. Each measurement was repeated three times. To estimate growth, one milliliter of samples was used.

Yeast culture medium and biomass

S. cerevisiae ATCC 9763 was obtained from the Department of Research and Technology of the Ministry of Science in a lyophilized form at a growth time of 48-72 hours and stored at a temperature of 25-30 °C under aerobic conditions. The culture medium contained one gr of glucose, 0.25 gr of yeast extract, 1 gr of ammonium chloride, 0.75 gr of Na₂HPO₄, and 1.25 gr of KH₂PO₄. All culture components and chemical reagents were purchased in pure form from Merck (Darmstadt, Germany).

These materials were autoclaved separately in three 250 ml Erlenmeyer flasks containing 50 ml of deionized water at a temperature of 121 °C and a pressure of 1.4 atm for 20 minutes. It should be noted that all the empty glass containers were autoclaved for three hours at 180 °C under dry heat. After cooling in sterile conditions, the ingredients were mixed and reached a final volume of 150 ml. Then 100 ml of the prepared culture was poured into a 250 ml sterile Erlenmeyer flask and 10 colonies of yeast were inoculated in the plate.

Then it was placed in a shaker incubator at a temperature of 25-30 °C for 16-20 hours at a speed of 80 rpm so that the yeast grows and reaches the end of the exponential growth stage (main culture). After this period, the culture medium becomes cloudy, which indicates the proliferation of yeast cells. The purpose of this

work is to increase the amount of biomass. The original culture solution was placed in the refrigerator under sterile conditions until the time of biosorption studies.

Biomass colony count

To perform the bioabsorption test, it is necessary to prepare an active seed culture on a daily basis. For this purpose, 10 ml of the original culture (master) was added to 100 ml of prepared culture under sterile conditions and placed in a shaking incubator like the original culture.

The first seed culture was counted, and since the same method and primary culture solution were used in all the yeast biosorption experiments, this first cell count was considered a criterion for the next seed culture. Activated seed culture was counted using the serial dilution method. One ml of seed culture was transferred to nine ml of physiological serum in an innertube and diluted at a ratio of 1:10 and repeated 10 times consecutively. After that, from each dilution, two volumes of one ml were taken and poured into two separate plates. Then Saburo dextrose agar (SDA) was added to the plates at a lukewarm temperature. The plates were rotated clockwise and counterclockwise in the shape of number 8 and then kept in an incubator at 30 °C for 72 hours.

Counting of yeast microcolonies was done with two repetitions and showed an average of 2.5×10^8 CFU/ml. This method is based on the observation of real colonies and accurate counting of *S. cerevisiae* yeast (8).

Standards and solutions

In this study, deionized water was used in all stages to prepare aqueous solutions. To prepare a solution of 10 mg/L from the standard solution of lead (Pb²⁺) with an initial concentration of 1000 mg/L (Merck), first one ml of the standard solution of 1000 mg/L lead was mixed in nine ml of 1% nitric acid and after mixing the solution 100 mg/liter was obtained.

We repeated this process to prepare a solution of 10 mg/liter. In addition, 0.83 μ l of 36% HCl and 0.4 g of NaOH were diluted in 100 ml of deionized water to prepare 0.1 N from these solutions, and 0.5% (w/v) NaCl by adding 0.5 gr of it was prepared in 100 ml of deionized water.

Exposure of yeast to heavy metal

Before conducting the biosorption test, first, all the glass containers were soaked in 15% nitric acid for 24 hours to remove possible metal contamination, then they were washed with deionized water and dried properly.

In addition, the cleaned dishes and tools were sterilized in an oven at 180 °C for three hours. Then the required volume of the spiked solution containing 28 μ g per liter of lead was prepared, and the pH of the solution was adjusted to five by 0.1 N NaOH and 0.1 N HCl, after that 10 ml of the solution containing yeast (seed) was transferred to the Falcon and kept for 10 minutes. It was centrifuged at 4000 g.

The supernatant was carefully decanted to leave one ml of it in the Falcon. Finally, nine ml of spiked solution was added to the solution, and the yeast concentration was 2.5×10^7 CFU/ml. Using syringes, the solution was degassed and then placed in the clinostat device under either microgravity or normal Earth gravity conditions (six syringes in each condition).

In this study, the concentration of heavy metals was measured using inductively coupled plasma mass spectrometry (ICP-MS; Perkin Elmer ELAN 6100 DRC-e, USA) (8).

Statistical analysis

Each experiment was repeated three times. Data were presented as mean \pm standard error, then a two-way analysis of variance followed by multiple comparisons with a 95% confidence interval was performed using GraphPad Prism software (version 9), and significant values, less than 0.05 ($p < 0.05$) were presented.

Results and discussion

Measurement of optical density (OD) showed that in the MG environment, the growth of bacteria without the influence of TCFs (control) increased by 1.4% compared to Earth's gravity (Figure 1). However, no significant change was observed in the samples that were affected by the Fields compared to the earth's gravity.

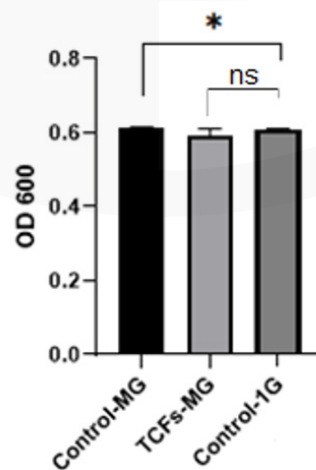


Figure 1. Optical density at 600 nm (OD600) of *Escherichia coli* strain *BL21* under the influence of TCFs in microgravity (MG) conditions and compared to Earth's gravity (1G) at 24 hours. The bar error represents the mean \pm standard error of three replicates. *: p -value < 0.05 in the Brown-Forsythe statistical test. ns: non-significant.

In a previous study, the effect of T-Consciousness Field 1 or Faradarmani on the growth of bacterial population has been confirmed (6). In the present experiment, bacteria were simultaneously affected by three types of T-Consciousness Fields, and it was found that under the influence of these Fields, they grew less in microgravity conditions. *E. coli* bacteria is a part of normal human flora and is known as the best-living organism.

Therefore, studies on this model can expand our horizons regarding its possible responses under microgravity conditions and its potential risks to the health of the space crew. It has been reported that microgravity increases *E. coli* biofilm formation (9). In addition to *E. coli*, a similar experiment was conducted on the eukaryotic model *Saccharomyces cerevisiae*, and the bioabsorption behavior of lead heavy metal by this yeast was investigated in MG and 1G conditions with and without the effect of three types of TCFs. The residual amounts of lead in each experimental group after removing

the yeasts from the medium and comparing it with the standard solution are shown in Figure 2. As can be seen, the absorption of this heavy metal by yeast is confirmed.

Regarding the microgravity environment, these stress conditions have had a positive effect on the absorption of lead metal, so that its absorption has increased by about 13.5% compared to the earth's gravity. It has been found that this eukaryotic single cell can sense MG stress conditions and give cellular responses to this mechanical stimulation, such as changes in morphology, growth rate, and gene expression (10). The application of TCFs had different effects on the biosorption behavior of yeast in two gravities. At 1G gravity, the amount of remaining metal is significantly more than the control sample (about 9%). While, in the microgravity environment, the application of fields does not change the absorption behavior.

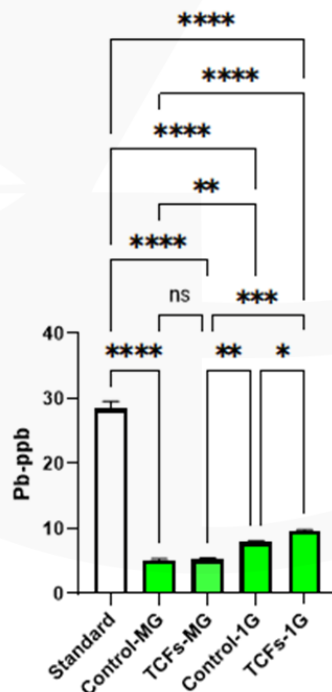


Figure 2. The effect of T-Consciousness Fields (TCFs) on changes in the concentration of residual lead (Pb) compared to the standard value. *, **, *** and **** indicate p. value is <0.05, <0.01, <0.0002 and <0.0001

In addition to the fact that these studies are important to prevent contamination in space missions, they can provide a deeper understanding of life outside the Earth (11). Also, the observation that the application of the T-Consciousness Field inhibited the induction of the growth of *E. coli* bacteria by the microgravity environment, shows that the effect of these Fields is independent of gravity. More studies are needed to understand their mechanism of action.

For example, in this experiment, how to reduce the absorption of the heavy metal lead by yeast in the earth's gravity is unclear and needs more experiments. Therefore, it is suggested to investigate the effect of T-Consciousness Fields on the behavior of prokaryotic and eukaryotic models in microgravity and hypergravity conditions.

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The Effect of Faradarmani Consciousness Field on Several Growth Parameters of Wheat Plant in Microgravity and Earth's Gravity Conditions

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Abstract

Faradarmani Consciousness Field (FCF) has been introduced by Mohammad Ali Taheri as a non-material and non-energetic field that can have observable effects on various subjects. These effects can be investigated by designing different experiments. Gravity affects the growth and morphogenesis of plants, so in microgravity (MG) conditions in space, these processes are completely affected. This study aimed to investigate the effect of this FCF on the growth of wheat seeds under MG and normal Earth's gravity (NG) conditions. For this purpose, after three days of wheat seed growth in NG, half of the samples were transferred to the clinostat device at 40 rpm for 96 hours. Samples without the effect of the FCF were considered as controls. Some growth traits such as root and shoot length and fresh and dry weight of the samples were measured. The results showed that the changes of these growth parameters in the microgravity environment were not significant compared to the NG condition. The application of the FCF caused a significant increase of 65% average length of roots and shoots NG. In the MG environment, changes under the influence of the FCF were not statistically significant. These observations indicated that the application of FCF on samples under NG and MG conditions resulted in different outcomes. It is suggested to conduct more experiments to investigate the effect of FCF on the biochemical parameters of the plant under altered gravity.

Keywords: Faradarmani Consciousness Field, Microgravity, Wheat

Introduction

Earth is known as a special planet in the solar system and the only place in the universe that can host life. It is not only a human habitat, but also provides a suitable environment for the life of various organisms, from plants and animals to microorganisms.

Living organisms, including plants, have always been subject to gravity, and this force has played a role in the development and formation of their organs. Thus, it is expected that the processes of morphogenesis and growth will be affected due to exposure to microgravity (MG) conditions in space (1).

Over the past few decades, various experiments have been conducted to investigate the changes in the shape and growth parameters of different plants. For example, the D1 space lab experiment showed that cress roots grow in different directions compared to control roots in Earth's gravity (2).

In addition, it has been shown that plants can grow and reproduce under microgravity conditions, such as seed-to-seed growth of *Arabidopsis* (3) and wheat (4). Apart from collecting basic information about plant behavior and response to gravity in the growth process, these experiments can help astronauts in some aspects. For example, future space explorations, such as missions to the moon and Mars, need a life support system, and plants can provide fresh air and food production for humans (5). The purpose of this study is to investigate the effect of Faradarmani Consciousness Fields (FCF) on several growth parameters of wheat seeds in both earth's gravity and microgravity conditions.

Materials and methods

Using Faradarmani Consciousness Field: It was done according to the explanations provided in the considerations section of this issue.

Preparation of Samples and Application of Microgravity

Wheat seeds (*Triticum aestivum* L. cv. Rakhshan) were obtained from Karaj Seedling and Seed Breeding Institute, Alborz province. First, the seeds were sterilized using 1.75% NaOCl for 10 minutes, and then they were washed twice with 95% ethanol.

In the next step, eight seeds were placed in each Petri dish containing agar (1.5 g agar/100 ml) and arranged in one direction. At this stage, the seeds absorb water, and then parafilm was used to stick the lid on the Petri dishes.

A gap was considered between the lid and the Petri dish to allow access to oxygen. After that, it was time to rotate the Petri dishes vertically, a holder was used to do this, and it was ensured that each Petri dish was aligned with a reference line drawn on each plate to show the direction of the gravity vector.

The holders were then placed in the growth chamber at 25 °C, 50 lux light intensity and 80% humidity for three days. After that, the plates containing the germinated seeds were divided into two groups (n= 4 plates in each group). (1) normal earth's gravity (NG) and (2) samples exposed to MG in the clinostat. These groups were divided into two sub-groups: seeds treated with FCF and those without it.

Samples without the effect of FCF were served as controls. The plates were rotated in the clinostat for 96 hours at 40 rpm (2). All the processes in this experiment were performed according to the standard preparation method specified in UNOOSA for Plant Experiments (United Nations, 2013) (6).

Some growth traits such as the length of roots and shoots and fresh and dry weight of seedlings (shoots + roots) were measured. To measure the dry weight, the samples were dried for 24 hours in an oven at a temperature of 105 °C and weighed with a digital scale with three zero accuracy.

Statistical analysis

All statistical analyses were performed using GraphPad 9 software. Each measurement was performed three times, and the results were presented as mean \pm standard deviation. To determine statistical significance, two-way ANOVA test was performed and p -value < 0.05 was considered as the threshold of statistical significance.

Results and discussion

In Figure 1, the changes related to the length of shoots and roots in microgravity and earth's gravity conditions are shown. As can be seen,

the samples under the influence of the FCF showed a significant increase in length.

However, in the clinostat environment, although an increase in growth is observed compared to the earth's gravity, the changes were not significant and the behavior of the sample under the field and control was almost similar.

Changes related to the fresh and dry weight of samples were not significant. The lowest value according to the diagram corresponds to the samples under the field in MG conditions.

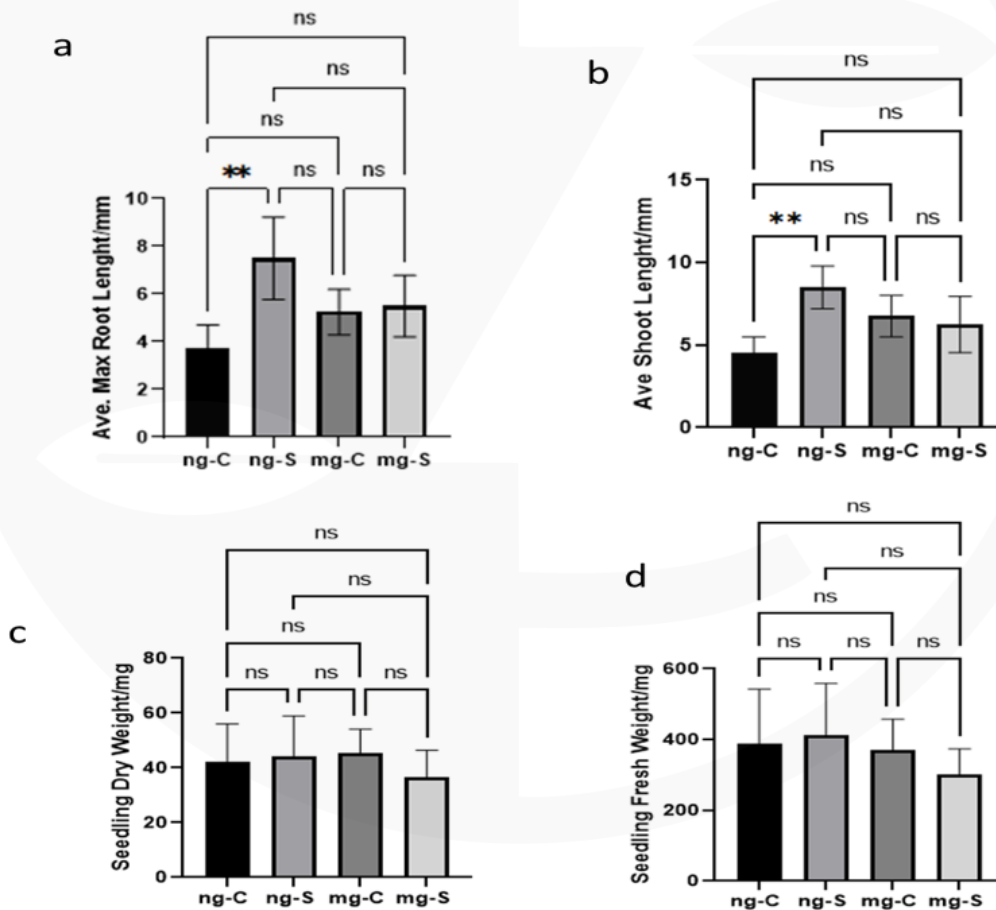


Figure 1. Changes related to the length of roots (a), (b) shoots, dry weight (c) and fresh weight of seedlings (d) in normal earth's gravity (ng) and microgravity (mg). ng-C: control under normal Earth's gravity; ng-S: samples under FCF treatment in normal Earth's gravity; mg-C: control under microgravity; mg-S: samples under FCF treatment in microgravity. *: p -value < 0.05 , **: p -value < 0.01 .

This observation is in agreement with previous studies; For example, it has been confirmed that plant cells in Earth's gravity must consume energy to adapt to this mechanical load, while under microgravity this energy may be used in the biosynthesis of some metabolites for growth (7).

Also, it has been revealed that MG stress induced elongation growth (8). In normal earth's gravity, the application of the FCF caused a significant increase in root growth. Based on previous findings, plants with longer primary roots have better resistance to abiotic stresses such as salinity and drought (9). According to the previous experiment, we observed that the wheat plant under the effect of FCF had better resistance to salt stress (10).

In conclusion, in addition to the fact that the effect of FCF is confirmed in this experiment, according to the results obtained, it can be understood that this field leads to different results in altered gravity conditions. Therefore, to better understand this field, it is suggested to conduct more experiments in hyper-gravity and microgravity environments, and other biochemical parameters, such as changes in plant hormones, should also be investigated under this field.

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Investigating the Influence of the Taheri Consciousness Field (1) on the Magnetic Properties of Pure Iron Atoms in Microgravity Conditions

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Abstract

Iron atom is the most abundant element that makes up the earth's mass with ferromagnetic property and its saturation magnetization can be easily investigated. Also, because the magnetic property of the earth has been attributed to it (Geodynamo theory), it has been chosen as the subject of this study. Before this, the investigation of the effect of microgravity on the vital properties of cells and plants showed that T-Consciousness Fields (TCFs) can not only be effective on such organisms but also cause the removal of destructive and harmful effects on life. In this study, to investigate the effect of TCFs on material and non-living beings, the magnetization property of pure iron atoms in microgravity conditions and under the treatment of TCF 1 has been investigated. Based on the results obtained from this study, the saturation magnetization property of pure iron in microgravity conditions obtained from the clinostat device and in the control mode (without the application of TCF) is reduced by about 25% compared to the saturation magnetization of iron in the earth's gravity conditions, while the saturation magnetization of the samples under the treatment of TCF 1 in the same condition and while placed in the device simultaneously with the control samples, resist the reduction of the saturation magnetization. In other words, the TCFs 1 completely maintains the conditions necessary to keep the saturation magnetization of the sample in the earth's gravity, in the conditions of reduced gravity (microgravity).

Keywords: Iron, Microgravity, Saturation magnetization, T-Consciousness Field 1

Introduction

Iron is the fourth most abundant element in the earth's crust after oxygen, silicon and aluminum (1). On the other hand, iron is the most abundant chemical element in the earth's core and constitutes more than 85% by weight of its mass, and the remaining 15% is Ni and some lighter elements such as Si, C, S, O and H. Based on this, in total, it is the most abundant element that makes up the mass (material totality) of the Earth (2).

In terms of magnetic properties, iron is one of the ferromagnetic materials of nature (3). In the 3d series of the periodic table, the 3d orbitals are gradually being filled and more protons are added to the nucleus.

For elements beyond V, the orbital overlap is so weak that the 3d electrons are no longer effective

in bonding and the valence electrons begin to unpair; At this stage, the elements become magnetized and can be magnetized under the influence of the external magnetic field.

The external magnetic field moves the solid away from its lowest energy state (random orientation), so its magnetization is associated with the application of energy. When the external magnetic field is removed, the arrays tend to become passive, but the iron can retain a large amount of its magnetization, or in other words, its magnetization "memory" (5).

VSM (Vibrational Scanning Magnetometer) device has been used in this study to investigate iron saturation magnetization. This experiment provides a possibility to examine the effect of T-Consciousness Fields on materials in microgravity conditions and compare them with their effect on living organisms.



Figure 1. Rotation of direction and increase in size of magnetic domains in response to the externally applied magnetic field; Black arrow outside the box: the direction of the external magnetic field.

In this study, the change of saturation magnetization of iron as one of the main elements of the earth's crust has been investigated in microgravity conditions and under the treatment of T-Consciousness Field 1.

Method

The samples under T-Consciousness Field application and the control samples (without T-Consciousness Field application) were made of pure iron solid powder with a grain size of about 110 microns. To apply microgravity conditions, the sample and control were placed

in the classic clinostat (6) rotating at 10 RPM (revolutions per minute).

After 24 hours of being placed in microgravity conditions, the samples were removed from the device and sent to the relevant laboratory to measure the saturation magnetization. The time of measuring the saturation magnetization of the sample and the control was the same about two weeks after the moment of the treatment of the T-Consciousness Field 1 and the completion of their microgravity treatment under these conditions.

Results and Discussion

Figure 2 shows the magnetization curve of the sample and the controls of this study side by side. The data related to the saturation magnetization of the sample and the control of this study, extracted from the graph in Figure 2, along with

the figures related to pure iron in other studies (7 and 8) are listed in Table 1. The significance of the obtained results is presented in Figure 3a. It should be noted that due to the same answers one sample of the control and one sample of the treatment have been removed from the data.

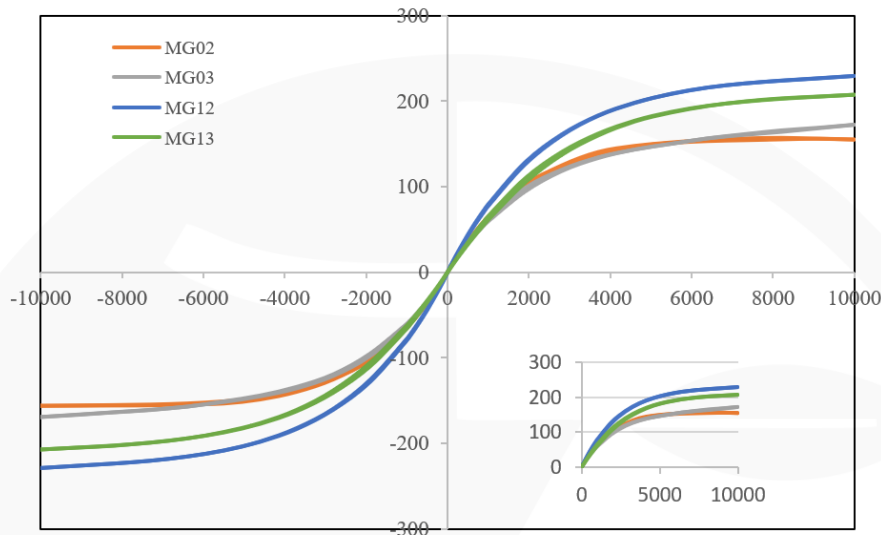


Figure 2. Comparison of the magnetization curves of sample and controls in this study

Table 1. The saturation magnetization of samples under the influence of TCF 1 and control in microgravity condition.

	Sample	Magnetization	Value	M-Ave	References
Control	MG02	10000	154.9286	163.588±12.246	221.71±0.08
	MG03	10000	172.2469		
TCF1	MG12	9100	226.58	216.945±13.626	
	MG13	10000	207.3101		

MG: microgravity

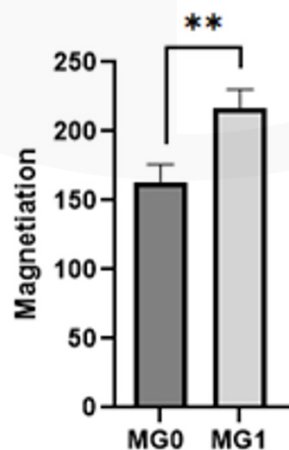


Figure 3. Examining the significance of the saturation magnetization values of the sample and controls in this study.

As observed, the saturation magnetization level of the control in microgravity conditions is about 25% less than the saturation magnetization under Earth's gravity in other studies (7 and 8). This is while the sample's saturation magnetization in microgravity conditions is almost equal to the magnetization reported under Earth's gravity (under 2% and negligible). According to the results obtained from this study, the T-Consciousness Field 1 in microgravity conditions has provided the necessary conditions for maintaining the iron

element's saturation magnetization similar to Earth's gravity values. Analysis and calculation of parameters related to the reduction achieved in the iron control's magnetization, repeating the test under Earth's gravity conditions, examining the physical structure of the sample and control of this study with XRD technique, and physical analysis governing the manner of T-Consciousness Field 1's impact in maintaining Earth-like magnetization, are on the agenda of the authors of this study.

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The Effects of Taheri Consciousness Fields on Thermoluminescence Phenomenon: Examining the Function and Memory of Taheri Consciousness Fields' Effects at the Atomic Level of Matter

According to Taheri's theory, "T-Consciousness" along with matter and energy are the three fundamental elements of the cosmos. T-Consciousness is distinct from the other two elements, is not quantitatively measurable, and possesses a qualitative nature. Furthermore, various types of T-Consciousness Fields (TCFs) with diverse functions exist as subsets of the Cosmic Consciousness Network. According to this theory, "motion" is the basis of the universe, and what gives it purpose and direction is T-Consciousness. Moreover, due to the existence of information indices generated by T-Consciousness, each component of the ecosystem exhibits unique behavior and characteristics. Is it possible to alter information indices by applying TCFs? Can survival and life under microgravity stress conditions be influenced by these fields?

Microgravity, referring to reduced gravity, is a condition that can be experimentally and instrumentally simulated in laboratory experiments. The application of TCFs on materials, cells, and plants in studies of the present issue, under microgravity conditions, preserves natural conditions similar to Earth's gravity in samples compared to controls. In essence, it can be interpreted that TCFs operate independently of gravity, and in the absence of gravity, they provide the necessary information to maintain the optimal functioning of the system under investigation.

