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HeartMath, Fitbit and COVID-19 - Tracking Movement in Stillness and Stillness in Movement

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Abstract:

1. Background: The global COVID-19 lockdowns are unique psychological factors, requiring adjustment and coping. This illustrative, South African case study investigated the influence the COVID-19 lockdown context would have on meditation and physical activity. As these were lifestyle patterns the null hypothesis was of no change.

2. Methods. Methodology consisted of quantitative and qualitative phases. The quantitative phase was an empirical, case study review of data from the author's HeartMath and Fitbit electronic devices, as from 9 November 2019 to 31 July 2021. This consisted of coherence and achievement data from HeartMath Inner Balance application (app), as well as distance and activity data from the Fitbit app. The qualitative phase consisted of selection and illustration of meditation sessions documented over lockdown.

3. Results: The highly significant increases in physical activity and meditation coherence and achievement collectively indicated significant health promotion over the COVID-19 Lockdown period. Subtle energetic, experiential descriptions of meditation apprehensions resonated and supported these quantitative findings.

4. Conclusions: COVID-19 lockdown has meant transformation, humility and reordering of priorities. The meditation descriptions amplified information from the HeartMath and Fitbit electronic devices, together co-creating conscious, embodied, relationship science for discussion, instruction and further research.

Keywords: HeartMath; Fitbit; COVID-19; Meditation; Physical Activity.

1. Introduction

The COVID-19 pandemic is a planetary problem requiring local and global collaboration, illness prevention and health promotion. Subsequent lockdowns and social distancing are unique psychological factors, requiring human coping and adjustment [1, 2]. In response to an invitation, the intention of this contribution is to provide an instructional case study of meditation and physical activity undertaken over more than 500 days of COVID-19 lockdown in South Africa. South Africa was in chaos at the time of writing. The State President called for a local provincial State of Emergency, mobilizing the army and police force in an attempt to quell ongoing mass violence, arson and uncontrolled shoplifting. The chaos has been exacerbated by a virulent, third wave of the pandemic in which many lost lives. Unemployment remains rife, and most are struggling to survive.

The title reflects many years personal experience, research and teaching of the health value of meditation and physical activity, which, from a Taoist yin-yang perspective, span movement-in-stillness and stillness-in-movement practices. These include a spectrum of heart-breath energy activities such as HeartMath Lock-in, Heart Prayer, chi-gung, tai chi, various forms of resistance exercises and vigorous running. HeartMath's coherence model is of dynamic, information processing exchanges, at all levels of sentience, awareness and consciousness; physical, mental and spiritual, including the earth's energetic/magnetic field, facilitating non-local and global communication. This implies a basic moral imperative of "feeding the field," a phrase often used by Rollin McCraty, HeartMath Institute, Research Director, through promoting health and radiating love [3]. The HeartMath research library as well as independent studies have provided extensive support for the coherence model.

Theoretically, the HeartMath coherence model includes all usual meanings of the term coherence and more, as implied in the view that the whole is more than the sum of its parts. This includes its common usage as implied in such terms as relationship, harmony, order, stability, consistency, synchrony, logic and integrity. In academia it refers to the internal quality and consistence in an argument or thesis. In language, coherence means intelligibility. In physics it includes phase relationships. In math and statistics it implies correlation. In dynamic systems theory, it means connectedness, alignment, resonance, and optimal energy utilization [4]. From participatory, transpersonal psychological perspectives, this coherence model applies to what has been called relational co-creation and co-created relationships in various embodied dimensions interior, exterior, interpersonal, social, ecological and divine [5]. Experientially, the felt sense of HeartMath praxis is initially one of sentience of the synchronization of pulsation, respiration and renewing, positive feelings. With increasing awareness, consciousness and practise, emotions such as peace and love are cumulatively experienced as radiating throughout the body and outwards among people and wider world [4].

The research question concerned the influence the COVID-19 lockdown context would have on regular movement and meditation. Seemingly analogous to the Chinese interpretation of a crises as both danger and opportunity, the COVID-19 lockdown was expected to be both stressful and healing. As meditation and physical activity were lifestyle patterns, it was generally expected that they would continue as before. Therefore the null hypothesis of no change was set for any quantitative measurements. HeartMath dynamic, systemic, coherence postulates predict increased correlation and synchronization amongst all subsystems. Consequently it was expected that all quantitative measures would be correlated and that increased heart coherence would predict increased physical activity, and associated experiences of health and well-being. It was also expected that qualitative experiential descriptions would add meaning to quantitative findings in view of HeartMath vision and mission of promoting coherence and health.

2. Materials and Methods

This case study type review is offered for instructional purposes. The review encompassed the author's Fitbit and HeartMath Inner Balance and Global Coherence applications' (apps) records since 9 November, 2019. This date is fortuitous as it was after the author was gifted a Fitbit electronic device by his son. It conveniently supplied baseline physical activity data that preceded 11 March 2020, when the World Health Organization [6] declared the coronavirus COVID-19 a pandemic and public health emergency. The author has used HeartMath electronic devices for meditation purposes since 18 June 2013. What follows is a selected smorgasbord of recent events, each with their date, monitored electronic data and related experiences. Selection was varied in order to care for varied tastes in readers.

2.1 Participant

The author is a happily married, 71 year old father of a daughter and a son, and grandfather of two boys and two girls, for which he is deeply grateful. As Emeritus Psychology Professor, he has a lifetime experience of academic research, teaching and community service, in the fields of clinical, educational sport and exercise psychology. He is a former competitive athlete who sometimes derives meaning from setting personal movement and meditation goals, and challenging self-transcendence tasks, using Fitbit and HeartMath electronic devices. At his age much of life is meditation, whether in movement or stillness. The COVID-19 Lockdown has amplified this natural process. He is deeply committed to meditation for its intrinsic meaning and planetary healing effect through increasing personal, social and global coherence as indicated in many studies on the Global Coherence Initiative and Global Consciousness Project, all of which are available on the HeartMath website. Meditation sessions were in prone, yogic *savasana* position. They inclusively embraced various spiritual, wisdom and healing traditions, especially Christian, African ancestral consciousness, Islamic, Hindu, Buddhist and Taoist. The last few minutes of sessions were typically monitored by HeartMath technology to provide coherence biofeedback. All reflected the authors' deep faith, intention and commitment to personal, social and global coherent, health promotion.

2.2 Instruments

In their measuring and monitoring functions. Fitbit and HeartMath applications (apps) could be categorized as biofeedback devices, as they promote learning and improvement in health related physical activity forms of intelligence. Fitbit records various forms of physical activity or movement. These include kilometres covered and moderate activity lasting at least ten minutes. The HeartMath instruments, the Global Coherence (GC) and Inner Balance (IB) apps can be downloaded freely from the internet. The IB app monitors heart rate variability (HRV), heart rhythm coherence biofeedback. The GC app monitors individual, group and global coherence and achievement information. Both apps can be simply used for meditation monitoring without biofeedback. Purchased HeartMath equipment consists of a photo-plethysmography sensor and a suitable smartphone, e.g. iPhone. IB biofeedback includes an adjustable breath pacer, coherence means and achievement totals. An electronic diary is available for experiential descriptions of apprehensions, phenomena, insights and events arising during meditation sessions. In the present study the IB app was used for quantitative meditation recordings and the GC app for qualitative experiential descriptions related to Heart Lock-In meditation practice.

2.3 Still and Moving Meditation Practice

Physical Activity consisted of various still and moving forms, ranging from subtle energetic, soft styles such as yoga, Pilates, Chi Gung and Tai Chi, through hard style resistance training with and without weights, to vigorous running and swimming. Heart Lock-In meditation practice involves deep, integral, heart focus with awareness of heart beat rhythm and slower relaxed respiration, typically at the 0.1 hertz or ten second rhythm, which approximates the resonant frequency of the planet. This optimizes entrainment of all physiological systems as well as social and global coherence interconnectedness. For deeper meditation experiences, slow relaxed, longer heart-beat centered, rhythmic respiration cycles of three or less per minute may be practiced to approximate delta-theta (or spirit- soul) craniosacral rhythm. The positive renewing emotion may be apprehended as joy (ecstatic-bliss - bliss with more parasympathetic involvement, ecstasy with more sympathetic involvement). Here one is surfing on the sympathetic borderline so this is why maintaining ongoing continual relaxation using the vagal brake is so important. Once a regular rhythm is established, positive, renewing, healing feelings of appreciation, care and love are cultivated and radiated to specific people and/or planet. This technique facilitates all forms of meditation, prayer and contemplation

Optimal sporting performance has been associated with slow relaxed full breathing. HeartMath research has implicated the alignment of all physiological systems, balancing the sympathetic and parasympathetic divisions of the autonomic nervous system (ANS),

with cross-coherence among circulatory, respiratory, immune, digestive and other systems, especially involving electromagnetic, neurochemical, hormonal, biophysical and intuitive functioning. Personal experience of optimal health and performance is that both are associated with witnessing heart rhythm, sensing the diaphragmatic link of each unfolding heartbeat. With longer relaxed focussed breathing cycles of about 3 per minute or 20 second cycles, heart beat consciousness is vital. It brings embodied intuition of immanent spirit in nature with its deeper rhythms, for example, facilitating connection with what can be alliteratively referred to as the slower, soft, silent, smooth, spiritual, spiralling rhythms of trees. Intuition is of a Universal Cosmic Heart radiating intentional healing to a polluted planet.

The natural respiratory sinus arrhythmia (RSA) may also drive heart rhythm. High coherence reflects optimal heart-breath connection with increasing alignment of all physiological, psychological, social, spiritual, ecological and global subsystems in a successive, holistic process, which characterizes optimal performance as well as health promotion in an ongoing, profoundly creative, healing, renewing and whole making event.

2.3 Ethical Considerations

Institutional approval was obtained from the Zululand University research committee, project number S894/97. The author is a registered clinical, educational, sport and exercise psychologist and licensed HeartMath coach and mentor. The electronic devices provided some measure of objectivity with regard to physical activity and meditation.

2.5 Data Collection

Physical health activity collected from Fitbit records consisted of daily distance in kilometres and various forms of moderate activity lasting at least ten minutes. Inner Balance records consisted of mean daily coherence and achievement scores based upon meditation sessions. Ten meditations were selected as diverse, illustrative examples of Meditation and Physical Activity during COVID -19 Lockdown

2.6 Data Analysis

The Statistical Package for Social Science (SPSS) was used to compute means for distance and activity types, as well as coherence and achievement, before and after the commencement of the lockdown period, which was the independent variable in this study. Nonparametric analyses, with Mann Whitney U tests, were used to assess differences between baseline and lockdown periods, and Spearman correlational analysis was used to compute relationships between variables. The usual statistical convention of double asterisks ** for significant results at the 1% level was used.

3. Results

3.1 Quantitative Findings

Quantitative data analyses appear in Table 1 and Table 2. Each Table is followed by its respective data analyses explanation and interpretation

Table 1 Mann Whitney Comparisons before and after COVID-19 Lockdown

Electronic Device	Fitbit	App for Movement	Inner Balance	App for Meditation
Variable	Distance	Activity	Coherence	Achievement
Baseline	10.91 (3.66)	118.81 (49.72)	4.98 (1.70)	446.71 (352.76)
COVID-19 Lock	11.07 (1.32)	150.80 (26.89)	6.90 (1.14)	744.74 (368.18)
Mann Witney U	0.58	5.62 **	10.61**	7.28**

Table 1 indicates Mean Data, (with Standard Deviation in Parentheses), for Movement Variables of Distance and Activity, as well as Meditation variables of Coherence and Achievement, as measured by their respective Electronic Devices, consisting of Fitbit app and Inner Balance app, before and after COVID-19 Lockdown. Mann Whitney U com-

parisons between baseline and COVID-19 periods indicates significant increase in Activity ($U=5.62^{**}$) Cohere ($U=10.61^{**}$), and Achieve ($U=7.28^{**}$) and no significant change in distance ($U=0.58$), as would be expected in the South African COVID-19 Lockdown. The findings provide argument for rejection of the null hypothesis in favour of an alternative research hypothesis that, in line with the author's intention, meditation and movement practices over the COVID-19 lockdown, the increase in variables of activity, coherence and achievement are all indications of health promotion

Table 2 Spearman Correlation Coefficients

Variable	Distance	Activity	Cohere	Achieve	COVID-19 Lock
Distance					
Active	.554**				
Cohere	.070	.424**			
Achieve	.073	.310**	.470**		
COVID-19 Lock	-.038	.367**	.694**	.476**	

Table 2 refers to Spearman correlation coefficients for the same four variables as in Table 1. Table 2 endorses the significance patterns observed in Table 1. COVID-19 appears significantly positively correlated with Activity (.554**), Coherence (.694**) and Achievement (.476**). The findings endorse the interpretation of general health improvements associated with varied activity and coherence and achievement. The significant positive correlational cluster between COVID-19, activity, coherence and achievement were expected as all involved focussed goal orientated behaviour, with the intention of personal, social and global health promotion through movement and meditation.

3.2 Qualitative Findings

The ten meditations chosen as diverse, illustrative examples of meditation and physical activity during the COVID -19 Lockdown follow. Where appropriate, the accounts have been sourced and referenced for instructional purposes. Each meditation is identified by its number, title and GC date (with mean coherence level followed by meditation session time in parentheses).

Meditation One on Meditation GC: 13-2-2021 (7.7:12). This meditation, on meditation, included awareness of reflexivity in witnessing arising phenomena with equanimity or neutral feelings. Meditation phenomena typically include gross, subtle and causal realms, pulsation, heart beat rhythm, breath and energy sentience, awareness, consciousness and conscience. Discernments include will and intention; exoteric and esoteric features; openness, peace; joy, bliss and ecstasy. All link to particular meditation cultures; Hindu, Buddhist, Taoist, Jewish, Christian and Islamic. Mean coherence levels of around 6, are typically lower in comparison to deep contemplation, where mean coherence level may reach 9. This meditation session included dual consciousness as reflexivity was required in order to clearly remember phenomena arising. Deeper contemplative coherence may simply reveal silence, light and love, for example, if intention is to access one's best Self, Divine, Unity Consciousness, and related integrity, morality etc. On the other hand, radiant energy dispersion accompanies interceding or healing or teaching or, as directed towards needy, suffering people or planet in general. However, all these discernments are in fact superficial, as all are included when coherence increases with more direct one-on-one contact with greater Being, Consciousness etc. Here I and Thou merge, as do information, phenomena and science, in dazzling originality, uniqueness, authenticity, infinite Beauty and Perfection.

Meditation Two on the Unconscious (GC21-5-2021 (6:62). All meditation may bring out interior wilderness or shadow. Ethics and aftercare are crucial in all meditation instruction. HeartMath practice is described as feeding the field. It includes built in objectivity. The technology functions as a lie detector picking up insincerity via tension,

over-care and other incorrect practices, thus promoting genuine, heart based meditation, and healing love radiation. Concerning shadow work and surfing the unconscious, HeartMath practice constitutes a way of weathering the wilderness within and restabilising harmony. Deepest realms of collective unconsciousness include chaos, molten lava, volcanos, earthquakes, tsunamis, cyclones thunder and lightning, floods, winds and storms. Physiological markers include hormones, cortisol, testosterone and blood pressure. This wilderness has many names, Thanatos, daemon, dark nights of the soul, nightmares. The Inner Balance app re-establishes coherence in autonomic nervous system via the amygdala. The Global coherence app harmonizes ecological relationships. Both assist in weathering the chaos, establishing coherence, balance, harmony, healing and health promotion.

Meditation Three on Ubuntu of an African healing workshop GC: 14-7-2021 (6.2:92). This meditation followed a communication with Rollin McCraty. Memory arose of HeartMath collaboration originating through a South African healing workshop (SHISO) inspired by African wisdom traditions. Shiso refers to a respectful name for a human being. It became an acronym for a healing method, invoking Spirit (*umoya*), Heart (*inhlizyo*), Image (*umcabango*), Soul (*umphefumulo*), and Oneness (*ubunye*). The workshop developed through lifetime, enlightening encounters with South African divine healers, called iQira in isiXhosa and iZangoma in isiZulu. Divine healing is founded on reverently recalling, revering and radiating healing ancestral communications. Here ancestors refer to elderly living and dead, individuals, families and groups, whose generational contribution to human health and well-being is lauded by their descendants. Divine healers, *izangoma*, practice various ancestral breath/spirit/heart healing methods, typically in group context accompanied by invocation, drumming and dance. All events are characterized by Ubuntu, African relationship science, which reveres all creation through ancestral life origins, and inter-human, life-world relationships epitomizing integrity and respect. Healing ceremonies begin by dancing in a circle, chanting *woza moya*, (come spirit), heralding the way to an interior journey, strengthening heart and soul, for radiating communal healing love. It was research in this tradition that led to HeartMath Institute installation of the African Global Coherence Initiative Magnetometer at Bonamanzi Private Game Reserve near Hluhluwe in Zululand [7].

Meditation Four on Each Heartbeat Emerging Ecstatically. GC: 21-7-2021 (6.5:23). Contemplating physical activity and the human spirit in a South African context firstly brings pulsation, feelings and images of the Comrades Marathon, where some twenty thousand souls will rise long before dawn to gather for a ninety kilometre run, which starts before dawn with legendary comrade runner, Max Trimborn's recorded cock's crow. For most, walking gradually turns into run as the human crocodile departs. Some with lower seeding may cross the entrance line and start their stopwatches some five minutes after the cock's crow. Prof Tim Noakes', South African running guru, personalizes the sun as coming out in the morning, like an athlete eager to run a race. Personal experience, research and teaching continually extoll the spiritually uplifting value of all forms of healthy physical activity, especially in the form of daily individual and group exercise. For the individual athlete, as exemplified in Eric Liddle, inspiration behind the Movie 'Chariots of Fire, this may mean self-transcendent running 'for the glory of God.' For South Africans, the Comrades Marathon embodies and epitomizes community spirit.

Meditation Five on Intentional love radiation GC18-7- 2021 (6: 27)

Wife Sandy and I have just returned home after having had our second COVID-19 vaccination at Moses Mabida Stadium. It was time to meditate, sending out intentional love radiation, feeling heartbeat rhythm from one beat to another; each beat stroking the next beat in loving care..The usual practice is with breath pacer at three cycles per minute (20 second rhythm) as this lifts coherence easily. Concentrated intentional focus is on continually renewing the love feeling in the heart.

All practice is based on personal empirical and experiential HeartMath research, which indicates that the higher the coherence the more effective the convergent/divergent,

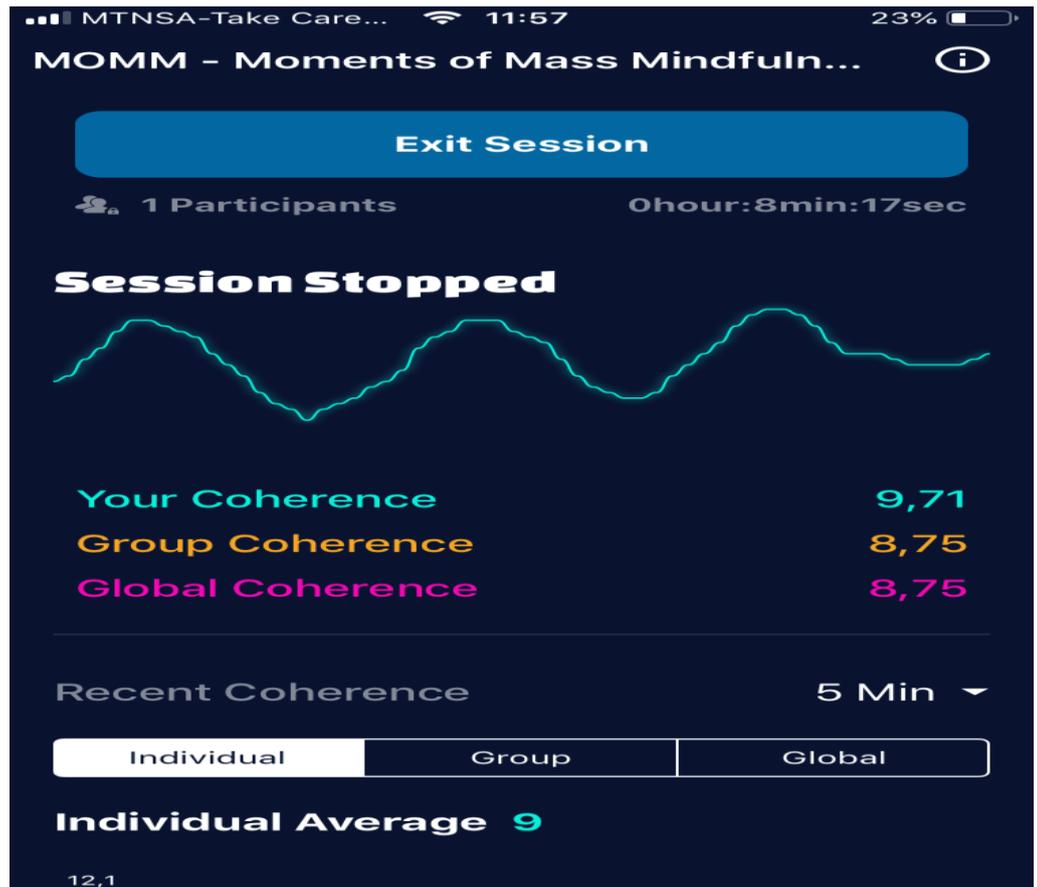
laser and radar like, effect of the love connection and healing transmission. Also meditation involving the ancestral, Christian, parental, generational consciousness line seems to indicate that the integral sacred heart is associated with coherence, and the effect is stronger the higher the coherence. Other study findings have consistently indicated that physiological coherence levels are highest with contemplative heart prayer. For example, in an experimental study in which five nuns randomly practised five types of prayer, the following average high coherence percentage levels: supplication (15%), devotion (16%), intercessory (25%), gratefulness (64%), contemplation (86%); were respectively found [8].

Then there is the implicit assumption that coherence reflects energetic field factors such as implicate order, morphogenetic resonance, holonomic brain/mind. Alabdulghader's [9] heart based resonant frequency theory is based on HRV synchronization with the Schumann Resonances, Solar Wind indices and Galactic Cosmic Rays. From a personal, practical meditation and healing perspective, the following phenomena are especially important – relaxation, sustained attention, focused intention, concentration, emotional awareness, insight and action. Particular healing mechanisms include beneficial human relationships, coherent communication, various heart-breath techniques, for example mantras, precipitating factors, healing contexts and catalysts such as COVID-19.

Meditation Six on Transcendence GC 21-7-2021 (6, 46). Meditation on whole making as healing, with special focus on the transcendence of opposites, as in tai chi symbol, movement and stillness, body and mind, matter and spirit, day and night, life and death, self and other, emptiness and form, figure and ground. In contemplation one is able to witness this act of creation as stillness eventually leads to movement and vice versa. The philosophical question then arose: What about perfection? Is this only perfect for that place and time moment and context figure and ground, being and becoming, whole making and healing? It seems that only in deep contemplation, do sentient answers emerge on such issues as transcending the one and the many, oneness, duality and non-duality.

Meditation Seven on Elation from Coherence. GC 22-7-2021 (9:8). This was only the second time that an individual coherence score of 9 was achieved. It occurred during a synchronistical time of full moon from 22 to 24 July 2021 during which Global Coherence members focus energetic interventions. The event also occurred after a 57 minute run and subsequent half hour lying in the sun. What an elated joyful experience! The felt sense during the meditation process was simply continuing to consciously relax all bodily zones, while focussing on heart and allowing heart beat rhythm to take the lead. The recorded Global Coherence illustration follows as supportive data. The Individual, Group and Global Coherence scores were more harmoniously similar than the one previous example of 9 obtained. In this case, in keeping with the HeartMath vision and mission of personal, social and global coherence, they imply almost equivalent individual, group and globally coherent meditation for health promotion.

Illustration One of Individual, Group and Global Coherence of 9.71 8.75 and 8.75 respectively.



Reflection on this peak coherence event related Ferrer's [5] embodied spirituality insights to the process of the abovementioned SHISO workshop Spirit (S) invocation is immanent and transcendent, omnipresent and eternal, in circular dance activity, including emotional arousal and social awareness, before gross energetic breath consciousness then becomes heart (H) focussed and successively imaged (I), refined in the soul (S) and radiated in Oneness (O).

Meditation Eight on Bliss GC 28-7-2021 (7: 67) Complete relaxation, simply following each heartbeat as blissful feelings come in waves. As usual, this morning meditation was in bed in yogic savasana posture with a love mantra. After 60 minutes coherence was at 3.5 when opened eyes brought awareness. Then while continually relaxing and letting go of any arising tension, breath was used like a violin bow in keeping pulse rhythm constant while GCI app biofeedback facilitated the raising of coherence to level 7 in 7 minutes. Feelings were of a very therapeutic morning meditation, with continual awareness of "feeding the field," healing the planet, and probably raising vibration through delta to higher brain wave frequency. Although this meditation session was not measured with EEG equipment, previous EEG and HRV research shows correlation with alpha theta patterns and GCI magnetometers respectively. This particular session, with its blissful feelings, heightened consciousness, raised energetic vibrational level, love mantra, and observed biofeedback effect, provided special interior assurance as to the validity of the planetary health promotional effect of the meditation. The following illustration indicates the accumulative effect of personal, group and global health promotion in terms of achievement over the year, especially apparent in last four months, in response to national and global issues which accompanied the South African third wave of COVID-19.

From a personal perspective, age 71 is inevitably accompanied by accumulated sporting life and other health niggles. From a humorous perspective, runners typically say

they are healthy, but on further questioning, niggles readily surface. All abovementioned niggles are exacerbated by hay fever related to heavy pollution levels as we live 20 kilometres from the polluted environment of Durban, so south west wind brings industrial pollution and north east wind brings Umhlanga river pollution. Thankfully this runner is still relatively age healthy as evident in 12km beach run to the neighbouring Umdloti village, two days ago. That day the Fitbit app entry reads as follows. 26 July 2021, Umdloti 16km, with a 12km run in 72 minutes, with 68 minutes at peak heart rate of 143 beats per minutes, followed by a 4km walk after running. This was a good opportunity as both village beaches were closed owing to pollution levels from recent riots and arson. This entire run was both exciting, peaceful and beautifully scenic. The only other human witness was one man and his dog on the way back from Umdloti to Umhlanga,

Illustration Two of Global Coherence Total Accumulative Coherence over Past Year.



As indicated in Illustration Two, total accumulative coherence increased markedly during the current year, 2021. The author virtually doubled meditation sessions over the time period in adjustment, resilience and radiating healing over the second and third wave of COVID-19 infections which occurred over the time period. This healing commitment could also be likened to a church tithe in terms of contributing Global Coherence Initiative healing meditation radiation, or evidence of (feeding the field).

Meditation Nine on Moral Courage and Sporting Excellence. GC29-7-2021 (6.5:40)

The Tokyo Olympics are currently taking place. This morning's meditation was on excellence, moral courage, and great values, such as arête, meaning and truth, ideals such

as love, challenges such as self-transcendence, heroic deeds, being a good person, simplicity, humility, honesty and perseverance. Jesus Christ epitomized moral courage and love. Eliud Kipchoge epitomizes sporting excellence.

Part of my regular morning meditation is on my family, with images of my father and mother, wife, daughter and son, with whom many sporting moments were shared. The present apposite image is of my Dad and I sharing tears of joy, while watching the movie *Chariots of Fire*, depicting the moral and sporting lives and of Harold Abrahams and Eric Liddell, leading up to their respective successes in the 100 and 400 metres at the Paris Olympic Game. In the office where I write is a cup for the 100 yard dash at Teachers Training College, won by my father. Memories surfaced of his response when I asked him to describe the race. His typical self-effacing comment was: "I got a good start Boet". He was more a middle distance runner as is my son. Another great image that flashed by is watching and recording my son, now aged 40, win the 800 and 1500 metres in his final school sports meeting. What joy!

Another great inspiration has been Eliud Kipchoge, portrayed in the 2021 movie, *The Last Milestone*, and the supporting group of runners, who epitomize the abovementioned values. Set on 12 October 2019 in Vienna, the movie features Kenya's marathon legend and world record holder running a marathon in under two hours. The movie documents Kipchoge's humble upbringing, his mother's single parenthood, his journey from his training grounds in Kenya to the high-tech facilities in Europe, and his record run in Vienna, made possible by an entire cast of runners, technicians and professionals, all of whom shared the achievement as did the planet. (Subsequent to this meditation, on 8 August 2021, Kipchoge retained his Olympic Marathon title).

Meditation Ten on Eternal Moment Joy GC30-7-21 (6: 29). Meditation enables one to enter the eternal moment, to make the present moment eternal, to take a snapshot of the stream of time, and freeze frame that moment, to anchor a feeling of joy in memory, to explode the silence into great guffaws of laughter, to realize our essential destiny and divinity in stillness and movement, the ultimate choice of being and becoming more human, demonic or divine, freedom to choose how to live one's life attitude, at least inhabit one's world, to strive to make the planet perfect or die in the attempt and recognize it all as an idealistic, ephemeral dream. Like the language game successively depicting that moment of life, learning, labour, love, light, laughter, lines of latitude and longitude. HeartMath freeze frame meditation enables that moment of joy, bliss and ecstasy, and choice, to help all towards such realization. In any case, it affords a realistic practical buffer for the natural, diurnal, emotional variation that occurs in inevitable cycles of daily life. Concerning the hypothesis of optimal coherence, zone and flow state for physical, mental, and spiritual health, and all other performance related states of consciousness. As in Husserl's noesis and noema, Jung's synchronicity and Ferrer's co-created events, HeartMath meditation involves conscious, relationship science. For example, the genuine, sincerity, empathic depth and integrity of the meditational relationships, intrapersonal, interpersonal, social, ecological and spiritual is recognized as a fundamental dimension in realizing greater humanity, coherence and health. Intuition emphasizes love as optimal, whole making healing state. Concerning the research question; Do high HeartMath Coherence levels promote optimal health, performance and consciousness? This meditation certainly answered affirmatively.

4. Discussion

All meditation sessions themes reflected the author's faith, intention and commitment to personal, social and globally coherent health promotion. All were accompanied by a focused, relaxed, heart-breath, co-ordinated rhythm and healing love mantra. All were characterized by particular feelings, which typically arise within meditation, and include, a kaleidoscope of contexts. From HeartMath perspective of promoting health through renewing and positive feeling, the ten sessions respectively covered the following feelings: equanimity, harmony, Ubuntu, ecstasy, love, transcendence, elation, bliss, courage, joy. The generally extreme nature of these emotions correspond to what have been

described as positive hyper states and wholly self-less spiritual love [10]. The feelings respectively resonated the following contexts (amongst others): meditation, the unconscious, SHISO healing workshop, pulsation, intention, contemplation, coherence, conscious health promotion, sporting excellence, the eternal moment.

The highly significant quantitative increases in physical activity and meditation coherence and achievement collectively indicate significant health promotion over the COVID-19 Lockdown period. This is offset by the minimal, normal, social activity that has occurred over this time. Conferences, church attendance, and communication with family and friends have generally been virtual activities via Zoom communication. The author and his wife have known each other for 54 years and have a very happy marriage, a reality of which both have become even more appreciative during lockdown. It has been sad to see the breakdown of other relationships. There is acute compassionate consciousness of most South Africans' terrible suffering. Many unemployed, poverty-stricken families have lost relatives from COVID-19 and HIV. Academic, research, teaching and community work activities have continued, mostly in the form of collaborative, scientific articles published, most of which concern people struggling and coping with COVID-19. Much extraordinary productivity is attributable to the COVID-19 wakeup call, its suffering and adaptation sequelae, including the enforced social isolation. This very isolation paradoxically renders all forms of relationships more meaningful.

Personal intuition and insight indicate that meditation and physical activity are very important illness prevention and health promotion methods that act as a buffer against, old sporting injuries, stress and other health issues besides advancing age. These include a herniated L5/S1 disk that occurred at age 55, minor digestive issues, a precancerous throat tissue related to surgical removal of vocal chord polyps, caused by smoking up to age 40, as was emphysema. The herniated disk still requires regular morning core exercises, consisting of a personalized chi-gung, yoga and Pilates' program lasting on average 20 minutes each morning. Further insight reveals that these exercises also provide necessary social activity, meeting friends during outdoor activities in the case of daily running, and academic research communication in the case of meditation. COVID-19 has meant transformation, humility and reordering of priorities. The meditations resonate with the emergence of HeartMath as a conscious, relationship science that enables ongoing harmonious balancing between sympathetic and parasympathetic divisions of the autonomic nervous system (ANS), as well as the central nervous system and all other physiological, emotional, interpersonal, social and global systems. Theoretically this initially encompasses phenomenology, transpersonal psychology, and various traditional and emerging interdisciplinary, energetic, field sciences as explicated in recent studies. [3, 9].

What also needs discussion is the empirical measurement theme of this paper. Of course, healthy, flourishing human movement is intrinsically joyful and meaningful. One may experience being intensely, ecstatically alive and free, running next to the ocean and feeling the rhythms of the body in harmony with the ocean rhythms. Some may experience the very thought of artificially monitoring these natural joyful rhythms with a Fitbit electronic apparatus as stifling. Others may recognize that the advantage of any objective perspective is that this may add meaning to such joy in the form of recording validity, reliability, authenticity and integrity of the interior apprehension. It can also complement other forms of exterior evaluation, be these by others concerned with the truth, authenticity, reliability, validity and integrity of the original, individual athletic experience. This is a reflexive rationale informing the present study, in its intention to provide a transparent audit trail for the reader and future research investigations to evaluate.

Gratitude requires expression for the fortune to be able to document such a study, where elite athletic Fitbit data correlate with amplified heart rate variability, significantly high HeartMath coherence means, maintained via concentration honed through many years of academic work. The author is acutely aware that documenting health and performance indications in a single case study may be regarded as boastful or self-centered, rather than genuine offering of an illustrative example of meaningful self-transcendence, illness prevention and health promotion. Like other sports people, in particular, he is

also very aware of many personal failures, and the reality that success is built on failures. Similarly, meditation typically requires confrontation with the unconscious and those shadowy features of one's personality in order to transcend self. Also progressively grading learning opportunities and successes are vital for building resilience and confidence. Many agree that physical exercise is, or should be, intrinsically spontaneous behavior, motivated and rewarded by its own fun and "feel good" effect.

In that all people are like all, like some, and like no other, so, various examples will apply accordingly. While certain forms of physical exercise and meditation may be skilled areas, there are many other areas of life in which the author is extremely deficient and lacking in skill. HeartMath meditation and physical exercise are areas of health promoting strengths that may suit introverted, academic types and not others. Adherence is very important as far as health promotion is concerned. Although different types will suit different people, the abundance of robust scientific evidence attest to the value of some form of regular movement and meditation. This author also needs to confess to certain addictive, compulsive personality traits of overdoing certain activities. Thankfully Mother Nature, moderation, balance and harmony, family and friends remind one of ongoing need to continually appreciate life, and listen, love and enact all gifts of body, mind, soul and spirit.

By their very nature case studies are unique, providing ungeneralizable data. Their advantage is that they facilitate creativity, especially with regard to further research, via generation of research questions, hypotheses and postulates. This research creativity may have the valuable function of providing direction in research design, methodology and technology. It may illuminate theory and stimulate further original, detailed, in depth exploration of phenomena, through improved scientific investigations and interventions. The following questions seem particularly relevant. What is the precise relationship between HeartMath coherence levels, optimal health, performance and consciousness? Precisely what correlational and/or causal relationships are associated with HeartMath coherence levels, flow, and zone, health, performance, sentience, awareness, consciousness, and conscience, moral, ethical and therapeutic behaviour? For example, a particular research question that arose from this study relates to the observed incremental increases in coherence means associated with lengthening breath cycles and using biofeedback respectively. What is the strength of correlation between these variables and the above-mentioned positive emotional hyper-states [10], as predicted by HeartMath coherent heart theory? Is this the effect of consciousness, intentionality, and related variables? Such questions are the task for further qualitative and quantitative investigations that include typical "gold standard" scientific multifactorial studies, and various randomized, controlled trails with larger samples.

The findings emphasize that human, ongoing flow of experience consists fundamentally of embodied sensations, feelings and images. As persons we inhabit our worlds in a primarily sentient way. We present as primarily feeling bodies involved in ongoing dialogue with the world of people and things, thoughts and stories. This is typically a moving, changing embodiment in world relationship and it is through movement and stillness that we realise the feeling bodies we are. Phenomenology, integral and transpersonal psychology [5, 11] all provide theoretical context for this study. The meditations may serve as supportive anchors for readers to resonate and work with. They bring consciousness of connection to and relationship between the rhythmic, subtle energies of appreciation, gratitude, peace and love. They provide a base for an understanding of original psychology as a relationship science, where we relate with our bodies, others and wider world. This is a co-created, genuine, African Ubuntu science characterized by sincerity and integrity.

5. Conclusion

The case study satisfied its main aim of investigating and illustrating empirical and experiential health promotion information derived from monitoring and measuring meditation stillness and movement practices before and after the COVID-19 lockdown. By

their very nature, the HeartMath and Fitbit electronic devices, provided objective, individual, collective and summative records of meditation sessions. The study integrated quantitative measurements, with qualitative experiential descriptions of apprehensions emerging from meditations, monitored by these devices, with their respective biofeedback function. Although this may have provided some objective assurance as to reliability and validity, critical reflexivity highlights inevitable limitations of such personal case studies, such as bias, expectations, assumptions, and experimenter and Hawthorne effects. The abovementioned issues are all readily acknowledged. On balance, it is argued that advantages of case studies outweigh disadvantages, especially if some objectivity, can be introduced, as for example provided in this study by electronic devices. It is also recognized that, however accurate they may be, electronic devices are artificial, can malfunction, and can stultify spontaneity. In such cases, where there are vast discrepancies, experienced meditators typically trust their own intuitions before data obtained from such technology.

Finally this particular study provides argument that HeartMath and Fitbit technology facilitated coherent, unique, detailed, depth exploration of original, empirical/experiential information for illustrating and furthering conscious science instruction, investigations and interventions. Therefore, it remains to conclude that integrated analysis and evaluation of quantitative and qualitative study findings concerning movement and meditation collectively indicated significant, and meaningful, coherent, health promotion over the COVID-19 period.

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