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BRIEF REPORT

Ubuntu HeartMath programme efficacy for social coherence and work spirit: Preliminary evidence

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This study reports preliminary evidence on the efficacy of an Ubuntu type HeartMath intervention for the purpose of facilitating social coherence and spirit at work. The study employed a pre-test and post-test, mixed methods design with 17 students and staff of an education unit (women =10; range 24 to 58 years). Participants completed a brief Ubuntu HeartMath workshop focused on promoting their sense of social coherence and work spirit, with pre-test and post-test measures of psychophysiological coherence, social coherence and work spirit, as well as written experiential evaluative descriptions of their personal growth indicators from the workshop. Wilcoxon signed rank tests for changes in psychophysiological coherence, social coherence, and work spirit indicators were positive. This suggests that the Ubuntu Heartmath workshop had efficacy in enhancing quality of work life. Thematic analysis of the written, experiential, evaluative descriptions also suggested that participants derived benefit in their sense of work place coherence and spirit. An Ubuntu-oriented HeartMath intervention appears to hold promise for improving psychophysiological coherence, social coherence, and work spirit in an education service setting.

Keywords: HeartMath, psychophysiological coherence, social coherence, spirit at work, Ubuntu

Introduction

The HeartMath system was created by Doc Childre to develop heart-focussed intelligence, health, and well-being. Working with a small group of professionals (who represented a wide spectrum of scientific disciplines, experience, and expertise), Childre established a non-profit research and educational organisation, the HeartMath Institute, in Boulder Creek, California in 1991. Rigorous, interdisciplinary, heart-focussed research indicated patterns of profound coherence, harmony, interconnectedness, and consistency. This typically included a global order where the whole is greater than the sum of the parts (McCraty, 2017). Major findings related to heart communication of electromagnetic, neurochemical, biophysical, and hormonal information. Also pioneered were a system of practical, heart-based tools and techniques for people of all ages to use in the moment to relieve stress and promote health, creativity, intuitive insight, and zoned performance, as well as biofeedback technology to facilitate heart rate variability (HRV) coherence feedback training (Childre, Martin, Rozman, & McCraty, 2016). Rigorous research has consistently revealed that psychophysiological, social, and global coherence may be optimised through coherent communication, sustained positive emotions, and an intentional heart focus. This is readily initiated through a meditative ten-second cardio-respiratory rhythm (Edwards, 2016). In that the scientific, evidence-based efficacy of HeartMath methods on psychophysiological and personal coherence is now well-established, the main current research emphasis is social coherence, a concept closely related to Ubuntu.

Ubuntu of the heart

Ubuntu refers to human social relationships, as idiomatically portrayed in the isiZulu saying *umuntu umuntu ngabantu*, literally meaning “a person is a person through others”, in a fundamentally social world. This is also tersely expressed in the German term “mitwelt”. In a recent study, participants noted that, throughout known history, Ubuntu has promoted and continues to promote social coherence in many ways and at many levels, conceptually, philosophically, psychologically, humanly, personally, inter-personally, socially, communally, spiritually, legally, politically, economically, and at various levels, locally, internationally, and globally (Hlongwane et al., 2018). For one participant, this implied greater openheartedness to promote social coherence and combat violent crimes. If instilled at a very young age it can promote health, respect, trustworthiness, harmony, and peace for future generations (Hlongwane et al., 2018). Additionally, participants emphasised various ways in which Ubuntu might promote social coherence. These included mentoring (helping people to share their stories, identify with one another, and realise their mutual need), through monitoring actions towards the spirit of reciprocal living in constant communication with others and nature; through meaningful, inter-human, and environmental relationships; and through neighborly caring and sharing (Hlongwane, et al, 2018).

Indigenous Zulu people have long recognised the fundamental importance of living a socially coherent, integrated life, where all dimensions of existence are harmoniously aligned (Edwards, 2016). A typical cosmology, still found in many rural Zulu communities, is of an undivided universe, where plants, animals,

humans, ancestors, earth, sky, and the entire universe all co-exist in a varying state of balance between order and disorder, harmony and chaos (Ngubane, 1977). To prevent disorder and chaos, there is the expectation that people must continually work at renewing harmony and social coherence (*nokumbana komphakathi*). This work (*umsebenzi*) has many dimensions, including ancestral consciousness and socially coherent relationships characterised by dignity and respect (*Ubuntu*). The isiZulu term for work (*umsebenzi*) implies a labour of love as in a cultural, spiritual ceremony or sacrifice. As work is also a main life context in which social coherence can occur, the research question arose as to whether Ubuntu HeartMath workshops would facilitate psychophysiological coherence, social coherence, and spirit at work. In view of the cultural and empirical evidence as to the value and effectiveness of Ubuntu and HeartMath, as independent variables, it was hypothesised that there would be improvements in associated dependent variables, involving psychophysiological and psychometric instruments, and that this improvement would be qualitatively endorsed by participants' perceptions and experiences.

Broodryk (2006) has provided a comprehensive table of Ubuntu personality values, life skills and application outcomes. This table (see Table 1) formed a relatively minor part of the total instructional package for the African workshops.

Study goal

The primary purpose of this study was the development of an Ubuntu type HeartMath workshop for facilitating social coherence and spirit at work.

Method

Participants and procedure

This exploratory research consisted of an integrated, mixed methods, within-subjects, pre-test and post-test, outcome evaluative design (Fetters, Curry, & Creswell, 2013). Data were collected in three workshops with purposive samples of University of Zululand Educational Psychology masters students and staff. The student workshops comprised five

and seven participants respectively and the staff workshop had five participants. The total sample consisted of ten women and seven men, with mean age 38.23 and age range 24 to 58 years.

The Ubuntu HeartMath procedure consisted of pre-testing on three measures, namely psychophysiological coherence, social coherence, and spirit at work. The Ubuntu HeartMath workshop package included:

- Social coherence instruction, which included: Broodryk's (2006) table of personality values, life skills and application outcomes;
- HeartMath heart-focussed breathing, cultivating positive Ubuntu feelings; and
- General group discussion of ways in which Ubuntu could promote social coherence with special reference to work spirit.

After post-testing on the three above-mentioned measures, participants provided written experiential and evaluative descriptions of the workshop (see Table 2).

Ethics

Appropriate ethical clearance was obtained from University of Zululand (Reference number: S550/97) and respective psychometric test developers. All participants were informed of the nature of the research and provided written consent with regard to the use of the information for publication purposes. Participants were guaranteed nominal confidentiality and advised as to their right to withdraw from the research at any stage.

Instruments

The HeartMath tool, emWavePro, served as a general Heart Rate Variability (HRV) assessment instrument for psychophysiological coherence. This instrument was complemented by specific psychometric measures of social coherence and spirit at work. These instruments are described in more detail.

HRV derived psychophysiological coherence

HRV derived psychophysiological coherence was measured with one minute recordings on the HeartMath

Table 1. Ubuntu life skills

Ubuntu personality values	Ubuntu life skills	The outcomes of application
Togetherness	facilitating togetherness	improved teamwork, family atmosphere, moral support
Brotherhood	implementing brotherhood	experienced unity, <i>simunye</i> (we are one), solidarity, commitment
Equality	support equality	practised non-discrimination, acceptance by all
Sharing	endorsing sharing	created different responsibilities, happiness and sorrow-participation
Sympathy	expressing sympathy	applied listening, problem analysis, consolation
Empathy	practising empathy	established open-mindedness, understanding
Compassion	honouring compassion	valued peace, cohesion, warmth
Respect	maintaining respect	structured order, discipline, dignity
Tolerance	allowing tolerance	self-controlled calmness, coolness, forgiveness
Humanness	saluting humanness	lived softness, bliss-ness, helpfulness
Harmony	propagating harmony	resulted steadiness, non-chaos, clarity of vision
Redistribution	redistributing wealth (and knowledge)	obtained sustainability, cooperation, capacity, empowerment
Obedience	applying obedience	justified relationship, convention, custom, values, norms
Happiness	living happiness	enjoyed spontaneity, long life, friendliness
Wisdom	loving wisdom	executed resolution, decision, evaluation, happiness

Table 2. Ubuntu HeartMath workshop intervention summary package

Goals	Processes	Expected outcomes
Workshop development	Workshop facilitation	Report findings
Assessment and evaluation	Pre-testing and post-testing	Quantitative, qualitative, integrative evidence indicators
Ubuntu – HeartMath approach	Ubuntu and HeartMath instruction	Improved psychophysiological and social coherence
Consciousness raising	Conscientisation	Improved work spirit
Participant focus group experiences	Teaching, learning, observation	Client and community skills transfer
Indaba	Facilitate discussion	Ploughing back knowledge
Support, coaching, mentoring, counselling and psychotherapeutic skills	Encourage, articulation and presentation skills	Improved adult companionship at departmental, faculty, university, community levels
Emotional, social, spiritual, intelligence	Praxis e.g. quick coherence technique, meditation	Personal, interpersonal, social, moral and global development
Reflexivity and insight	Socratic type questioning	Wisdom development
Critical evaluation skills	Ongoing dialogue	Improved academia, scholarship

biofeedback tool, emWavePro. In this case, for pragmatic and time purposes, as each participant has to be tested individually, one minute recordings of high coherence were chosen for pre-test and post-test purposes. Psychophysiological coherence is characterised by a heart rhythm pattern of elevated amplitude in low frequency heart rate variability of around 0.1 Hz, accompanied by positive emotions, indicating harmony between sympathetic and parasympathetic divisions of the autonomic nervous system. It is experienced as a state of relaxed alertness, which sportspersons describe as being in the zone (Childre, et al., 2016). The Quick Coherence technique, which was used in this study, involves such heart-focussed breathing while cultivating a sincere positive emotion from the heart area of the chest. It has been scientifically researched and developed, works immediately, and is exceptionally useful as an in-the-moment meditation technique to facilitate physiological coherence, improve consciousness, and develop concentration (Childre, et al., 2016). As an immediate antidote to the evolutionary, emotional, default mode network expressed in the form of fight, flight, and freeze reactions, conscious practice of heart-focussed breathing slows the system down and facilitates identification and focus on a particular positive emotion and/or experience (Childre, et al., 2016), in this case social coherence and work spirit.

The Sense of Coherence measure

The Sense of Coherence (SOC) measure consisted of an adapted and shortened nine-item version of Antonovsky's (1987) scale, with a Cronbach alpha reliability coefficient of 0.79. Antonovsky's (1987) original scale has three subscales, which measure the degree to which persons perceive their world as manageable, meaningful, and predictable. The shortened version used in the present study has been shown to demonstrate high internal reliability and concurrent validity when assessed against Antonovsky's original 29-item measure (Klepp, Mastekaasa, Sorensen, Sandanger, & Kleiner, 2007). Participants' reported their feelings in relation to items such as "Do you have the feeling that you don't really care about what goes on

around you?" on a nine-item seven-point Likert-type scale anchored by the terms, "very often" and "very seldom". The adaptation simply consisted in changing the personal pronouns in the scale from the singular "I" to the plural "we" form.

The Spirit at Work Scale

The Spirit at Work Scale (SAWS) refers to an 18-item measure assessing the experience of spirituality at work, which developed from factor analyses of a 102-item scale with a sample of 333 participants (Kinjerski & Skrypnek, 2006a, 2006b). Analyses reveal high internal consistency for the total scale ($\alpha = 0.93$), indicating a short, psychometrically sound, and easy to administer measure that holds much promise for use in research and practice (Kinjerski & Skrypnek, 2006a, 2006b).

Data analysis

The small non-representative sample with repeated measures indicated means and Wilcoxon Z non-parametric testing. The conventional probability level of $p < 0.05$ was set for significant statistical comparisons. Braun and Clarke's (2006) thematic analysis, chosen to analyse participants' experiential descriptions consisted of the following six phases: (i) familiarising with the data, (ii) generating initial codes, (iii) searching for themes, (iv) reviewing themes, (v) defining and naming themes, (vi) producing the report. Participants were coded A to Q for data reporting.

Results and discussion

Objective evidence

Table 3 presents the mean pre-test and post-test scores, standard deviations (SD's), and Wilcoxon statistics for the study variables.

Quantitative findings should be treated with caution owing to the relatively small number of participants. However, as apparent in Table 3, there were clear trends in the form of mean score increases from pre-test to post-test in psychophysiological coherence, social coherence, and spirit at work perceptions. Wilcoxon testing for physiological coherence yielded statistics of $Z = 2.97$,

Table 3. Measures' mean pre-test and post-test scores, standard deviations (SD's) and Wilcoxon statistics

Measure	Pre-test	SD	Post-test	SD	Wilcoxon Z	Probability
Psychophysiological coherence	29.0	32.97	77.85	24.71	2.97	0.003
Social coherence	40.06	7.32	45.06	7.17	2.73	0.006
Spirit at work	80.59	12.82	87.95	13.05	3.52	< 0.000

$p = 0.003$; $Z = 2.73$, $p = 0.006$ for social coherence; and $Z = 3.52$, $p < 0.000$ for spirit at work. This trend in the data is consistent with the notion of the existential, human, social, relational, “with world” or “we world” that human relationships are forged, begin, flourish or flounder, and end (Richo, 2005). In the view of Csikszentmihalyi (1990), phenomenological intentionality or directedness of consciousness determines what will or will not appear in human consciousness, as in the Nguni word *isazela* (or moral consciousness).

Subjective evidence

Five themes emerged from the data, including consciousness transformations, psychophysiological coherence, Ubuntu-related meanings, social coherence facilitation, and spirit at work facilitation. These themes are considered below and the evidence for them presented with their respective participant codes.

Consciousness transformations

Participants reported consciousness transformations following the brief workshop intervention across the domains of awareness, sensations, perceptions, emotion, and cognition as conveyed in such terms as heartbeat, breathing, feeling, experiencing, mindfulness, and enhanced connectedness. By way of illustration, some of the participants said:

The heart breathing exercise brought on calmness and centeredness. Slowing the heartbeat pushed away all other thoughts. (Participant A)

It was enriching and I feel empowered with the Ubuntu breathing techniques. (Participant C)

I have been reminded to learn more about the powers and abilities of thoughts, mind and social coherence. (Participant J)

It meant being aware of your consciousness, to be in control of things and let yourself grow positively. (Participant L)

These findings are consistent with the general theme of consciousness transformations. The findings reveal a specific, interconnecting, social consciousness theme of the reflexive, participant-observer, intentionally witnessing the self, others and the contextual, socially coherent world. This is likely associated with the additional, heart breath-related, positive emotional awareness facilitated by the Quick Coherence technique elevating consciousness to what is conventionally described as a higher vibrational level typical of meditation (Childre et al., 2016). HeartMath HRV studies attribute this to improved autonomic balance as well as a general shift towards the higher frequency of the parasympathetic nervous system as stimulated by increased vagal activity (McCraty, 2017).

Porges' (1995) polyvagal theory associates such activity with those social nurturing activities that have ensured evolution and survival of humanity. If workshops function to enhance social consciousness, they will greatly benefit humanity.

Psychophysiological coherence

In reporting on their post-workshop psychophysiological coherence, the participants perceived enhanced skills in managing feelings, and upgrading personal and therapeutic skills. For instance, they noted thus:

I experienced coherence with colleagues during a support group facilitation. (Participant F)

It upgraded my skills for handling therapy with my clients and alerting me on what to take note of... (Participant I)

Being able to switch emotions and have control over your feelings and thoughts is just amazing ... I learnt the therapeutic strategy of focusing power of the heart to reconnect with society. (Participant K)

The development of Ubuntu HeartMath approaches to promoting psychophysiological and social coherence, and related dimensions such as team spirit, is still in its early stages. It is clear that more suitable, standardised, collective measures of psychophysiological and social coherence need to be developed. A bioenergetics communication system has been found in highly coherent group contexts. Social coherence studies have provided evidence that people trained in achieving high states of heart coherence can facilitate coherence in other people (McCraty, 2017).

Ubuntu-related meanings

In relating their Ubuntu-related meanings, participants used terms such as enlightening, sharing, caring, non-judgemental, tolerant, compassion, emotional intelligence, culture, Spirit of Ubuntu, and indigenous healing. For instance, they said:

Ubuntu [is being] emotionally intelligent, to be non-judgemental and being tolerant to other human beings. (Participant B)

By practising ...I feel empowered with the Ubuntu breathing techniques ...and improved by mindfulness of body, heart and breath. (Participant E)

...the goodness of the heart is important. (Participant F)

Social coherence facilitation

Participants reported a social coherence facilitation that occurred through personal and social interconnectedness, togetherness, group belonging, trust, acceptance,

support, empowerment, and collaboration. The following statements are illustrative:

Social coherence also includes supporting and educating each other, empowering oneself so one can empower others, understanding oneself and others. (Participant C)

It is when we connect with ourselves that we can truly connect with others. (Participant E)

... together we can do more. (Participant G)

Social coherence can bring peace and promote mutual relations in the family and at work. (Participant L)

Richo (2005) has described five life givens as: everything changes and ends, things do not always go according to plan, life is not always fair, pain is a part of life, and people are not loving and loyal all the time. Richo (2005) opines that these givens also bring humanity's greatest gifts, such as joy and compassion. The findings of this study point towards social coherence as a fundamental way in which humans can comfortably negotiate such givens.

Spirit at work facilitation

In their spirit at work reflections, participants self-perceived with enhanced spirituality, collaboration, harmony, cultural understanding, work ethic, and related principles. For example, they observed:

I gained an understanding of how different religions and cultural practices can be important to some individuals. (Participant F)

... [and that] academic work touches on different spiritual routes ... [or] who we aspire to be as human beings and as therapists. (Participant G)

Respecting other people's beliefs, culture and values. (Participant J)

... [and that] the concept of justice is central to everything. (Participant P)

Furthermore, improved technology is currently being developed and tested for assessment, accurate measurement, and facilitation of social coherence, as well as synchronized activity amongst group members that typically only occurs in high functioning and effective teamwork contexts (McCraty, (2017). Personal communication with the HeartMath Research Director, Rollin McCraty indicates that a social coherence app should be available to the public sometime in 2018.

Implications of findings

Present study findings have implications for the development and evaluation of further research by other researchers with other participant samples in different contexts. Two follow-up Ubuntu HeartMath workshops as presented by the author and piloted in the UK have yielded similar trends, although not quantitatively as significant. This indicates a great need for improved social coherence promotion and related strategies. However, it was also apparent that although participant groups from local UK

university and private practice settings were aware of the theory and practice of Ubuntu, their approach seemed more individual and less communal in orientation. This was understandable in that most participants had not grown up with the holistic meaning of this ethos in its depth, breadth, and height dimensions. In international contexts, this may mean that the concept and its everyday practice will need to be broken down and promoted in smaller meaning units, as, for example, in Broodryk's table.

Study limitations

Limitations of the present study include its small-scale exploratory nature and lack of a control group. Phenomena such as the placebo, Hawthorne effect, general relationship, as well as expectancy variables will have featured. Certainly, from a critical and reflexive perspective, the study will have been influenced by the authors' knowledge, experience, and relationships with staff. Further research is needed to generalise and/or transfer findings in different contexts with other researchers, participant samples, and methods.

Conclusion

Although the development of Ubuntu HeartMath approaches to promoting social coherence and work spirit is still in its infancy, promising findings are that such workshops do have potential for raising awareness of the great need for contemporary humanity to develop greater social consciousness, moral actions, and ethical behaviour. Underlying phenomenological principles of intentionality of consciousness and sustained attention are needed. If this is directed towards Ubuntu in a coherent heartfelt way, as in awareness, dignity, respect, valuing of and focus on coherent communication, and beneficial human relationships, it seems reasonable to predict that these will probably continue to be associated with generally improved social consciousness and behaviour.

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