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Chapter 18. SCIENCE OF UNITARY HUMAN BEINGS – APPLICATIONS IN A SMART SOCIETY

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Abstract. *This article focus the application of the Science of Unitary Human Beings in a SMART Society, its creative impact in a fast-growing society of technology and social relations. (approach in a non-linear, rhythmic and virtual context). To that end, the main concepts and definitions of the Rogerian model will be addressed, and if it were operationalized. A bibliographical review of the main theoretical developments in the different components of the model (relationship with the patient, variables, environmental, technological and theoretical supporting framework) is made. In the same way, and whenever possible, in the light of the theoretical development carried out, an effort is made to ascertain its practical application in the various contexts of the Science of Unitary Human Beings. At the end of the paper, potential applications of the Rogger model are presented in the different components of healthcare (research, teaching, healthcare practice).*

Keywords: *Science of unitary human beings; Global heath; Digital society; Human energy field; Aging; Virtual reality; Environmental wave patterns; Imagery; Therapeutic touch; Smart society; NASA.*

Problem's Formation

This article, focus health in SMART Society from a science of unitary human beings point of view. In our days, with the internet and globalization of mobile technology, people can access information, innovative ideas and tools from anywhere, including in space. Martha E. Rogers, who was born in 1914, developed and taught a model. This framework was first presented by Rogers in 1970 as a "conceptual model of the life process in man" [75].

After several refinements it become the nursing conceptual system known as the Science of Unitary Human Beings [79].

She described a conceptual system "that was humanitarian, rather than mechanistic and she was a cynic of western medicine, healthcare, and the pharmaceutical industry". Rogers was also critical of technology as something that could replace face-to-face, health care interventions, invasive medical procedures, and medications [11].

The Science of Unitary Human Beings, pays particular attention to "unitary, irreducible human beings and their respective environments" [78].

Martha E. Rogers' conceptual system explains that "The irreducible nature of individuals is different from the sum of their parts". The objective is "to promote human betterment wherever people are, on planet earth or in outer space" [80].

The model provides a frame of reference for the study of unitary humankind.

This conceptual system is a synthesis of facts and ideas that form an indivisible whole.

A major value for the Science of Unitary Human Beings is simply the quick development of the science as researchers, address important research questions and systems.

For instance, speculations have been intently inspected for their conceivable connections with the framework [66].

In such a situation, ideas and standards of the science experience steady examination to guarantee theoretical consistency.

Particularly charming in chaos was the idea of unpredictability, an idea viewed as consistent with the rogerian guidelines, which also proposes an unpredictable change.

However Rogers [80] communicated worry over the appropriateness of such examinations.

The science of chaos depends on a three dimensional reality, which suggests that consistency is unimaginable in light of the fact that science can never precisely measure all factors [29].

This is not quite the same as the pandimensional world perspective on Rogers, which suggests that the unconventionality of progress is normal, for the idea of progress, instead of an estimation trouble [80].

In this quickly developing Rogerian theoretical framework, each exploration considered gives a trial of the framework as well as conceivably gives the premise to modifications in the applied framework.

Therefore, it isn't bizarre in looking at the writings to discover milestone considers, referring to a Rogerian applied base, and Science of Unitary Human Beings.

Investigation Purpose

The art of creative innovation is changing all parts of life on the planet and stretching out to the edges of the cosmic system. Moreover the implications of darkness, distance, time, and space have moved toward becoming progressively uncertain in this digital age, as computer generated realities progressively rival to nature, and recreated reality persistently increments in detail and complexity.

Online life is moving political power far from those that try to smother the sharing of news; anyway its potential remains hampered by the simplicity of circulation of negative and destructive information.

The use of genetic, genomic science and the electronic medical record innovation in human services, while still in beginning times of execution, is changing human services to make treatment progressively individualized.

Rogerian and other helpful persons calculated models in healthcare and different orders too, as interdisciplinary discoursed should be utilized to direct the utilization of these new devices of mass correspondence and data sharing, to build individuals decisions, and encourage general mankind improvement.

At the point when considered all inclusive, it is troublesome not to envision that Rogers would have considered the expansion of energy in Earth's air, water, and when all is said in done, as appearances of shorter and higher frequency patterns and an evolutionary in formative procedure, which is neither great nor terrible however something that challenges we all to envision and plan for change.

So also the development of worldwide portable information can be viewed as an indication of this more prominent decent variety and intricacy of wave phenomenon.

It is progressively a test to create and utilize innovation in ways that upgrade human wellbecoming.

The investigation purpose of this working paper, is to make a short review on Science of Unitary Human Beings (concepts, definitions, and theories), and possible applications of that framework in a Smart Society.

Main material's presentation

a) Concepts and Definitions

Rogers' Science of Unitary Human Beings has some core concepts and definitions.

- *Energy field*

"Field ... is a unifying concept and energy signifies the dynamic nature of the field".

"Energy fields are infinite and pandimensional; they are in continuous motion" [80].

The two dimensions of the concept are human energy field and environmental energy field.

- *Human Energy Field*

"Is defined as a unitary human being who is irreducible and indivisible into parts" [24].

"(...) identified by pattern and manifesting characteristics that are specific to the whole and which cannot be predicted from knowledge of the parts" [80].

They can be individual or collective.

- *Environmental Energy Field*

Defined as "an irreducible, [indivisible] ... energy field identified by pattern and integral with the human [energy] field" [80].

- *Openness*

Characteristic of human energy fields and environmental energy fields, which "are open, not a little bit or sometimes, but continuously" [80].

- *Pattern*

Defined as a unique "abstraction, [the nature of which] changes continuously, and [that] gives identity to the [energy] field" [80].

"Energy field patterns are not directly observable, although manifestations of energy field patterning are observable as experiences, perceptions, expressions, situations, and events" [24].

- *Pandimensionality*

Is defined as "a nonlinear domain without spatial or temporal attributes" [80].

- *Homeodynamics*

Are principles that characterize changes in human energy field and environmental energy field patterns [24].

The three dimensions of the concept are resonancy, helicy, and integrality.

- *Resonancy*

Defined as the "continuous change from lower to higher frequency wave patterns in human and environmental [energy] fields" [78].

- *Helicy*

Defined as the "continuous, innovative, unpredictable, increasing diversity of human and environmental [energy] field patterns" [78].

- *Integrality*

Defined as the "continuous mutual human [energy] field and environmental [energy] field process [78].

- *Well-being*

Is a value that expresses the life process; is defined by what is wellness and what is illness or disease means for each society [24].

- *Health patterning Practice Method*

It is defined as the nursing process.

The three dimensions of the concept are pattern manifestation knowing and appraisal-assessment, voluntary mutual patterning, and pattern manifestation knowing and appraisal-evaluation [10; 21; 22].

Pattern manifestation knowing and appraisal-assessment

It is defined as the continuous process of apprehending and identifying manifestations of human energy field and environmental energy field patterns that relate to current health events.

- *Voluntary mutual patterning*

It is defined as the continuous process whereby the nurse with the client patterns the environmental energy field to promote harmony related to health events.

Voluntary mutual patterning processes that are most consistent with Rogers' Science of Unitary Human Beings are non-invasive modalities.

- *Pattern manifestation knowing and appraisal-evaluation*

It is defined as evaluation of voluntary mutual patterning by means of pattern manifestation knowing and appraisal.

- Relational Propositions

Given Rogers [77] and [78] rejection of causality, causal terms such as effects are not used in relational propositions.

The statements of associations (relational propositions) between concepts of Rogers' Science of Unitary Human Beings are listed below [24].

Human energy fields and environmental energy fields are integral.

Manifestations of pattern are interrelated.

Well-Being values are interrelated.

Health patterning practice method is associated with changes in manifestations of pattern.

Health patterning practice method is associated with well-being.

b) Framework: Science of Unitary Human Beings

The Science of Unitary Human Beings starting point is a standard of thought in health and nursing. Rogers, displays her framework as the Science of nursing from which an assortment of hypotheses will rise. Characterizing unitary human beings as irreducible energy fields, she thinks the individual and the environment as integral and irreducible, and uses the term "energy field" to describe each in shared process.

Rogers presents four ideas as fundamental to her applied framework:

- energy fields;
- openness;
- pattern;
- pandimensionality.

She suggests that energy fields are the fundamental units of all living and non-living substance. These fields are vast and exist without boundaries. By the idea of openness, Rogers presents that the universe is one of open frameworks. Pattern is proposed as a reflection alluding to the distinctive qualities of energy fields and is the methods by which vitality fields are distinguished. She hypothesizes pandimensionality to be a trademark of human and ecological fields as well as of all reality. She advances this conceptualization as a method for encountering individuals and their reality [77].

Consolidating these thoughts she describes unitary human and environmental fields as being "irreducible, pandimensional energy field(s) identified by pattern and manifesting characteristics different from those of the parts and which cannot be predicted from knowledge of the parts" [80]. Notwithstanding these essential ideas, Rogers proposed three standards which she calls the standards of homeodynamics.

1. Resonancy
2. Helicy
3. Integrality

As indicated by Rogers, the standards of homeodynamics give a "new science" method for seeing individuals and their environment in which changes the common procedure of the two.

c) Science of Unitary Human Beings - Long Range Theories

Long Range Theories, are those with a deeper impact on health care services.

Theory of Accelerating Evolution [76; 77; 80]

The hypothesis of accelerating evolution proposes that the main 'standard' is quickening change. Higher frequency field patterns, show developing variety, that open the way, to more extensive scopes of encounters and practices, raising questions about the general thought of 'standards', as human rule as rhythms in environmental field rhythm accelerating. Rogers speculated that hyperactive kids' give a genuine case of speeded up rhythms with respect to other youngsters.

Theory of Manifestations of Field Patterning in Unitary Human Beings [76; 77; 80; 18]

This hypothesis manages the signs of the entire unitary human as changes in human sleep walking patterns, human field motion, perception of time passing, and other rhythmic development. Rogers recognized non-obtrusive modalities as the premise of health practice now and later on. She said that medical caretakers must utilize, nursing information in non-intrusive courses in an immediate exertion to advance prosperity. Rogers reliably recognized the requirement for people, network based wellbeing administrations in participating, non-obtrusive modalities.

Theory of Paranormal Phenomena [76; 77; 80; 18].

This hypothesis focus on the development of paranormal. It recommends that experiences ordinarily marked as 'paranormal' are real signs and advancement in field of pattern. They are para dimensional types of mindfulness.

Theory of Health as Expanding Consciousness

Newman proposed a new concept of health in a dialectical manner, that is, "disease fuses with its opposite, absence of disease, non-disease, and brings forth a new concept of health" she continues, "This synthesized view incorporates disease as a meaningful aspect of health" [56].

Theory of Humanbecoming [58-61].

According to Parse [61]:

"Humanbecoming is freely choosing personal (...), is cocreating rhythmical patterns of relating, in open process with the Universe (...), and cotranscending multidimensionally with emerging possibilities".

Life Perspective Rhythm Model [27].

"The process of human development is characterized by rhythms that occur within the context of continuous person-environment interaction" [28].

Nursing is an activity focuses on enhancing the developmental process toward health. A central concern of health science and the nursing profession is the meaning attributed to life as the basic understanding of human existence.

Middle Range Theories

Middle Range Theories, focus on a multidimensional and multidisciplinary approach of Science for Unitary Human Beings.

1) Power as Knowing Participation in Change [8; 20].

According to Malinski [48].

"A prime example of ongoing theory development is Barrett's [8] theory of power as knowing participation in change. Principles of homeodynamics describe the context, nature, and process of change. Like communication theory, which holds that people can never not communicate, people cannot not participate in change. However, the nature or quality of participation varies".

2) Health Empowerment Theory [83].

According to Shearer [83]:

"Health empowerment emphasizes facilitating one's awareness of the ability to participate knowingly in health and health care decisions. Is a theory-based intervention designed to promote the use of personal resources and social contextual resources with the goal of enhancing well-being in homebound older adults. Health empowerment theory is expressive of a human health pattern of well-being and is viewed as a relational process that emerges from the recognition of personal resources and social contextual resources. This process facilitates purposeful participation in the attainment of health goals and the promotion of individual well-being" [83].

3) Theory of Aging [2].

According to Malinski [2]:

"Alligood and McGuire [2] and Butcher [17] have explored the development of a Rogerian theory of aging in line with her theory of accelerating evolution / change.

They tested it with a group of seniors, ages 55 to 94, exploring perception of time, sleep patterns, and activity. They were not able to statistically support the hypothesized relationships deduced from the theory. Alligood and McGuire identified activity as having a stronger relationship to timeperception and sleep patterns than age of the participant. The more active persons tended to experience time as racing and reported more satisfying sleep patterns (...).

4) Theory of Aging as Emerging Brilliance [17].

According to Malinski [48]:

"Butcher [17] reviewed emerging interdisciplinary perspectives on aging, identifying support for a view of unitary aging, pointing out once again that, rather than chronological ageper se, what is important is the unique, unfolding field pattern for each human being.

Such a theoretical perspective, he noted, has the potential to shift the experience of aging from one of potential dispiritedness to one replete with potentials for continuing growth and service, "a fulfilling life imbued with splendor, meaning, and accomplishment, active involvement, growth, adventure, wisdom, experience, compassion, glory, and brilliance" [17].

5) Theory of the Art of Professional Nursing [3], also referred to as the Theory of the Art of Nursing [5].

Alligood M. R. [3] "(...) A art of nursing is the ability to balance responsibility for the welfare of others with respect for their human freedom and individual rights through empathic, knowing participation in the moral action we call nursing practice".

6) Theory of Creativity, Actualization and Empathy [1].

According to Malinski [48]:

"Alligood investigated the concepts of creativity, actualization and empathy. She hypothesized that there would be a positive correlation between creativity and empathy, and between actualization and empathy. Additionally, she hypothesized that the combined contribution of creativity and actualization to the variance in empathy would be greater than either one separately. She demonstrated significant support for all of her hypotheses. In a follow-up study with an older sample (age 61–92), Alligood again found a positive correlation between self-actualization and empathy. However, contrary to the results of her initial study, a negative correlation was found between creativity and empathy in this older sample".

7) Theory of Diversity of Human Field Pattern [32].

According to Hastings-Tolsma [32]:

"Time experience is a pivotal concept in Rogers' Science of Unitary Human Beings. As an energy field integral with the environmental field, the human field is recognized by pattern manifestation – a distinguishing characteristic of energy fields. Such pattern manifestation reveals the diversity of the human field. Time experience is one pattern which emerges from the mutual human-environmental energy field process but is likely the cornerstone for understanding the human field experience of change.

8) Theory of Enfolding Health-as-Wholeness-and-Harmony [9]

The basic of this theory is described by Carboni [19]:

"The theory of enfolding health-as-wholeness-and-harmony (...) recognizes the existence of subtle and gross manifestations of field pattern and the dynamic matrix of subtle configurations of patterning identified as health-as-wholeness-and-harmony. Evolutionary change is specified to be a dynamic, non-linear, and acausal process characterized by the movement of gross manifestations of patterning to new syntheses of subtle manifestations of patterning".

9) Theory of Enlightenment [35].

According to Malinski [48]:

"The theory is composed of four concepts-awareness, wakefulness, and human field motion, all representing human-environment field patterning; plus well-being, which they deduced from the principle of integrality and defined as the sense of harmony and satisfaction with life.

They defined enlightenment "as a positive, dynamic experience manifested as expanded awareness, increased wakefulness, higher levels of human field motion, and higher levels of well-being" [48]. Awareness and wakefulness flow within helicy, human field motion within resonancy, and well-being within integrality".

10) Theory of Healthiness [42].

According to Leddy and Fawcett [42]:

"Theory of Healthiness proposes that greater perceived ease and expansiveness of human-environment mutal process (perception) is associated with greater perceived energy, wich in turn, contibutes to higher healthiness".

11) Theory of Human Field Motion [25; 26].

According to Malinski [48]:

"Ference [24] developed the concept of Human field motion which she proposed as a manifestation of the wave frequency of unitary human beings.

She further proposed that time experience, creativity traits, and differentiation were manifestations of human synergistic development that would be correlates of human field motion.

Developing an instrument to measure human field motion, Ference demonstrated a positive relation-ship between human synergistic development and human field motion.

In response to measurement difficulties with the original word form of the Human Field Motion Scale, Ference (1988) began development on a picture scale to measure human field motion, thus introducing visual metaphors as a measurement modality. This new scale will further expand measurement options in research dealing with human field motion" [25].

12) Theory of Intentionality [88; 89].

According to Malinski [48]:

"Zahourek [90; 91] synthesized a theory of intentionality in healing which she sees as consistent with Rogerian nursing science, although, given the nature of grounded theory development, she did not explicitly use it to develop her theory.

Rogers was uncomfortable with the word intentionality, however, she tended to interpret it too narrowly, as in willing something to happen, which would be inconsistent with her science [13]. Zahourek [90; 91] did not cite Rogers' writings, but she did discuss intentionality in thetherapeutic touch literature and perspectives from other nurse scholars, such as Jean Watson, and a wide range of interdisciplinary literature (...).

Assumptions underlying her theory include the idea that intentionality is innate in human beings and is different from intent and intention. It forms the matrix for healing, a transformation which is both process and outcome (...).

Although clearly located within the unitary worldview, it is not clear that the theory resonates better with Rogers' science of unitary human beings than with Watson's or Newman's theories. Intentionality as "in part, linear as directed thoughts and images for healing" does not seem reflective of Rogerian nursing science, yet intentionality as "nonlinear and nonlocal" does".

13) Theory of Kaleidoscoping in Life's Turbulence [16].

According to Malinski [48]:

"Rogers used the kaleidoscope to illustrate what she meant by continuously shifting human environmental field patterns.

Turbulence, patterning, and flow are the concepts of this theory, with turbulence relating to the postulate of pandimensionality and the principle of helicity, patterning to the postulate of pattern and the principle of resonancy, and flow to the postulate of openness and the principle of integrality. Turbulence is a "dissonant commotion in the human-environmental field process characterized by chaotic and unpredictable change" [16].

Butcher [16] detailed a practice methodology for kaleidoscoping that fits within Barrett's, [10] health patterning process. Turbulent life events happen; often this is the focus for nurse and client. Such events have the potential to become transformative ones, where persons experience innovative growth and change.

This resonates with the clinical practice applications described by Reed [71; 72; 74] and Hills and Hanchett [35].

14) Theory of Pattern [4; 5].

According to Alligood and Fawcett [4]:

"(...) The existence of organization and patterning in living systems is an observable phenomenon (...), a dynamic process, (...) an observable event in real world, and identifies – human beings and under goes continuous revision and innovation".

15) Theory of Perceived Dissonance [14].

According to Malinski [48]:

"Bultemeier [14] proposed a theory of perceived dissonance, where human-environmental field manifestations such as illness are perceived as nonharmonious, uncomfortable, discordant, or dissonant. She offered a theoretical perspective for pattern appraisal of such field manifestations, linking her theory with Barrett's (1990, 1998), and provided examples of possible patterning modalities to use in practice. Her research focus was women experiencing premenstrual syndrome".

16) Theory of Self-Transcendence [71; 73; 74].

According to Malinski [48]:

"Reed [71; 74] formulated a theory of selftranscendence in which she reinterpreted lifespan developmental theories from a Rogerian perspective, identifying what she saw as both congruencies and incongruencies. Reed [71] described the Rogerian formulation of self-transcendence as one of a multidimensional expansion of self boundaries, inwardly, outwardly, and temporally.

The first major assumption underwriting her theory rests within Rogerian science. Human and environment are integral. Reality is pandimensional. Awareness is not limited by time and space. Her second assumption, that self-transcendence is an innate human imperative and, therefore, participating in it is necessary for wellbeing, could be debated within Rogerian nursing science. This author, however, is comfortable with it, seeing transcendence as a quality of spirituality, which she has argued flows within integrality Malinski [47] [and reflects helicity and resonancy".

17) Theory of Sentience Evolution [57].

According to Malinski [46]:

"Experiencing integrality suggests multidimensional awareness which has implications for health and healing of the unitary human / environmental field process. (...) Interplay between spirituality and mysticism, with some closing suggestions for ways to actualize this awareness in everyday life".

18) Theory of Pandimensional Awareness Integral Presence [69].

Phillips work proposed and ideas like "energyspirit" and "homo pandimensionalis".

Energyspirit is the key for all life. "Homo Pandimensionalis" represents the creative and mutable in human-environment mutual process. This theory "opens perception – experience of visible – invisible phenomena of the Universe energyspirit for living and transcending".

"The idea is to help people participate in broadening their pandimensional awareness – integral presence for wellbecoming" [69].

e) Environmental Wave Patterns

Several notable studies have investigated the mutual process between human beings and environmental wave patterns present in the environment.

These studies have dealt primarily with light and sound wave patterns. However, the Rogerian conceptual system is by no means limited to these two manifestations of wave pattern.

1) Effects of Light in Human-Field Motion [44].

According to Bramlett [13]: "Ludomirski-Kalmanson [44], reasoning that light could be perceived by the human field without vision, conducted her study involving exposure to red and blue light in a sample of totally blind adults.

She hypothesized that human field motion would be increased during exposure to blue light as opposed to red light, regard-less of visual sensory perception.

As predicted, she found no significant difference the human field motion scores of sighted and blind subjects. Also as predicted, she found that subjects exposed to blue light exhibited significantly higher human field motion scores than subjects under red lights [44]. This study provided impressive support for the principle of integrality".

2) Effects of Light and Chronic Pain [53].

According to Bramlett [13]:

"McDonald [53] conducted a study with persons having chronic pain to determine the nature of the relationship between the environmental presence of certain visible lightwaves and the human experience of pain. She hypothesized that persons exposed to higher frequency (blue) lightwaves would experience less pain than persons exposed to lower frequency (red) lightwaves. She also hypothesized that longer exposure to the blue lightwaves would more likely be accompanied by a reduction in the experience of pain than shorter exposure times. She found a trend toward greater pain relief with blue light exposure, and reported a statistically significant correlation between longer exposures to blue light and relief of pain".

3) Effects of Light in Hyperactivity [45].

According to Bramlett [13]:

"Malinski [45] explored the relationship between hyperactivity in children, perception of short wavelength light, and color preference. While no statistically significant results were reported, the hyperactive children in the study tended to be able to identify information illuminated with lower light filters than children in the control group".

4) Sounds Effects [86].

According to Bramlett [13]:

"Smith M.C. (1986) proposed that subjects in an environment of high-frequency sounds would demonstrate greater increases in vividness and creativity of imagery than would subjects in a low-frequency sound environment. Finding no support for her hypothesis, M.C. Smith cited the need for consideration of both theoretical and methodological issues. She further suggested that future research involving sound frequency should consider qualities of sound beyond frequency".

5) Harmonic Sounds Effects [87].

According to Bramlett [13]:

"Smith M. J. [85], testing the principle of integrality, investigated the relationship between a varied harmonic environment and restedness in individuals confined to bed. Smith hypothesized that the "perception of restfulness will be lower (subjects will be more rested) for confined subjects who experience varied harmonic auditory input than for those who experience quiet ambience" [85]. Providing either composed music or ambient room noise, M. J. Smith

[85] found that subjects who listened to the composed music perceived themselves as significantly more rested, supporting the principle of integrality".

f) Therapeutic Modalities

In this section the author shows some application of non-evasive therapeutic modalities.

1) Imagery

According to Bramlett [13]:

"Guided imagery has been conceptualized as a useful modality in field patterning.

Butcher & Parker [15] found that those subjects participating in pleasant guided imagery had a greater sense of timelessness. A similar relationship between imagery and human field motion was not demonstrated. However; results of this and other studies support the potential of imagery as a modality in health patterning".

2) Therapeutic Touch

According to Bramlett [13]:

Therapeutic touch has received growing attention as a therapeutic modality. First conceptualized and investigated within nursing by Krieger [38–40], numerous researchers have expanded on the theoretical and research base of therapeutic touch [34; 36; 54; 70].

3) Hemoglobin and Therapeutic Touch

According to Bramlett [13]:

"In Krieger's [38; 39] early research, subjects receiving therapeutic touch experienced significant increases in hemoglobin levels thus supporting the potential of therapeutic touch in patterning human fields".

4) Anxiety and Therapeutic Touch

According to Bramlett [13]:

"Heidt [34] and Quinn [70] both found that subjects experiencing therapeutic touch demonstrated significant decreases in anxiety. While Heidt utilized therapeutic touch with physical contact, Quinn used therapeutic touch without physical touch, thus supporting the theoretical proposal that this modality is based on mutuality of energy fields rather than relying on physical touch. However, Quinn [70] failed to demonstrate decreased anxiety in a later study of subjects awaiting open heart surgery who received therapeutic touch. Citing the confounding considerations of methodological issues and medical regimens, Quinn [70] demonstrated some of the subtle complexities of this modality".

5) Pain and Therapeutic Touch

According to Bramlett [13]:

"The utility of therapeutic touch in individuals experiencing pain has also been inconsistently demonstrated.

Meehan [54] was unable to demonstrate statistical significance when using therapeutic touch in adults with postoperative pain.

However, Keller [36] did find significant decreases in pain in adults with tension headaches who received therapeutic touch".

6) Relation With Patients and Therapeutic Touch

According to Bramlett [13]:

"Heidt [34] conducted a grounded theory analysis of nurses' and patients' experiences of therapeutic touch. Categories of experience reported included opening intent, opening sensitivity and opening communication. This qualitative study provided elaboration of the experience of therapeutic touch thus further illuminating the subtleties of this therapeutic touch".

g) Applications to SMART Society – Virtual Reality

Virtual Reality (VR) is a general term that alludes to a kind of innovation that incorporates mechanized showcases that delineate three dimensional conditions in which people can communicate [30].

Brief History of Virtual Reality in Health Care

Phillips [68] composed a publication in which he anticipated that VR would significantly impact individuals' lives and in that capacity, assume a noteworthy job in nursing research.

From that point forward, VR has been quickly grasped by numerous people and gatherings, for utilizations, for example, computer games, driving appraisal, and even to enlarge social insurance conveyance.

Numerous medicinal services experts utilize customary PC presentations to give VR conditions as instructional approaches [51].

Augmented reality programs have been utilized to prepare suppliers for laparoscopic medical procedure [82] and intravenous catheter addition [52].

What's more, VR programs are being utilized to an ever increasing extent as a treatment for disorders, for example, recovery after stroke [89], treatment for anxiety [63], and phobias [30].

In healthcare, VR is being explored as a technique for providing pain and symptom management interventions,, with positive discoveries of the utility of VR in decreasing side effects [89].

Types of Virtual Reality

A lot of VR innovation takes into account a cooperation between the client's development and a reenacted mechanized condition with the end goal that head, eye, or joystick movement causes an adjustment in the virtual world seen.

In particular, VR preferably gives a feeling of essence, which is a feeling of being inside the VR condition instead of watching it all things considered [43].

Computer generated reality can be shown utilizing an assortment of advances, including basic work area programs, head-mounted presentations, exceptional rooms with anticipated scenes, and different devises that take into account multisensory input, including movement, sound, and contact.

According to Davis [23], there are two types of VR: immersive VR displays, and less immersive VR displays.

Immersive VR Displays

Immersive VR situations are those that are more similar and have a high level of quality [64].

This enables people to outwardly investigate a virtual world, and to have command over the course in which they are looking.

According to expert estimates, 80% of all cases of heart diseases, strokes, type 2 diabetes and more than one third of all/

Objects seem exact and three dimensional [12].

Another famous vivid VR condition is shown in a cubic room in which a PC ventures pictures to the dividers what's more, roof.

The client can stroll through the condition inside the cutoff points of the room.

This sort of vivid VR takes into consideration development and association inside an exact recreated condition [84].

Less Immersive VR Displays

There are less vivid sorts of VR stages utilized, for example, those that are shown on personal computers or on film screens.

These VR programs normally enable the client to outwardly move about the virtual world utilizing a development gadget, for example, a joystick or mouse.

Instances of normal VR conditions that numerous individuals use from their very own PCs are PC diversions that delineate virtual universes.

The preferred standpoint to these sorts of less immersive VR is that they are moderate, effectively accessible, and increasingly available to numerous analysts.

Virtual Reality or Real World ?

There are significant advantages to utilizing VR in research.

Smith-Coggins et al. [85] inspected the effect of snoozing on the execution of doctors and medical attendants who worked the night move in the crisis office.

The investigation above additionally represents another advantage of VR examine, which is the capacity to gauge factors that would be hard to quantify, all things considered, because of security concerns.

For instance, Kurtz, Baker, Pearlson, and Astur [41] analyzed the execution of people with schizophrenia to controls in the organization of three recommended prescriptions.

Subjects had to read the prescription, note the time, and get the right dose out of a drug bureau in a VR loft.

Estimations incorporated the area of the person in the loft at indicated times; contrasts between the recommended dose and the dose of medicine taken; and blunders in the kind of drug taken.

Execution was estimated by the PC program itself and by direct perception of the execution of the subjects in the given task.

NASA approach to Science Unitary Human Beings

In Ursa Major, there is a star (RA 9h 33m 56s D 48° 9') named Martha E. Rogers, by NASA, for her work.

Rogers published several working papers [78; 80], as well as other Roggerian schollars, on the application of Science for Unitary Human Beings in space environments, as well as the use of Virtual Reality as support technology.

The model has proven to be appropriate to promote interaction Man, Earth, Space, and promote health, comfort and well-being in space and aeronautical industries.

h) Science Unitary Human Being Theory and SMART Society

Innovation and different advancements can possibly incorporate all individuals on an increasingly equivalent playing field of proficient life span and a real existence lived with dignity and a reason. The correlations provide a useful matrix to consider some of the changes that are taking place in what John Phillips calls "wellbecoming".

Table 1

Correlations on Science Unitary Human Being Theory

	"PAST"	SMART Society	"FUTURE (?)"
1	Longer Waves	Shorter Waves	Seems Continuous
2	Lower Frequency	Higher Frequency	Seems Continuous
3	Longer Rythms	Shorter Rythms	Seems Continuous
4	Slower Motion	Faster Motion	Seems Continuous
5	Time Drags	Time Races	Seems Timeless
6	Shorter Life Spans	Longer Life Spans	Transcendence
7	Less Differentiated	More Differentiated	Transcendence
8	More Visible	More Invisible	Ethereal
9	Heaviness	Lightness	Weightless
10	Pragmatic	Imaginative	Visionary

Source: Based on Baumann [11] including variable Frequency (2)

1) Waves and Frequency

First two initial relations of the investigation of unitary improvement of mankind as taught by Rogers are the advancement of energy waves from longer to shorter, and the changing frequency of those waves from lower to higher, developing toward constant change.

Both of these perceptions are considered in Rogers' idea of resonancy

2) Rhythms and Motions

Rhythms and motions as instructed by Rogers, the previous is said to go from longer to shorter, while the later go from slower to quicker.

This association after some time that gives some level of certitude and consistency (pattern).

The blast of neuroscience, now appreciates how active and purposeful the brain is during sleep. According to Baker, Rorden, & Fridriksson, non-invasive low amperage current and magnetic energy brain stimulation can help brain damaged by brain injuries.

3) Time

Time is broken into little parts [31].

According to Balbi [7], "the division into past, present and future is observer-dependent, in our universe it is possible to define a universal cosmic time: this is a feature which is not at all obvious a priori, and descends from special symmetry properties of spacetime on large scales" [7]. Such a thought is holographic, is and will be as present and now, in Buddhist idea of mindfulness [81].

4) Life

The expanding human life expectancy or life span is presently a worldwide phenomenon of uncommon extent with numerous suggestions. The term transcendence quality has been utilized in a few hypotheses in nursing and different contexts [37; 62; 72], regarding the human capability to expand potential.

5) Differentiation

Malinski [49] suggested that increasing diversity calls for a healthcare system that is able to provide increasingly individualized treatment and care for each person while honoring informed choices.

6) (In)visible

Newman's [56] theory of health understands, as framework of expanding consciousness explication this correlate's evolutionary direction and essence.

7) Lightness

Rogers model is an open system that is pandimensional in nature, heaviness, lightness and weightless should not be seen as referring to simply a physical matter. We can found this in Buddhism, while an ocidental view was described by Teilhard de Chardin [88].

8) Imaginative

According to Science of Unitary Human Being, pragmatism contributed to homeostasis, hemodynamics called for innovative and visionary thinking and acting.

Conclusions

The present work aims to evaluate the possibility of applying the Science of Unitary Human Beings model to a Smart Society. The analysis will be composed of four sections: research, education, management and health care application. At the level of research, from the data reproduced in the paper, Rogers' methodology, as a model of non-intrusive practices, proved to be an effective method for application in a Smart Society. In particular, it is worth highlighting the use of virtual reality technology, for testing environmental, social and psychic variables. As a result of the results obtained in the research component, the application of the Science for Unitary Human Beings methodology for educational purposes reveals to be an appropriate model for social models like Smart Society.

On management, Science for Unitary Human Beings, proves to be a good approach, in SMART Society, especially due to empowerment. Finally, the practical aspect in health care reveals a lot of application potential, in the context of Smart Society. However, there are several results that were not conclusive, both in the perspective of the user and the health professional, also in the control of environmental, technological and social variables. Further investigations should be conducted in these areas.

REFERENCES

1. Alligood M. R. Testing Rogers' theory of accelerating change. The relationships among creativity, actualization, and empathy in persons 18 to 92 years of age. *Western Journal of Nursing Research*, No. 13, 1991, pp. 84–96.
2. Alligood M. R., McGuire S. L. Perception of time, sleep patterns, and activity in senior citizens: A test of Rogerian theory of aging. *Visions: The Journal of Rogerian Nursing Science*, No. 8, 2000, pp. 6–14.
3. Alligood M. R. A theory of the art of nursing discovered in Rogers' science of unitary human beings. *International Journal for Human Caring*, No. 6(2), 2002, pp. 55–60.
4. Alligood M. R., Fawcett J. An interpretive study of Martha Rogers' conception of pattern. *Visions: The Journal of Rogerian Nursing Science*, No. 12, 2004, pp. 8–13.
5. Alligood M. R. Philosophies, models, and theories: Critical thinking structures. In M. R. Alligood *Nursing theory: Utilization and application* (4th ed., pp. 47–71). St. Louis, MO: Mosby Elsevier, 2010.
6. Baker J. M., Rorden C., Fridriksson J. Using transcranial direct-current stimulation to treat stroke patients with aphasia. *Stroke*, No. 41, 2010, pp. 1229–1236.
7. Balbi A. Cosmology & time. EPJ Web of Conferences, 58, 2013. URL. <http://dx.doi.org/10.1051/epjconf/20135802004>.
8. Barrett E. A. M. Investigation of the principle of helicy: The relationship of human field motion and power. In: V. M. Malinski (Ed.). *Explorations on Martha Rogers' science of unitary human beings*, 1986, pp. 173–188. Norwalk, CT: Appleton-Century Crofts.
9. Barrett E. A. M., Cowling W. R., Carboni J. T., Butcher H. K. Unitary perspectives on methodological practices. In: M. Madrid (Ed.), *Patterns of Rogerian knowing*, 1997, pp. 47–62. New York: National League for Nursing Press.
10. Barrett E. A. M. A Rogerian practice methodology for health patterning. *Nursing Science Quarterly*, No. 11, 1998, pp. 136–138.
11. Baumann Wright Wu. Science of Unitary Human Beings Perspective of Global Health Nursing-Nursing Science Quarterly, Vol. 27(4), 2014, pp. 324–328.
12. Biocca F., Delaney B. Immersive virtual reality technology. In F. Biocca & M. (Eds.), *Communication in the Age of Virtual Reality*, 1995, pp. 57–126. Hillsdale: Lawrence Erlbaum Associates.
13. Bramlett M. H., Gueldner S. H., Boettcher J. H. Reflections on the science of unitary human beings in terms of Kuhn's requirement for explanatory power. *Visions: The Journal of Rogerian Nursing Science*, No. 1, 1993, pp. 22–35 (Reprinted: *Visions: The Journal of Rogerian Nursing Science*, No. 15(2), 2008, pp. 7–22). 14.
14. Butcher H. K., Parker N. I. Guided imagery within Rogers' science of unitary human beings: An experimental study. *Nursing Science Quarterly*, No. 1, 1988, pp. 103–110.
15. Butcher H. K. Kaleidoscoping in life's turbulence: From Seurat's art to Rogers' nursing science. In: M. E. Parker (Ed.), *Patterns of nursing theories in practice*, 1993, pp. 183–198. New York. National League for Nursing.

16. Butcher H. K. Aging as emerging brilliance; Advancing Rogers' unitary theory of aging. *Visions: The Journal of Rogerian Nursing Science*, No. 11, 2003, pp. 55–66.
17. Butcher H. K., Malinski V. M. Martha E. Rogers science of unitary human beings. In: M. E. Parker, M. C. Smith, Nursing theories and nursing practice. 3-rd ed., 2010, pp. 253–276. Philadelphia: F. A. Davis.
18. Bultemeier K. Photo-disclosure: A research methodology for investigating unitary human beings. In: M. Madrid (Ed.). *Patterns of Rogerian Knowing*, 1997, pp. 63–74. New York. National League for Nursing Press.
19. Carboni J. T. Enfolding Health-as-Wholeness- and-Harmony: A Theory of Rogerian Nursing Practice. *Nursing Science Quarterly*, Vol. 8, Iss. 2, 1995, pp. 71–78.
20. Caroselli C., Barrett E. A. M. A review of the power as knowing participation in change literature. *Nursing Science Quarterly*, No. 11, 1998, pp. 9–16.
21. Cowling W. R. A template for unitary pattern-based nursing practice. In E. A. M. Barrett (Ed.). *Visions of Rogers' science-based nursing*, 1990, pp. 45–65. New York: National League for Nursing.
22. Cowling W. R. Pattern appreciation: The unitary science/practice of reaching for essence. In M. Madrid (Ed.). *Patterns of Rogerian Knowing*, 1997, pp. 129–142. New York: National League for Nursing Press.
23. Davis R. L. Exploring Possibilities: Virtual Reality in Nursing Research. Research and Theory for Nursing Practice: *An International Journal*, Vol. 23, 2009, pp. 133–147.
24. Fawcett F. RN; PhD; ScD (hon); FAAN; ANEF – Applying Conceptual Models of Nursing: Quality Improvement, Research, and Practice (ISBN: 9780826180056), 2016.
25. Ference H. M. The relationship of time experience, creativity traits, differentiation, and human field motion. In: V. M. Malinski (Ed.), *Explorations on Martha Rogers' science of unitary human beings*, 1986, pp. 95–106. Norwalk, CT: Appleton-Century-Crofts.
26. Ference H. M. Nursing science theories and administration. In: B. Henry, C. Arndt, M. DiVincenti, A. Marriner Tomey (Eds.). *Dimensions of nursing administration. Theory, research, education, and practice*, 1989, pp. 121–131. Boston: Blackwell Scientific.
27. Fitzpatrick J. J. Life perspective rhythm model. In: J. J. Fitzpatrick, A. L. Whall (Eds.), *Conceptual models of nursing: Analysis and application*, 1983, pp. 295–302. Bowie, MD: Brady.
28. Fitzpatrick J. J. A life perspective rhythm model. In: J. J. Fitzpatrick, A. L. Whall (Eds.), *Conceptual models of nursing: Analysis and Application*, 2nd ed., 1989, pp. 401–407. Norwalk, CT: Appleton & Lange.
29. Gleick J. *Chaos, making a new science*. New York; Penguin Books, 1987.
30. Gregg L., Tarrier N. Virtual reality in mental health. *Social Psychiatry and Psychiatric Epidemiology*, No. 42, 2007, pp. 343–354.
31. Hardy Q. "Writing in a nonstop world" Bits, New York Times. Retrieved at, 2014, April 26). URL: <http://bits.blogs.nytimes.com/2014/04/26/writing-in-a-nonstop-world/?ref=technology>.
32. Hastings-Tolsma M. Toward a theory of diversity of human field pattern. *Visions: The Journal of Rogerian Nursing Science*, No. 14(2), 2006, pp. 34–40.
33. Heidt P. Effect of therapeutic touch on anxiety level of hospitalized patients. *Nursing Research*, No. 30, 1981, pp. 32–37.
34. Heidt P. Openness: a qualitative analysis of nurses' and patients' experiences of therapeutic touch. *Image*, No. 22(3), 1990, pp. 180–186.

35. Hills R. G. S., Hanchett E. Human change and individuation in pivotal life situations: Development and testing the theory of enlightenment. *Visions: The Journal of Rogerian Nursing Science*, No. 9, 2001, pp. 6–19.
36. Keller E., Bzdek V. M. Effects of therapeutic touch on tension headache pain. *Nursing Research*, No. 35, 1986, pp. 101–105.
37. Kolcaba K. A taxonomic structure for the concept of comfort. *Image: The Journal of Nursing Scholarship*, 1991, No. 23, pp. 237–240.
38. Krieger D. The relationship of touch with the intent to help or to heal, to subjects in-vivo hemoglobin values. A study in personalized interaction. In Proceedings of the Ninth American Nurses Association Research Conference. New York: American Nurses' Association, 1973.
39. Krieger D. Therapeutic touch: The imprimatur of nursing. *American Journal of Nursing*, No. 5, 1975, pp. 784–787.
40. Krieger E., Peper, E., Ancoli, S. Therapeutic touch: Searching for evidence of physiologic change. *American Journal of Nursing*, No. 79, 1979, pp. 660–662.
41. Kurtz M. M., Baker E., Pearlson G. D., Astur R. S. A virtual reality apartment as a measure of medication management skills in patients with schizophrenia: A pilot study. *Schizophrenia Bulletin*, No. 33(5), 2007, pp. 1162–1170.
42. Leddy S. K., & Fawcett J. Testing the theory of healthiness: Conceptual and methodological issues. In: M. Madrid (Ed.), *Patterns of Rogerian Knowing*, 1997, pp. 75–86. New York: National League for Nursing Press.
43. Lobard M., Ditton T. At the heart of it all: The concept of presence. *Presence: Teleoperators and Virtual Environments*, No. 10, 1997, pp. 282–297.
44. Ludomirski-Kalmanson B.G. The relationship between the environmental energy wave frequency pattern manifest in red light and blue light and human field motion in adult individuals with visual sensory perception and those with total blindness. Dissertation Abstracts International, 1984, No. 45(07B):2094, New York University.
45. Malinski V. M. The relationship between hyperactivity in children and perception of short wave length light. In: V. M. Malinski (Ed.). *Explorations on Martha Rogers' science of unitary human beings*, 1986, pp. 107–117.
46. Malinski V. M. Spirituality as Integrality: A Rogerian Perspective on the Path of Healing. *Journal of Holistic Nursing*, Vol. 9, Iss. 1, 1991, pp. 54–64.
47. Malinski V. M. Spirituality: A pattern manifestation of the human / environment mutual process. *Visions: The Journal of Rogerian Nursing Science*, No. 2, 1994, pp. 12–18.
48. Malinski V. M. RN; PhD-Rogerian Science-Based Nursing Theories Nursing Science Quarterly (First Published January 1, 2006), 2006, pp. 7–12.
49. Malinski V. Models and theories focused on human existence and universal energy. In Butts, J. B. & Rich, K. L. *Philosophies and theories: For advanced practice nursing*, 2014, pp. 435–472. Burlington, MA: Jones & Barlett Learning.
50. Martha M. H. Reflections on the science of unitary human beings in terms of Kuhn's requirement for explanatory power. *Visions: The Journal of Rogerian Nursing Science*, 2008, No. 15, pp. 7–22 (Reprinted from Volume 1, No. 1, 1993, pp. 22–35).
51. Martin R., Phillip H., Thomas K. Virtual reality and simulation: Training the future emergency physician. *Academic Emergency Medicine*, No. 9(1), 2002, p. 78.
52. Martin A. R., Chantal L. R., Thomas M. K. Evaluation of the educational effectiveness of a virtual reality intravenous insertion simulator. *Academic Emergency Medicine*, No. 9(11), 2002, p. 1319.

53. McDonald S. F. The relationship between visible lightwaves and the experience of pain. In: V. M. Malinski (Ed.). *Explorations on Martha Rogers' science of unitary human beings*, 1986, pp. 119–127. Norwalk, CT: Appleton-Century-Crofts.
54. Meehan C. The effect of therapeutic touch on the experience of acute pain in postoperative patients. Doctoral Dissertation. New York University. Dissertation Abstracts International, No. 46(03B), 1985, p. 795.
55. Newman M. A. *Health as expanding consciousness*. St. Louis, MO: Mosby, 1986.
56. Newman M. A. *Health as Expanding Consciousness*. (2nd Ed.), NY: National League for Nursing, 1994.
57. Parker K. P. The theory of sentience evolution: A practice-level theory of sleeping, waking, and beyond waking patterns based on the science of unitary human beings. *Rogerian Nursing Science News*, No. 2(1), 1989, pp. 4–6. [See also Malinski V. M. (2001). Martha E. Rogers: Science of unitary human beings. In: M. E. Parker (Ed.), *Nursing theories and nursing practice*, p. 199. Philadelphia: F. A. Davis].
58. Parse R. R. *Man-Living-Health. A theory of nursing*. New York NY: Wiley. Reprinted 1989. Albany, NY: Delmar. 1981.
59. Parse R. R. Human becoming: Parse's theory of nursing. *Nursing Science Quarterly*, No. 5, 1992, pp. 35–42.
60. Parse R. R. The human becoming school of thought: A perspective for nurses and other health professionals. Thousand Oaks, CA: Sage, 1998.
61. Parse R. R. The humanbecoming school of thought in 2050. *Nursing Science Quarterly*, No. 20, 2007, pp. 308–311.
62. Parse R. R. The humanbecoming paradigm: A transformational worldview. Pittsburgh, PA: A Discovery International Publication, 2014.
63. Paul E. R. Virtual reality therapy for anxiety disorders: Advances in evaluation and treatment. *The American Journal of Psychiatry*, No. 162(9), 2005, p. 1772.
64. Pausch R., Proffitt D., Williams G. Quantifying immersion in virtual reality. Paper presented at the Proceedings of the 24-th annual conference on Computer graphics and interactive techniques. Los Angeles, CA, 1997.
65. Phillips J. R. Changing human potentials and future visions of nursing: A human field image perspective. In: E. A. M. Barrett (ed.) *Visions of Rogers' Science-Based Nursing*. New York: National League for Nursing, Pub., No. 15–22, 1990, pp. 13–25.
66. Phillips J. R. Chaos in nursing research. *Nursing Science Quarterly*, No. 4, 1991, pp. 96–97.
67. Phillips J. R. Human field research. *Nursing Science Quarterly*, No. 4, 1991, pp. 142–143.
68. Phillips J. R. Virtual reality: A new vista for nurse researchers? *Nursing Science Quarterly*, No. 6(1), 1993, pp. 5–7.
69. Phillips J. R. Rogers' Science of Unitary Human Beings: Beyond the frontier of science. Keynote address presented at the Annual Meeting of the Society of Rogerian Scholars: "Martha E. Rogers: Her Life, Her Science, Her Legacy Emerging". Knoxville, TN, October 7, 2014.
70. Quinn J. F. Therapeutic touch as energy exchange: Testing the theory. *Advances in Nursing Science*, No. 6, 1984, pp. 42–49.
71. Reed P. G. Toward a nursing theory of self-transcendence: Deductive reformulation using developmental theories. *Advances in Nursing Science*, No. 13(4), 1991, pp. 64–77.
72. Reed P. Transcendence: Formulating nursing perspectives. *Nursing Science Quarterly*, No. 9, 1996, pp. 76–79.

73. Reed P. G. The place of transcendence in nursing's science of unitary human beings: Theory and research. In M. Madrid (Ed.), *Patterns of Rogerian knowing* New York: National League for Nursing Press, 1997, pp. 187–196.
74. Reed P. G. Theory of selftranscendence. In: M. J. Smith & P. R. Liehr (Eds.), *Middle Range Theory for Nursing*, 2003, pp. 145–165. New York: Springer, Reeder F. Philosophical issues in the Rogerian science of unitary human beings. *Advances in Nursing Science*, No. 6(2), 1984, 14–23.
75. Rogers M. E. *An introduction to the theoretical basis of nursing*. Philadelphia: F. A. Davis, 1970.
76. Rogers M. E. *Nursing: A science of unitary man*. In: J. P. Riehl & C. Roy (Eds.), *Conceptual models for nursing practice* (2-nd ed.). New York: Appleton-Century-Crofts, 1980, pp. 329–337.
77. Rogers M. Science of unitary human beings. In: V. M. Malinski (Ed.), *Explorations on Martha Rogers' science of unitary human beings*. Norwalk, CT: Appleton-Century-Crofts, 1986, pp. 3–8.
78. Rogers M. E. Space-age paradigm for new frontiers in nursing. In: M. E. Parker (Ed.), *Nursing theories in practice*. New York: National League for Nursing, 1990, pp. 105–113.
79. Rogers M. E. Window on science of unitary human beings. In: M. O'Toole (Ed.), *Miller-Keane encyclopedia and dictionary of medicine, nursing, and allied health* Philadelphia: Saunders, 1992a, p. 1339.
80. Rogers M. E. Nursing science and the space age. *Nursing Science Quarterly*, No. 5, 1992b, pp. 27–34.
81. Salzberg S., Thurman R. Embracing our enemies & our suffering. URL: <http://www.onbeing.org/program/embracing-our-enemies>, 2013.
82. Seymour N., Gallagher A., Roman S., O'brien M., Bansal V. K., Andersen D., et al. Virtual reality training improves operating room performance: Results of a randomized, double-blinded study. *Annals of Surgery*, No. 236(4), 2002, pp. 458–464.
83. Shearer N. B. C. Health empowerment theory as a guide for practice. *Geriatric Nursing*, Iss. 1, No. 30(2), 2009, pp. 4–10.
84. Sherman W., Craig A. *Understanding virtual reality*. San Francisco: Elsevier Science, 2003.
85. Smith-Coggins R., Howard S., Mac D., Wang C., Kwan S., Rosekind M., et al. Improving alertness and performance in emergency department physicians and nurses: The use of planned naps. *Annals of Emergency Medicine*, 2006, No. 48, pp. 596–604.
86. Smith M. C. An investigation of the effects of different sound frequencies on vividness and creativity of imagery. (Doctoral Dissertation, New York University. Dissertation Abstracts International, No. 42(09B), 1986, p. 3708.
87. Smith M. J. Human-environment process: A test of Rogers' principle of integrality. *Advances in Nursing Science*, 1986, No. 2(1), pp. 21–28. Winstead-Fry P. (Ed.). *Case studies nursing theory*. New York: National League for Nursing Pub, No. 15–21, 1986.
88. Teilhard de Chardin P. *Christianity and evolution*. London: Collins, 1971.
89. Wint S. S., Eshelman D., Steele J., Guzzetta C. E. Effects of distraction using virtual reality glasses during lumbar punctures in adolescents with cancer. *Oncology Nursing Forum*, No. 29 (1), 2002, pp. 8–15.
90. Zahourek R. P. Intentionality forms the matrix... *PubMed*, No. 10(6), 2004, pp. 40–49.
91. Zahourek R. P. Intentionality: Evolutionary development in healing: A ground theory study for holistic nursing. *Journal of Holistic Nursing*, No. 23, 2005, pp. 89–109 (See also Malinski V. M. Rogerian science-based nursing theories. *Nursing Science Quarterly*, No. 19, 2006, pp. 7–12).

