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Fashionitis: Can the colours we wear affect our health?

Abstract

Colour therapy is a popular ancient healing art that makes use of colour vibrational energies to balance and harmonise the body’s subtle energies and physical organs in order to create a state of holistic well-being and good health. Vibrational medicine uses Einsteinian and Quantum Physics theories, which considers the human body to be a dynamic energy system. Vibrational medicines are thought to work through the body’s ability to absorb and emit energies through the skin and affecting the resonation of its cells and organs. Suppressed negative energy is thought to eventually transpire as an emotional dysfunction which in turn further transpires into a physical disorder (dis-ease). Negative energies are considered to be toxic in nature and akin to other harmful radiations such as those emitted from electrical appliances. These invisible electromagnetic frequencies are the subject of epidemiological studies and include imbalances or blockages to the human energy system caused by the affects of nutritional and chemical changes and electromagnetic tensions from the environment (Gerber, R, 2000). Energies that work in harmony with the body are considered to be positive, whereas negative energies and excesses of energy frequencies create imbalances in the human energy system resulting in illness. Negative energies therefore need to be released and the energy system replenished with positive energies. Given that frequencies of colour are thought to have the potential to rebalance the energy system, by introducing energies that the system is lacking or by dissipating excess energies; and that coloured fabrics act as colour filters, then it is possible that the colours we wear affect our health. This paper
considers the theories of colour as a vibrational energy and its potential to affect our physical and emotional health through the proximity of the colours we wear.

1 Introduction

Colour is the sensation we experience visually when light energy is reflected from an object. Light is made up of energy vibrations of different wavelengths each perceived by the eye as colour. Colour is therefore an energy vibration. The affects of colour in relation to psychological states are widely accepted and the implications of these on the physical state are well versed in the healing arts (Verner-Bond, 2000). Subtle energies such as light, of which colour is a component, are known to affect our bodily functions as well as our emotional states and moods (Chiazari, 1999). Illness is considered to be the result of imbalances in energies affecting hormonal and chemical changes impacting on the state of the body, mind and emotions, which in turn affect the health of the body’s living cells, tissues and organs. This growing mind-body field of medicine is known as ‘psychoneuroimmunology’ (PNI). It aims to link the psyche (the emotions), the brain (neurology) and the immune system (immunology) by examining hormonal and chemical states in relation to causes of illness and emotional stresses (Gerber, 2000). The ancient healing art, colour therapy uses the power of colour energies to rebalance the human energy field using either coloured fabrics or coloured lights. Fabrics are thought to act as colour filters which will allow only the intended colour energies to be absorbed through the skin. This initial study explores the concept of the coloured fabrics that we wear emulating colour filters used in colour therapy and their potential to affect our health. The study and conclusions drawn from the selected literature review will form the foundation for
a funding proposal in order to conduct in-depth research into the concept depicted in the research question: can the colours we wear affect our health? It is envisaged that the conclusions drawn from the proposed further research study will be disseminated through relevant journals and will be of benefit to both the fashion industry and to the medical profession.

1.1 Aim & Objectives

The aim of this initial study is to bring together well established facts of colour and it’s affect on the Human body with lesser verified evidences, though still grounded in scientific knowledge and theories that give rise to the research question: Can the colours we wear affect our health?

Objectives:

- To understand colour as a vibrational energy (section 2)
- To establish the effects that vibrational energies have on the Human body that give rise to the therapeutic use of colour as a vibrational medicine (section 3)
- To establish links of the physical and psychological affects of colour (from section 3) in relation to clothing (section 4)
- To highlight the concept of electromagnetic pollution in relation to the colours we wear (section 5)
- To draw conclusions from the literature review (section 6)
1.2 Methodology

This preliminary study draws only on secondary research sources at this stage in order to establish the strength of the concept established in the research question in relation to known facts that are grounded in scientific evidences and of postulations that may require further validity though still having significant academic interpretation. The study reviews selected literature that considers the subtle vibrational energies of colour popularly used in the ancient healing art colour therapy in relation to the colours that we wear and their potential affect on health and wellbeing. This was achieved using a deductive research approach building a body of qualitative data and factual information in relation to the research question: can the colours we wear affect our health? Researchable stages, in the form of objectives expand upon the research question to drive the data collection process. A proposed further research study will later be conducted in the UK using experimental research activities to test the research question in a manner that will strongly validate the findings. However, in order to do this, an appropriate instrument or device needs to be sourced or developed to measure changes in the human energy field in a non-intrusive way and will form part of the research proposal.

2 Colour as a vibrational energy

Colour is the sensation we experience visually when light energy is reflected from an object. In scientific terms colour can be described as an energy vibration or as a form of electromagnetic radiation (Verner-Bonds, 2000). As Newton discovered (1665), light is made up of energy vibrations of different wavelengths, each perceived by the eye as colour. The human eye is only capable of seeing the visible light waves which
occupy an approximate range of 760nm (red) to 380nm (violet). A nanometre (nm) is
the unit measurement on the calibrated electromagnetic scale used to determine a
specific wavelength. One nanometre is the equivalent of one millionth of one
millimetre (Diane & Cassidy, 2005). Einstein’s Nobel Prize Award winning
Corpuscular Theory of Light (1905) proposed light to be a composite of ‘corpuscular
units’, known as photons whose nature is, at any one time ‘both particle and wave’.
Photons travel at light speeds having energies that are relative to radiation
frequencies (Cocilovo, 1999). Einstein’s theory of energy and matter being two mere
expressions of one and the same thing (substance) expressed as \[ e = mc^2 \],
recognises the rate of the vibration of photons as being key to the relative density
and form of any substance. Consequently, the photons of physical matter vibrate far
more slowly than those of ‘subtle matter’, such as light energy. The oscillations of the
electric and magnetic energies, the electromagnetic radiation of light energy that we
experience as colour, is a visual result of energy and matter, hence colour can also
be expressed as being a form of electromagnetic energy. Each colour’s specific fixed
energy is measurable in terms of wavelength, frequency and the amount of energy
that ultimately determines its own particular colour characteristic (Samina, et al,
2005). Colours experienced as violet, indigo, blue, known as the electric colours have
shorter wavelengths than the magnetic colours red, orange and yellow. The photons
of the electric colours have shorter wavelengths, are more compact and have greater
energy than the photons of the magnetic colours which have longer wavelengths, are
less compact and have less energy (Diane & Cassidy, 2005).
2.1 Experiencing colour

The light sensitive brain centres are responsible for our physical, emotional and mental associations, which are dependent upon past experiences. Light seen by the eyes is transported to both the visual and non-visual brain areas. It is the non-visual functional brain areas that affect our colour experiences and associations via the hypothalamus, pituitary and pineal related parts of the brain. Thus colour affects us in a physiological sense as well as a psychological sense.

All pigments and surfaces absorb particular light energy wavelengths of the spectrum reflecting the remainder relative to the substance’s molecular make-up and structure (Wright, 1998). The reflected wavelengths reach the light sensitive tissues at the back of the eye known as the retina. The retina is composed of the nerve endings; cones and rods which are in turn connected to the optic nerve where the light energy is converted into a type of nerve energy that, when interpreted by the brain, results in the experience of colour vision (Wills, 2000). It is thought that Human’s are only capable of seeing around forty percent of the colours contained in the electromagnetic spectrum and in that of sunlight (Chiazzari, 1999). However, there is good reason to believe that the cells of Human Beings and all other living entities interact with and consequently are affected by light energy and subsequently by colour. The rationale for this interaction of cells and photons and the implications on physical and mental health and well-being is grounded in Quantum Physics (Gerber, 2000). The concept of colour affecting living cells through the absorption of these energies is predominantly a product of Einstein’s theory of light and that of Hertz’ photoelectric effect, the latter infers that photons contained in light when in contact
with any substance of slow vibration (matter) discharges electrons resonating or transferring energy, thus creating a current. The amount of photons reaching a surface and the number of electrons transferred is relative to the intensity of the light energy. Due to the compactness of photons contained in shorter wavelengths such as violet light more energy is transferred to the electron than that of light energies with longer wavelengths such as red light (Cocilovo, 1999).

3 Vibrational energies and living cells

Much scientific evidence supports the concepts of the body’s biochemical and neuroelectrical energy systems. The biochemical functions relate to the body’s ability to extract nutrients and metabolic energies from foodstuffs converting them into energy types that allow cells to operate. It is known that carbohydrates are a main source of energy, along with fats that also assist with the absorption of vitamins. Proteins are vital for cell building and repair and vitamins and minerals are needed for growth and metabolism. Vitamin K is produced inside the body by intestinal bacteria and vitamin D is obtained through sunlight and the skin. The lack of vitamin D is known to be the cause of Seasonal Affective Disorder; SAD syndrome that is linked with depression (Smith, 2000). This lack of vitamin D induces an over-production of the sleep hormone melatonin which often results in one of, or a culmination of the following symptoms; lethargy, feeling low or depressed, low energy levels, a lack of enthusiasm, extreme exhaustion or despair (Chiazzari, 1999, Reid, 2000). The neuroelectrical energy systems are related to the nervous system where movement is created through electrical impulses from the brain to the muscles and limbs. The cells of the digestive and urinary tracts are also known to function through
electrical pulses. Cells are comprised of a nucleus and neurons which use their nerve fibres to carry nerve signals or impulses in the form of electrical signals. Signals can also be chemically transmitted through the bloodstream to other cells and organs (Smith, 2000).

3.1 Further Vibrational Energy Theories

Einsteinian and Quantum Physics theories offer compelling grounds to substantiate claims that the cells of living forms including those of the human body consist of a variety of vibrating energies, which expands upon those discussed above that are widely accepted. Scientific experiments have more recently confirmed all matter to be ‘a form of frozen energy’ (Gerber, 2000). There is also evidence from sets of research conducted during the last decade to support claims that cells emit weak pulses of ultraviolet light that are believed to play a key role in a type of ‘light-based communication system’ between all the body’s cells and their relative functionality, this includes the work of German researcher Dr Fritz Popp. Popp confirms cells emit biologically created light which he refers to as ‘biophotons’ and also suggests that the emitted light is within the ultraviolet range of the electromagnetic spectrum. Popp believes that it is the DNA double helix of a cell that not only emits light but also receives light energy, thus effectively communicating with other cells (Gerber, 2000). This also provides the rationale which forms the basis for explaining the effect sunlight has on the human body and adds weight to the concept of the capability of light frequencies, of the visible light spectrum contained in sunlight and of artificial light used indoors, affecting the functionality of living cells (Chiazzari, 1999). Research conducted by Photo-biologists in USA and Russia suggest monochromatic
red and blue lights can be used to ‘enhance and speed up metabolic processes’ that appear to lead to ‘rapid regeneration and healing of damaged cells and tissues’. Their findings also suggest that some light colour frequencies have stronger effects than others on cells and tissue (Gerber, 2000). Scientific research continues in the area of bioelectronics / biophotonics to further understand the information-transmission systems that control cell division and how cells communicate (Gerber, 2000).

3.2 Energy absorption and functionality

The vibrational energy of light is absorbed visually through the lens of the eye to the retina where optic nerve signals are transmitted to the occipital lobe or visual cortex area located at the back of the brain. The occipital lobe is connected to the largest part of the brain known as the cerebrum, which contains both grey and white matter and is linked to all parts of the body. The outer layer of the brain, the cerebral cortex, receives and processes sensory data in the form of sensory nerve impulses transmitted through the thalamus and sends messages to the muscles initiating movement. The cerebral cortex also relates to the higher brain functions, such as thought. The hypothalamus connects the nervous system to the endocrine system and regulates functions such as sleep and body temperature. The endocrine glands are regulated by the pituitary gland. Glands produce hormones which are chemical messengers transmitted through the blood stream that stimulate cells and affect the blood pressure, circulation and breathing. They are also responsible for emotional reactions in response to danger (Smith, 2000). The endocrine glands are thought to be highly sensitive to light vibrations immediately affecting our ‘involuntary autonomic
nervous system’ which controls the body’s internal functions such as blood pressure, as well as instigating physical changes brought about through chemical hormones and mental and emotional states (Lilly, 2003, Smith, 2000).

3.2.1 Energy absorption through the skin

Light energy is not only absorbed through the eyes and transmitted throughout the body but is also absorbed directly through the skin. The skin is a living organ comprising living and dead cells. The dead cells form the top layer of the skin above the epidermis’s layers of living cells. The colour and condition of the skin is known to offer much valuable visual information concerning a person’s general health and emotional state. The dermis, below the epidermis, contains blood vessels, glands and nerve endings and below the dermis is a layer of fat that acts as an insulator, shock absorber and energy store. The receptors in the dermis respond to sensations such as heat, cold and pain. The Meissner’s corpuscles are nerve receptors within the dermis that are sensitive to vibration. These are the receptors thought to be responsible for the absorption of light rays through the skin. The ultraviolet light contained in sunlight is vital for the body’s production of vitamin D for strong bones, however ultraviolet light is known to be harmful to the skin hence the epidermis and dermis glands produce more of the hormone melatonin when the skin is exposed to direct sunlight. This pigment filters harmful UV rays (Smith, 2000). Bright light has also been found to be beneficial for the production of the hormone serotonin which is a natural antidepressant and found to be lacking or at least low levels of serotonin have been found in people suffering from SAD syndrome. Other symptoms of hormone imbalances thought to be connected directly to the deprivation of light
include 'general stress symptoms, fatigue, depression, hyperactivity, difficulty concentrating and weakened bones and teeth' (Gerber, 2000).

3.3 Colour as a vibrational medicine

Newtonian scientific thinking is concerned with treating the body as if it were a mechanical device focusing on its internal structure and primarily the affects of what the body consumes. Whereas Einsteinian and Quantum Physics thinking views the body as a complex energy system that is affected not only by the consumption of foodstuffs but also affected by the mind and emotions as well as other external pollutants that the body may come into contact with (Gerber, 2000). Our psychological well-being is known to be associated with the production of endorphins in the brain, which are in essence morphin-like chemical compounds that act as natural antidepressants. The lack of production of these endorphins are known to affect our moods, create irritation, depression, anxieties, insomnia, poor concentration and loss of appetite thus resulting in emotional strain and stress (Smith, 2000). Vibrational medicines are based on Einsteinian and Quantum Physics thinking using vibrational energies such as colour and light to treat the body, mind, emotions and spirit holistically. Colour psychologists maintain that human emotions have a direct affect upon hormonal balances on the body, influencing moods, feelings and behaviours (Chiazzari, 1999). Psycho-neurologist Dr Kurt Goldstein confirmed that colour affects humans on many levels affecting mental health and psychological states. These findings have also been confirmed by Dr Robert Ross of Stanford University USA and Dr Maria Rickers-Ovsiankina (Verner-Bond, 2000). Further studies confirm that particular colours have physiological effects on the body
for instance red stimulates the senses and blue has a calming effect (Reid, 2000).
Each individual colour has been found to have specific affects and too much or too little of each colour causes imbalances in the body’s systems (Chiazzari, 1999).

3.3.1 Colour therapy
Modern day colour therapies are grounded in ancient colour healing practices known to have been used by priests of ancient Egypt, Babylonia and China (Gerber, 2000). The therapeutic use of colour was practiced by Hippocrates in 4th century BC, reputed to be the ‘father of medicine’. Aristotle was known to use coloured crystals, salves, minerals and dyes as remedies, 300 BC. Later Paracelsus (1493 – 1541) used colour to treat mental and physical healing (Verner-Bond, 2000). Goethe (1749 – 1832) worked extensively in a scientific manner combining colour and light with metaphysical concepts from an art perspective. His work inspired that of Rudolph Steiner whose twentieth century psychologically related colour theories are still of great importance today. Other important works include that of Jacob Lorber’s The Healing Power of Sunlight (1851), American Physician Dr Seth Pancoast’s Red and Blue Lights (1877) which focuses on the use of coloured filters to alter the body’s functions and Dr Edwin Babbitt, also an American Physician, who focused on the healing properties of the three primary colours in his work The Principles of Light and Colour (1878) (Gerber, 2000). The Nobel Prize for Medicine was awarded to Danish Physician Neils Finsen (1903) for work using light and colour to treat disease (Verner-Bond, 2000). Indian Scientist Dinshah Ghadiali also worked on the concept of the body’s ability to absorb the energies of light and colour in relation to states of health, consequently developing a machine that was used to project specific colours
at affected areas of the ailing body. Ghadiali’s work *The Spectro-chromemetry Encyclopaedia* (1939) establishes the concept of the human body’s ability to not only absorb colour energies but also to reflect such energy (Verner-Bond, 2000, Ostrom, 2000). Also during the 1930’s Dr Harry P. Spitter, an American Optometrist developed a colour healing system using coloured filters (Lilly, 2003). In the mid twentieth century Faber Birren worked extensively with colour therapies and theories and the medical profession began to use ultraviolet light predominantly in the treatment of jaundice (Verner-Bond, 2000). Ultraviolet light is also used today in the treatment of SAD syndrome (Reid, 2000) and full spectrum light boxes are used to stimulate serotonin levels in the brain (Gerber, 2000).

3.3.2 Examples of colour treatments

While prescription drugs became the focus of modern medicine throughout much of the twentieth century at the expensive of the therapies that are commonly termed complementary today, with the dawn of the New Age era or Age of Aquarius an accelerated renewed interest in vibrational medicines and treatment techniques occurred throughout the latter part of the 1990’s and into the twenty-first century. Today, colour therapists claim to successfully use colour to treat a range of ailments including ‘*asthma, arthritis, nervous and mental disorders, depression, eating disorders, skin diseases, digestive ailments, blood and circulation problems, fevers and shock* [and] *serious illnesses such as paralysis, multiple sclerosis, and ME (Myalgic Encephalomyelitis)*’. Red is reportedly used for iron and blood disorders and to improve the circulation. Orange has been used successfully to treat depression and respiratory disorders such as bronchitis. Green can be used to treat headaches
and blue used to treat sore throats and asthma. However, colour has been found to more successfully treat emotional and mental disorders in the long term (Chiazzari, 1999).

3.4 The Human Aura
Throughout the centuries to present day psychics, mystics and others with acute senses of vision have testified the existence of the human aura. In essence the aura is believed to be a bio-energetic field that surrounds the entire being. Dr Walter J Kilner then of St. Thomas’s Hospital, London (c.1908-11) viewed bands of light extending from the human body using dyes and screens sensitive to ultraviolet light, known as the Kilner Screen, thus confirming the existence of the aura (Sun, 1998). Cambridge biologist Bagnall duplicated Kilner’s experiments concluding in his work *The Origin and Properties of the Human Aura* (1937) that the auric field can be perceived by the rods of the human eye through peripheral, as opposed to focused, vision (Ostrom, 2000). In 1939 Russian technician Semyon Kirlian also devised a way of capturing the aura using a method now known as Kirlian photography. Through his work, Kirlian recognised changes in the auric field to be significant indications of disease before it had actually manifested in the body, thus acting as an early warning device (Eason, 2000). Dr HS Burr and Dr FSC Northrop researchers at Yale University confirmed the aura of all living entities as being a ‘complex electrical field’ that extends beyond normal human vision. They used a highly sensitive micro-voltmeter capable of measuring electrical fields to a millionth of a volt (Ostrom, 2000). It is thought that colour energies may be absorbed through the skin with the help of the subtle energies that extend from the body; the aura (Chiazzari, 1999). Colour is
also thought to project outwards from within the body, as our own personal energies resonate externally through or into the aura. This reflection of the inner self or of the emotional state may unconsciously attract us to colours that resonate with these feelings and thus give strength to them. If these energies affect us positively then good health and well-being are maintained. However, if the energies are in excess of the body’s requirements or lacking of the body’s requirements ill health and disease is thought to result (Merivale, 2003).

4 Colour and clothing

In colour therapy practices coloured fabrics are used as one of the healing methods. Small pieces of fabric made from natural fibres are used as colour filters through which light passes to transmit the required colour energy to the affected body part. A similar effect is thought to be achieved through the clothes we wear (Wills, 2000). While it is uncertain just how much colour energy the body actually absorbs from clothing through the skin affecting us physiologically, it is thought that the colours that we wear have a profound affect upon the human psyche, thus affecting our emotions (Reid, 2000). As colour can be used, it is thought, to create changes to rebalance the subtle shifts of energies, so excessive frequencies of particular colours worn regularly is thought also to create imbalances (Verner-Bond, 2000). Depression has been linked to consistently wearing dark and drab colours, black is thought to attract negative energies and excessive amounts of neutral and light colours are linked to feelings of stress and tiredness (Chiazzari, 1999). As it is thought that we may be attracted to colours that resonate with and reflect our inner selves, then our emotional states through the subconscious mind attract us to the colours that support
and strengthen those feelings and consequently related thoughts (Chiazzari, 1999, Merivale, 2003).

5 Electromagnetic Pollution - Toxins

Given that the fabrics of clothing may act as colour filters able to transmit specific qualities and quantities of colour energy into the human body and that this energy will in turn affect physical health and emotional states; and that we become attracted to colours that resonate with our wellbeing, it is easy to appreciate that our bodies can become polluted by colour (Sun, 1998). Gimbel (1994) states “Health and personal development depend just as much on the continual exchange of energy in and out of your body, as on the free circulation of energy inside you”. The suppression of negative or excessive energies of a particular frequency creates blockages that result in ‘emotional dysfunction’ that will eventually manifest as a ‘physical disorder or disease’. This is thought to be the result of the energies of thoughts and emotions influencing chemical changes. These ‘emotional toxins include chronic anger, hatred, bitterness, greed, hopelessness, loneliness and depression’ (Gerber, 2000). The action of blocking our emotions, fears and anxieties are thought to lock negative energies into the cells and tissues of the body as well as into the mind. These psychosomatic negatives energies are thought to later manifest as physical ailments. Releasing these energies allows positive energies to flow through the body to maintain good physical health and mental and emotional wellbeing (Chiazzari, 1999). In addition to these internally driven energies, humans are also subject to external energies that are also potentially harmful. Such invisible electromagnetic energies, studied in epidemiological research, include those emitted from electrical appliances.
used in the home and at work and *abnormal magnetic fields* produced in nature which are known to contribute to the geopathic stresses relative to changes and blockages in our energy system (Gerber, 2000).

## Conclusion

The research thus far brings together sets of theories, some with more absolute scientific grounding than others, that support the proposed research question: can the colours we wear affect our health? In section 2 the study explains colour as a vibrational energy and in section 3 the interactions of its component light energy photons with the cells of the human body are discussed. This leads to the concept of the human energy field, otherwise known as the aura, possibly contributing to the absorption of colour energies through the skin and into the body. The practice of using fabrics as colour filters in colour therapy treatments is discussed in section 4 and section 5 explores the concept of toxic energies which can affect the health on a physical and psychological level. The research suggests that given that; coloured fabrics can act as colour filters; the skin absorbs vibrational energies via the Meissner’s corpuscles, with or without the aid of the aura; and with known biological facts of how the body uses vibrational energies to function, it can be said that the colours that we wear do have an affect on the human body. However, the extent of the affect that colours can have directly on living cells and the extent of the affect being psychosomatic and therefore indirect requires thorough investigation. In addition, the concept of the human body being subject to excessive qualities and quantities of particular colours at any one time resulting in a form of electromagnetic pollution requires further exploration. While the working of some of the human
body’s neuroelectric energy systems are widely known and accepted in medical science, vibrational medicines are still very much considered to be of the healing arts and although ancient in practice few rigorous experiments exist to substantiate their claims. Much of these limitations however, would appear to be indicative of a lack of specialist instruments required to verify such research. Thus, it is recommended that prior to taking this study further much is required in the first instance to acquire a suitable instrument to view or measure the subtle energies in relation to the health of living cells as indicated in the methodology.

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