THLEEP.EARTH

Contents:

Objectives

Curate an affordable performance of light and sound to alleviate stress

- Incorporate the principles of Light therapy / vision physiology and neuro-acoustics into two forty minute acts.
- Develop a part-subsidized model that uses social spaces creatively and for community well-being.
- To work with public and private sector funding to integrate accessible community well-being programs.
- To explore the transformative power of arts in society.
- To utilise and depoliticise social spaces.
- To make accessible arts through technology, to a broader audience.

1. Introduction / Hypothesis

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In 2016, the escalation of mental health issues became apparent on a high-street level – a *close* community level. Incidents of psychotic episodes transcended degrees of separation, walking through my professional door on many occasions (literally and metaphorically). The NHS at the time was incapable of maintaining outpatient support in the area; the answer, increased dosage of anti-psychotics – albeit administered by the patients themselves (or not).

A night down the pub, the backbone of British culture, was becoming counter-therapeutic, counter-community. The isolation of *aftereffects* and the obsolescence of drugs when mixed with alcohol, left patients unmonitored and often wandering the streets at large. Our culture of escapism needed alternatives – innovation. The inception of an evening, where community would occupy safe social spaces without intoxication, became poignant. An affordable night *out,* with the benefits of staying *in*; a means of waking up regenerated and sustain a sense of self and well-being for the week ahead. The need for connection, yet with the anonymity and social-defences alcohol provides, the hypothesis. The solution, nourishing food with a simulated return to the womb for a couple of hours through a performance of light and sound. A performance that would transport the audience from anxiety to calm; from their lives upon arrival, through a journey into the quantum realm of the *sub-atomic*, into the self, then back into the natural world – re-emerging '*at one*' for the journey home.

Active meditation, has become a widely-used mechanism for dealing with urban stress, depression and disconnection through our often supplementary digital-selves. Repetitious physical disciplines and communal practices, ancient arts, now recognised by the medical establishment as means of maintaining mental health. I became aware of Light Therapy writing a thesis on vision physiology at University. The historical use of light therapy as an anxiolytic, to induce REM sleep for asthmatics and therefore prevent attacks, is a technique using light chambers. The frequencies of Solfeggio, based on human frequencies (vocals, wind instruments) were also tools I had used for other sound projects, namely The Healing Chambers I, II. The combination of both light and sound created an immersive multi-media experience, one that has leads to Thleep, *therapizing for sleep.*

2. Light Treatment for Non-seasonal Depression

Wallace B. Mendelson, MDHind T. Hatoum, PhDSheldon X. Kong, PhDJosephine M. Wong
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Issue: Bipolar Disorder, Depression, Geriatric Psychiatry, Sleep Deprivation, Circadian Rhythm Sleep Disorders, Mania, Major Depressive Disorder

The "time has come to accept bright light treatment into our therapeutic armamentarium," urged Daniel F. Kripke, M.D., professor of psychiatry at the University of California San Diego. Kripke has studied the relationship between biological rhythms and depression since the early 1970s. In an interview with Psychiatric Times, Kripke discussed two theories of phototherapy.

"We know that seasonal responses in many mammals are controlled by the photoperiod...We know that the lethargy, changes in appetite and loss of sexual interest seen in many small mammals in the winter are, in fact, controlled by the reduced daylight...Such mammals increase their activity, sexuality and aggressiveness in the summer, because the days are longer. From that knowledge, it seemed that depression might be analogous to winter responses and that light might be an effective treatment. That is one plausible theory.

"There also is a theory based on the finding that there are some timing abnormalities of circadian rhythms in many depressed patients, and that because light can correct timing abnormalities, it might work," he added. "As of today, there is evidence for both theories and evidence against both theories. I don't believe the theoretical basis is yet established. Nevertheless, the treatment [has been] tried and it works."

Numerous trials from Europe, Japan and the United States indicate that bright light is beneficial in treating non-seasonal as well as seasonal depression Kripke pointed out. The response [to light therapy] is quite rapid, often within a week or two, which is more rapid than the response to antidepressant drugs or psychotherapy," he said.

Other studies have found modest or no clear benefit to bright light therapy for non-seasonal depression. Kripke and his colleagues also have conducted clinical studies of bright light. As early as 1981, he reported that bright light had an antidepressant effect among patients with non-seasonal major depressive disorders. Although a single hour of

light treatment produced only about a 12% reduction in depression ratings as compared to placebo, the result was statistically significant in the first seven patients.

In 1992, Kripke and colleagues reported on their one-week study of veterans with depression who were hospitalized in a Veterans Affairs Medical Center. The veterans had non-seasonal major depressive disorders or depressed forms of bipolar disorder. Additionally, the majority of the patients had comorbidities, such as substance use disorders. Twenty-five patients were randomly assigned to bright white light treatment (2,000 to 3,000 lux) and 26 patients were randomized to dim red light placebo-control treatment.

"Within one week of bright light treatment, the 25 patients reduced their depression scores about 18%, whereas the 26 placebo patients didn't improve at all," Kripke said. Currently, a study is being conducted by Kripke's colleague, Richard Loving, Ph.D., R.N., in the department of psychiatry, University of California San Diego. Loving has been studying unipolar non-seasonally depressed outpatients who are being treated with antidepressants along with a half-night of sleep deprivation followed by administration of bright light therapy.

"There is evidence that a half-night of sleep deprivation may augment the bright light response," Kripke said. "Indeed, Loving has found that with this triple combination, the patients given the bright light had a 30% improvement within a week as compared to the group treated with placebo light and otherwise the same medication and sleep deprivation. That is a very dramatic response of a similar or greater magnitude than one might obtain with Prozac [fluoxetine] in 12 to 16 weeks. That study is very small and still going on, but it resembles the study done by Neumeister [1996] at the University of Vienna on inpatients with about the same results."

For patients with major depressive disorder, Neumeister and colleagues studied whether light therapy beginning in the morning after a partial-sleep deprivation is able to prevent a relapse after sleep deprivation. (In some patients with major depressive disorder, partial-sleep deprivation results in a pronounced decrease of depressive symptoms. However, the beneficial effect is usually lost after one night of recovery sleep.) In the study, all patients received an antidepressant medication, which was kept constant before and during the

study period. Neumeister and colleagues found that bright light prolonged the antidepressant effects of partial-sleep deprivation for up to seven days.

Based on these studies, Kripke believes "a clinician would be wise to go ahead with standard therapy and add bright light." He added, "I would only recommend using bright light alone for the patient who for some reason didn't want to accept or couldn't tolerate standard treatment. Pregnant women, young children whose parents are nervous about starting them on a drug regimen, or patients who had allergic reactions or other side effects with antidepressants would be common examples."

Another candidate group might be depressed individuals not currently receiving treatment, Kripke suggested.

"We know that the majority of Americans who are depressed are not asking for [or] receiving treatment. So there is a very large portion of the depressed population that, for philosophic reasons, doesn't want to avail themselves of standard treatment, but they might be more willing to use bright light."

For his own patients who are suffering from a newly diagnosed seasonal or non-seasonal depressive disorder, Kripke said he would provide standard treatment (antidepressant drug and some psychotherapy) as well as bright light therapy.

"If the situation was rather severe and the need for response urgent, I might suggest that the patient get up in the middle of the night on the day before the first light treatment," he said. While acknowledging that "the sleep deprivation part of it needs more study," Kripke said, "the addition of light to standard treatment is ready for clinicians to use.
"There is now plenty of evidence that adding light will help the patient at least in the first week or two of treatment when the antidepressant drugs don't actually do that much," he said.

Kripke is not aware of any controlled data in seasonal affective disorder or non-seasonal depressed populations showing that adding bright light therapy to standard treatment improves outcome, although he said each modality "works alone." Many clinicians, he added, using light therapy to treat patients with seasonal affective disorder do eventually include medications.

Bright light therapy must be consistent with the patient's habits, according to Kripke. "The most important decisions are whether to give the patient bright light through going outdoors, through changes in room lighting or through buying a light box," he said. Advising patients to spend more time outdoors can work well in Southern California but not in areas with harsher climates, Kripke said. In many circumstances, it also is possible to increase ordinary room lighting, and sometimes that will be of considerable benefit.

To clarify, Kripke pointed out that on a sunny day outdoors, illumination might be about 10,000 lux looking towards the horizon. However, people spend most of their time indoors in environments with lighting between 50 and 500 lux. In the evening, the average living room might be lit at about 15 lux, but some people watch television in rooms as dim as 1 lux, which is about the same as the light of the full moon.

"We have evidence that people who are outdoors at least one hour a day are less depressed and report fewer sleep complaints in the general population. Such a study doesn't prove causality, but since we have shown beneficial effects in experimental studies, it is reasonable to think that a large segment of the population, which isn't in daylight even an hour per day, is causing themselves problems."

In a book chapter, "The Uses of Bright Light in an Office Practice," Kripke pointed out that there is a trend for people who experienced less bright lighting to report more depression (Kripke, 1998b). Therefore, he prescribes a special light box that is available through a number of manufacturers for approximately $200 to $400 (Table). Generally, the light boxes contain fluorescent bulbs, which use less electricity and radiate less heat than incandescent lights.

"Because the fluorescent light boxes produce quite diffuse light, you can look at them directly, whereas with very bright incandescent light such as that produced by halogen bulbs, the light comes from a very small point, which is really too bright to look at directly with safety," he said.

In general, 200 to 300 watts of fluorescent light illuminating a bright diffuser about one yard from the eyes will give about 2,000 to 3,000 lux. Some bigger higher wattage light boxes placed 12 to 18 inches from the patient's eyes will give off 10,000 lux.

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Kripke also addressed dosage strategies in the chapter. "Just like with any medical treatment, [depressed patients] vary in the dose they need," he said. The amounts of light needed are somewhere in the range required to bring a depressed person above the average for daily light exposure, Kripke wrote. That can be achieved with as little as 15 to 30 minutes of very bright light (approaching 10,000 lux) or with a few hours of light of 2,000 to 3,000 lux (like a cloudy day in the shade).

For mild depression accompanying advanced sleep-phase in the elderly, modest amounts of lighting may be sufficient, he wrote. But for cases of severe depression, light much dimmer than 2,000 lux is not likely to be effective without many hours of daily exposure. For many patients, bright light at any time of day helps depression, according to Kripke, but there is some evidence that seasonal affective disorder (SAD) patients may do a bit better with morning light (Ruhrmann et al., 1998). This may be due in part to SAD patients' tendency to sleep late rather than the seasonality of their depression, Kripke wrote.
It is the sleep pattern that provides the most useful clue to optimal timing, he added. Patients whose depression is linked to hypersomnia tend to do best with light in the morning. For such patients, the hour immediately after awakening is the most effective time to use bright light. For the patient who nods off early in the evening and cannot stay awake for prime-time television, Kripke recommended evening bright light.

If the physician has a patient who may be bipolar, Kripke said it might be safer to use evening light, because the risk of mania appears to be less with evening rather than morning light. "I don't recommend using bright light for depressed bipolar patients unless they are receiving a mood stabilizer, because in 1% or 2% of cases, bright light will trigger serious mania in a bipolar patient," he noted. "The duration of bright light treatment in a depressed bipolar patient must be individualized."

In studies of light box therapy, Kripke said some minor side effects (e.g., nausea, headache and eye irritation) have been reported, but they "generally involve no permanent risk and usually not enough discomfort to require discontinuation."

(When adjunct light therapy was used with trimipramine [Surmontil], Muller et al. [1997] did report some side effects, such as aggravated sedation and decreased appetite-Ed.)
With regards to duration of bright light therapy, Kripke wrote that many people who benefit from it need to use it for years.

"If they discontinue using light, after a few weeks, they may relapse into depression again. Some people find they need less time with their light box to avoid relapse than they did to make the depression go away at the beginning," he wrote. "Therefore, after at least two to three months of remission, it could be reasonable to try slowly reducing the light dose, to see if symptoms recur."

To help guide clinicians in the use of light therapy, Kripke recommended the following resources: the book Sleep Disorders edited by Poceta and Mitler, in which Kripke has a chapter; his 1998 article in the Journal of Affective Disorders; a chapter on light therapy by Norman Rosenthal, M.D., who is with the Clinical Psychobiology Branch at the National Institute of Mental Health, in In Treatment of Psychiatric Disorders (Rosenthal, 1995); and several articles published in the Journal of Biological Rhythms (Campbell et al., 1995; Dijk et al., 1995; Terman et al., 1995); and the Society for Light Treatment and Biological Rhythms, New Haven, Conn.,.<HTTP://WWW.WEBSCIENCES.ORG/SLTBR/>
Based on his extensive work with bright light therapy, Kripke believes it is an effective and cost-efficient addition to modern health care:
"It is a wonderful thing to be able to offer patients this simple and safe treatment and see them become happier faster."

3. Human frequencies

Neuroacoustics: The Healing Power of Sound

By Erik L. Goldman | Editor-in-Chief - Vol. 5, No. 3. Fall, 2004
ALBUQUERQUE, NM—The experience of sound is at the very core of human consciousness, and it can be a powerful tool for healing, said Jeffrey Thompson, DC, at the annual meeting of the American Holistic Medical Association.

For more than 20 years, Dr. Thompson has been exploring neuroacoustics and the therapeutic application of sound. His researches have led to the development of precise protocols for using sound to modulate brainwave patterns, affect sympathetic-parasympathetic balance, and synchronize the activity of the right and left brain hemispheres. He has applied these methods in stress reduction, cardiovascular disease prevention, management of depression, and a host of other conditions.

"It is akin to the picking of a lock on the neurophysiologic processes that the body already uses to heal itself," said Dr. Thompson, director of the Center for Neuroacoustic Research, San Diego. His work with neuroacoustics is very different from other forms of music therapy. It is not about facilitating a patient's musical self-expression, nor does it use music as a palliative. It involves direct application of specific sound combinations—unique to each patient, but precise and measurable—to entrain beneficial physiologic responses.

Primordial Sounds and Self-Awareness

Perception of sound begins in the womb, and it begins very early. "At 16 weeks' gestation, we become aware of vibration, and life begins to filter into us." The eardrums and the skin—sensors of vibration—are the first sense organs to become active. For a developing fetus, the intrauterine world is largely a world of sound. Sound travels 5 times more efficiently through water than through air, and a mother's stretched abdominal wall is an ideal membrane for transmitting sound.

In many respects, it is through sound that a gestating human becomes aware of itself. In applying sound to healing, Dr. Thompson has found certain types of sounds—the heartbeat,

respiratory sounds, passage of blood through vessels, organic bodily sounds—register deeply in the human nervous system. These "primordial sounds" are immediately recognizable to any person regardless of gender, culture, race, age, or social status; they are truly universal.

Recordings of primordial sounds can be used therapeutically to access aspects of consciousness and memory to which an individual is typically unconscious. In order to obtain these effects in adults, however, it is necessary to slow down recordings of womb sounds by several octaves (divisions of two). "A 16 week old fetus has a tiny little eardrum. Compared to that, the mother's heart is huge, and the heartbeat is a very deep, gigantic sound. To re-create the intrauterine soundscape that a fetus hears, you have to slow everything down."

Physical Resonance

Much of Dr. Thompson's work is based on two key principles: Firstly, that every tissue, just like every physical object, will resonate to very specific sound frequencies; Secondly, that there are mechanisms within the nervous system that synchronize neurophysiologic functions and cycles with coherent rhythmic pulsations from the external world.

Almost everyone has seen images of a wine glass being exploded by sound. The important point in such experiments is that only a certain frequency will explode a particular wine glass. It is not only a question of volume.

Every physical substance has particular frequencies at which it will become excited to a higher vibratory state. This is best observed with tuning forks: a fork designed to produce a frequency of 440 Hz can induce or "entrain" the vibration of a second fork of 440 Hz, if it is struck and brought into the vicinity of the second fork. A fork designed to produce a different frequency will not be able to induce this sympathetic vibration in a 440 Hz fork.

Dr. Thompson has found similar principles operating in the tissues of the body. Every organ, every bone, has a unique size, density and mass, and therefore, a unique resonant frequency. One aspect of his approach is to identify resonant frequencies of various tissues, particularly the brain and spinal column.

“My first attempts at this involved trying to do chiropractic spinal adjustments using sound. Each vertebra is a different size, density and mass, and like a wineglass, can be resonated with the correct sound. This causes the vertebra to vibrate back into its correct position. Similarly, cranial bones and cerebrospinal fluid can be influenced with sound resonances. The brain itself is an organ with a unique size, density and mass. So I started to ask, what would the effect be of exposing the brain to its own fundamental frequency vibration pattern?”

Coupled Oscillation and Biosynchronization

The principle of coupled oscillation, “reflects a property in all things to sort of fall into step together,” said Dr. Thompson. It was initially described in 1665, by Dutch physicist, Christiaan Huygens. In observing the movement of pendulum clocks, Huygens found that when two similar clocks were in close proximity, their pendulums, no matter how they started swinging initially, would soon fall into a precise anti-synchrony (swinging precisely in the same rhythm, but in exactly opposite directions). This synchronized pattern of movement would emerge within a half hour, and remain stable indefinitely.

The significance of Huygens’ observations was not recognized for several centuries, and physicists today are still working out the mathematics to describe coupled oscillation. But the principle has been observed in the movement of subatomic particles, intergalactic nebulae, and on all scales in between, including biological systems.

On the biological plane, the principle is known as bio-synchronization. Examples include circadian rhythms governing metabolism, synchronization of menstrual cycles among women who live closely together, and movements of fish schools and flocks of migratory birds. Essentially, it is about saving energy: when part of a coherent group momentum, an individual conserves energy.
Since the emergence of encephalography, researchers have studied brainwave patterns and how they respond to external stimuli. A vast body of data shows that brainwave patterns and therefore, aspects of consciousness, synchronize with external stimuli. US Navy researchers in the 1950's showed that brainwave patterns could be controlled by strobe light stimulation. They termed this phenomenon "Sensory Evoked Potentials," and it underscores the fact that the brain’s internal rhythms follow the strongest immediate external pulse patterns.

Sound is one of the most powerful means of entraining brainwave patterns. "Brainwaves will time themselves to external sound pulses, if we provide those pulses at specific brainwave speeds," explained Dr. Thompson.

For example, normal daily awareness, the so-called Beta wave pattern, is characterized by electrical activity at 13-30 cycles per second. If someone in their ordinary state listens to sounds pulsing at 4.5 cycles per second, a frequency characteristic of Theta brainwave states, his or her brain will naturally synchronize to the sound, thus inducing a theta state. Theta is, essentially, "where the brain goes when it is dreaming," explained Dr. Thompson, adding that many ancient shamanic healing practices are based on using sound to induce Theta states or "waking dreams."

Similarly, various meditative states have characteristic EEG thumbprints. Much of Dr. Thompson's work consists in using sounds with sympathetic resonances to specific brainwave functions to influence a patient's state of consciousness.

Binaural Beats and Hemispheric Synchronization

In 1973, Dr. Gerald Oster, a biophysicist at Mount Sinai Medical Center, New York, started a minor revolution when Scientific American published his paper called, "Auditory Beats in the Brain." Dr. Oster was exploring the neurologic implications of a phenomenon called "beating tones" or "difference tones," long recognized by musicians and physicists. Beating tones occur when two tones are closely, but not precisely tuned to one another. The difference between the frequencies of the two tones becomes audible as a pulse.

Dr. Oster reported that the same phenomenon occurs when people listen on headphones to tones tuned to within 18% of one another. When the two tones are fed separately into the ears through headphones, the brain detects the out-of-phase relationship between the two notes, and a "perceptual integration of the two signals takes place, producing the sensation of a third "beat" frequency," Dr. Oster explained in his 1973 report.

"The difference between the signals waxes and wanes as the two different input frequencies mesh in and out of phase. As a result of these constantly increasing and decreasing differences, an amplitude-modulated standing wave—the binaural beat—is heard. The

binaural beat is perceived as a fluctuating rhythm at the frequency of the difference between the two auditory inputs."

In other words, if the left ear is given a tone of 100 Hz, and the right ear is given a tone at 105 Hz, the brain will perceive a "binaural" beat of 5 Hz.

The most provocative of Dr. Oster's findings was that the brains of his subjects would entrain to these binaural pulses, producing mild alterations in consciousness. Since publication of that original paper, a host of investigators have looked at how binaural beats affect brainwave activity. They have found some fairly consistent patterns.

Binaural beats in the Delta (1 to 4 Hz) and Theta (4 to 8 Hz) brainwave ranges are associated with relaxed, meditative, and creative states (Hiew, 1995), and can also induce restful sleep. Binaural beats in the Alpha range (8 to 12 Hz) tend to increase Alpha waves (Foster, 1990); those in the Beta frequencies (16 to 24 Hz) have been associated with reports of increased concentration or alertness (Monroe, 1985) and improved memory (Kennerly, 1994).

Beyond just entraining brainwave patterns, Dr. Oster also found that binaural beats invariably induced synchronization of electrical activity in the right and left hemispheres, something that rarely occurs in ordinary waking consciousness. This is explained by the fact that each ear is physiologically "hardwired" to both hemispheres. Each hemisphere has its own olivary nucleus, which processes sound signals. When someone perceives a binaural beat, there are actually two standing waves of equal amplitude and frequency present, one in each hemisphere. These two standing waves entrain portions of each hemisphere to the same frequency.

"By entraining brainwaves with binaural beats using headphones, it is possible to float the brain in this state of hemispheric synchronization for prolonged periods. Each time we do this, it is like exercising a new brain function, which makes the brain more able to engage this function as it's normal repertoire of behavior," Dr. Thompson said.

"Using sound in these ways, it is possible to make profound changes in brainwave patterns and states of consciousness, observable on brainwave mapping equipment (EEG), as well as positive changes in the body, measurable with blood tests, bio-feedback equipment and

other sophisticated procedures. We are also able to influence the core balance and functioning of the brain and central nervous system as a whole," said Dr. Thompson.

Finding Autonomic Balance

One of the most important aspects of his approach is in using sound to balance a patient's sympathetic and parasympathetic nervous system activity. Dr. Thompson makes extensive use of both EEG and heart rate variability (HRV) monitoring. The latter is a form of spectral analysis of cardiovascular activity, providing an accurate assessment of autonomic function. Recent advances in technology have made it possible to assess HRV in real time, allowing investigators to correlate changes in sympathetic and parasympathetic tone with changes in brainwave activity.

"Most overly stressed people show sympathetic dominance all of the time. They are unable to relax, cannot wind down, and have difficulty sleeping," he explained. People with clinical depression show a different pattern, characterized by high levels of both anxiety and inhibition. They usually show both high sympathetic and high parasympathetic tone, "like having your feet on the gas pedal and the brake at the same time."

In working with a patient, Dr. Thompson's first step is to find specific resonant frequencies that affect shifts in autonomic activity and brainwave patterning. He does this by recording the patient's own voice, and then playing it back in a slow sweep from very low to very high frequencies, while the patient is lying on a specially designed sound table. The table contains transducers able to produce low-frequency sound vibrations in the range of 20-500 Hz. The sound table delivers sound not only to the ears but to the spinal column, muscles and skeletal elements as well.

"Bear in mind that the entire posterior one-third of the spinal cord consists of nerve tract bundles whose sole purpose is transmission of vibrational sense data to the brainstem, cerebellum, pons, medulla, hippocampus/limbic system (emotional processing areas) and various areas of the cerebral cortex. The sound table allows us to deliver sound directly through the body, and an entirely different aspect of the nervous system is brought into play, with the possibility of a much deeper response."

He believes it is important to use a patient's own voice, because it is entirely unique and thoroughly innate to that person. "There's something deeply recognizable about my own voice to my unconscious mind. The harmonic overtone patterns of my own voice tell me about my tissues as a whole."

When exposing someone to his or her own voice at various frequencies, Dr. Thompson monitors the EEG and HRV patterns very carefully. "I'm looking for a shift from sympathetic to parasympathetic activity. It occurs at unique frequencies for each person." Once he identifies which "note" produces the shift, he makes 3-D recordings of the patient's voice singing the key frequencies. He can then pitch-shift the recording up or down by octaves (multiples of two) to affect different tissue types.

"There is a direct relationship between this fundamental sound frequency that causes a balancing of someone's body systems and various specific brainwave states of consciousness," he said. "There are five brainwave frequencies for healing which can be calculated as octaves of a patient's fundamental healing tone."

After identifying the patient's key frequencies, he then creates a therapeutic plan using particular combinations of frequencies for physical symptoms and others for emotional work, stress reduction and sleep. In addition to the weekly office-based sessions and sound table work, Dr. Thompson also gives his patients CDs of their voices for use with headphones for at-home daily entrainment practice.

A Healer's Journey

Though he began his career as a more or less conventional chiropractor, music and art were always essential aspects of Dr. Thompson's life, and it was natural for him to consider ways in which they might be applied to healing. His initial experiments with sound in the late 1980s convinced him that this was a worthy direction.

"The responses I was getting using sound frequency work began to outshine anything I was getting from chiropractic manipulation, craniosacral therapy, acupuncture or anything else I was practicing at the time. It had the smell of someone coming up against his purpose in life."

The decision to sell his thriving chiropractic practice and establish an independent clinic and research institute devoted exclusively to neuroacoustics was not an easy one. But it is one that has been extremely fulfilling in the long run.

He emphasized that there is something fundamentally satisfying, not to mention therapeutically powerful about working with sound. “You’re orchestrating all the powers the brain has for healing. As things begin to clear up, the patient gets back in touch with who he or she really is.”

This, he stressed, is the ultimate goal, regardless of the specific clinical condition an individual patient presents. “Ultimately, it is not about fixing symptoms, it is about waking up. Healing the symptoms is the booby prize. When people have true healings, it is a reflection of the fact that they’ve woken up.”

The Ancient Solfeggio Scale

The ancient Solfeggio scale, known as "Just Intonation", is best known for its use in the soothing Gregorian chants, but its history can be traced back to Biblical times. The Ancient 6-tone scale, and an additional 3 tones that have been discovered since, is considered by many musicologists and scientists to have a positive effect on the mind and body.
Way back in the 11th century, a Benedictine monk named Guido d'Arezzo introduced the musical scale that we now know as the Solfeggio frequencies – though some argue they're even older than that.

The monks used these original six Solfeggio notes – 396, 417, 528, 639, 741, and 852 – in their Gregorian chants. If you've ever heard one of these chants, you're already familiar with music that uses the Solfeggio scale.

Unfortunately, by the 16th century the scale was lost, though the exact cause is unknown. Some say the Solfeggio was simply abandoned for a new music scale, others argue that it disappeared among the political and religious turmoil of Western Europe's Middle Ages, and there are even some who posit some more, well, conspiratorial theories, from Biblical secrets to plots by the Roman Catholic Church.

Whatever the cause, the six-tone Solfeggio, also known as "Just Intonation", was replaced by the "Twelve-Tone Equal Temperament", which is what we still use today.

The soothing Gregorian chants used the Solfeggio scale.

Why the Ancient Scale Is Important

But why exactly is this important? Why should you care how musicians tune their work? It's important because many argue that we lost more than a simple musical scale when the Solfeggio frequencies were replaced.

Our modern twelve-tone scale is thought to suppress our emotions, stifle our intuition, and limit our consciousness. It's even out of sync with the natural world – and can thus manifest in physical symptoms, like pain or disease.

On the other hand, the Solfeggio frequencies are mathematically consistent with the patterns of our universe and, as we'll explain below, have been shown to have significant healing abilities.

From repairing emotional trauma and opening up our consciousness, to deepening our relationships and even altering our very DNA, this ancient scale has far-reaching potential. The good news is, the Solfeggio frequencies are lost no more. In the 1970s, a man named Dr. Joseph Puleo was inspired to use Pythagorean math to examine the Book of Numbers in the Old Testament Bible. In Chapter 7, verses 12 through 83, he uncovered a pattern. And this pattern just so happened to coincide with the original six Solfeggio notes. Puleo published his work in the book, Healing Codes for the Biological Apocalypse, in partnership with Dr. Leonard Horowitz.

The Original Solfeggio Tones

396 Hz (UT): Turning Grief into Joy, Liberating Guilt & Fear
The first or lowest frequency, 396 Hz, is associated with the tone 'Ut'. This frequency is important because of its ability to ease and remove the feelings of guilt and fear we've accumulated throughout our life. These negative emotions are often holding us back from our goals, so clearing them from our conscious and subconscious mind enables us to make new progress in both the material and spiritual world. With 396 Hz, we spend less time racked with grief and worry – and more time experiencing the joys and endless possibilities of life.

417 Hz (RE): Undoing Situations & Facilitating Change
The next frequency in the scale, 417 Hz, is associated with the tone 'Re'. It is the frequency of change and renewal. Just as guilt and fear can be an obstacle along the path to growth, so too can the traumatic experiences we've had in life that remain impressed or weighed upon our consciousness. Like the waves washing the beach, 417 Hz clears the debris of negative memories and influences from our mind and soul, helping us change our perspective and face the present and future with fresh eyes and a fresh spirit.

528 Hz (MI): Transformation, Miracles & DNA Repair

As we continue to work our way down the scale, we come to 528 Hz, which is also known as 'Mi'. Mi is said to come from the Latin word Mira gestorum, or "miracle". Which is fitting for this note that brings what might be called miraculous transformation, not only in our consciousness – but in our very DNA. 528 Hz is used in DNA repair, which brings with it increased energy, clarity and peace of mind and spirit, along with enhanced creativity. 528 Hz's effects have also earned it the name the "Love frequency".

639 Hz (FA): Re-Connecting & Balancing Relationships

The fourth frequency on the scale is 639 Hz or 'Fa'. It's a tone of connection and relationships, creating peace and harmony in our relations with the people around us. Whether friends, family, or strangers, it can smooth over any rockiness or resentment between us and our loved ones.

Fa is a social frequency, one of understanding, sympathy, tolerance, and mutual respect.

741 Hz (SOL): Solving Problems, Expressions & Solutions

At the fifth frequency, we come to 741 Hz, otherwise known as 'Sol'. This is tone of problem solving, more specifically problems relating to our ability to express ourselves freely and openly. 741 Hz frees us of the emotional restrictions, but it also removes toxins and electromagnetic radiation from our cells. It promotes a healthier and more stable life, both emotionally and physically.

852 Hz (LA): Awakening Intuition, Returning to Spiritual Order

As we've climbed the scale from the lowest to the highest frequencies, we find ourselves dealing with higher planes of consciousness. 852 Hz or 'La', the last of the original Solfeggio frequencies, enables us to connect with a higher power, the ever-present spirit of the universe, and gives us a glimpse of the spiritual order, while also bringing us more in tune with our own higher self.

Additional Solfeggio Tones

While the ancient Solfeggio frequencies detailed above are the most notable and enduring, having been used for hundreds if not thousands of years, Dr. Leonard Horowitz has applied the same patterns used to recover the original six tones to reveal three more frequencies.

174 Hz

The lowest tone, 174 Hz, also affects us on the lowest plane, namely that of our physical body and energy. It's a natural anesthetic, relieving pain both physically and energetically, while giving our internal organs a greater sense of security and comfort.

285 Hz

The next frequency, 285 Hz, goes even further in its treatment of the body, healing our skin and muscle tissue to remove burns, lacerations, and other damage. It improves our health and overall well-being by rejuvenating our body, mind, and energy levels.

963 Hz

The last of the solfeggio frequencies is 963 Hz, which takes us to the highest plane of consciousness. This frequency connects us with the perfection of the universe, allowing us to tap into the Oneness that permeates everything that is and will be.

The Crown Chakra is also linked to the Pineal Gland (central nervous system), through which it is said we can access high-level intuition, telepathy, psychic vision and an intimate connection with God. In music, solfège, or solfeggio, is an education method used to teach pitch and sight singing of Western music. The name is taken from two of the syllables used: sol and fa.

How Solfeggio Frequencies Can Help

Our universe, from the sun to the stars to the device that you're reading this on are made up of energy and vibrations. And what is a musical frequency? It's yet another form of vibration. We know that music affects the mind and body. Indeed, that is why music has always been a fundamental part of human existence. From early drumming to complex orchestral compositions, music resonates with life.

It is no coincidence that certain tuning, certain frequencies have specific effects. After all, why did those Benedictine monks of the 11th century tune their chants, which were essentially their prayers to a higher power, to the Solfeggio? These frequencies have the power to transform your life, alleviate your emotional and physical ills, and connect you with the universe. And it's as simple as listening to music.

4. The statistics of well-being (a government analysis)

Measuring National Well-being: Life in the UK, 2012 Author Name(s): Abigail Self, Jennifer Thomas and Chris Randall, Office for National Statistics

Abstract

Measuring National Well-being: Life in the UK 2012 provides a unique overview of well-being in the UK today. The report is the first snapshot of life in the UK to be delivered by the Measuring National Well-being programme and will be updated and published annually. Well-being is discussed in terms of the economy, people and the environment. Information such as the unemployment rate or number of crimes against the person are presented alongside data on people's thoughts and feelings, for example, satisfaction with our jobs or leisure time and fear of crime. Together, a richer picture on 'how society is doing' is provided.

Executive summary

Two years ago, the ONS launched the Measuring National Well-being (MNW) programme. The aim is to 'develop and publish an accepted and trusted set of National Statistics which help people understand and monitor well-being'. Traditional measures of progress such as Gross Domestic Product (GDP) have long been recognised as an incomplete picture of the state of the nation. Other economic, social and environmental measures are needed alongside GDP to provide a complete picture of how society is doing.

The Economy

During the first part of the millennium, incomes and GDP were rising and debt levels were rising slowly. The recession in 2008 led to a sharp fall in GDP and impacted on income and debt levels at both the national and household level. Real income has fallen as inflation has grown faster than incomes, and the public sector debt ratio has increased. GDP has started to recover, but at a slower rate than before the recession.

- Real household actual income per head (RHAI) in the UK grew from £16,865 to £18,159 between 2002 and 2008, before falling to near 2005 levels in 2011 (£17,862).

- UK Public Sector Net Debt grew between 32.5% and 42.8% of GDP between 2003 and 2008 before rising to 65.7% in 2011.
- GDP per head increased during the first part of the millennium, fell by 6.1% between 2007 and 2009, before rising again between 2009 and 2011.

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People

The recession has led to a higher proportion who are unemployed, with a particular impact on the young, and in 2009/10 more than 1 in 8 (12.3%) of us were finding it quite or very difficult to manage financially. Life satisfaction presents a more resilient picture, having remained broadly stable throughout the last decade and the most recent figures for those who report being somewhat, mostly or completely satisfied with their social life and job standing at 67% and 77.8% respectively and satisfaction with our family life averaging 8.2 out of 10 (where 1 is very dissatisfied and 10 is very satisfied). In terms of our health which is one of the most important influences on our well- being, our 'healthy' life expectancy has increased as has our overall satisfaction with our health.

- There has been a shift from employment to unemployment since the beginning of the recession, with the young being the worst affected. In Jun-Aug 2012 the UK unemployment rate for those aged 16-24 was 20.5% compared with 7.9% for those aged 16 and over.
- In the 2009/10 in the UK, 12.3 per cent were finding it quite or very difficult to manage financially.
- In 2011, just over three-quarters (75.9 per cent) of people aged 16 and over in the UK rated their overall life satisfaction at the medium or high level.
- Healthy life expectancy at birth in 2008-2010 was age 63.5 for males and 65.7 for females, in the UK, increases of 2.8 and 3.3 years respectively since 2000-02.
- In the UK in 2009/10, 68.3 per cent were somewhat, mostly or completely satisfied with their health. The Environment Long term progress is being made with protecting our local and global environment. More than half of us visited our natural environment at least once a week in the 12 months prior to interview in 2011/12 and nationally, the proportion of protected areas, including land and sea has increased. Globally, emissions and energy consumption have fallen and use of renewable energy has increased during the last decade.

- In England in 2011/12, over half of us visited our natural environment at least once per week in the 12 months prior to interview.
- The total extent of land and sea protected in the UK through national and international protected areas increased from 3.7 million hectares in 2005 to over 7.5 million hectares in 2011.
- Emissions of carbon monoxide, the most prevalent air pollutant, has more than halved since 2000.
- Use of renewable and waste sources more than doubled between 2000 and 2010 from 2.7 million tonnes of oil equivalent (Mtoe) to 7.1 Mtoe. Background The Measuring National Well-being programme began in November 2010 with a six month National Debate, asking, 'what matters', to understand what measures of well-being should include. Following 175 events, with 2,750 people and 34,000 responses received online or via other channels, ONS developed a framework for measuring national well-being. The framework consists of 10 areas or 'domains', including areas such as Health, Education and What we do; and 40 headline measures of well-being, for example, the unemployment rate, satisfaction with our health, or levels of crime. These measures and others have been used to describe life in the UK 2012, under the headings, the Economy, People and the Environment, and can be seen in the interactive wheel of measures1.

Future plans

'Better policies for better lives' were words used by the OECD to describe the importance of going beyond GDP when measuring progress and national well-being. The snapshot of life in the UK presented is only based on a small selection of headline indicators. There is more to do to fully understand national well-being and what actions are needed to improve it. In particular, there is an important story in what lies beneath - where are the deviations from the norms and why, are there particular sub groups, for example, age groups, ethnic groups, those that are vulnerable for some reason or some other cluster which can be identified which differs considerably from others? Are there any particular geographical areas where things could be improved? Are we looking at the right measures?

http://www.ons.gov.uk/ons/interactive/well-being-wheel-of-measures/index.html

Introduction and background In November 2010, the ONS set up the Measuring National Well-being (MNW) programme. The aim is to 'develop and publish an accepted and trusted

set of National Statistics which help people understand and monitor well-being'. This report begins with a background to well-being, the MNW programme and next steps. This is followed by an examination of life in the UK 2012, which looks at well-being under three broad headings including: Economic, Social and Environmental well-being. What is National Well-being? The well-being of the nation is influenced by a broad range of factors including economic performance, quality of life, the state of the environment, sustainability, equality, as well as individual well-being.

Measuring 'how a country is doing' has until now largely rested on traditional economic measures such as Gross Domestic Product (GDP). But economists and statisticians have always acknowledged that GDP does not capture everything that determines society's well-being and was not designed to do so. For example, fuel consumed in traffic jams adds to GDP but is unlikely to increase well-being; the environment and skills of the nation's workers are important determinants of a nation's future economic well-being but are not adequately represented by existing economic statistics.

Through supplementing economic measures, such as GDP, with measures which reflect social and environmental well-being, national well-being looks at the state of the nation through a broader lens.

Why is National Well-being important?

'Better policies for better lives' were the words used by the OECD at the recent world forum on statistics, knowledge and policy, New Delhi, November 2012, to describe the importance of going beyond GDP when measuring progress and national well-being.
In particular, having a more complete picture of national well-being will lead to:

- better understanding of policy impacts on well-being;
- better allocation of scarce resources via more informed policy evaluation and development;
- comparisons between how different sub-groups of the population are doing, across a range of topics;
- more informed decisions on where to live, which career to choose, based on well-being information for that area/organisation;

- assessments of the performance of government;
- comparisons between the UK with other countries. How is information on well-being being used? Measures of national well-being as defined by the MNW programme are still very much under development. It is therefore unrealistic to expect to be able to provide evidence of any major decisions that have been heavily influenced by well-being at this stage. However, the examples that follow demonstrate that the foundations are very much in place in UK policy:
- Well-being data being made available at council and neighbourhood levels for more informed decision making: subjective well-being data have been analysed and promoted at the local level and modelled against the geo-demographic (ACORN) profile of residents in each neighbourhood. The analysis has highlighted variation in well-being between neighbourhoods, and enables comparisons with local data and knowledge by local authorities, councillors and communities. (Department for Communities and Local Government)
- Well-being of job seekers: questions on subjective well-being have been used to track well- being of job seekers allowance applicants. Those with poor mental health and low subjective well-being were found to take longer to find work. Recommendation that connections could be made between Job Centres and Mental Health trusts to address the issues. (Department for Work and Pensions)

- Impact of community learning: recently published research shows adult learning has substantial impact on life satisfaction, well-being and health, including mental health. Techniques from Green Book Annex on social cost-benefit analysis were used to value the improvement to life satisfaction resulting from an adult learning course. This better understanding will lead to more informed decisions when allocating budget for Community Learning. (Business Innovation and Skills)
- Well-being and the National Citizen Service: a pilot for the National Citizen Service evaluated the subjective well-being of young people before and after their participation in the service. The results show increases in subjective well-being among participants, before and after involvement, compared with a control group of peers over the same period. (Cabinet Office) Separate initiatives to investigate well-being are being undertaken by the devolved governments. These include: the National Performance Framework, which forms part of the 'Scotland performs'1 initiative and the recently

published 'Analysis of subjective well-being in Wales: Evidence from the Annual Population Survey'2. These initiatives reflect the specific needs of the countries they represent.

Internationally, there is considerable interest in how a shared view of well-being and progress can be produced. The EU's 'GDP and Beyond' initiative, the Commission on the Measurement of Economic Performance and Social Progress (Stiglitz-Sen-Fitoussi commission) and OECD's project on 'Measuring progress of Societies' and Better Life initiative look to measure the progress of society according to the 'triple bottom line' of the economy, society and the environment. What has the Measuring National Well-being programme delivered so far? The MNW programme began with a six month national debate asking people, 'what matters', in order to understand what should be included in measures of national well-being. ONS ran 175 events around the UK, involving around 7,250 people and received more than 34,000 responses, some from organisations representing thousands more.

Over the last 9 years GDP per head, RNNI per head and RHAI per head have moved differently to life satisfaction in the UK, though over the past 4 years, RHAI has followed a similar pattern to life satisfaction. GDP per head increased during the first part of the millennium but, as a result of the global recession, it decreased sharply by 6.1% between 2007 and 2009. Since then, GDP has started to rise again albeit at a slower rate than it was growing previously.

National Income

"material living standards are more closely associated with NNI and consumption than with GDP" (Stiglitz, Sen and Fitoussi, 2009)

A more appropriate economic measure of well-being is RNNI per head (Stiglitz, Sen and Fitoussi, 2009). That is the total national income divided by the population.

Figure 2 shows that RNNI per head consistently grew between 2002 and 2007, following a similar pattern to GDP. Between 2008 and 2009, average incomes dropped by 5.8%. RNNI per head began increasing again in 2010, before falling again in 2011 whereas, GDP per head increased during this period.

Life Satisfaction

Life satisfaction remained broadly stable throughout the last decade. According to the World Database of Happiness, between 2007 and 2008, life satisfaction in the UK dropped by 0.17 points (from 7.15 - 6.98 out of 10) but appeared to recover more quickly than GDP or RNNI. Between 2008 and 2009 there was an increase of 0.4 points taking average life satisfaction to 7.38 out of 10. From 2009 onwards, life satisfaction fell once more, to 7.12 out of 10.

The fall in life satisfaction between 2007 and 2008 coincides with the beginning of the recession. This could perhaps be explained by an initial reaction to the news of the recession, whereby people were concerned about their finances and what the recession may mean for them. However, the recession was followed by a period when a person's income was not immediately affected, perhaps explaining the increase in life satisfaction between 2008 and 2009.

Household income

More recently, household incomes have begun to decrease and this is shown in the pattern of RHAI in Figure 2. RHAI per head measures the disposable income a household has left after deductions such as taxes and pensions. It is adjusted to include the extra benefit to households of goods and services that are free or subsidised, for example healthcare in the UK. This also allows better international comparisons of material well-being. RHAI moves more consistently with life satisfaction than RNNI per head and GDP per head.

'It gives me huge reassurance to know that I don't have to worry that I may not be able to pay for hospital treatment or educating my children and great reassurance to know that the majority of fellow citizens feel the same way' (ONS, 2011, response to the National Debate)

RHAI went through a sustained period of growth from 2002 until the recession in 2008 (from £16,865 to £18,159). At the beginning of the recession, growth in RHAI continued to grow, as employment did not fall as much as expected, given the size of the recession; mortgage payments fell due to

low interest rates and taxes and benefits provided a stabilising effect3. Average household incomes peaked in 2009 but due to higher prices (inflation) and the ongoing recession, real household average incomes fell back in 2011 close to levels seen in 2005.

The fall in RHAI coincided with a second fall in life satisfaction that occurred in between 2009 and 2011 (from 7.38 to 7.12 out of 10) and is more indicative of how the individual's income was affected by the recession, than GDP or RNNI.

Rate of Inflation

The Consumer Prices Index (CPI) measures the changes in the average prices of goods and services in the UK. Changes in the CPI over a 12 month period are referred to as the rate of inflation4. The inflation rate decreases the real value of income and wealth.

Figure 3: Inflation rate measured by CPI (1)

United Kingdom

Source: Office for National Statistics

The UK inflation rate grew steadily from around 1.3% in 2002 to around 3.6% in 2008 (Figure 3). Monthly figures show that by September 2008 the rate of inflation peaked at 5.2% but fell back to 1.1% in September 2009. Due to factors such as high oil and energy prices, the rate of inflation rose steadily from this point to peak at 4.5% in 2011. The effect of this has been to erode real incomes. This means that prices have been rising faster than people's incomes and over time, people have found their income will not stretch as far.

Public Sector Net Debt

Public Sector Net Debt (PSND) as a percentage of GDP4 measures total financial liabilities (for example any type of debt the government owes), less any financial assets (such as bank deposits).

Debt is an important measure of sustainability5 as it indicates the extent to which the burden of paying for goods and services has been transferred from the present to the future.

UK PSND grew between 2003 and 2008 (rising from 32.5% to 42.8%) before accelerating in the past few years. It has increased from 42.8% of GDP in 2008 to 65.7% in 2011, when it exceeded one trillion pounds for the first time. If PSND is not reduced, the effect may be to limit spending possibilities for future generations due to the burden of debt interest payments.

Notes

1. All the economic indicators used in this section are "real", which means they have been calculated to exclude the effects of price inflation. This enables a more meaningful comparison of different time periods.

2. The economy

3. As employment falls, people pay less in the way of taxes (income tax) and claim more in the way of benefits (unemployment benefits). Therefore the income that people used to get from wages (minus the amount they paid in income taxes) is replaced by income from benefits – lessening the extent of any fall in income from unemployment.

4. It is constructed by measuring the change in the prices of a representative basket of goods and services. The changes in prices of different items are weighted by the relative proportion of household expenditure each good and service attracts. Overall, an average change is taken and then converted into a percentage form.

5. It does not include the temporary effects of financial interventions (e.g. bank bail outs) since, in the long run, it is intended that they will be reversed and will have negligible effects on PSND.

6. Sustainability in this context means whether the extent to which this level of well-being can last over time.

The Economy - Personal finance

"I would hate for someone to be worrying about whether they will have something to eat or a roof over their head. Also doing other things including recreation activities improves your mental well- being which in turn affects your general well-being but you can only do those things if you are in a good financial position." (ONS, Well-being)

Personal finance relates to the individual and household, both now and in the future.

During the National Debate respondents were asked 'what things in life matter to you?' The importance of having adequate income or wealth to cover basic needs was highlighted by 45% of respondents. A wider and more comprehensive analysis of personal finance is available in Measuring National Well-

being: Personal Finance1.

Poverty

A household is currently described as in poverty if its income is less than 60% of the median2 net

household income, before and after housing costs3. Households with above average poverty rates include large families, workless households, lone parents and those without educational qualifications. In 2010/11 median income after housing costs in the UK was £359 per week, a rise from £277 per week in 1994/95 but a fall from £373 per week in 2009/10.

Income distribution for the total population (After Housing Costs) (1,2) 2010/11
United Kingdom
Notes:

1. Equivalised household disposable income before deduction of housing costs (in £10 bands), using OECD equivalisation scale. The £10 bands are grouped into decile groups in alternating colours. For an explanation of linear stretch refer to Veenhoven, R. Trends in Nations, World Database of Happiness, Erasmus University Rotterdam, Introductory text available at www.worlddatabaseofhappiness.eur.nl

2. Negative incomes BHC (Before Housing Costs) are reset to zero, but negative AHC (After Housing Costs) incomes calculated from the adjusted BHC incomes are possible. Where incomes have been adjusted to zero BHC, income AHC is derived from the adjusted BHC income.

3. There were also an additional 0.3 million individuals with income below -£100 per week.

4. There were also an additional 3.0 million individuals with income above £1,000 per week.

Figure 5 illustrates that the income distribution for 2010/11 disposable incomes, which is the income left after housing costs are taken out, is not even. There is a much greater concentration of people at lower levels of weekly income, with nearly two-thirds of individuals living in households with a
disposable weekly income lower than the mean of £443 per week4 (DWP, 2012).
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Figure 6: The percentage of individuals living in households with less than 60 per cent median income

In 2010/11, just over 1 in 5 (21%) people in the UK, lived in poverty after housing costs. Before housing costs this figure was 16%. Figure 6 shows that between 2002/03 and 2010/11 there was a small decrease in the proportion of individuals living in households where the income falls below 60% of contemporary median income, either before or after housing costs (from 18% to 16% and 22% to 21% respectively). The reduction in the percentage below the poverty rate between 2009/10 and 2010/11 is in part attributable to a fall in median income rather than any substantial improvement of the financial situation of the people at the bottom of the distribution. Usually reductions in poverty are driven by

incomes at the bottom of the distribution growing faster than incomes in the middle (DWP, 2012).

Satisfaction with household income

While over 1 in 5 (21%) live in poverty after housing costs, figures from the Understanding Society Survey show that only 5.8% adults aged 16 and over in the UK were completely dissatisfied with their income. Those in the North East were most likely to report being completely dissatisfied with their income (6.9%) (Understanding Society, 2011).
Overall 57.2% were somewhat, mostly or completely satisfied with their income in 2009/10. People in Scotland were most satisfied, with 60% reporting being somewhat, mostly or completely satisfied with their income.

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Annex A: Measuring National Well-being Programme Domains and Measures

The Domains and Measures

Table 1 shows a list of the current domains and measures being used by the Measuring National Well-being Programme.

Table 1: List of Domains and Measures, November 2012

RFT- Annex A Table 1 (38 Kb Excel sheet)

The measures are largely the same as those published in July, however some minor amends have been made which are listed in table 2.

Table 2: Summary of amendments to measures since July 2012

RFT Annex A Table 2 (31.5 Kb Excel sheet)

How the measures were selected

The domains and measures were developed based on responses to the National Debate, which took place between November 2010 and April 2011, existing research and international initiatives. After identifying approximately 3,000 potential measures, a number of criteria, as set out in

Measuring What Matters1, the National Statistician's report on the findings from the National Debate were applied. These specified that measures must be:

- statistically robust - that is they meet the standard statistical requirements of accuracy, reliability and validity;
- available for the UK;
- policy relevant;
- internationally comparable;
- have a time series and are likely to be available in the future;
- shown and compared for countries in the UK, regions of England, and smaller geographic units where required;
- able to be analysed in ways which show distribution of outcomes for individuals or households, e.g. analysis for poorest and richest households, by age group or by marital or employment status The measures were then grouped into sensible domains and a number of other considerations were employed. These included;
- effective coverage of the domains; without overlap or duplication;
- provision of a coherent and consistent picture within the domains;
- relevance for measuring well-being or an aspect that can be shown to be related to well-being;
- relevant stakeholder endorsement;
- whether they are rated highly against other potential measures for measuring well-being;
- sensitivity to effective policy interventions without being readily susceptible to manipulation; and
- likely to receive public acceptance, interest and understanding.

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In October 2011, ONS published a set of proposed domains measures of national well-being

for consultation2, and received nearly 1,800 responses. Overall there was broad support for the domains and measures proposed. Suggestions received were mainly concerned with the placement of measures within domains and the adoption of additional measures to complement those already included. For a more detailed account please refer to the Report on the Consultation on Proposed

Domains and Measures3.

Future development

The domains and measures will continue to be developed throughout the programme. The next steps which will further consider the findings from the consultation and include a review of both the measures and the criteria used to select them will be published in Spring 2013.

Should you wish to feedback on the domains and measures or any element of the Measuring National Well-being programme please email: nationalwell-being@ons.gov.uk

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Notes

1. Measuring National Well-being index
2. Measuring National Well-being - Discussion paper on domains and measures

3. Measuring National Well-being index

Annex B: Measuring National Well-being programme publications

Below is a list of outputs released by the Measuring National Well-being programme since November 2010. Publications are grouped under the area to which they relate and are listed with the most recent first. They are published here Measuring National Well-being

The Economy

The effects of taxes and benefits on household income 2010/11 (Jun 2012) Comparisons of UK and EU at risk Poverty Rates 2005-2010 (Jun 2012) Quarterly Household Release, Q4 2011 (Apr 2012) Human Capital estimates 2010 (Dec 2011)

People

First Annual ONS Experimental Subjective Well-being Results (Jul 2012) Subjective well-being survey user guide (12 month dataset) (Jul 2012)

Measuring National Well-being - Households and families (Apr 2012)

Analysis of experimental subjective well-being data from the Annual Population Survey, April - September 2011 (Feb 2012)

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