Christa D. Ventling

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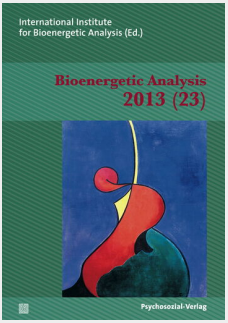

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Lowen's Energy Concept

A Neurobiological Explanation and Redefinition

Christa D. Ventling

Abstracts

English

Alexander Lowen, founder of bioenergetic psychotherapy, placed great emphasis on working with the body. By this he understood various forms, ranging from the more gymnastic types of exercises to those involving stress positions, making a person get to sometimes physically feeling an earlier traumatic experience and thus reaching new insights. Lowen called the process, "energy through exercise". His concept is, however, confusing, as exercising in whichever form requires energy and does not synthesize energy – unless one assumes the creation or existence of a form unknown. The reflective outline below tries to clarify this by searching the literature and concludes that the synthesis of specific neurohormones could be responsible for creating that special feeling of elation experienced by the person involved in such an exercise.

Key Words: Lowen's energy concept, exercise and new energy, energy redefinition, neurohormones

German

Alexander Lowen, der Begründer der bioenergetischen Psychotherapie legte großen Wert auf die Arbeit mit dem Körper. Darunter verstand er verschiedene Formen; sie reichten von mehr gymnastischen Übungen bis hin zu Stresspositionen, die bei manchen Menschen dazu führen, dass sie körperlich frühere traumatische Erfahrun-

gen wieder erleben und dadurch zu neuen Einsichten gelangen. Lowen umschrieb diesen Prozess mit "Energie durch Übungen". Sein Konzept ist jedoch verwirrend, insofern, als Übungen welcher Art auch immer, Energie benötigen und nicht Energie synthetisieren – außer man postuliert die Schaffung oder Existenz einer noch unbekannten Form. Die folgenden Überlegungen versuchen, dies mittels einer Literaturrecherche zu klären und kommen zu dem Schluss, dass die Synthese von spezifischen Neurohormonen dafür verantwortlich sein könnte, dass Personen, die solche Übungen machen, ein besonderes Hochgefühl erleben.

French

Alexander Lowen, fondateur de la psychothérapie bioénergétique, a mis beaucoup d'emphase sur le travail avec le corps. Par cela, il comprenait des formes variées, allant de types d'exercices plus gymnastiques à ceux comportant des positions de stress, amenant une personne à sentir au niveau physique une expérience traumatique plus précoce et ainsi parvenir à de nouvelles intuitions. Lowen nommait ce processus "énergie à travers exercice". Son concept est, cependant, troublant car faire des exercices sous quelque forme que ce soit demande de l'énergie et ne synthétise pas d'énergie – à moins que quelqu'un suppose la création ou l'existence d'une forme inconnue. Le cadre de réflexion hormones spécifiques peut être responsable de la création de cette sensation spéciale d'élation (extase) expérimentée par la personne engagée dans un tel exercice.

Spanish

Alexander Lowen, fundador de la psicoterapia bioenergética, enfatizó el hecho de trabajar con el cuerpo. En relación a ello, entendía que había varias posibilidades que iban desde los ejercicios más gimnásticos a los que tenían que ver con posiciones de estrés, facilitando que una persona conectara con una situación traumática temprana y alcanzara nuevos insights. A este proceso Lowen lo denominó "energía a través del ejercicio". Su concepto, sin embargo, es confuso ya que la práctica del ejercicio físico en cualquier modalidad requiere energía y no sintetiza energía- a menos que uno asuma la creación o existencia de una forma desconocida. La reflexión que sigue intenta clarificar este punto con una búsqueda bibliográfica y concluye que la síntesis de neurohormonas específicas puede ser la responsable de crear esta sensación especial de alegría experimentada por la persona implicada en dicho ejercicio.

Italian

Alexander Lowen, fondatore della psicoterapia bioenergetica, ha posto grande enfasi sul lavoro corporeo. Con questo intendeva varie forme, partendo dagli esercizi più vicini alla ginnastica a quelli che comprendono posizioni di stress che avvicinano la persona a sensazioni corporee che richiamano esperienze traumatiche precoci e che quindi rendono possibili nuovi insight. Lowen definiva questo processo "energia attraverso l'esercizio". Questo concetto è, comunque, confuso, dal momento che fare esercizio comprende tutte quelle attività che richiedono energia e non la creano – a meno che non si presuma l'esistenza o la creazione di una forma sconosciuta. La riflessione che segue cerca di chiarire ciò esplorando la letteratura e conclude che la sintesi di specifici neuro-ormoni potrebbe essere responsabile della creazione di quelle particolari sensazioni di eccitazione sperimentate dalle persone coinvolte in tali esperienze.

Portuguese

Alexander Lowen, fundador da psicoterapia bioenergética, deu grande destaque ao trabalho com o corpo. Dentro deste conceito ele incluiu diversas modalidades, variando de exercícios relacionados com ginástica a outros que envolvem posições de stress, levando a pessoa, às vezes, a vivenciar fisicamente uma experiência traumática precoce e a realizar novos insights. Lowen denominou esse processo "energia através do exercício". No entanto, seu conceito confunde, pois fazer exercícios, em qualquer modalidade, requer energia e não, sintetiza energia – a menos que se suponha a criação ou existência de alguma forma desconhecida. A reflexão que se segue tenta clarificar essa questão, pesquisando a literatura e conclui que a síntese de neurohormonios específicos poderia ser responsável pela criação do sentimento especial de elação, experimentado pela pessoa envolvida nesse tipo de exercício.

Introduction

Alexander Lowen provided us with a concept based on various forms of working with the body, which he called "energy through exercise" (Lowen 1975, Lowen & Lowen 1977). Whether we engaged in early morning exercises at conferences or became more body-conscious through a unique technique of our therapists, we all remember this special feeling with which we walked away afterwards, that of an inner happiness, a balance between soul and mind, even of elation. Lowen called it

energy resulting from the physical activity and for all these years none of his students questioned the validity of this statement, why should they, as just about all of them had experienced it personally. The questioning comes from other sides: from other psychotherapy schools, from University psychiatry departments and from health organisations. They want more than a theoretical statement, the quest is on for a concrete validation of the concept.

Origin of the energy concept

Let us turn to Wilhelm Reich for a moment. He had the idea that psychoanalysis resulted in something very positive happening to that person. In fact he thought that it was cosmic energy that entered the body of the client. By following this direction of passively picking up energy, he got sidetracked with his orgone theory. Nothing happens when we remain passive. Lowen, however, took the idea of energy and connected it to an active physical state. He wrote in many of his books how in a healthy body energy flows and that this flow is blocked when muscles are suddenly contracted as e.g. it happens in a shock situation, or are permanently contracted as a result of trauma (Lowen 1958, 1972, 1978, 1980). Lowen believed that especially traumas from early childhood result in a contraction of parts of the sympathetic nervous system, due to a contraction of the muscles which are innervated by this system, over which we have no active control. However, this system is activated through our emotions.

Lowen said that unblocking such "stuck" systems would then let the energy flow again. To achieve this, bioenergetic psychotherapy has at its disposal many techniques, in part verbal, in part physical (Lowen & Lowen 1977; Dietrich & Pechtl 1995). Some such interactions are very mild, e.g. where the therapist merely perceives a recurring gesture of the client and can make the client aware of this, who often can bring it together with something that happened in his life. Such an insight on the part of the client can already change something in his body. Other interactions are more aggressive or better called cathartic: such as kicking, hitting a foam rubber block with a bat, or screaming at the top of the lung, where in each case the client goes to the very limit of his physical capacity. A client with a shallow breathing indicates to the therapist that he lives with a minimum of oxygen, barely surviving and that he has a serious blockage in his chest. Appropriate exercises, e.g. the "breathing stool" Lowen invented can help here, as the thoracic muscles are stretched and almost automatically the breathing is increased. And then last but not least are the many exercises which basically all have in common that we afterward we *feel* that we have a body, not just *know* it. Increasing body consciousness has a beneficial effect per se, in that we simply

feel better, quite apart from very specific effects like that of feeling grounded, better connected to reality, stronger in dealing with daily problems.

There is absolutely nothing wrong with these therapeutic interactions on a physical level, e.g. making the client do a certain physical activity or exercises. This is not the problem of the energy concept. *The problem of the energy concept is the statement of Lowen and his followers that "exercises give us more energy" and that this statement is neither explained nor further explored in a systematic way.*

The present generation of bioenergetic therapists however, must face up to reality (Carle 2002). Reality means that recognition as a psychotherapy school by Universities and/or Health Agencies depends strongly on the quality of the theories and the empirical validation of these concepts. Bioenergetics has deficits in these areas. In this article I wish to deal only with one of these deficits, i.e. with the energy concept and what is missing there.

What biochemistry teaches us

Let us remember that using our muscles to work requires energy and the harder the work the more energy it requires. However, our muscles can only work for a limited time before they are exhausted. Consider the simple test of standing on one leg: some of us will collapse after a very short time, others will last longer but in the end, nobody is on one leg any more, having no energy left, we have a choice of collapsing or getting back on both legs. To stand on one leg, we must contract the leg muscles very strongly to hold this position. These muscles are part of the striated muscles that are under voluntary control. The energy for the contraction comes from ATP (adenosine triphosphate) inside the muscular cells. ATP is a small molecule with 3 phosphate groups attached one behind the other. The hydrolysis or splitting off of each phosphate group in turn releases a high amount of energy. ATP is the universal currency of free energy in biological systems – it is the principal immediate donor of free energy. It is being supplied through the metabolism of glucose. When we do mechanical work or exercise we automatically breathe more and deeper, the oxygen we breathe in is used for burning glucose and when it is gone, our body turns to glycogen (which is a storage form of glucose) and burns it. There exists a number of other compounds with a high phosphate group transfer potential that our body will use whenever mechanical energy is required. One of the most important ones is creatine-phosphate, which upon hydrolysis splits off a high energy phosphate. When all reserves are gone, we collapse. Why is it then that in spite of the physical exhaustion we feel good, sometimes even to the point of feeling elated, sort of on top

of the world?' Lowen claimed it as new energy. However, it cannot be the type of physical energy mentioned. Recent research dealing with emotions and mood states has offered at least an opening in re-thinking the energy concept.

What neurobiology teaches us

The emotional benefits of exercise were already praised in antiquity, but evidence for these claims is only slowly coming in. Exercise provides a vehicle for many non-specific therapeutic processes, including physiological benefits of mobilisation and psychological benefits of self-mastery and social integration. Effects related specifically to exertion include anxiolytic and antidepressant action, but also resistance to physiological and emotional consequences of psychological stressors.

Many investigations exist dealing with the effect of physical exercise on the sensitivity to stress, to anxiety and depression (Byrne & Byrne 1993; Salmon 2001). Dozens of articles demonstrate stress-reducing, anxiolytic or antidepressant effects in people who have not asked for these benefits. Most explore the effect of continuous training and long-term exercise activities and only a few deal with the immediate effect of an exercise session, be it aerobics, jogging, swimming etc.

Exercise is no doubt a form of physical stress and therefore we would expect to see changes in those neurotransmitter systems[1] that are causally implicated in behavioural adaptation to stress. Noradrenergic and opioid effects of exercise have particular implications for understanding clinical effects. Each has been invoked as an explanation for psychological effects of exercise: noradrenergic systems (= endogenous hormones related to adrenaline) have been suggested to substantiate antidepressant effects and opioid (= endogenous hormones, so-called endorphins, opiate – like substances because of their sedative action) activation has been invoked to explain mood improvement (Grossman & Moretti 1986). Brain norepinephrine levels are depleted by swimming (Barchas & Friedman 1963) and forced running (Gordon et al. 1966); while long-term regimes of swimming (Ostman & Nyback 1976) or running preserved or increased brain norepinephrine levels (Brown & van Huss 1973; Brown et al. 1979; Dishman et al. 1997).

1 A word of caution: Neurochemical correlates appear mostly in the brain and sometimes also in the blood system. An analysis of ***brain*** constituents is feasible only in animal experiments, whereas analysis of ***blood*** constituents can be carried out in humans. However, the blood-brain barrier controls what substances go from brain to blood and vice-versa. Blood data are therefore not representative of the brain. Brain data come from animal experiments, are extrapolated onto humans and assumed to be equally valid.

The opioid mechanisms in effects of exercise are of particular interest. Stress is known to activate central and peripheral opioid systems and this accounts for some instances of the "high" or even analgesia feeling. Spontaneous exercise shares these effects, increasing endogenous opioid activity in the peripheral and central nervous system (Harber & Sutton 1984, Thoren et al. 1990). Opioid mechanisms were implicated in mood improvement by running in regular runners because naloxone, an opioid antagonist, attenuated this effect (Allen & Coen 1987; Janal et al. 1984). Many studies have linked the positive mood resulting from exercise to endorphin production.

Research in neurobiology of the last years has produced evidence of the existence of brain-made small molecules, called endorphins to be sent out to specific organs with highly specific functions (Pert 1997) – an example is oxytocin sent out in high amounts after an orgasm. It is an endorphin with multiple function as it is also produced at the end of pregnancy where it induces the contractions, is maintained during delivery where it acts like an endogenous opiate by diminishing the pains and after the birth together with the hormone prolactin maintains the milk production during the period of lactation.

The immediate effect of exercise is, concomitant with the feeling of physical tiredness, a feeling of elevated mood, a feeling of optimism and of increased liveliness and vitality (Turner et al. 1997). Some neurobiologists call it simply *mental energy* (Arnot 2000). Regular exercise is well known to have a beneficial effect on the well-feeling of a person, it is also an excellent method for decreasing tension and stress because both rob us of mental energy. During regular exercise the hormones adrenaline, noradrenalin and cortisone, produced in the adrenal cortex, all rise in the blood stream. In addition to other effects these hormones act on a structure called the amygdala that could be called the "mood thermostat". The lower the activity of the amygdala (as shown by a Positron Emission Tomography (PET) scan), the higher is our mood. During depression, levels of these hormones decrease which led researchers to believe that these hormones are instrumental in the positive effect of exercise on mood.

Exercise increases breathing, which allows more blood flow to the brain and allows more oxygen into the brain, which is the key to it all. We have all heard of the euphoria attached to exercise as claimed by runners who extol the "high".

The precise conclusions from all of the above are these:

Exercise diminishes muscular energy and elevates our mood

Must we redefine Lowen's energy concept? No. It is perfectly valid, but should be renamed for the purpose of precision. Must we start serious highly scientific research in order to find out what this mental energy is? We should, but most of us are not

qualified to do it properly. Would it suffice to take over the term of "mental energy" from the modern neurobiologists? Yes, by all means. I would endorse the latter very strongly. If we could agree to call it mental energy and explain it on the basis of the neurobiological findings, the energy concept could be understood by psychotherapists of other schools and it would add to our credibility.

In my mind this would be the simplest and wisest solution. We can trust the neurobiologists that in due time they will have analysed the molecules which hide behind the name of mental energy.

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About the Author

Christa D.Ventling DPhil, lic.phil (M.Sc) got her doctorate in biochemistry at the University of Oxford GB, followed by over 25 years in medically oriented basic research at various University Medical Schools in the USA (Iowa City, IA, The Johns Hopkins University and the University of Maryland, both in Baltimore MD). She then returned to Switzerland to continue in basic research at the Friedrich Miescher-Institute of then Ciba-Geigy, now Novartis, Basel. More than 50 publications resulted from this time. From 1983–1987 she studied psychology at the University of Basel graduating with a M.Sc. degree. She went on for a psychoanalytical and body-oriented training in Bioenergetic Analysis and Therapy (BAT), was certified in 1995, became a member of the teaching staff of the Swiss Bioenergetic Society (SGBAT) in 2000 and a supervisor in 2005. She runs a private psychotherapeutic practice since 1990 and continues her scientific interest in psychotherapeutic topics. She carried out a major investigation on the efficacy of BAT for which she received the Prize for the best Research in 2002 by the US Association for Body Psychotherapy. She is the editor of "Childhood Psychotherapy: A Bioenergetic Approach" and of "Body Psychotherapy in Progressive and Chronic Disorders", published in 2001 resp. 2002 by Karger, Basel. She has two grown children and three grandchildren.

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