Rewarding Self-Liberation.
The Use of NLPt in Lifestyle Improvement and Weight-Control

Roland Kasek[i]
Institute of Psychology, KRE-BTK, Budapest, Hungary

Abstract

Introduction: *Environmental changes are exponential, while innate and acquired predispositions fall short of adjustment, hence average individual stress levels increase and express in weight gain (Sominsky & Spencer, 2014). Uncontrolled instincts – together with unrealistic ambitions – play a major role in the erosion of self-esteem and condition the subjects' mindset for incapability due to biased attribution of failure, and are intensifying the psychological discomfort that induced self-rewarding habits (Thomas et al., 2008).*

Objectives: *Symptomatic treatments – especially those which promise quick and effortless results – are harmful both in psychological and, consequently, in medical terms, as subjects tend to experiment with increasingly radical procedures after moderate attempts fail (Collins & Bentz, 2009). Based on current obesity studies, a non-invasive, low-intensity approach promises a practical solution for the complex bio-psycho-social challenge.*

Methods: *As perceptible somatic issues often originate in – individually varying but generally similar – psychological syndromes that trigger unhealthy habits (Gluck et al., 2001; Goodman & Whitaker, 2002) and therefore continuously deteriorating the biochemical equilibrium that reinforces reactive behavioral responses (Alexeev et al., 2018; Osadchiy et al., 2018), these self-sustaining cycles are reversible with systemic approach and NLPt methods.*

Results: *The recently developed mental training based on the allergy-process (Dilts et al., 1990; Biró, 2006, 2015) and increased habitual control offer sustainable results by the improvement of lifestyle-related cognitive and affective factors – e.g.: identity, motivation, strategic thinking – and promote decisional consciousness, even in abruptly adverse situations. General experiences and selected cases are presented.*

Conclusions: *NLPt methodology permanently enables to provide solution for weight-related issues by enhancing self-control and consciousness. Psychological, biochemical and neurobiological advancements supporting the theoretical model behind practical results of lifestyle-changing and weight-control are discussed.*

Keywords: self-rewarding routine, internalizing control, weight-control process, adaptation, performance psychology, preventive healthcare

[i] Corresponding author: Roland Kasek, Performance psychologist, Institute of Psychology, KRE-BTK, Budapest, Hungary, email: roland@kasek.com.

I. Introduction

„Dosis sola facit venenum." – Paracelsus ('the dose makes the poison').

The exponential development of our evolutionary environment, driven by technological advancements and the interaction of body and mind are prevalent. Civilizational illnesses, novel adversaries and high levels of continuous stress, malnutrition with latent abundance of food, media-generated consumerism, distorted self-image, and artificially induced desires – to name a few – all contribute to individual and social discomfort. Self-rewarding routines to escape from reality instead of adaptive coping with stressful events become natural for many, and so are the medical consequences.

It is well known that a high variety of cancer types, cardiovascular disease, coronary heart disease, hypertension, congestive heart failure, arrhythmias, stroke and peripheral vascular disease, sudden death, diabetes, gallbladder disease, arthritis, infertility, and sleep disorders are all directly linked to and stem from excess weight, as much as decay in quality of life (Wilborn et al., 2005), impaired cognitive abilities (Ntlholang et al., 2018) and decreasing psychological well-being (Mulugeta et al., 2018), while increasing the risk of shortened lifespan (Bray, 2004). Uncontrolled instincts hinder personal growth, obstruct conscious decision making processes and block the development of adequate coping mechanisms, while imprisoning the subjects into a bio-psycho-social treadmill of adaptation which, over time, constantly reduces chances of unassisted self-liberation.

Metabolic adaptation

Food, of all kinds of joy-generators, is the most dangerous, given its essential role in survival, easy accessibility and social acceptance. Notorious overeating – together with the evolutionary preference for high-energy nutrition (especially sugar) – causes specialization of the microbiome (Ley et al., 2005), where often-consumed types of food become key to survival and therefore increase sensitivity and cause visceral pain (Luczynski et al., 2017). Recent studies show that the vagal nerve not only connects the previously known gut-brain areas, but also the small intestine (Kaelberer et al., 2018) and directly the reward neurons in the brainstem (Han et al., 2018), meaning the microbiome can regulate pleasure and motivation in milliseconds. Recent study reports that microbial adaptation – as a wide range of bacteria can produce neuroactive compounds – may be responsible for inflammation, unease, reduced quality of life, and mental health issues (Valles-Colomer et al., 2019).

Neurohormonal and immunologic adaptation

Constant overeating due to increased levels of stress hormone, cortisol – higher energy intake than output, especially high carbohydrate low protein diet – results in fat accumulation and ultimately in weight excess. Microbiome directly influences the dopaminergic system by neuroactive compounds via the right branch of the vagal nerve, while the left branch is associated with satiety. Dopamine plays a role as a reward in learning and motivating – and therefore is able to cause addiction, mediates aversion (de Jong et al., 2018), while reward-evasion causes discomfort in delayed gratification whereas the length of the delay increases dopamine responses to the reward (Kobayashi & Schultz, 2008). Being overweight leads to increased load on bones, joints, muscles and accounts for impaired motor functions (Bray, 2004), while the consequent unease associated with movement causes difficulties in losing weight by exercise.

Physical inactivity lowers energy output, and, together with unaltered dietary habits, increases adipocytes in size and number. When fat cells become overloaded, their increased apoptosis attracts macrophages, causing inflammation, and consequently leptin and insulin resistance and finally type-2 diabetes (Carvalheira et al., 2014; Barateiro et al., 2017). The synergy causes ghrelin to increase appetite – to overcome a possible scarcity – and therefore promotes obesity in adulthood, until the individual accumulates a certain amount of excess weight, and normally ghrelin-resistance develops (Zigman et al., 2016).

Cognitive adaptation

Neurons that fire together, wire together, and that plasticity also applies to control functions: the more often self-control is practiced, the easier it becomes and the opposite is also true. Recent advancements in research of obesity measured in waist-hip ratio – visceral fat – show that brain areas responsible for control functions weaken due to cortical thinning, a severe decrease in the connections between cells, while the network of reward-neurons connectivity increases (Neseliler et al., 2018). Overweight individuals reportedly develop symptoms of impaired cognitive abilities and memory functions, in unfortunate cases ultimately, with a higher risk of Alzheimer, Parkinson and other neurodegenerative diseases due to poor dietary habits (Medina-Remón et al., 2018) and sleep disorders (Sanchez-Espinosa et al., 2014).

Psychosocial adaptation

Stressful lifestyle, depression, low self-esteem, lack of self-control and sense of guilt together with self-

rewarding habits promote food abuse and eating disorders (Gluck et al., 2001). Obesity as a stigma further increases the risk of developing pervasive mood disorders (Goodman et al., 2002, Khan et al., 2018), hence increasing the chances of deteriorating artificial joy-generating food-dependency (Collins & Bentz, 2009). As somatic treatments, weight loss products and dietary programs that often come with the promise of offering a permanent and "guaranteed" result fail (Garner & Wooley, 1991), subjects tend to blame themselves and adopt acceptance and resigned attitudes towards their own situation (Thomas et al., 2008). Failed weight-control attempts decrease global self-esteem and result in permanent changes of self-identification and internalization of obesity as a stigma (Sikorski et al., 2015) that becomes a self-fulfilling prophecy, while continuing the same, previous lifestyle finally results in medical consequences. Discrimination of obesity, victimization, bullying, and media-idealized body image (Grabe et al., 2008) – especially at an early age when dieting restraints lack calorie-consciousness (Damiano et al., 2015) – elevates the risk of pathopsychological factors.

To summarize, instinctive and maladaptive interaction with novel environmental factors enhance the risk of synergic – organic, hormonal, immunological, cognitive and psychosocial – adaptive cycles, which constantly adjust the biochemical equilibrium to maintain vital functions. As these self-rewarding routines develop and become irresistible, the affected lose their will and become prisoners of their instincts, minimalizing the chances of self-liberation. However unhealthy the habits are, addictive artificial self-rewarding obstructs attempt to interruption of equilibratory cycles until appropriate consequences serve as adequate external motivation.

II. Objectives

The constantly stressful environment triggers instinctive, panic-like state of mind, while the lack of appropriate coping mechanisms, unrealistic ambitions and overwhelming expectations reinforce reactive and reward-driven behavior. Habits that arise from such mindset prevent the affected from leading a life as required, one that enables the fulfillment of intentional desires, therefore the need of improvement.

While the role of gaining the first few kilos in excess, which initiate the self-sustaining cycles, is underperceived, from the prevention – and possible treatment – perspective is utmost important. As previously discussed, vast amount of studies have concluded that required changes in dietary habits and introducing more exercise may result in temporary weight loss, with lasting effect rarely maintained as the psychological challenges behind the old habits remain unanswered.

Symptomatic treatments – including behavioral changes – are presumed to fail when their main goal is only weight loss and exclude the elimination of the discomfort out of which the addictive behavioral pattern was developed. Also, changes of habits require extra effort and control, which without the right and realistic goal are perceived as more suffering that enhances stress and therefore result in novel expression of self-rewarding routines, until the person commits to the perceivably most comforting.

III. Method

Given the delicate psychological background, the approaches that interval between neutral to positive outcome can come to our minds. Anamnestic matched sample study – 55 clients in classic and 60 in NLPt – shows effectiveness of NLPt over traditional treatments even in cases related to control and anxiety. The authors report that 47.5% of observed clients showed no changes using traditional treatments, 8% perceived themselves to feel even worse, while in contrast only 1.9% of the participants in the NLP-therapy experienced stagnancy, nobody felt worse, and two-thirds felt better (Genser-Medlitsch & Schütz, 2004). A recent meta-analysis of studies also found evidence to support the neutral to positive effect of NLPt (Zaharia et al., 2015). Feeling worse during treatment reinforces the pre-existing syndrome by hindering confidence in therapeutic success, while the client's faith and expectation in the positive outcome, together with associative learning can even result in conditioned immune response inhibition (Albring et al., 2012).

Immunology

The main questions of psychoneuroimmunology are those linked to which therapeutic approach contributes best – between relaxation, hypnosis, classic conditioning, cognitive behavior therapy – in effective modulation of the immune system, and how (Kiecolt-Glaser & Glaser, 1992). In search of answer, Miller and Cohen (2001) show the ineffectiveness of meditation, relaxation and stress-reduction, while hypnosis and conditioning have positive effect on immune-modulation. Since the main immunologic reason behind obesity is an altered immune response (e.g. IL6, IL-1b), causing insulin resistance and visceral inflammation (Carvalheira

et al., 2013), reconditioning might directly modulate the fat-accumulative cycle. From NLP literature, it is well known that the rapid process developed by Robert Dilts (1990) that combines the most effective methods of other approaches – dissociated state, expectation of positive outcome, experience of reference, emerging positive intention, secondary benefit – has proven successful to treat the psychic illness. The technique – further developed by dr. Gyula Biró (2006, 2015) – requires more research and attention as it may support the medical treatments of chronic autoimmune illnesses.

Identity

As a continuously reorganizing personal narrative, identity frames attention and perceptual focus for matching episodes that support self-representation (Yun et al., 2011), that in itself, includes labeling. In addiction – as in self-rewarding behaviors – identity is at crisis (McIntosh & McKeganey, 2000). Finding the right intention that provides a secure and, in psychological terms, solid ground to interpret the desired state and describes the target identity – that is often labeled as fit, healthy, happy, attractive – is key to specify realistic goals by self-expansion (Xu et al., 2016).

Modeling of the successful future self directs the focus of attention to the desired physical state, therefore enabling the subject to reframe the personal narrative. Reframing immediately shifts the focus of attention, therefore results in a goal-oriented mental mode that is more sensitive to supportive signals, and modulates the perceptual expectations in the long run (Berkman, 2018). Improving the mindset of how one thinks of oneself deliberates the person to conceptualize primary and secondary benefits, therefore increases the motivation to invest in the process.

The strategy of reaching the desired outcome from the perspective of the future self – who already accomplished the mission – offers a wide range of possibilities to understand the current situation, specify milestones, change restrictive beliefs and find tactics to overcome obstacles.

Beliefs

Affected individuals – especially those who tried increasingly radical weight-control methods that failed to deliver the desired outcome – often believe, as a special form of cognitive dissonance reduction, that they are incapable of finding permanent solution due to fictive, or at least improbable – innate or age-dependent – medical and other external reasons (Keightley et al., 2011). Over time, when the learnt or developed maladaptive coping concludes in chronic medical consequences, the same individuals find justification for their predominant beliefs, and share their story to their peers without knowing that they are the victims of their own self-fulfilling prophecies. Others find realizing the desired state challenging beyond measure, and full of suppositional fearful situations that may happen to them (Piana et al., 2013). When the conceptual outcome is believed to be associated with disturbances, and over time, the fear of such obliterates motivation, the long-term reward becomes less attractive than the immediate (Peters & Büchel, 2011). In the same time, perception of risk presents itself in an alternating effect: fear of missing out on possible instant gratifications is higher than the avoidable consequences of the unhealthy habits (Schwarzer, 2001). Using the right approach, the limiting beliefs, fears and aversions come to light, and the positive – and often protective – intention motivating them can be canalized towards realizing the desired outcome.

Habits

Cultural and family related effects in weight-control issues are prevalent (Whitaker et al., 1997). Beginning from childhood, many learn that there are at least three mealtimes, and sweets are treats for any important event, effort or accomplishment – and our body values the good intention by rewarding at neurohormonal level. Observing feeding habits in the social context, it is safe to say that eating together is marking the proximity of the individuals who are present. The total amount and the distribution of calorie intake between meals, together with the lifestyle-dependent energy demand are quite commonly ignored, given the cue-driven impulsive and automatic properties (Booth et al., 2018). Eating in general is more automatic than conscious, and that leaves a great space for instincts, while the individual gets accustomed to the schedule and specific types of food, even when intake is unnecessary due to the current sedentary lifestyles. Food, given the relative abundance and accessibility, is often, and unknowingly, overused for self-rewarding purposes that jeopardize homeostasis (Olszewski & Levin, 2007). When the result suddenly turns apparent and clear, the reactive behavior that stems from psychosocial reasons has already become habitual.

Behavior

Introducing a new behavior that is able to counter-balance predominant maladaptive routines is either perceived as irrational or straightforward painful. Eating less or fasting causes temporary but pervasive

discomfort, as it is directly linked to biological functions and needs, therefore enhances the perception of unease in a stressful situation. Exercise, for example, of anything less pleasurable than high calorie nutrition, requires neurohormonal accommodation, and can only substitute instantly rewarding actions when practiced (Evero et al., 2012). Pain of reward-evasion is normally perceived as suffering, except when the subject's commitment to change and the necessity of the investment is justified (Byrne, 2002). Reframing the perception of pain results in withstanding instinct-driven behavior and rewinds the self-rewarding cycle, while enhancing consciousness, willpower and motivation, which reduces the risk of capitulation.

IV. Results

From the first client to the last one, given the scale of the project and the small number of participants (N=10), although recurring NLPt methods are present, it is early to describe a fully elaborated training program. After we cleared the motivation, and elaborated the context of the desired outcome, 2 female participants (20-25 and 45-50 yrs.) decided not to go into further sessions, one of them for unknown reasons. One subject (male, 30-35 yrs.) voluntarily dropped out due to regular alcohol-induced self-control issues, despite the fact that his weight had already stagnated, and decided to stick with his drinking habits. Another male (30-35 yrs.) – although he had finished the training – failed to meet milestones due to sudden existential changes. The remaining subjects reported accomplishment of a monthly 2-5 kg loss during the follow-ups without difficulties, and fluctuated (+/- 2 kg) around the desired weight until resumed. In summary, 2 subjects aborted the training, 2 subjects finished the training but failed to realize their goals, 6 participants accomplished their goal on time, and 5 of them maintained their desired weight or even further reduced it since then.

General experiences

All subjects had already been struggling for years to lose weight, and had tried many different approaches before, and even when they were happy with their results, the effects were only temporary. They all reported vast knowledge about nutrition, however, it turned out that their previously acquired information was mostly biased. As an example, one of them was eating only one meal a day, and did not count the bites of the often-consumed poor quality chocolate. In almost every case calorie intake was less considered, when it was smaller than a whole bar or pack of sweets, or "just a sandwich" meaning less than a full meal. After some initial questions about eating and moving routines, they also tended to be surprised as they had thought they were eating less and engaged into physical activities on a more regular basis.

The decision to get fit was what all the subjects had in common, but had never been put into practice. Exploring their motivation, from the recurring "I want to lose weight" statement, they either concluded to improve their lifestyle at a personal and social level, or avoid possible medical consequences, or both, therefore modified the target as not only to reach but also to keep the desired weight. Visualizing the context of the positive outcome brought us the contextual details of success, which already started to show a great variance depending on age, sex and marital status. Organizing the goals and necessary resources of success, the subjects presented signs of enthusiasm and began to observe obstacles from the solution's focus. Enhancing the resourceful mindset resulted in an instant change of perspective and in actual plans regarding their lifestyle. In one case, which will later be discussed, this single session brought sufficient fortitude. At the end of the first session of the training, subjects were asked to report if the target of the session was met, and to make the next appointments. All ten participants considered the session productive and efficient, and two decided to cancel further exploration of the matter, one of them claiming personal reasons, the other without any particular reason. The remaining subjects arranged the following appointment, except for one, who asked to try a month alone, with the option to keep in touch by the phone if necessary.

On the second session we elaborated the action plan with further visualization and attached the milestones to a timeline. Moving along brought up different emotional states, which were treated according to their nature. The subjects often found themselves in discomfort and described themselves as being demotivated, helpless or obstructed. Using proper NLPt techniques, these situations were instantly addressed, and the subjects only continued the process when the predominant negative feeling changed to improved motivation, a sense of competence or found several ways of possible solutions. The subjects were again asked to evaluate whether their initial expectations of the current session were met, and all of them gave positive feedback.

The third session was built around a modified version of the allergy process. The subjects visualized their biological processes and described the method their bodies used to deposit energy. As imagined, the accumulated fat often consisted of a heavy, dark or

disgusting, solid or clingy material they struggled against. The part that was responsible for the problem was in most cases imagined as a family member or a fantastic creature. The positive intention behind was also recurring: being protective against impulsive action, humiliation, or exhaustion. After the part's intention was clear, the subjects continued the process and when they began to deal with the part, they found ways to substitute the material with another that was able to fit the original purpose, but was lighter, smaller, or outside of them, like an invisible force-field. The rest of the process did not produce any result that generated a pattern. The subjects were then asked again if they felt comfortable and if the current session matched their expectations. All of them gave positive feedback, with the exception of one who was of the opinion that the previous sessions were more efficient, but most of them were satisfied.

The fourth session was unnecessary except for one case, and the rest of the occasions were follow-ups held on the phone or in public spaces.

V. Case studies

Case 1

One of the subjects (25-30 yrs., male) was mentally prepared for the change, although the action plan towards the desired outcome turned out to be too difficult to be carried out at once, therefore the third appointment was the last. Although the original intention was entirely and continuously kept in mind, it took almost a year after the first session to successfully overcome all social and environmental obstacles. Surprisingly, the subject reported during an accidental encounter that the changes in dietary and social habits were direct consequences of the training, and from there – in according to the original pacing – dropped more than 20 kg and reached the desired result. The subject has also practiced preventive healthcare methods since then.

Case 2

The subject (55-60 yrs., female) had been on strict diets for years, and was recently diagnosed with hypothyroidism. Given the special circumstances, it seemed reasonable to advice a more thorough medical control. Fortunately we did not have to wait, as her next meeting with the endocrinologist was reportedly already set for an appointment right after the last days of the training. The course of the findings matched the previously described general patterns; the only difference was that the subject found the timeline task to be a bit difficult. Enhancing the resourceful mindset helped her overcome limiting beliefs and biases in connection to her illness – e.g. other patients she met at the doctor were constantly gaining weight – and although she had not changed her medication, she reached her target weight in a year, maintained it, and 2 years later set a new goal of another 10% reduction all by herself.

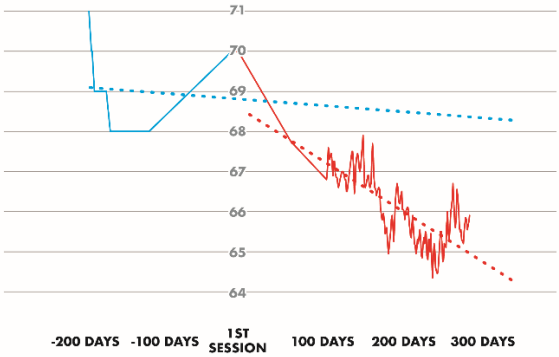

Figure 1. Blue dotted line shows most optimistic trend of weight loss for Case 2 before training, red dotted line shows actual trend of weight loss during documentation period.

Case 3

The subject (20-25 yrs., female) struggled with overweight since early adolescence. Her faith in moderate and improper dietary methods that failed to achieve lasting results led her to develop certain misbeliefs, self-esteem issues and resignation.

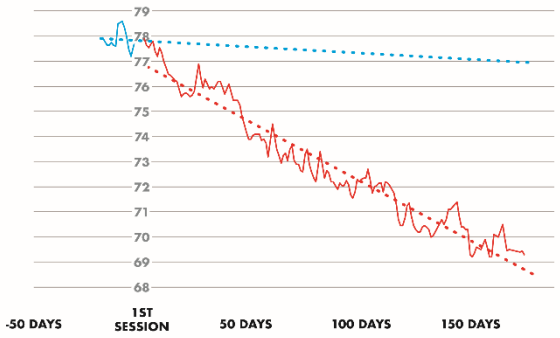

Figure 2. Blue dotted line shows most optimistic trend of weight loss for Case 3 before training, red dotted line shows actual trend of weight loss during documentation period.

During the first session, it became clear that due to her unsuccessful diets, she developed self-blame and reported difficulties in social interactions –

especially those of romantic nature. Clarifying the desired outcome resulted in sudden and observable physiological changes, and she stated she felt already much better. The timeline task brought limiting beliefs to light, many arose from the failure of previous attempts, and all were addressed with appropriate measures by various NLPt techniques. The next occasions of the process uncovered even deeper personal matters, and the subject reportedly felt increasingly relieved and competent. Over the course of 6 months, she reduced her otherwise stagnating weight by 12 kg, of which the last two were gained during early adolescence.

Case 4

The subject (20-25 yrs., male) reported his willingness to change and do whatever it took during the first phone call when we arranged the appointment. The first session was of the lowest intensity compared to the rest, and could more be described as an educational discussion about recent advancements and experiences about the training method itself. Having been informed that his job, which required physical effort, could deliver the necessary energy-deficit for weight loss (Crum & Langer, 2007), he decided to focus on dietary habits. During the conversation, he developed a new perspective, and found confirmation that by continuous and incremental changes of eating habits he was capable of reducing his weight only by taking his daily physical job more seriously, and this to reach his goal. After the talk, we decided to keep in touch on the phone, and from then on, he reported constant accomplishments of milestones and reduced his weight by more than 10 kg within the first month without any perceived effort or exercise. As he said, it was obvious that reaching the goal – given his age – is relatively easy, and minimal but rigorous habitual changes were sufficient. Three months after the session, he reported that he had reduced his weight by 18 kg, and had had 6 kg more to lose to reach his target.

VI. Conclusions and discussions

The experiences of the pilot study promise better understanding of the phenomena behind weight-related psychosomatic factors, while they offer a wide range of possible treatment strategies within the NLPt methodology. Age, sex and marital status seemingly alter the effectiveness of the process, as the desired outcome and the motivation differ, while biological adaptation is also slower for older subjects, however singles tend to realize their goals faster. Influencing factors require further investigation.

It is also clear that when weight reduction started during the training, the subjects felt their efforts justified, and therefore perceived the process – without the mental preparation accompanied by unease or suffering – as natural. The experience of the pilot study shows that the clients' interest dictated some further external control during the follow-ups, but that was interiorized by time and therefore gradually degradable. Whenever the process ends, the client must feel growing competence and even in cases where the weight-control issues may not have been solved without the training, it is extremely important to make the subject believe that the results are solely their achievement.

Outcome strategy

The purpose of the actual participation at any given session is almost as important as the motivation behind working with the global issue. Finding the complex bio-psycho-social solution to weight-control in most cases is already saturated by past experiences of failed attempts. Enhancing the resourceful state prepares the subject to freely fantasize about desires and enables them to verbally elaborate the outcome and the full context of the successful self. Minute and detailed work with the future identity, supported by past peak performances, reframes and strengthens present personal narrative, and directs the attentional focus towards solutions.

The emotional and cognitive patterns of the desired state are then transformed into a symbolic image, which is powerful enough to assist the subject in expected hardships and offers a rapidly recallable resourceful mindset during the tasks. Addressing family and social relations, harmful habits and instinctive behaviors requires intention-driven consciousness when the subject plans the steps toward the outcome.

Internalizing control

The role of expectations – either indexed as positive or as negative – is extremely important. Stepping on the timeline provides physical relation to any possible situation ahead that may modify the client's performance. Fears, misbeliefs, biases, past experiences and obstacles become accessible, and the client provides the practitioner with an opportunity to address them with various NLPt methods accordingly, without intensifying the issue by further interpretation or explanation. Given the special psychological background behind being overweight (Buchanan & Sheffield, 2017), enhancing the client's competence and self-esteem is a major key in the process, unlike associated and dissociated states that offer unknown perspectives and references (James & Woodsmall, 1988).

Weight-control process

The biological and neurohormonal processes behind energy intake and storage are well known. The training offers the subjects to awaken consciousness and understand how and why they put on weight. The allergy process, which manages the immunological reaction, corrects coping mechanisms and offers permanent solution in psychic allergies (Dilts, 1990; Biró, 2009), with obesity-specific improvements seem to be effective for overweight individuals.

Self-rewarding routines

Eating is an evolutionary, rewarding and overused – or, in severe cases, abused – instant gratification method for many, while exercise became a less and less used natural joy-generator. Recent advancements in the research of the gut-brain axis provide evidence (Wei et al., 2018) that conscious control over self-rewarding dietary habits can be developed. The systematic application of NLPt techniques suppresses the perception of hunger, unease and even pain, and the subjects tend to report they feel more competent and happy just by withstanding their instinctive functions. When a reward is missed, the dopaminergic system also acts as a mediator for pain, especially for those who otherwise seek – or are addicted to – pleasurable experiments (de Jong et al., 2018). It seems that the rapid NLPt approach is somehow able to interfere with the reward-seeking behavior, probably by developing a sense of time, and prepares subjects to find pleasure in the change itself.

Sedentary lifestyle provides a great opportunity for the affected to substitute dietary self-rewarding by exercise. Given the positive neurohormonal effects of physical activities, once the subjects learn to enjoy a new type of pleasure, they are not only able to achieve their goals faster, but as well find passion and a healthy addiction to sports that – as a secondary benefit – reduces the risk of developing obesity in their offspring (Stanford et al., 2018).

To conclude, the complex NLPt approach addressing complicated and chronic weight-control issues proved to be successful in the convincing majority of the cases where the full training had been applied. Visual inspection of the dropouts via their social media profiles confirmed no reduction in their body-weight.

The main questions of further investigation may include whether the main neurohormonal – leptin, ghrelin, orexin, and dopamine – changes happen at 1) organic level or the 2) perception of their effect is suppressed 3) directly due to the intervention, or by 4) the loss of weight itself. Given the previously described special properties of dopamine release, further investigation is required to see whether the intentional behavior driven by the desired outcome becomes more rewarding or the client suppresses the sense of pain.

The consequences of the pilot study also raise questions about the immunologic reasons and processes behind obesity. Since a similar method is used to treat psychogenic allergies, it is important to investigate whether – and if it does, how – the immune system contributes to the clients' successful weight-loss, and whether the treatment directly or indirectly modulates cortisol and histamine levels.

In general, reportedly appropriate coping mechanisms – or suppressed perception of stressors – developed during the NLPt training that might be successful addressing modern day stress factors in other psychosomatic difficulties and in the treatment of reward-related addictions.

Limitations

The set of NLPt methods applied to the cases were only similar but not identical, as individual differences were treated according to the subjects' best interest. However, a pattern is clear, the total number of cases prevent the study from concluding in a framework other than NLPt in general. NLPt was not tested against other methods, and since the clients were interested in a rapid solution, there was no control group or other practitioners involved besides the author. The subjects were neither tested for pathopsychological nor for medical predispositions. The results were only measured in body weight. Voluntarily self-reported improvements of lifestyle, physical comfort and psychological factors are subject to methodological development and require further investigation.

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