Think Muscle Newsletter #3

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The Think Muscle Newsletter publishes the latest news and research on exercise physiology, dietary supplements, performance enhancement, lifestyle management, health & nutrition, and bodybuilding & fitness. The newsletter is dedicated to providing accurate and unbiased scientifically based information.

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Exercise for Mental Health By Kelly O'Brien

The effects of exercise on physical wellbeing, in particular coronary heart disease, are well understood by health practitioners and the general public alike. Although studied since the early 80s', the positive effects that exercise has on mental wellbeing, such as anxiety and depression, is only now coming to the attention of mental health practitioners. When researching this article I came across a case of a depressed man who had heart diseases, and I thought it an appropriate example to start this paper off. Kenneth Cooper (aerobics expert) reported on one example he encountered,

"He was so despondent that he wanted to die. Because his heart was weak, he thought the best way to commit suicide without embarrassing his family was to run around the block as fast as he could until he killed himself. After several futile attempts at causing a fatal heart attack in this manner, he discovered to his surprise that he began to feel better and eventually chose to live instead of die "(1).

A consistent finding of early research examining the effects of resistance as well as aerobic training was that regular exercisers exhibited less depression, anger, and confusion, and were less tense than non-exercisers (2,3,4). Most recently, Hassmen et al (6) examined exercise habits, and mental wellbeing, of 3,403 Finnish adults. Many of the Finnish population suffer from a depressive disorder known as SAD or Seasonal Affect Disorder brought about by the low number of sunlight hours over winter months. Hassmen found that individuals who exercised 2-3 times per week reported significantly less depression, stress, anger and cynical distrust than non-exercisers.

What are the mechanisms by which exercise has this positive effect on mental well being? Three main mechanisms have been put forward by researchers (5).

1. Biochemical Mechanisms

Probably the most well known example of a biochemical contribution comes in the form of a feeling of euphoria following intense prolonged exercise. Known as "runners high" increases in plasma β -endorphin are believed to underlie this mental state, though it is still unclear if it promotes mental well being long-term. More promising research points to norepinephrine, and serotonin (5-HT) as mechanisms for improved mood, both are elevated following acute exercise. Given that many anti-depressant medications also work by increasing the levels of these neurotransmitters in the brain, it seems reasonable to assume that this may be the means by which exercise operates.

2. Physiological Mechanisms

Many of the feelings of stress, anxiety, and depression we experience come from appraisals of the way our body feels at any given point. For example if we perceive muscle tension in our neck as stress, then it is stress, and we may react in a manner

consistent with stress responses. Elevations in pulse and breathing rate may be perceived as anxiety, which in turn really makes us anxious. Given that exercise results in lower blood pressure, slower pulse, and easier breathing, we might assume that this is effecting our perceptions of depression and anxiety. I'm afraid not, studies find only a weak relationship between physical fitness and reduction of depression and anxiety. However, this doesn't rule out the increase in cerebral blood flow and improved muscle relaxation that accompanies physical fitness.

3. Psychosocial Mechanisms

A number of hypotheses are offered within this area, and is probably the most easily understood. The idea that regular exercise and physical fitness can improve perceptions of our self-worth and self-esteem is not new, and is probably a drive to participate in exercise for most of us whether depressed or not. In today's materialistic society "Body Image" appears to be one of the biggest obsessions. It affects us to the point that our every move is guided by it. Eating patterns, dressing habits, exercise habits, and even the way we walk or hold ourselves is in some way related to our drive to have a good body image. It's not unexpected to find that body image and self-esteem are more closely associated with each other than any other dimension of self (5). Many of the effects of exercise such as loosing fat and improving muscle shape and definition, offer a means to improvement of body image and therefore self-esteem. It should be noted that positive self-esteem is related to good mental well being. Changing our body appearance through exercise may also contribute to positive self-esteem through the sense of control we gain when we bring about change in our bodies. Another factor that may contribute is social interaction that accompanies activities that involve exercise. However, this would also suggest that playing chess could be just as effective if it was a simple act of social interaction.

The underlying cause of elevated mood is unlikely to be a function of any individual factor, but instead a complex intermingling of factors that feed on each other to produce the positive results. Perhaps it isn't necessary, or even possible to single out the specific underlying factors that contribute to the mental well being for a given individual. "Different strokes for different folks", as they say.

What should be addressed is the general reluctance of mental health practitioners to prescribe exercise in their treatment programs. Given that physical exercise is as effective as psychotherapeutic interventions in treating depression and anxiety (5), it seems illogical not to include it in treatment, given its wide ranging positive effects, such as neurotransmitter release, improved body image etc. Why isn't exercise used as a treatment by psychologists/psychiatrists? Several reasons are offered: The first is due to a genuine lack of knowledge of exercise research, and a bias towards classical treatments. The second revolves around the belief that exercise cannot be incorporated with traditional treatment methods. The final reason is probably due simply to the belief that exercise couldn't possibly be as effective as the other techniques that we have spent years learning about. This final reason flies in the face of current research, and can only be justified by claiming complete ignorance to that research. So spread the word, because research is proving the saying, "healthy body, healthy mind".

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About the Author

Kerry O'Brien is a Ph.D. candidate in Psychology at the University of Otago, New Zealand. Kerry possesses a wide breadth of knowledge in most areas of psychology, including psychopharmacology, neuropsychology, clinical and social psychology. Kerry enjoys writing about the effects of exercise and bodybuilding on the cause/alleviation of depression, the use of imagery as a tool for improving peak performance, the psychological symptoms of overtraining and the changes to self-esteem and self-image following a long-term exercise or weight training program. Kerry is also an accomplished athlete with 10 years of bodybuilding, volleyball, rugby and cricket experience.

"Natural Bodybuilding": A Modern Oxymoron? Part II By Rick Collins and Krista Scott-Dixon

What is "Natural"?

The word natural is derived from the Latin word "naturalis," meaning "by birth." In other words, it connotes the state or condition that nature originally intended, as when one was born. (Interestingly, today we refer to delivering a baby without technological/pharmaceutical assistance by the linguistic redundancy of "natural child birth.") In this sense, none of us can ever be in a natural state. From the moment that we are fed, clothed and taught to use language, we become implicated in "culture."

From an anthropological perspective, the word "natural" today conjures up nostalgiatinted images of a bucolic and pre-civilized state of humanity in which people lived according to the whims of instinct rather than the sterner dictates of rational consciousness. The image of the "noble savage," primitive and unsullied by cultural corruption, leaps to mind. We think of Tarzan of the Apes, the Native American warrior,

or Conan the Barbarian. "Nature," in this context, is conceived of as part of a binary (two-part combination of mutually exclusive opposites) with "culture." But it must be noted that historically, "natural" has invoked either positive or negative connotations depending upon the existing philosophical thoughts. For example, the anthropologist Levi-Strauss' famous study of "the raw" (nature) and "the cooked" (culture) positioned nature and culture firmly in binary opposition. As culture suppresses nature, so-called civilization (itself a heavily weighted notion) suppresses the baser desires of human beings. Thus, "nature" stands for everything that is chaotic, unformed, and uncontrolled. In this early twentieth-century context, culture was given preference and seen as a positive attribute.

Many people have argued that culture and civilization exist precisely for the purpose of containing humans' potentially uncontrolled natural impulses, and that as history progresses, cultural and social institutions become increasingly effective at regulating people's bodies and intellects. Michel Foucault, for example, argued in Discipline and Punish that the criminal justice system evolved as a way of producing docile citizens who would respond to regimented systems of discipline, both within the penal institutions and as workers in the industrial revolution. Others have suggested that the way in which "culture" and "nature" are construed in relation to one another enabled the promotion of particular political ideologies such as European expansionism and colonialism. The successful spread of Western civilization was founded upon the conquering and/or annihilation of more primitive societies. The nature-culture argument was also used to deny women a role in political and economic affairs: the male-dominated public sphere of the marketplace and government was likened to a jungle in which nature, red in tooth and claw, threatened to consume the delicate sensibilities of the more refined "fairer sex," who should direct their attentions more appropriately to civilizing their children and husbands. Thus the distinction between what is natural and what is cultural has long been under dispute, and has long been implicated, in diverse ways, in a variety of social practices and ideologies.

The notion of "natural" has been taken up recently in a variety of forms, and unlike in the model of Levi-Strauss, has been assigned a positive status. Sociobiology and evolutionary psychology, which first emerged in the 1970s and was heavily critiqued, is enjoying a resurgence of popular interest with its theories that use animal behavior and genetics to explain human behavior. New Age movements promote recapturing one's "natural element" and "natural magic." When "natural" is used to describe scenery, for example, it denotes that the beauty of the landscape is untouched by human design. When it is used to describe food, it connotes that the item is wholesome and pure, devoid of chemicals or additives. Advocates of healthy eating have recently espoused "eat like a caveman" theories in books such as NeanderThin and various other "Paleolithic diet" publications (my personal favorite is Starch Madness, apparently written with the same breathless technological-civilization-has-gone-mad tone as 1950s B-movies), as well as supplementation of phytonutrients and nutraceuticals touted as "natural" preventive cures for the rigors of the modern world. Increasingly, the civilized technological world once seen as humankind's salvation (remember all those fantasies about flying cars?) is viewed as a source of stress, disease, and discontent (see, for example, the manifesto of the

Unabomber). In this context, "natural" forms a binary with "artificial," "fake," or "technological." Implicit in this highly positive paradigm is the absence of any human-constructed changes or improvements, which are deemed bad.

When we talk about the idea of "natural" as applied to the human body, we tend to mean the absence of artificial or synthetic alterations. As an extreme example, a woman with breast implants would not be regarded as having a natural chest (although conversely, female bodybuilders are often criticized as "unnatural" if they don't get implants, even frankly fake ones). However, body practices that go against cultural norms are also seen as "unnatural". One example of this is decorative scarification; a scar is a very natural physiological formation, but when done in Western culture for the purposes of decoration, is seen as abnormal. What is "natural," then, does not exist independently of culture but rather depends on it for its definition. "Natural" these days is often synonymous with "normal," so we must be cautious about which social norms we are promoting when we laud the ideal of naturalness.

But the principles underlying the binary are not nearly so simple. A fertile area for examination can be found on the shelves of our local health food stores. For starters, the idea that so-called "natural" foods are devoid of chemicals is totally fallacious. All foods, "health foods" included, are composed entirely of chemicals, and often many different ones at that. So is the human body! Moreover, just because a food is free of artificial additives doesn't necessarily make it healthy for us to eat. Many "natural" food substances, such as palm and coconut oils and even good ol' sugar, have been linked to health dangers.

As can be seen, the concept of "natural" is quite complex, and becomes even more perplexing when abutted against the concept of "bodybuilding."

Next Issue: Part III - Natural and Bodybuilding - Concepts in Conflict

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Reader Survey Tell Us What You Think?

- 1. Exercise for Mental Health by Kelly O'Brien
- [] It was good.
- [] It was okay.
- [] I didn't like it.
- [] I'm not interested.

2. "Natural Bodybuilding": A Modern Oxymoron? Part II by Rick Collins and Krista Scott-Dixon

- [] It was good.
- [] It was okay.
- [] I didn't like it.
- [] I'm not interested.

3. What type of articles would you like to see in the future? (Check all that apply.)

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- [] Body Transformation
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