

STUDY OF POSITIVE EFFECT ON PHYSICAL AND MENTAL HEALTH THROUGH/USING BY GREEN-PSYCHO-CHEMISTRY

Pinkey Kumari Singh * J.P Mishra ** and R.K Singh ***. *Research Scholar, Dept. of Psychology, K.U Chaibasa **Vice – chancellor RCU palamu and *** Dept. of chemistry BIT Sindri Dhanbad

ABSTRACT

There is a strong link between mental health and physical, but little is known about the pathways from one to the other. We analyse the direct and indirect effects of past mental health on present mental health and past physical health on present mental health using green-psycho-chemistry. The mental and physical health outcomes of green-psycho-chemistry. There was a clear effect of both exercise and different scenes on blood pressure, self-esteem, and mood. Mental and physical health is fundamentally linked. There are multiple associations between mental health and chronic physical conditions that significantly impact people's quality of life, demand on health care and other publicly funded services, and generate consequences' to society. Both men and women (gender groups) had similar improvement in self-esteem after green-psycho-chemistry, through men and women showed a difference for mood. Age groups for self-esteem, the greatest change was in the youngest, with diminishing effects with age, for mood, the least change was in the young and old. The mentally ill had one of the greatest self-esteem improvement. This study confirms that the positive effect on mental and physical health using by green-psycho-chemistry.

Keywords: Mental Health, Physical Health, Green- Psycho-Chemistry, Self-Esteem, Mood, Environmental Health.

INTRODUCTION:

MENTAL HEALTH:

Mental health refers to our cognitive, behavioural, and emotional wellbeing. It is all about how we think, feel, and behave. The term "mental health" is sometimes used to mean an absence of a mental disorder. Mental can affect daily life, relationships, and even physical health. Mental health also includes a person's ability to enjoy life - to attain a balance between life activities and efforts to achieve psychological resilience. According to World

Health Organization(WHO), mental health is a state of well-being in which the individual realizes his or her own ability, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community. Mental health is the level of psychological well-being or an absence of mental illness. It is the state of someone who is functioning at a satisfactory level of emotional and behavioural adjustment. According to World Health Organization mental health includes “subjective well-being, perceived self-efficacy, autonomy, competence, inter-generational dependence and emotional self-actualization of one’s intellectual and emotional potential, among others. The World Health Organization further states that the well-being of an individual is encompassed in the realization of their abilities, coping with normal stresses of life, productive work, and contribution of their community. Mental health implies the adjustment of the individual to the world and each other with maximum effectiveness and happiness. Man is an integrated psychosomatic unit whose behaviour is determined by both physical and mental factors. Mental health is a normal state of well-being and defined as a condition and level of social functioning which is socially acceptable and personally satisfying. Mental health is a way of developing an effective personality. It is affected by various factors including heredity, environment and physical factors. Uncongenial environmental conditions whether found at home, in school, and community.

Bernard (1970) defines mental health as, the adjustments of the individual with in of themselves and the world at large, with maximum of effectiveness, satisfaction, cheerfulness, and socially considerate behaviour and the ability of facing and accepting the realities of life.

According to Kalider et al (1962) “Mental health is the measure of a person’s ability to shape his environment to adjust life and he has to face it and to do so what a reasonable amount of satisfaction success, efficiency and happiness”.

PHYSICAL HEALTH :

Everyone known that any physical activity has health activity benefit, including lowering blood pressure, increased self-esteem and mood enhancement. It is also known that as contact with nature has positive effect on physical and mental health. But what if you combine both physical activity and contact with nature ,will the positive outcomes be increased? Recent studies have revealed that the combination of physical activity and contact with nature, also called “Green Exercise”, increase the beneficial effects of physical activity, and improve mental health. Physical activity is known to wide range of health benefits that can protect individuals from diseases and enhance their mental and physical health. Regular physical activity can prevent and manage a range of chronic conditions, including cardiovascular disease, type 2 diabetes, and certain cancers, and improve musculoskeletal health, weight management, motor skill development in children, and mental health problems. However, global estimates show that around one-quarter of adults aged 18 years and over are insufficiently active worldwide. As a result, physical inactivity is one of the leading risk factors for global premature mortality, responsible for 9% of early deaths worldwide.

GREEN –PSYCHO-CHEMISTRY:

Psychology is involved in every aspect of life. Even the smallest pieces of what you do, even something as smiling at someone in the hallway, is influenced by chemicals and neurotransmitters in the brain. There are over 100 naturally occurring neurotransmitters. Some of the most important would be :Dopamine , Serotonin , Vasopressin, Oxytocin , Acetylcholine , Norepinephrine , Epinephrine , and Cortisol.

Oxytocin:

- Produced in pituitary gland
- Associated with love, trust, and attachment

Dopamine:

- Produced in the hypothalamus
- Affects voluntary movement, leaning, memory, emotions and responses to environmental factors

Serotonin:

- Produced in multiple areas of the brain
- Helps with sleep, appetite, perception, body temperature, pain suppression and mood

Vasopressin:

- Produced by the peripheral nervous system
- Involved on attachment and development, trust and emotion (love)

Acetylcholine:

- Produced in the central brain
- Needed for cognitive functions , muscle movement , memory and emotion

To much or too little of any neurotransmitter causes the chemical reactions in the brain to be unbalanced ,resulting in various mental conditions such as O.C.D , depression , Alzheimer's and Schizophrenia.

Professor ShitijKapur, the Canada Research Chair for Schizophrenia and therapeutic Neuroscience at the university of Toronto, has used that we know about the neurochemistry of schizophrenia is associated with an excess of the brain chemical dopamine, and antipsychotic drug work by blocking this substance. Dopamine is known to be involved in motivation and reward – this key to Kapur's proposal that the positive symptoms of schizophrenia, particularly delusions, are caused by people finding inappropriate salience in the world around them.

Dopamine is a hormone associated with happiness and serotonin regulate our mood. When a person is physically attracted to another, an activation of dopamine, serotonin increased and

protection of oxytocin, a hormone that reduce pain perception and increase the emotional connection we have with the occurs.

Contemporary psychology increasingly recognize the role of neurotransmitter play in mental health conditions , particularly play in mental health conditions , particularly mood disorders. For example, serotonin levels can play a part in mood disorders such as depression. Serotonin has also been linked with obsessive – compulsive disorder and anger management problems.

Norepinephrine is another neurotransmitter that associated with the level of happiness. Antidepressant such as the selective norepinephrine reuptake inhibitor also induce a positive emotional perceptual bias in healthy subjects suggesting that norepinephrine positively colours the emotional perception of facial expression in humans.

Endorphin also studied as a neurotransmitter n happiness. Endorphin are endogenous opioid peptides that function as neurotransmitters. They are released during continuous exercise , fear , love , music , chocolate eating , laughter , sex , orgasm etc. Increased level of endorphin inhibited pain in the body and reduce level of endorphin inhibited positive feelings.

Melatonin is produced by the pineal gland as is most commonly associated with regulating sleep. However, it's also been shown to affect our overall well-being and feelings of happiness (sleep patterns are often disrupted as a symptom of a larger mood disorder). To keep your melatonin balanced.get a good night's rest , and make sure to turn off your electronic devices well before you head to bed .

Self -esteem:

Although low self-esteem is not categorized as a mental health condition in itself , there are clear links between the way we feel about ourselves and our overall mental and emotional wellbeing. Self-esteem as “ how a person feels about themselves and what they do.” So a person with high self-esteem believes they are a good person ; they can recognize their good qualities and will generally strive for a happy and successful life. Someone with low self-esteem has negative feeling about themselves, believing that they are not worthy of love , happiness , or success. Self - esteem refers to a favourable or unfavourable attitude towards the self (Rosenberg, 1965) and has a lengthy history of use in psychosocial research (Blascovich&Tomaka. 1991). In young people, depression and low self-esteem are linked with smoking, binge drinking, eating disorder and unsafe sex, putting them at risk of a range of diseases including sexually transmitted diseases such as AIDS (Patton et al; 1998; Ranrakha et al., 2000)

Mood :

Your mood and your mental health affect every aspect of your life , from how you feel about yourself to your relationships with others and your physical health. There's a strong link between good mental health and good physical health. The positive link between physical health and exercise. Exercise reduces immune system chemicals that can make depression worse. Exercise increases your level of endorphins , which are natural mood lifters. Mood

disorder can lead to an increased risk of accidents and injuries and poor physical and role function (Wells et al., 1989).

Environmental health:

Environmental health is the branch of public health concerned with all aspects of the natural and built environmental affecting human health. Physical environmental factors contributing to mental illness are those that have the power to affect a person's biology or neurochemistry, thereby increasing their chances of developing a disorder. For most people the childhood home is their most important development environment. Family is also most adults the important core area of intimate relationships. Family researchers have developed the concept of "family homeostasis" (Jackson, 1957), by which they describe the fact that there usually exists a kind of dynamic equilibrium between the relationship of different family members.

The nature of evidence of health promotion's effectiveness:

Health promotion is an emerging field of action, often referred to as the "new" public health (Baum, 1998). However, the term mental promotion can have many meanings, depending on one's perspective (Tones & Tilford, 2001). The term "health" is itself imprecise (Naidoo & Wills, 2000). Health can refer both to absent and present states. It is often used to mean the absence of disease or disability but, just as often, may refer to a state of fitness and ability or to a reservoir of personal resources that can be called on when needed (Naidoo & Will, 2000).

An individual health is affected in part by the person's way of living. In Africa women have higher mortality rates than men and women in the sub-Saharan region have higher mortality rates than other women in both development and developing countries outside the region (Harrison, 1997).

Housing is also a factor affecting health, with homelessness and housing condition such as poor sanitation, crowding, and inadequate ventilation clearly associated with respiratory infections, asthma, lead poisoning, injuries poor health (Howden – Chapman, 2002).

Risk physical environment in workplace produced by toxic substance, unsafe contact with machinery and poor ergonomic conditions are associated with a range of disease and injuries including skin and respiratory disorders, injuries and work stress leading to psychological disorder (Driscoll et al., 2001; Jin et al., 2000; Leigh & Sheetz 1989; Loewenson 1999).

Link between mental and physical health and illness:

Positive mental health:

Vaillant (2003) examined a number of models of positive mental health and the empirical evidence or conceptualization that supports them.

The first of these was the concept of mental health as being above normal in functioning. To be mentally healthy is to be particularly "fit" in this context.

Positive psychology relates to concepts such as optimism and “authentic happiness”, concepts well explored by Seligman (1991, 2002) positive psychology is based on the idea that if people are taught to be resilient and optimistic they will be less likely to suffer from depression and will lead happier, more productive lives. In other words, building on human strength can be seen as building psychological ‘muscle’ before occur. Positive psychology also deals with personal hopefulness, one of the characteristics shown to be associated with better adjustment to mental and physical illness (Jacobson &Greenley, 2001) and to major life stressors, including (e.g. the Newcastle earthquake ; Lewin, Carr & Webster, 1998).

The concept of mental health encompasses love,intimacy and the capacity for reciprocal attachments; empathy, nurturance and social /emotional intelligence; temperance and self – regulation; wisdom, curiosity and creativity; courage; fairness and the sense of justice; hope and future - mindedness.

Positive physical health:

Physical health is more readily defined measured. Concepts such as “physical fitness” involve physical activity to achieve physical goals but may also require this to be achieved in complex and coordinated way that inevitably involve higher mental functions. This may involve being “fit” in basic functioning and having the capacity to respond to extra functional demand in a range of physiological system. Like positive mental health, those with positive physical health may have this even in the face of some functional loss : for instance, athletes in the Paralympics. Physical ill-health is detrimental to mental as much as poor mental health contributes to poor physical health (Herman & Jane - Llopis, in press). Low control at work and poor social support have important influence on both physical health (e.g. cardiovascular morbidity) and psychological health (e.g. depression) (Kopp,Skradmak,2000). Depression in other age groups is linked with social isolation, alcohol and drug abuse and smoking (Hemenway, Solnoick&Colditz, 1993).

Discussion :

Our finding show clear effects of exercise and viewing different scenes during exercise on both blood pressure and two psychological measures (Self-esteem and Mood). Exercise alone slightly reduced blood pressure (systolic, diastolic and mean arterial), significantly increased self-esteem, and had a positive significant effect on 4 of 6 mood measures. In summary, viewing scenes appears to modulate the effects of exercise on mood but consistent effects are difficult to discern. Some runners are said to have an internal focus, concentrating on how their body is responding to exercise, whereas others have an external focus, preferring to concentrate on distractions (Sheehan 1978). These two populations of runners might be expected to respond in different ways to exposure to scenes, blurring any effect on mood states at a population level.

Conclusions:

Our findings suggest that exercise in pleasant environments may have a greater effect than exercise alone on blood pressure, an important measure of cardiovascular health, and on measures that are relevant to mental health. We conclude that green exercise has important implications for public and environmental health. A fitter and emotionally more content population would clearly cost the economy less as well as reducing individual human suffering. Obesity and related conditions already cost more in public health terms than smoking (Kenke & Manning 1999; Lang & Heasman 2004), and will overtake smoking as industrialized countries' biggest killer in 10-15 years if current trends persist. Thus increasing support for and access to a wide range of green exercise activities for all sectors of society should produce substantial economic and public health benefits. Such support could include the provision and promotion of healthy walks projects, exercise on prescription, healthy school environments, healthy travel to school projects, green views in hospitals, city farms and community gardens, urban green space, and outdoor leisure activities in the countryside.

In this study we have shown that, green exercise is more effective than exercise, alone in improving measures relevant to cardiovascular and mental health. Further research is now required to investigate the effects of exposure to different scenes in real environment whilst engaging in different types, durations and intensities of physical activity. It will also be interesting to investigate if the effects of green exercise are consistent across different social groups and to determine its effects on subjects suffering from high blood pressure and low mental health status.

References:

1. Baum F (1998). *The new public health: an Australian perspective*. Melbourne, Oxford University Press.
2. Balscovich J, Tomaka J (1991). Measures of self-esteem. In: Robinson JP, Shaver PR; Wrightsman LS. Eds. *Measures of personality and social psychological attitudes*, vol. 1. San Diego, CA, Academic Press.
3. Driscoll T et al. (2001). Work-related fatalities in Australia 1989-1992: an overview. *Journal of Occupational Health and Safety – Australia New Zealand*, 17:45-66.
4. Harrison K (1997). The importance of the educated healthy women in Africa. *The Lancet*, 349:644-647.
5. Hemenway D, Solnick SL, Colditz GA (1993). Smoking and suicide among nurses. *American Journal of Public Health*, 83:249-251.
6. Herrman H, Jane-Liopoulos E (in press). Mental health promotion public health. In: Jane-Liopoulos E, ed. What works in mental health promotion. *Promotion and education. Special Issue*.
7. Howden-Chapman P (2002). Housing and inequality in health. *Journal of Epidemiology and Community Health*, 56:645-646.
8. Jacobson N, Greenley D (2001). A conceptual model of recovery. *Psychiatric Services*, 52(5): 688.

9. Koop MS, Skrabski A, Szedmak S (2000). Psychosocial risk factors, inequality and self- rated morbidity in a changing society. *Social Science and Medicine*, 51:1351-1361.
10. Lewin TJ, Carr VJ, Webstar RA (1998). Recovery from post-earthquake psychological morbidity: who suffers and who recovers? *Australian and New Zealand Journal of Psychiatry*.32(1):15-20.
11. Naidoo J, Wills J (2000). *Health promotion: foundations for practice*, Edinburgh, Harcourt Publishers.
12. Patton GC et al. (1998). Depression, anxiety, and smoking initiation: a prospective study over 3 years. *Americal Journal of Public Health*.88:1518-1522.
13. Seligman MEP (1991), *Learned optimism*. New York, Simon & Schuster.
14. Seligman MEP(2002). *Authentic happiness*. New York, Free Press.
15. Vaillant GE (2003). Mental health. *American journal of psychiatry*, 160(8)1373-1384.
16. Wells KB et al. (1989). The functioning and well- being of depressed patients: results from the medical outcomes study. *Journal of the American Medical Association*, 262:916-919.

IJSER

IJSER