

The Science of Bliss Through Everyday Practices

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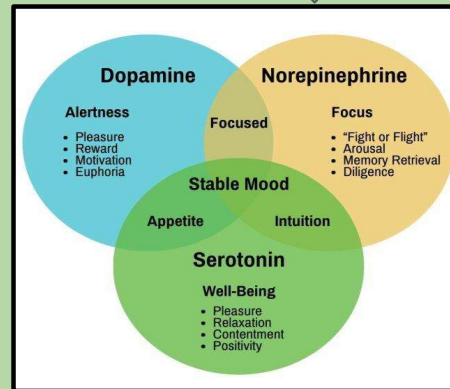
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Introduction/Abstract:

Our group aimed to research various methodologies of maximizing the endogenous biochemicals of happiness. We explored the different positive effects that exercise, meditation, music, and nature can have on a person's well-being. Overall, we found that each of the following methods can boost your mood immediately via an increase in biochemical markers. However, frequency and specification of these activities in your daily-life is what will make the true difference. The goal was to provide a comprehensive view of the many paths leading to happiness and encourage all to be more mindful of their emotions.

Meditation & Its Effects On Your Hormones

- Different practices of meditation can be beneficial psychologically and physically.
- The regularity of meditation improves your well-being and has a positive effect on the indicators of happiness (biochemical markers)
 - **Oxytocin** counteracts the effects of stress and anxiety
 - **Serotonin & Dopamine** reduce depression & stress effects
 - **Endorphins** act as mediators in pain sensations & are released during pleasant activities
 - **Cortisol** levels (perceived stress) decrease because of the controlled breathing in meditative yoga
- Researchers have discovered that any meditation technique improves a person's emotional, physical, and mental well-being.
- Further studies needed to establish clear intervention protocols that can help the general population of college students manage their stress & prioritize their happiness.



Exercise & Its Effects on Mood, Cognition, and Neurobiology

- Increase in serotonin, norepinephrine, dopamine => improved mood
- Increase in BDNF => brain plasticity, cognitive improvements
- Increased blood flow, hippocampal and prefrontal function
- Blood tests measured endocannabinoids, endorphins, BDNF, cortisol
- Anandamide (AEA), OEA, PEA ↑ after endurance exercise
- AEA increases linked with BDNF + cortisol
- Effects lasted 15 min after exercise and can be prolonged/reinforced by repetitive, higher intensity exercise.

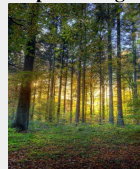
Music & Its Effects on Mood, Tension, and Mental Clarity

- Different genres of music activate distinct neural pathways that influence mood, stress, and cognitive processing.
- **Classical & New Age music** increase parasympathetic activity => promotes relaxation, reduces heart rate, lowers cortisol.
 - Increase alpha brain waves, which are linked to mental clarity, creativity, and calm focus.
- Listening to preferred **calming music** boosts serotonin and dopamine, improving mood and emotional stability.
- **Grunge rock and high-intensity music** elevate sympathetic activation, leading to increased tension and decreased clarity.
 - Chaotic music can increase cortisol, tension-anxiety scores, and feelings of irritability.
- **Relaxing music** reduces POMS Tension-Anxiety scores, showing psychological and physiological stress relief.
 - Listening to calming music for just 15 minutes can lower stress and sharpen mental clarity.

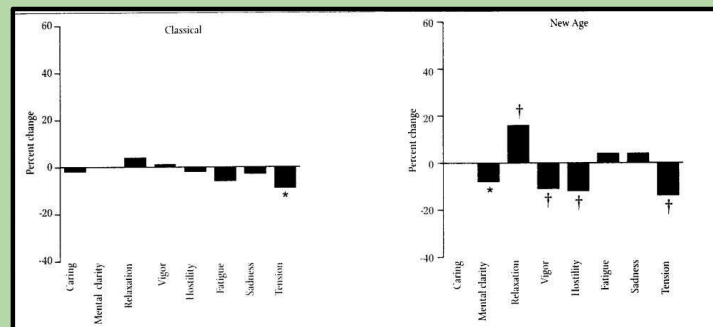


Interaction with Nature Creates Happiness & Better Health

- A famous way to interact with nature is through forest bathing/Shinrin yoku in Japan as people go into a forest or natural park, walk slowly, breathe deeply, and use all their senses (sight, smell, taste, touch, hearing) to connect with the nature.
- **Why people do it? (In Japan, 25.65% of population is practicing it)**
 - Reduces stress, anxiety and depression
 - Lowers blood pressure and heart rate
 - Boosts immune system (especially NK cell activity)
 - Improves mood and mental clarity
 - Increases relaxation and better sleep
 - Decreases cortisol, the stress hormone (cortisol, adrenaline and noradrenaline)



"The forest is acting as a medicine used for health promotion and disease prevention."



Effects of different types of music on all subjects. Percent change in affective measures as reported in the Personal Feelings Survey for the entire sample (N=144) after listening for 15 minutes to the music selections. * P < .01; † P < .001; ‡ P < .05

References

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