



# MOVE THE MIND

EMPOWERMENT FOR MENTAL WELL-BEING THROUGH SPORT.

## LEARNING UNIT A.3 – ONLINE VERSION

### SPORT AND PHYSICAL ACTIVITY BENEFITS RELATED TO MENTAL WELL-BEING



**LEARNING OUTCOMES.**



After this learning unit you will ...

- know how sport and physical activity influences mental well-being.
- recognize the benefits of sport and physical activity on mental well-being.
- be introduced to key hormones that are influenced by sport and physical activity.
- be able to identify the factors that influence the relationship between physical activity and mental well-being .
- understand ways to maximise the benefits of sport and physical activity for better mental well-being.



**SOME BASIC FACTS.**



Before we start with the why physical activity benefits mental well-being, we need to be aware that most research has focused on the physical health benefits of sport – and especially the benefits of Health Enhancing Physical Activity (HEPA). Whilst less is known about the benefits of sport and physical activity on mental health and well-being.

However, in the following, we can provide you with an overview of what is known and how best to use this knowledge. A more detailed description of this information can be found in our knowledge base [→ CLICK HERE TO SEE THE KNOWLEDGE BASE](#)



From research it becomes clear that exercise reduces stress sensitivity and increases insulin sensitivity, thereby helping in both the prevention and treatment of metabolic and mental health.

Exercise also stimulates the production of mood-enhancing neurotransmitters and endorphins, which relieve pain and make people feel good.

With it, sport and physical activity enhance better cognitive functioning, support better short and long term memory for improved learning and better decision making. It slows brain aging, and provides better sleep. And it supports higher self-esteem. It has the potential to prevent mental ill-being – even for some diagnosed disorders like depression, anxiety, or substance abuse.



Research also shows that one of the most effective methods to enhance well-being is through physical activity, because ...

- it is more cost-effective than either psychotherapy or medication,
- it is associated with minimal side effects, and
- it can be maintained throughout an individual's life.



Healthy Aging studies show that there is approximately a 20% to 30% lower risk of depression and dementia for adults participating in daily physical activity. And physical activity also seems to reduce the likelihood of experiencing cognitive decline in people who do not have dementia.

Women and girls have greater chances of suffering from poor mental health. Therefore, gender specific benefits of sport and physical activity on mental well-being are important: HEPA is especially important for women and girls, because it leads to improved sense of self-esteem, positive body image, increased self-confidence, tangible experiences of connection, and increased real and perceived competency.

Specifically related to women's health, research shows that women experienced an increase in the positive effects of physical activity and a reduction in the negative effects associated with menopause.







**SPORT AND MENTAL  
WELL-BEING FACTORS.**



Now, let's dig deeper into the topic and have a look at factors related to the effectiveness of sport for improved mental well-being.



## Sport and Mental Well-Being Factors

REPAIR AND RELEASE

MINIMISING RISK  
FACTORS AND  
IMPROVING  
PROTECTIVE FACTORS

ANTIDEPRESSANT

SOCIAL INCLUSION

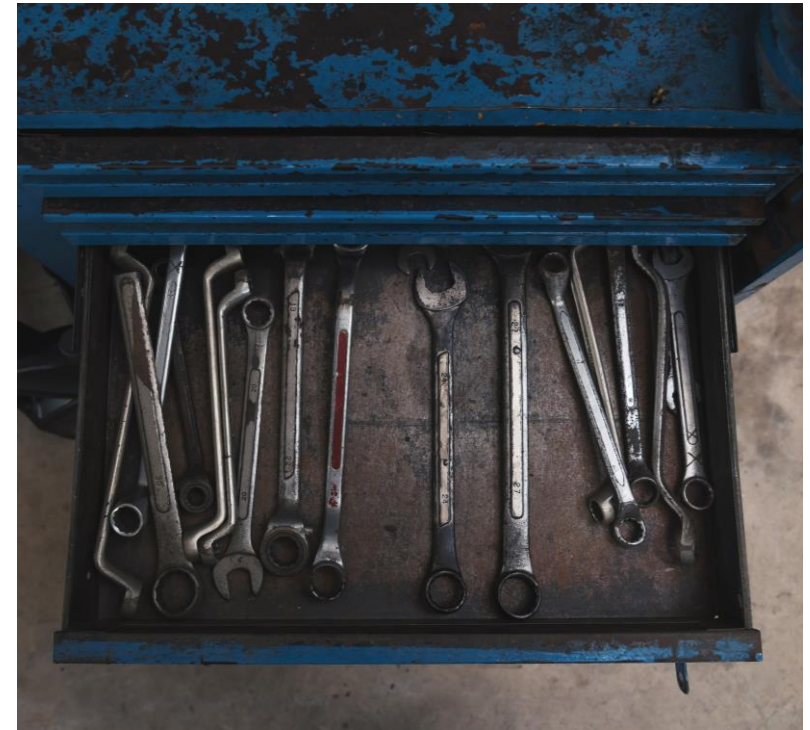


So, let's investigate each of these factors in more detail.



For the many abstract, prolonged threats in modern life that do not warrant a physical response, sport can provide the release or relief from a state of high alert.

In an increasingly digital world, sport and physical activities carry meaningful sensory experiences to counterbalance digital stimuli are important tools in sensory integration. As it has been explained in more detail through learning unit A.2.



**REPAIR AND RELEASE**

Regular exercise in the form of physical activity or sport is a great individual coping strategy against stress that improves the well-being of people, both with mental disorders and with good mental health.

Mastering new tasks and meeting goals, as well as feeling part of a sports team or sport club can have a brightening effect on our mood. Physical activity increases coping efficacy and memory function.



**MINIMISING RISK FACTORS  
AND IMPROVING PROTECTIVE FACTORS**

Results of cross-sectional and longitudinal studies indicate that aerobic exercises training has antidepressant and anxiolytic effects and protects against harmful consequences of stress.

In addition, sport has significant psychological components that improve well-being: it improves self-esteem and a sense of community.

Physical activity therefore can play a role in dealing with modest to medium forms of mental health problems or mental illnesses (mostly depression and anxiety).



**ANTIDEPRESSANT**

Sport aids social inclusion, which greatly affects quality of life. It helps build personal resilience and self-confidence, as well as other personal and life skills which are protective factors in mental health promotion.

The adoption of lifelong regular physical activity therefore is both preventive and therapeutic, which in turn improves the quality of life.



**SOCIAL INCLUSION**





**SPORT- AND MENTAL  
WELL-BEING-RELATED  
NEUROTRANSMITTERS  
AND HORMONS.**



When talking about sport and mental well-being, neurotransmitters and hormones play an essential factor. Because, during exercise, our brain produces several neurotransmitters and hormones that regulate mood and support mental well-being through complex biological processes. In the following, we explain some of the most important aspects.



## Sport- and Mental Well-being related Neurotransmitters and Hormones

ENDORPHINS

SEROTONIN

NOREPINEPHRINE

DOPAMINE

CORTISOL



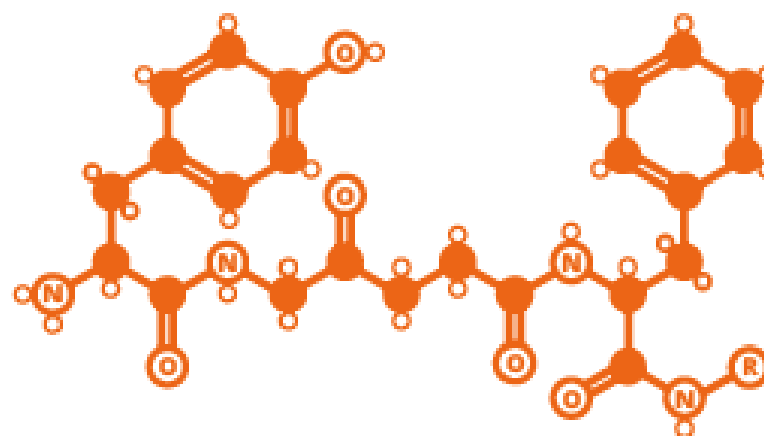
**ENDORPHINS.** These are often referred to as ‘feel-good’ chemicals because of the feeling of euphoria they produce.

The feeling of happiness experienced after finishing exercise is largely due to endorphins.

They help manage stress and fatigue, regulate sleep patterns, and lower the perception of pain.

## ENDORPHINS

Euphoria neurotransmitters



Released during exercise, excitement, & sex, producing well-being & euphoria, reducing pain. Biologically active section shown.

Source: Compound Interest

**SEROTONIN.** Mostly found in the digestive system, it is thought to be a natural mood stabilizer that contributes to feelings of well-being and happiness, and that regulates anxiety.

Low levels of serotonin have been associated with low mood, anxiety, depression and some mental disorders. It impacts every part of our body and is responsible for stimulating parts of the brain involved in sleep.

Exercise can have positive effects on the levels of serotonin.

## SEROTONIN

Mood neurotransmitter



Contributes to well-being & happiness; helps sleep cycle & digestive system regulation. Affected by exercise & light exposure.

Source: Compound Interest

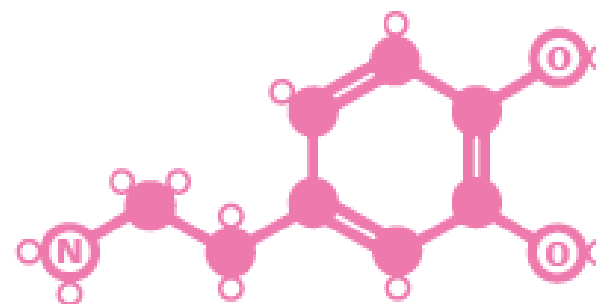
**DOPAMINE.** Being a neurotransmitter and a hormone, it is responsible to feel pleasure, satisfaction and motivation.

When we have achieved something, a surge of dopamine in the brain lets us feel good. It is also involved in memory, focus, mood, sleep, motor control and stress response.

The feelings of satisfaction caused by dopamine can become desired. To satisfy this desire a person will repeat behaviours, like sports, that lead to release of dopamine.

## DOPAMINE

Pleasure neurotransmitter



Feelings of pleasure, and also addiction, movement, and motivation. People repeat behaviours that lead to dopamine release.

Source: Compound Interest

**NOREPINEPHRINE.** Norepinephrine, that is also known as noradrenaline, is a neurotransmitter and hormone that plays an important role in our body's fight or flight response.

It is key for mood regulation and responsible for increasing concentration and the ability to focus and to perform, plus for emotional management and stress response.

During physical activity, it is vital for increasing energy by indicating to break down blood-sugar levels. Low levels of norepinephrine have been linked to anxiety and depression.

## NORADRENALINE

Concentration neurotransmitter



Affects attention & responding actions in the brain, & involved in fight or flight response. Contracts blood vessels, increasing blood flow.

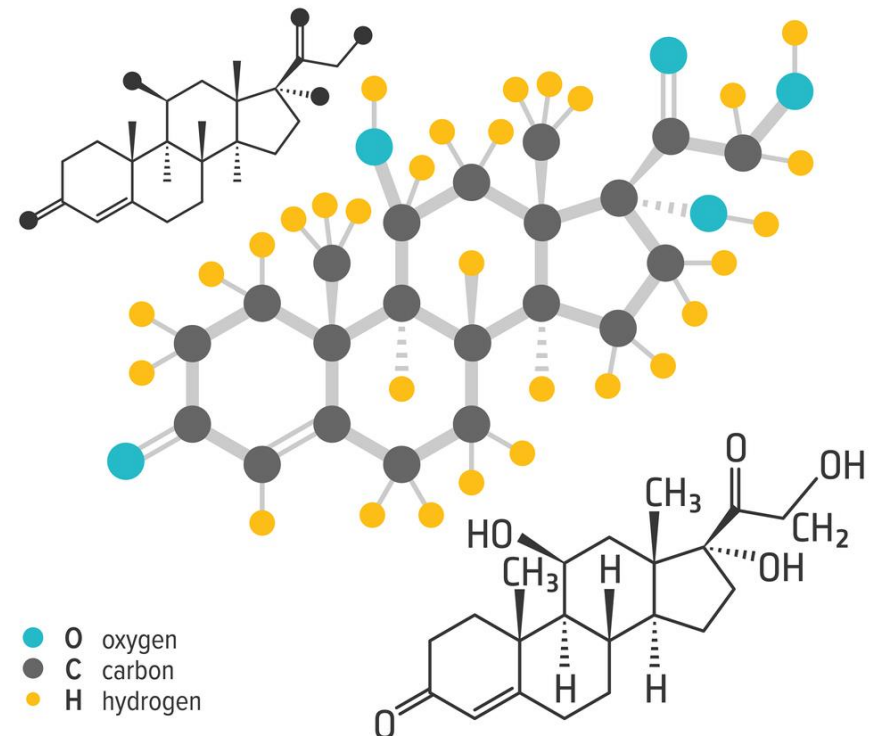
Source: Compound Interest

**CORTISOL.** Exercise also works to reduce cortisol, which is our body's stress hormone.

While short-term release of cortisol is important in supporting the body during stressful situations, raised levels of cortisol over long periods of time have a detrimental effect on the body and can lead to anxiety, depression, and sleep disorders.

Regular physical activity reduces stress, improves overall health as well as sleep quality, which works to lower cortisol overtime.

## Cortisol $C_{21}H_{30}O_5$



Source: Sivapalan I FintGenes



**CONDITIONS AND  
INFLUENCING  
FACTORS ON  
MENTAL WELL-BEING.**





In the following, we look at selected conditions and influencing factors related to sport and physical activity benefits on mental well-being in practice.



Physical activity undertaken at one's leisure is most effective in improving mental health. It means that physical activity done as a part of one's occupation, as transport or as household activities has less mental health benefits compared to when one practises sport and physical activity solely as leisure.





As regards time planning, 75 minutes of vigorous or 150 minutes of moderate intensity exercise per week is already enough to start enjoying the health benefits of sport.



Both aerobic and strength training have benefits for mental health and mental well-being.





Although participation in sport can be beneficial for mental health and contribute to positive health development, it is best not to take the relationship as a “given”.

As sport coaches and instructors, we need to keep certain factors in mind that help our participants to develop or to maximise the positive benefits of sport on mental well-being.

In the following, we provide you with some tips for developing good conditions in practice.





**TIP 1 – PLAY:** For stress reduction, playing sport is more effective than physical activity like cycling to work or housework

**TIP 2 – GOOD FIT:** The sport chosen should be enjoyed by all participants. At the same time, it needs to suit the participants' physical capacity, goals and availability. .

**TIP 3 – POSITIVE SPORT:** The sport needs to be conducted in a way that aids mental and psychosocial development, health and well-being. It means that Competition and evaluation in comparison to other's performance can be particularly problematic for those with lower ability and self-esteem.





**TIP 4 – ROLE OF THE COACH:** Positive instruction such as praising good performance and effort, providing technical instruction in a non-judgmental way and encouragement with respect to improving on mistakes lead to greater self-esteem. Remember to encourage individuals to improve their own skills and performance rather than comparing with peers, plus encourage increased competence and self-esteem.

**TIP 5 – SUPPORT SYSTEM:** A good support system is important for maintaining a healthy lifestyle. Recent studies indicate that training effects and mood improvement can even be achieved using web-based or phone-based support.

**TIP 6 – GENDER DIFFERENCES:** Studies found that men see better results in reduced feelings of depression, anxiety and symptoms of somatization when they participate in vigorous intensity physical activity, while women respond optimally to mild intensity.





**A SHORT ASSESSMENT.**



## QUIZ

- Physical activity plays a role in both the promotion of mental well-being, higher self-esteem, and prevention of mental ill-being. => **TRUE OR FALSE**
- If performers manage to prolong the direct body sensation during physical practices (i.e., reducing the hectic descriptive activity) have a positive effect on hunger but not on empathy, depressive and dissociative modes? ?> **YES OR NO**
- Both aerobic and strength training are beneficial but combining the two is the most effective. => **TRUE OR FALSE**
- What is the recommended amount of physical activity per week?
- Even short bouts of physical activity (e.g., 10-15 minutes) can reduce stress, depressive symptoms and improve self-esteem in adults. => **TRUE OR FALSE**





## QUIZ – SOLUTION

- Physical activity plays a role in both the promotion of mental well-being, higher self-esteem, and prevention of mental ill-being. => **TRUE**
- If performers manage to prolong the direct body sensation during physical practices (i.e., reducing the hectic descriptive activity) have a positive effect on hunger but not on empathy, depressive and dissociative modes? => **YES**
- Both aerobic and strength training are beneficial but combining the two is the most effective. => **TRUE**
- What is the recommended amount of physical activity per week? => **150 min of moderate physical activity or 75 min of vigorous physical activity per week?**
- Even short bouts of physical activity (e.g., 10-15 minutes) can reduce stress, depressive symptoms and improve self-esteem in adults. => **TRUE**





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FOR MENTAL WELL-BEING  
THROUGH SPORT.**

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