

## EFFECTS OF NUTRITIONAL INTERVENTIONS ON WELL-BEING

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### **Abstract**

*This study focuses on the effects of nutrition and nutritional interventions on life satisfaction in the general population. The primary aim of presented study was to confirm whether and how nutrition impacts life satisfaction. The study employed an online questionnaire and to investigate people's experiences and opinions regarding their diet and nutritional interventions and its impact on their psychological well-being. Results showed that most respondents who have experience with nutritional intervention felt an effect on their psychological feeling. Results showed that 108 respondents out of 158 were aged between 18 and 27, which is 68% of the total. 61 % of respondents were female and 39% of respondents were male. The results showed that 94% of respondents were actively interested in nutrition and healthy diet, and over 89% of respondents believed that healthy diet can positively impact psychological well-being and decrease stress. However, 78% of respondents also held the view that healthy diet remains underappreciated to this day.*

### **Keywords**

*Nutritional intervention; well-being; health; nutrition; diet; wealth.*

### **1 INTRODUCTION**

The topic of life satisfaction and nutritional intervention are undoubtedly highly debated and up-to-date topics today (Diener, 2018), and research shows that the importance of these two concepts has increased even more during the Coronavirus (Donaldson, 2021). Nowadays, it is a common thing that a large proportion of the population suffers from mental health problems (Donaldson, 2021). In frequent cases, it is a nutritional intervention that can exacerbate these difficulties or, on the contrary, improve them. It all depends on how the person treats their nutritional intervention, or to what extent they follow the nutritional plan prescribed by their nutrition counselor or nutritional therapist.

Although nowadays we have very good opportunities to follow a healthy lifestyle. Very varied options for buying quality food and also very good facilities for sports activities. Nevertheless, the number of people suffering from obesity and related diseases is increasing exponentially. As early as 1960, obesity was defined as a disease. "Obesity is a luxury we cannot afford for health reasons

alone. Even less so in today's world, where about a billion people are starving explicitly in terms of calories and another 15 billion are improperly nourished. And so obesity is also becoming an economic and sociological problem" (Doleček, Středa, Cajthamlová 2013, p. 19). It is widely known that illness is one of the main disruptors of well-being or life satisfaction.

Škvařil (2020) in the end of his study states, that it is not just the physical health that is important for overall health. In nowadays, it is a generally the accepted fact that human health lies outside the physical body, which has been the primary focus of medicine for centuries. The author also points out the so-called "Complete lifestyle" which also plays a very important role in overall health. To achieve the "Complete lifestyle" he recommends: to have adequate satisfaction of the needs of "take in" and "expend" in physical, mental, and spiritual areas; to reduce the "take in" of unhealthy phenomena and the choice of healthy substances, energies, and stimuli; to increase the excretion of excess and abiogenic substances, energies and

stimuli, which result in increasing vitality and general resilience (Škvařil, 2020).

Well-being is from a psychological point of view a feeling that is based on a certain genetic fitness. Nevertheless, people can influence well-being very significantly. If we have something to live for every day and have meaningful life goals, then we can experience well-being. A crucial element here is our attitude towards our life and how we perceive ourselves. Very closely related to this is the concept of our appearance, which is precisely dependent on our lifestyle, which we can influence with the right nutritional intervention.

Blatný et al. (2005) states, that the concept of well-being is mostly explained descriptively, concerning 12 other related concepts: "In Anglo-Saxon terminology, most often to the term "satisfaction", often in the phrase "life satisfaction", but also to the terms "welfare", "pleasure", "prosperity" or "happiness", often also concerning health, either in the form of the noun "health" or various variants of the phrase "state of being healthy".

There is an area in the field of positive human psychology that deals with human striving and the goals of human pursuit. It is also in this field that the answers to the question are sought: When is a person well?

This question herein is: What goals in everyday life (and in life as a whole) are good to set if we are concerned with being well? So if we want to achieve the highest possible life satisfaction during a nutrition intervention, it is important to set and enjoy daily progressive goals.

Nutrition is one of the most important environmental factors that influence human development and health. It is an integral part of the overall lifestyle and can have consequences in all areas of human life (Komprda, 2009).

Logically, it is quite clear that we will never see the results of our dream physique overnight. However, if we meet our daily goals, such as eating a predetermined amount of fruit and

vegetables, limiting alcohol, etc., we can achieve a state of well-being or life satisfaction from one day to the next. According the Hippocrates understanding of nutrition, his phrase subsequently became the motto: "Your nutrition will be your medicine".

Stress also plays a big role in life satisfaction; it can be positive or negative. Negatively experienced stress is called distress. When distressed, it can be so intense that it upsets the physical and mental balance. If we reach a stage where we cannot cope with the distress, health can be damaged.

Previously, health was understood as a certain state of physical well-being. Nowadays, there is what is known as an interactional concept of health, in which there is an awareness of the links between the physical and mental health, complex lifestyle, interpersonal relationships, and the environment. Nowadays, health is not only addressed in the health sector but has become a concern of the general public. Health is promoted in workplaces, schools, nurseries, and educational institutions.

## 1.2 Wellnes and healthy life

The concept of life satisfaction is also very closely linked to a wellness lifestyle. In order to achieve a wellness lifestyle, we must be able to combat stress, respond positively to change, and minimize negative reactions. The opposite of the stress response is the relaxation response, which has a restorative effect. It brings the body back into balance. Each of us needs to find some type of coping strategy to deal with stress. In order to replenish the energy in the fight against stress, we must not forget to manage time properly, to plan time for ourselves, to set goals, to engage in regular physical activity, preferably aerobic exercise, not to forget relaxation, which helps to restore energy, to get enough sleep, to express our emotions outwardly, to eat healthily, to maintain good interpersonal relationships.

Well-being is not only psychological

in nature but also very closely linked to health as a holistic concept and is dependent on a complex based conception of an individual's lifestyle, which includes a large number of risk and protective factors.

There are countless controllable and uncontrollable factors that influence the life satisfaction. The life satisfaction can be negatively affected without our causing it, for example by the death of a loved one, the occurrence of a war, or a natural disaster. Of course, it can also be affected positively in this way, for example by the success of friends, good weather, the end of a pandemic. These concepts are minimally influential on our part, and yet they can fundamentally change our life satisfaction. However, our life satisfaction is fundamentally influenced by one's lifestyle, and this can only be corrected and determined by us. Lifestyle can include a healthy diet, all sports activities, sleep, stress management, hobbies, social contacts.

### **1.3 Physical activity, healthy nutrition and its impact on life satisfaction and well-being**

One influential factor in life satisfaction is undoubtedly sport. The influence of sport on the overall well-being is quite crucial, as sporting activity affects us both physically and mentally. Through sport, we are able to shape a physical condition. Physical condition is important for personal well-being. Krejčí, Hošek, et al. (2016) state that it is a subjective experience of body. In professional sports, the body is often treated only instrumentally and sometimes even with little respect, specifically in combat and extreme sports. But there are also sports based on narcissistic gratification, such as bodybuilding. In all these cases, however, physical difficulties, such as injury and pain, are a reason to disrupt personal well-being. A very specific phenomenon that occurs during and after sport is the secretion of endorphins and enkephalins.

These are so-called endogenous opiates that raise the individual's pain threshold and arouse a feeling of pleasure to the point of euphoria. In endurance sports, such as marathon running, experiences of the so-called 'runners' high' have been described and are sometimes even considered to be one of the causes of a certain addiction to these conditions, where endorphins are released. States, when an individual gets into a personal high after performing a sporting activity are quite common. However, one can also get into personal well-being through active rest or some physical recreation.

Another influential factor in life satisfaction is a healthy diet. A balanced and healthy diet has countless positive effects on the life satisfaction. A wholesome, quality diet can affect us positively mentally, and physically almost immediately. For example, during so-called hypoglycemic shock, which can occur in diabetics but also in endurance athletes, the supply of grape sugars can have an immediate effect and improve overall condition. In the aforementioned case, this type of rapidly digestible sugar stabilizes insulin and relieves the individual from hypoglycemic shock. Although healthy nutrition is a very broad and complex concept, it is generally known that a healthy diet contains macronutrients, micronutrients, vitamins, minerals, and possibly fiber or a certain amount of trace elements, antioxidants, flavonoids. The intake of the right amount of all these substances can affect body positively. However, it is also possible to take these substances separately in the form of nutritional supplements. For some of them, it is recommended to supplement their intake or to increase the intake at certain times in the right amount.

For example, increased magnesium intake. Magnesium has a great effect on the emotional state, as it prevents feelings of anxiety. It stabilizes nervous and muscular imbalances. It helps against cramps and insomnia. However, it is

necessary to keep an eye on the amount, as it is possible to overdose.

Increased intake of Vitamin B1 is also of great importance. Increased doses of this vitamin can help improve mood, concentration, energy, and alertness.

Another vitamin that has been shown to have an effect when its intake is increased is vitamin C. This is because it can reduce the stress hormone, cortisol. It supports work performance. It is considered essential for the proper functioning of the immune system. Vitamin C cannot be overdosed, yet as with any vitamin, it is recommended to follow the recommended dosage. In any case, vitamin C is an excellent antioxidant that is suitable for supplementation all year round.

Zinc also acts as a powerful antioxidant, protecting the body from free radicals, contributing to skin health and hormonal balance. However, zinc intake from supplements must be controlled, as zinc can be overdosed and is toxic to the body in excessive amounts. Other substances, in addition to the vitamins and minerals mentioned, are substances that have no nutritional value but have a positive effect on the body. They are found, for example, in spices or mushrooms. Spices improve taste, digestion. Certain types have a dampening or stimulating effect. Lemon balm and peppermint have a depressant effect, while sage and rosemary have a stimulating effect. Some mushroom species are considered aphrodisiacs and others have a positive effect on the physical and mental state.

However, life satisfaction can also be negatively affected by an excessive increase of a given micronutrient. A diet containing excessive amounts of carbohydrates makes us feel more sleepy, tired, and thirsty. Excessive consumption of carbohydrates and especially sugars can lead to obesity, diabetes, and other diseases of civilization. Diseases caused by excessive carbohydrate intake can subsequently lead to depression and

psychological illness. There is no doubt that carbohydrates are very beneficial to the human body and play an important role in 39 the human body. Their excess intake can be harmful to a person's health. Excessive consumption of fats can cause obesity, diseased heart and blood vessels, cancer, increased cholesterol, and so on. Fat intake should not exceed 35% of total energy intake. Consumption of fats is certainly important, if only for the absorption of vitamins - D, E, K, A. However, as with carbohydrates, excessive amounts in the diet can be harmful to a person's health.

Excessive protein consumption is also harmful. Although protein is an essential micronutrient for the human body, and without zero protein intake the body's metabolism would not function, the same rule applies as with carbohydrates and fats that excessive amounts are harmful. Excessive protein intake can cause kidney disease due to increased urea production. If total energy intake from food is higher than the total energy expenditure and we consume excessive amounts of protein, as with excessive amounts of carbohydrates and fats, obesity can result.

## **2 AIM, RESEARCH ASSUMPTIONS, PROCEDURE**

### **2.1 Aim**

The main aim of the research part was to find out what effect can have a nutritional intervention on life satisfaction, how a nutritional intervention is perceived today, and what experience the respondents have with it. Based on the results of the research conducted and the nutrition recommendations that are generally valid today, the aim was to find out to what extent a nutritional intervention can improve or change a person's overall life satisfaction.

### **2.2 Research assumptions**

Five research assumptions were declared.

The first research assumption examined the respondents' interest in healthy eating. It assumed that at least 80% of the respondents were regularly interested in healthy eating. The second research assumption examined how much of the respondents had experience with a nutrition intervention and assumed that at least 60% of the respondents had personal experience with nutrition intervention. The third research assumption examined how many respondents had felt the impact on their psyche during a nutritional intervention. It was assumed that more than 70% of the respondents had felt the impact. The fourth research assumption examined whether the effect of the nutritional intervention on the life satisfaction of the individual who had undergone the nutritional intervention was perceived. The assumption was that a positive effect was perceived by at least 70% of the respondents. The fifth research assumption examined how many respondents intentionally manipulated their nutritional intervention to improve their current life satisfaction. It was hypothesized that more than half, at least 51%, were certain that they were intentionally manipulating their nutritional intervention to improve their current life satisfaction.

### 2.3 Procedure

A total of 158 participants took part in the study, of which 96 respondents were females and 62 respondents were males. The largest group were respondents in the age range of 18 to 22 years (42%). This was followed by the group aged 23 to 27 years (26%), 28 to 32 years (9%), 33 to 36 years (5%), 37 to 40 years (5%), 41 to 50 years (10%). Those aged 51 and over were 3.1% of the total.

Content analysis was used. First, relevant questions for the survey were developed. These questions were then developed into electronic form using the online survey portal Forms ([www.forms.com](http://www.forms.com)). The designed questionnaire was shared via direct link through social media,

Mogiss school portal, and email. The survey was conducted from 1 November 2020 to 1 March 2021. After the conclusion of the survey, the results of each question were subsequently analyzed and evaluated. The findings were further compiled in an understandable format in the form of percentage results placed in graphs. Based on the results of this questionnaire survey and the currently available and valid nutritional recommendations from the studies presented in the theoretical part of this thesis, the main objective was evaluated, whether nutritional intervention can increase life satisfaction.

### 3 RESULTS AND DISCUSSION

The results have proven that the interconnection between healthy eating, psyche, stress, and life satisfaction is great and all these concepts influence each other. Thanks to the results we know that although life satisfaction is not the same concept for all the respondents, it is still understood as a sense of well-being and feeling good. All the research assumptions emphasized that life satisfaction is closely linked to diet, psyche, stress, and current state of mind.

Not all respondents had tried the services of a nutrition counselor or a systematic nutrition plan, but the majority of respondents said they believed in the positive effect of nutrition on mental and physical well-being. The result of the study also showed that most of the respondents believe that a systematic diet based on healthy nutrition can relieve body from stress. A total of 89% of the respondents said so. This result confirms the main objective of this study, namely that eating healthy food as part of a nutritional intervention can relieve body of stress or improve the psychological state. It was also confirmed in the next question number 9, where 82% of the respondents stated that they know their favorite food that can positively affect them mentally and physically.



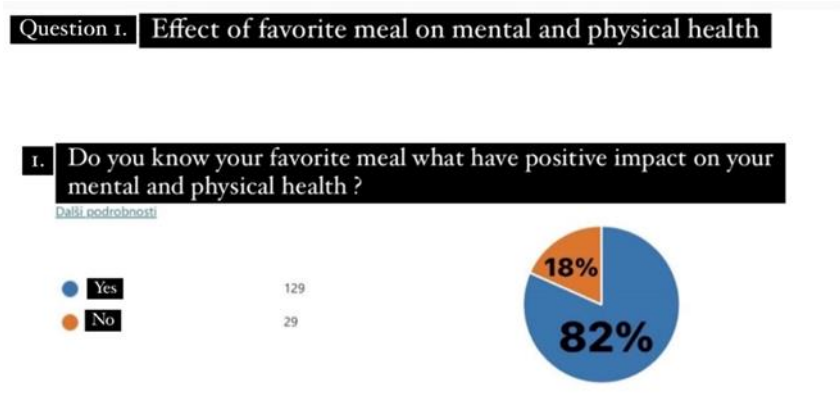
A very interesting result came from question 17 which targeted junk food and stress. The exact question was: Have you ever felt more cravings for Junk Food during a stressful situation or time? (Junk food, high-energy food). 80% of respondents answered in the affirmative. The results of this question, therefore, confirm that most people deal with stressful situations in this unhealthy way. The result was discussed with associated professor Matoulek, M.D, who read in courses „Basic Nutrition Diagnostics“ and „Modern Trends in Prevention of Civilization Diseases“. He confirmed that this is a very common reaction to a stressful situation. Any stressful onslaught can crash the life satisfaction and the subsequent consumption of poor quality food can trigger another stressful onslaught due to regret and self-pity.

Krch (1999) states that for many individuals, eating food is compensation for some other activity or experiencing pleasurable feelings through food.

Unfortunately, today's population is exposed to stressful situations frequently and it is common that even college students under the age of 27 tend to solve this problem with unhealthy and high-energy foods as evidenced by 80% of the respondents to this questionnaire.

. Nowadays, the topic of healthy eating is discussed in detail, with new studies emerging with new findings. But there are also some that refute the older ones. The main aim of this study was to confirm the claim that nutritional intervention has an impact on a person's life satisfaction. This study confirmed this claim and also showed that with the right nutritional intervention, the effect can be positive.

The work also confirmed that eating the right foods has a positive effect on the physical and mental well-being. This was stated by exactly 82% of respondents in Figure 1.



**Figure 1 Effect of favorite food on mental and physical health**

The results also confirmed that during stressful situations, cravings for unhealthy foods increase. As shown in Figure 2.

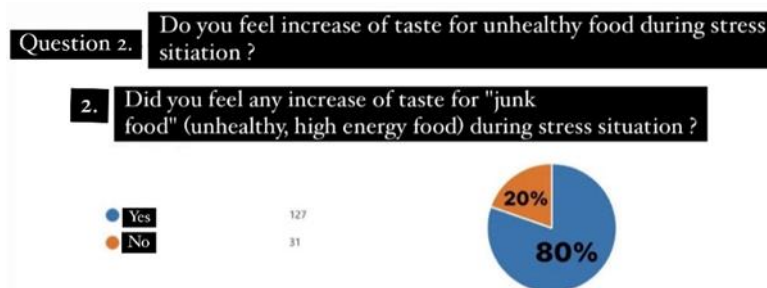


Figure 2 Increase of unhealthy foods craving during stress feeling

Life satisfaction was defined by the World Health Organization, which described well-being as "A state of complete physical, mental and social well-being" (Kebza and Šolcová, 2003). Although, it is still true that by relieving the stress we can contribute to improving life satisfaction. The results of studies show that a healthy diet can improve the life satisfaction. The results of this work could be challenged by the fact that each individual practicing a nutritional intervention has different genetic predispositions and thus the effect may be less noticeable. Diseases or transient conditions such as menopause in women, where the nutritional intervention may have a different effect at the time than in the normal period, also play an important role.

Although this study highlights nutritional intervention as an effective tool for improved life satisfaction, there are still inherited diseases for which nutrition cannot play a completely essential role as the disease is born with or is congenital. But even so, Dostálová, Dlouhý and Tláškal (2012) state that 80% of cases of heart disease, stroke, type 2 diabetes mellitus, and 40% of cases of cancer could be prevented if the risk factors of a normal lifestyle were eliminated and attention to quality nutrition was focused.

It could also be questioned whether all the nutritional interventions followed by the respondents could be considered beneficial to health in the long term. These are mainly the fasting and intermittent fasting methods. When fasting, or

intermittent fasting, is used, the principle of the diet is often misunderstood and its positive health effects are subsequently negatively affected by the consequences of the poor application of the diet. However, when fasting is properly applied it is beneficial to health as Hartl and Hartl (2010, p. 480) state: "Fasting is the deliberate or partial abstention from food for religious, dietetic, lifestyle, or life extension reasons. It is further stated that it can be found in 25 most religions as a ritual act, a practice of the art of giving up pleasure, as a way to connect with God or other higher powers. Shamanic fasting, Ramadan in Islam, and Christian fasting are all embraced with the joyful prospect of a period of subsequent feasting. It is a proven fact, however, that individuals on a steady diet of limited energy, but containing all the nutrients necessary for life, live about one-third longer than others."

The results of the study, which emphasizes that we can improve health by thinking and effort, could also be challenged by the quote from Opitz that says: "Our health is a product of nature, not of our thinking determined by our desires. If we continually transgress against the laws of nature, we will have to suffer the consequences of it one day" (Opitz, 2002, p. 46)

It is possible that the results of the study were influenced by the possible sharing of the questionnaire link. The questionnaire was anonymous and sharing was allowed, so the fact that 15

people aged 41 to 50 and 5 participants over 51 participated can be taken as an appropriate number. The data resulting from the questions of this questionnaire can be considered as valid. A physically active and healthy lifestyle promotes health through sufficient physical activity, a balanced diet, a balanced and regular daily and drinking regime, responsible behavior (including not using drugs, large amounts of alcohol, and not smoking, avoiding repeated stress and conflict situations). The typical feature is the active use of a significant part of leisure time in health-promoting physical activity (Sigmund, Sigmundová, 2011). In addition to the influence of nutrition on the life satisfaction that this work demonstrates, there is also a known social influence. Nutrition practically affects all areas of human life. Nutrition is one of the most important factors in the external environment that influence human development and health. It is an integral part of the total lifestyle and in its consequences can interfere in all areas of human life (Komprda, 2009).

Although today we know about the positive effects of nutritional intervention so unfortunately the importance of nutrition is underestimated. However, in order to improve life satisfaction, besides nutrition, it is necessary to keep track of one's intake and one's expenditure as stated by Čermák (2002), that a balance between dietary recommendations and total energy intake is a prerequisite for health.

## 5 CONCLUSIONS

The main aim of this study was to confirm the assertion that nutritional intervention has an impact on a person's life satisfaction. This study confirmed this claim and also showed that with the right nutritional intervention it can be a positive influence.

Thanks to the results of this study, the interconnectedness of healthy eating, psyche, stress, and life satisfaction is proven to be great and all these concepts

influence each other and we know that although life satisfaction is not the same concept for all respondents, it is still understood as a sense of well-being and feeling good.

Although not all respondents had tried the services of a nutrition counselor or a systematic nutrition plan, invariably the majority of respondents said they believed in the positive effect of nutrition on mental and physical well-being. It appeared that most respondents believed that a healthy diet can lead to longevity.

Out of the total number of respondents, which were 158, the question regarding healthy eating was the clearest in the result, specifically, it was 94% positive responses. This result shows that most of the research participants are interested in information and knowledge regarding healthy eating, although not all of them have tried a systematically designed diet or the services of a professional, which were the focus of questions 6 and 11. The clear evidence that the majority of respondents is interested in healthy eating is certainly positive. Indeed, it plays an important role in the healthy way of life, as this quote confirms.

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