JOURNAL HEALTH AND TECHNOLOGY - JHT
ISSN 2764-7625

NEGATIVE IMPACTS OF 15 WHITE FOODS ON HEALTH AND BRAIN AND THE ROLE OF MOBILES IN HEALTHY LIVING EDUCATION

IMPACTOS NEGATIVOS DE 15 ALIMENTOS BRANCOS NA SAÚDE E NO CÉREBRO E O PAPEL DOS MÓVEIS NA EDUCAÇÃO PARA UMA VIDA SAUDÁVEL

IMPACTOS NEGATIVOS DE 15 ALIMENTOS BLANCOS EN LA SALUD Y EL CEREBRO Y EL PAPEL DE LAS MÓVILES EN LA EDUCACIÓN PARA UNA VIDA SALUDABLE

Anna Maria Driga[1], Aggeliki Zavitsanou[2], Athanasios Drigas[3]

e2235
https://doi.org/10.47820/jht.v2i2.35

RECEIVED: 03/04/2023 APPROVED: 04/04/2023 PUBLISHED: 04/19/2023

ABSTRACT
In recent years there has been an increase in cardiovascular disease, cancer, diabetes and neurodevelopmental disorders such as autism and attention deficit disorder. The causes of diseases and disorders are multifactorial. However, according to recent studies, special emphasis is placed on nutritional causes. Specific foods appear to cause damaging effects on health and the brain. In this paper, the negative results of 15 white foods in the diet are investigated, such as sugar, white flour and rice, meat, milk, but also flavor enhancers, sweeteners, alcohol, and others.

KEYWORDS: ICTs. Nutritional Effects. Disorders.

RESUMO
Nos últimos anos, houve um aumento de doenças cardiovasculares, câncer, diabetes e distúrbios do neurodesenvolvimento, como autismo e transtorno de déficit de atenção. As causas de doenças e distúrbios são multifatoriais. No entanto, de acordo com estudos recentes, é dada especial ênfase às causas nutricionais. Alimentos específicos parecem causar efeitos prejudiciais à saúde e ao cérebro. Neste trabalho, são investigados os resultados negativos de 15 alimentos brancos na dieta, como açúcar, farinha branca e arroz, carne, leite, mas também intensificadores de sabor, adoçantes, álcool e outros.

PALAVRAS-CHAVE: TICs. Efeitos nutricionais. Distúrbios.

RESUMEN
En los últimos años se ha producido un aumento de las enfermedades cardiovasculares, el cáncer, la diabetes y los trastornos del neurodesarrollo como el autismo y el trastorno por déficit de atención. Las causas de las enfermedades y trastornos son multifactoriales. Sin embargo, según estudios recientes, se hace especial hincapié en las causas nutricionales. Alimentos específicos parecen causar efectos dañinos en la salud y el cerebro. En este artículo se investigan los resultados negativos de 15 alimentos blancos en la dieta, como azúcar, harina blanca y arroz, carne, leche, pero también potenciadores del sabor, edulcorantes, alcohol y otros.

PALABRAS CLAVE: TIC. Efectos nutricionales. Trastornos.

[1] Net Media Lab Mind - Brain R&D IIT - N.C.S.R. "Demokritos", Athens, Greece.
[2] Net Media Lab Mind - Brain R&D IIT - N.C.S.R. "Demokritos", Athens, Greece.
[3] N.C.S.R. Demokritos.

JOURNAL HEALTH AND TECHNOLOGY - JHT
ISSN 2764-7625

1. INTRODUCTION

According to Afroz & Alvina (2019) neurodevelopmental disorders do not have a specific cause or treatment. The factors may vary but in recent years research has shed light on nutritional causes, such as the consumption of sugars, fats, salt and other white foods.

For this reason, the nutritional intervention of these disorders refers to diets such as casein-free and gluten-free diets. These diets are now popular because in autism and ADHD gastrointestinal problems are common. These types of problems refer to difficulties in skills such as concentration and attention (LANGE et al, 2015).

Following the specific diets, positive effects on language and motor skills, cognitive skills, as well as a reduction in autistic behaviors, were reported. Learning and social-emotional levels also showed improvement (MILLWARD et al 2008).

In general, poor nutrition is classified as a risk factor for various types of diseases. In many countries, obesity is a very important problem for the population. Thus, poor diets lacking vitamins and minerals are common and complex (HEADEY; ALDERMAN, 2019). For example, sugar consumption is linked to a lack of calcium, iron, and vitamin A. This type of white food is a cause of obesity, poor oral health, type 2 diabetes, cardiovascular disease, abdominal disorders, and stunted childhood growth (FIDLER et al, 2017).

The 15 white evils of diet have negative effects on mental and physical health. They create hypertension and possible cardiovascular problems. Brain damage is also a major point as the emergence of neurocognitive deficits, erosion of transitional skills, and effects on learning are common. Various cancers such as those of the esophagus and colon appear with the consumption of these foods. The resulting increased brain activation alters brain regions associated with inhibition, working memory, and relaxation and of course creates poorer visuospatial functioning, attention, and intelligence (KOTCHEN et al, 2013; ZEIGLER et al, 2005; Alison et al, 2010, SQUEGLIA; GRAY, 2016).

The scientific activity of the last decades has contributed significantly to the understanding of the relationship between nutrition and health. Health and nutrition are highlighted as critical components of basic needs worldwide. Diet is the determining factor for health. Studies of health and nutrition have provided some insights, but they also raise important questions (BEHRMAN, 1988).

2. SUGAR

Fidler et al., (2017) explain the term «sugars» in their article in the European Society for Pediatric Gastroenterology Hepatology and Nutrition. They talk about the effects that they have on the human body and how they can be replaced. The definitions of sugar differ in studies. Also, the word "sugar" is listed under a different name in the food ingredients. More specifically, sugar is considered any food or drink that contains it. That is, the sugars can be present in a natural way, as in fruit, or present in a processed form for extra flavor in different types of food. One of the main dangerous factors of free food sugars is that they are not included in sugar sweetened beverages, as a result of which they are

JOURNAL HEALTH AND TECHNOLOGY - JHT
ISSN 2764-7625

consumed in abundance by children, and they are considered harmless. But in the reality these types of foods are the cause of obesity, poor oral health, type 2 diabetes, cardiovascular disease, abdominal disorders, and stunted childhood growth. Finally, the consumption of SSBs is associated with a lack of calcium, iron and vitamin A. Therefore, due to the multiple negative effects of sugars on the human body, it is proposed to introduce nutritional programs in schools from preschool age as well as to replace them with natural sugars that exist in fruits, milk and more.

The adverse effects of sugar are also explained by Freeman et al., (2018). Essentially, sugar is classified as carbohydrates, which are divided into monosaccharaides (fructose, glucose) and disaccharides (lactose), which have different effects on the body and mind. An important highlight of the research is that fructose is considered healthy because it is present in fruit. But in addition to this type of fructose, there is also added fructose. The consumption of this is associated with kidney disease, hypertension and other diseases. In addition, the fructose is much lower in a fruit compared to the fructose present in a drink. The glucose is considered less harmful for health, and it is the main source of energy for the brain in contrast to fructose. As for whether sugar is addictive, the research has shown that excessive sugar consumption can trigger drug-like behaviors and cause type 2 diabetes, which leads to cognitive impairment and diseases such as Alzheimer's. In addition, research reveals the association of sugar with Attention Deficit Hyperactivity Disorder (ADHD).

Sugar appears to worsen the hyperactivity in people with ADHD. This guess is very important given the increasing amount of sugar consumed by children. A test that given to children with hyperactivity to check glucose tolerance found that most children had abnormal curves, half of which were very low. This phenomenon is usually observed in people with hypoglycemia associated with increased production of epinephrine, the hormone that stimulates nervous or anxious behavior. Also, in a nutritional program that was implemented, the adverse effects of sugar and the difficulty of maintaining attention were confirmed. It is important to emphasize that these behaviors appeared immediately after consuming sugar. Despite the negative effects of sugar on ADHD it is futile to try to pinpoint just one specific substance or food that leads to hyperactive behavior. More generally, it appears that more than one food component can contribute arthritically to the increase in ADHD symptoms. In addition, special attention has been paid to the negative effects of food additives, food allergies/sensitivities and others (SCHNOLL, 2003).

3. SALT

Sodium chloride (salt) has been known to the world and has been associated with fertility and immortality in ancient times. First Homer referred to salt as a divine substance then Plato described it as dear to the gods. Also, the human need for salt consuming is considered normal since ancient times. But despite the history and physiological importance, high salt consumption has been recognized as harmful to health. Kotchen et al., (2013) provide a review linking salt consumption to hypertension and cardiovascular disease. More specifically, in clinical studies carried out, it appeared that reduced salt

intake is associated with lower blood pressure in people who already had high blood pressure. Nevertheless, the recommendation of low salt intake in the general population is considered correct, although the threshold of its consumption has not been precisely defined.

For this reason, additional studies examine salt intake, for example Robinson et al (2019) investigated excess salt. Earlier research suggests that salt adversely affects the body's organs and is blamed for high blood pressure. Of course, this varies from organization to organization. In general, however, recent studies have proven that large amounts of salt harm the blood vessels, bones, skin, kidneys, heart, and brain. But does the reduced consumption of salt affect the human body in the same negative way? It is widely known that high salt consumption is not good regardless of blood pressure because it affects many organs too. On the contrary, its reduced intake seems to have positive effects on blood pressure and cardiovascular disease. However, the sodium content should be considered in the diet regardless of salt.

An interesting study by Afroz and Alvina (2019) confirms the above findings that high salt consumption is a global problem. This study examines the relationship between salt and the onset of autism. Autism is a neurodevelopmental disorder whose causes are unclear. Most certainly, environmental and genetic factors are considered important for the appearance of autism. Among these, the dysregulation of the immune system in pregnant women appears to contribute to the occurrence of this particular neurodevelopmental disorder. This dysregulation can be created by the increased consumption of salt. It happens because too much salt can upset the gut and cause changes in the cells that produce cytokines and a buffer, both of which are essential for the balance of the immune system. Nevertheless, there must be further research that will clarify the upper and lower limit of salt intake that can cause respiratory system dysfunction.

4. WHITE FLOUR AND WHEAT FLOUR

The consumption of wheat found in bread, cereals, pasta and other foods consumed daily and it appears to be a major factor affecting human health. The aim of the paper by Ertl & Goessle (2018) is to compare the composition of trace elements and minerals found in different wheat grains and also to compare whole wheat flour with white flour. Several cereal and flour samples were investigated for demonstrating the positive importance of whole grain products in diets in contrast to white flour.

Interventional diets related to wheat are gluten-free diets, which are common in children with autism. This particular diet eliminates gluten-containing foods such as bread. It is common knowledge that children with autism have difficulty breaking down the proteins contained in gluten resulting in the peptides being unable to be absorbed and resulting in a leaky gut. This results in the worsening of behavioral symptoms. The proponents of the gluten-free diet argue that the resulting brain change positively interferes with neural development, cognition, attention, and learning in children with autism (HYMAN, 2015).

Previous research supports the hypothesis of excessive absorption of peptides derived from

JOURNAL HEALTH AND TECHNOLOGY - JHT
ISSN 2764-7625

gluten-containing foods. Whitelley et al., (1999) observed behavior over 5 months in children with autism who followed a gluten-free diet. The results showed that these children showed improvement in their behavior. This may be explained by the fact that the gluten-free diet has its origins in neurology and biochemistry rather than in an educational and psychological setting. This led to an improvement in verbal communication, attention, and perception.

5. TRANS FATTY ACIDS

Too much trans fatty acids in the diet is a risk factor for cancer and diabetes. It is explained as follows: with the consumption of trans, the levels of low-density lipoprotein, that is bad cholesterol that is considered harmful to health, increase. On the contrary, the levels of high-density lipoprotein - good cholesterol - decrease. At the same time, it increases triglycerides. Meat and dairy products are some of which contain amounts of trans fats and are certainly difficult to eliminate from the diet. Common trans is vaccenic acid and linoleic acid (MOZAFFARIAN et al., 2006).

Intake of trans fats should be very low to avoid health risks. Legislation in some countries has set their maximum content in foods and also set "high trans menus" that state the content in grams. In the method used in this research, food was purchased from different countries and tested for trans fats. Some of these products were cookies, cakes, popcorn, and fast food. The findings of the study were significant and proved that over the years the consumption of foods with trans fats has decreased. Thus, the increased risk of coronary heart disease can be reduced, since the low daily intake of these foods minimizes the risk to health in general (STENDER et al., 2006).

Given the fact that trans fats have been linked to adverse effects on cardiac and general health, Golomb & Bui (2015) also examine the effects of trans fat consumption on memory and cognitive function. First, trans fats block the absorption of good fats such as omega-3s, which are known to contribute positively to brain health. Second, trances increase oxidative stress, which in turn has adverse effects on cellular energy. For the above reasons, the memory is affected by the energy changes of the cells and thus weakens. It is evidenced by research findings in which participants appeared to be unable to recall words following trance administration. The findings of the research were expanded. They showed that the trans had aggressive effects in the aggressive behavior.

6. RED MEAT

The red meat is considered white food because of the high comprehensiveness, of fats that contains.

Red meat has been established as a staple food for protein and nutrients such as iron, zinc, and vitamin B12. Despite the positive reports of red meat, new research has proven the opposite effects. The World Cancer Research Fund has recently concluded that red meat increases the chances of colon cancer. The components of red meat that are considered responsible for disease and cancer include high-fat content, fatty acid composition, and the occurrence of carcinogenic compounds such as

JOURNAL HEALTH AND TECHNOLOGY - JHT
ISSN 2764-7625

heterocyclic amines. These compounds are mainly created by cooking meat at high temperatures. Also, additional research indicates that the consumption of red meat in combination with a generally poor diet, such as alcohol, smoking, and a low intake of fruits and vegetables, is more likely to cause problems in the human body. These factors combined with low levels of physical activity worsen health. The literature review by Alison et al., (2010) categorizes and analyzes the risks and benefits of meat. Nevertheless, it is considered important to carry out additional studies on the causal role of red meat in colon cancer and cardiovascular disease.

As mentioned above, red meat has been categorized for many problems in the body. Previous studies have already linked the consumption of red meat and processed meats with the occurrence of colon cancer. In addition, it is not excluded that its consumption is generally associated with malignancies in the gastrointestinal system. This is explained because red meat is a source of iron and source of nitrites and nitrates too. These sources create chemical compounds known to cause cancer. The research by Cross et al., (2011) after a decade of follow-up also came to the conclusion about the harmful effect of red meat intake on the body, specifically the occurrence of esophageal cancer as well as cardiac gastric cancer. The iron ingested from meat consumption may contribute to carcinogenesis through oxidative stress. The research data is also confirmed by the Cancer Research Institute.

Disorders of the digestive system affect the cognitive functions of the brain. That is, brain mechanisms can be affected either positively or negatively by specific foods consumed. One group of people with digestive problems is people with autism. The digestive system of these people is sensitive, and it is usually good to follow a specific diet plan. The beneficial nutritional plan for mental illnesses is considered the Mediterranean diet. The Mediterranean diet includes a large consumption of fruits and vegetables, nuts, olive oil, and legumes. On the other hand, however, an effective Mediterranean diet must be low in intake of many food products, one of which is red meat (RODOP et al., 2021).

7. SIMPLE CARBS

Dietary carbohydrates are a broad category and consist of simple and complex carbohydrates and dietary fiber. Glucose, fructose, and lactose belong to these categories. Foods that contain these carbohydrates are honey, fruit, and milk. Epidemiological evidence suggests a causal relationship between carbohydrate consumption and metabolic disorders. For example, fructose appears to be associated with adverse health outcomes. These indications apply to the whole population whether they have diabetes or not. A diet low in carbohydrates such as sucrose and fructose are generally recommended (STANHOPE, 2016).

In addition to the above, these types of diets also seem to help with obesity. The obesity rages as an epidemic involving a large population every year and is often linked to hypertension. Obese children have increased in recent years. Also, when a child is overweight and therefore hypertensive, a hypertensive adult usually becomes a hypertensive adult, and this phenomenon causes cardiovascular risk, diabetes, and cancer. An overweight person may experience organ changes such as left ventricular

hypertrophy, increased carotid artery thickness, and other diseases. Also, recent research has discovered that the occurrence of increased levels of uric acid is an important factor in hypertension. Although there is no clear reason why this happens, some research has shown that a lack of the liver enzyme uricase plays an important role because it converts uric acid to allantoin. Diet may mediate the association of hypertension and hyperuricemia. More specifically, the consumption of sugar can cause increased uric acid. Sugars like fructose have been blamed for this. Certain medications such as allopurinol can reduce hyperuricemia levels, but this is not the solution. On the contrary, reducing the intake of simple sugars and increasing the consumption of fruits and vegetables as well as daily physical activity are important actions for the successful management of the obesity epidemic and better health (ORLANDO et al., 2018).

An additional element is to refer to carbohydrates and neurological disorders. Alzheimer's disease is a memory loss disease where recent epidemiological evidence shows that patients with this disease previously presented with ADHD symptoms such as hyperactivity. Their research offers a new insight into the pathogenesis and treatment of ADHD, most notably the finding that there was a strong exacerbation of symptoms after the consumption of simple carbohydrates. More specifically, diets that were high in carbohydrates caused hyperactive behavior (ZHANG, 2015).

8. SYNTHETIC SWEETENERS

Artificial sweeteners replace sugar and are mainly used to aid weight loss and are considered a healthy alternative. But the reality is that sweeteners contribute to metabolic syndrome and obesity. This is because consuming them is associated with more calories, changes the gut microbiome, leads to reduced satiety, and alters glucose homeostasis (PEARLMAN et al, 2017).

Artificial sweeteners are synthetic sugar substitutes that have been blamed for gut upsets. In the specific research of Shil and Chichger (2021), gut bacteria were exposed to and interacted with various sweeteners such as saccharin, sucralose, and aspartame. Given the high consumption of sweeteners in the diet mainly as a weight loss aid, research is important to highlight the effects of sweeteners on health and any improvement by reducing their consumption. Already older studies show an increase in bacteria such as E. Coli and E. faecalis that could worsen gut health. On a global level, sweeteners have been detected - apart from food - and in drinking water, an additional negative element for public health.

The US population consumes foods containing aspartame (an artificial sweetener) as a sugar substitute. Consuming this also increases the release of methanol in the gut. This is a fact that led the authors Walton & Monte (2015) to investigate whether the large release of methanol may increase the risk of autism in pregnant women who consumed aspartame. So, questionnaires were given to women who had given birth to at least one child after the date of 1984. There were two groups investigated. One group was the one whose mothers had given birth to a child with autism and the other group was mothers with a normal child. The questionnaires given to the first group were much fewer than those of

the second group, in which the mothers filled in the foods they consumed weekly that contained methanol. The results of the questionnaires showed that women who had an autistic child had a higher intake of methanol sources than women who had a typical child.

9. ANIMAL FATS

Cardiovascular disease is the leading global cause of death. Sacks et al., (2017) of the American Heart Association looked for scientific evidence on dietary fat in the diet and cardiovascular disease, where recent studies report a link between them. Research highlights that the risk of this disease can ultimately be reduced by replacing saturated fats with monounsaturated and polyunsaturated fats. Saturated fats are found in dairy products and meat as opposed to unsaturated fats found in natural oils. Saturated fats are considered dangerous because they raise cholesterol and triglycerides unlike polyunsaturated or monounsaturated fats. Cholesterol and triglyceride levels are a major cause of atherosclerosis. Obviously, however, for better results in reducing the occurrence of the disease, a reduction in total dietary fat intake is useful. Therefore, an overall healthy dietary pattern, such as the Mediterranean diet, contributes to better health.

In general, many has been written about nutrition and cardiovascular disorders, but the literature is insufficient. The leading cause of death in recent years in the US is heart disease. One of the most common diseases is atherosclerosis. That is, the accumulation of lipids in the arterial wall with the possible result of the formation of clots, the blockage of the artery and possible heart attack. Lipids can be created from dietary animal or vegetable fats and substances such as cholesterol. The main components of fats are triglycerides which are made up of fatty acids, of which saturated fatty acids are mainly found in animal fats. Already 20 years ago, research was talking about a positive correlation between dietary fat and atherosclerosis. So, there is evidence that a diet low in cholesterol and saturated fat may have benefits in reducing heart disease. Of course, it must be emphasized that the occurrence of heart disease is not due to a single factor, only diet. The causes are multifactorial and related to lack of physical exercise, stress, and heredity (JACOBSON, 1974).

Eating animal fats is common in children with autism. It is because these children have feeding problems. That is, their diet includes more animal fats, processed carbohydrates, sugars, and less vegetables and fruits. As a result, the obesity rate is high in this group of children. On the one hand the reported insufficient supply of essential nutrients such as vitamins and minerals. On the other hand, the overconsumption of high-fat foods can be justified in these children because they show a reduced interest in food or feel discomfort. Therefore, nutritional monitoring of children with autism is useful to prevent obesity and other problems (RASPINI et al., 2021).

10. WHITE RICE

Rice is a staple food for millions of people and is an important source of carbohydrates, proteins, and other essential nutrients. The grains of rice are processed and when consumed raise the glycemic

index. In the review by Saleh et al., (2019), a comparison was made between white and brown rice. Brown rice contains higher levels of nutrients such as minerals and vitamins, phenolic acids, and flavonoids. Apart from brown rice, its derivatives have also been shown to have antioxidant, anti-diabetic, and anti-cancer effects.

Rice is grown worldwide and provides food for more than half of the world's population. White rice is produced through a series of mechanized processes and consists mainly of starch, and its consumption increases the glycemic index whose load depends mainly on the processing the rice has undergone and the way it is cooked. For this reason, white rice, which has undergone more processing, has been shown to raise the glycemic load and as a result, has been blamed for an expanded risk of type 2 diabetes. In addition to white rice, other processed carbohydrates such as baked goods, sugary drinks, and white bread have adverse health effects (HU et al., 2012).

The article by Kulushtayeva (2019) examines the benefits of a gluten-free diet in organisms suffering from various types of diseases. A GFD diet is known to eliminate the consumption of gluten, which is included in a wide variety of foods, one of which is rice. One of the positive outcomes of this diet is that it helps in the management of autism and is included in a different type of treatment recommended by doctors. In general, gluten has been blamed for the appearance of swelling symptoms, thus creating oxidative stress in the cells. Also eliminating gluten helps the absorption of nutrients from the diet and the cellular activity of the human body. In conclusion, the gluten-free diet most often appears to have beneficial health properties (KULUSHTAYEVA et al., 2019).

11. COW MILK

The consumption of dairy products and milk is widespread as they are considered fattening products therefore, they lead to an increase in cholesterol because they contain saturated fatty acids. This increases the chances of heart disease. Results of bibliographic reports and observational studies showed that the consumption of the specific foods are prognostic factors for the occurrence of vascular disease and diabetes. They also affect other biological mechanisms as well as being a risk factor for other diseases such as metabolic syndrome. People who drink more milk may develop coronary heart disease or stroke (ELWOOD et al., 2010).

The study by Elwood et al., (2007) was based on a sample of middle-aged men and analyzed the occurrence of metabolic syndrome that can be created by drinking milk. The clinical significance of the syndrome indicates the risk of subsequent events such as death, heart disease, and diabetes.

Another research related to milk is related to autism. Alternative treatments for autism are widespread. One of the well-known treatments is the casein diet. Eliminating casein means not eating milk, cheese, yogurt, and other dairy products. Peptides caused by milk casein create excessive opioid activity and for this reason casein is thought to play a role in the origin of autism. In their research of Millward et al., (2008), the effectiveness of this diet is determined. Positive effects were reported on language, motor ability and cognitive skills as well as a reduction in autistic behaviors. The behaviors

JOURNAL HEALTH AND TECHNOLOGY - JHT
ISSN 2764-7625

that were evaluated and improved were verbal and non-verbal communication, learning level, emotions, and social relations with peers. Stereotyped behaviors also seemed to improve.

12. ALCOHOL

Alcohol is neurotoxic. Alcohol use before age 14 is a predictor of increased risk for developing alcohol disorders. Frequent disorders after alcohol consumption at young ages are brain damage, appearance of neurocognitive deficits, erosion of transitional skills, effects on learning and intellectual development. The belief that young people recover faster after drinking alcohol is not true, since young people have less body mass, and their brains are more sensitive than the brains of adults. The consequences of this are memory impairment, impairment in visuospatial ability, and recall of verbal and non-verbal information. The brain is too precious to be damaged, so attention from doctors, educators, and parents is necessary to address alcohol use, especially among young people.

More generally, adolescence is a neurodevelopmental period characterized by substance use. Recent research examines the effects on the brain, cognition, and neural function that drug, and alcohol use can cause. Neural and neuropsychological characteristics that are strongly observed in adolescence appear to be related to increased substance use. High consumption of these rapidly reduces the gray matter and increases the white matter of the brain. It also creates increased brain activation which alters brain areas related to inhibition, working memory, calmness and of course creates poorer visuospatial function, attention and IQ (SQUEGLIA; GRAY, 2016).

A study was designed to assess at what age children diagnosed with ADHD may become more susceptible to alcohol consumption as well as alcohol use disorder. The risk groups were adolescence (11-17 years) and young adults (18-28 years). This prediction was partially confirmed since childhood ADHD was considered responsible for excessive alcohol use, drunkenness, and alcohol use disorder symptoms. However, this assumption was confirmed mainly for the ages 15-17 and not for the younger ages. Of concern is the level of alcohol consumption mainly among the 17-year-old and 18-25-year-old age group, who were, however, individuals without ADHD but with antisocial behavior. Research findings thus initially suggest that children with ADHD are susceptible to alcohol but also that alcohol consumption may contribute negatively in part to the adverse symptoms of ADHD (MOLINA et al., 2007).

13. PRESERVATIVES

Preservatives are considered to have harmful effects on health. An antibacterial and antifungal preservative is benzoic acid. It is found in plant and animal tissues and can be produced by microorganisms. Nevertheless, it is also used as a preservative in food, cosmetics, hygiene items, and pharmaceutical products. Human exposure to benzoic acid is high because it is easy to find in air, soil, and water. For this reason, Olmo et al., (2017) examine its toxicology and public health effects as a food preservative. In various countries, benzoate is listed in food as a preservative. Some of them are soft drinks, fish products, ketchup, liquid egg products, and many more. However, not only food is the main

entrance of the acid into the body, but its absorption is possible through the skin and breathing. High amounts of benzoate compounds exist in pesticides, plastics, and industries. In short, benzoic acid is referred to as the well-known E in food, and parabens in products. Therefore, the appropriate weight must be given to this matter for general public health, but in particular for vulnerable population groups such as people with respiratory diseases, children, and allergic people.

One group of children with allergies to various foods is children with ADHD. The causes of ADHD can be genetic and environmental. A key environmental factor is an intolerance to certain foods or food additives. Although food additives have not been established as the main cause of ADHD, significant evidence shows that symptoms are reduced when children with this disorder eat a diet free of artificial food colors. Also, these children are usually sensitive to common salicylic foods such as milk, egg, soy, and wheat. As early as the 1970s artificial foods and artificial flavors were shown to affect the behavior of almost half of the children with ADHD (STEVENS, 2011).

Common behavior in children with ADHD is hyperactivity, inattention, and impulsivity. Many of the studies have shown that these children react negatively to challenges with artificial food colors. In this particular study, a reference is made to toxicological, antinutritional and hypersensitivity mechanisms. But it was not clear how these mechanisms interact with each other even though ADHD behavior is linked to the toxicity of artificial colors. It is also important to emphasize that some of these children were more sensitive than others to the effects of colors. Therefore, in subsequent research it would be useful to determine the tolerable upper limits of exposure to colors in the group of children who are not very sensitive, in place with the group of children at higher risk. Also given the negative effects of colors on behavior it would be useful to determine the effects of colors on the mucosa, nutrient absorption, gut, and immune system (STEVENS et al., 2013).

14. FLAVOR ENHANCERS

Monosodium glutamate is one of the most common food additives that acts as a preservative or flavor enhancer and has a major toxic effect on fetuses, children, and adults. The most common complications are hypertension, obesity, poisoning, cancer, brain dysfunction. This is explained because the component glutamate is an excitatory neurotransmitter of the brain and can overstimulate cells resulting in their destruction. So, when the neurotransmitter glutamate turns into an excitotoxic toxin it can cause seizures, autism, attention deficit hyperactivity disorder and other neurological diseases such as Parkinson's (CHAKRABORTY, 2019).

But what is the significance of the nerve damage that can be caused by high MSG consumption? In experiments done on rodents, the immediate nerve damage was observed after the administration of monosodium glutamate. The most basic association of glutamic acid with neural damage is that the arcuate nucleus of the hypothalamus leads to continuous stimulation of the glutamatergic neuron resulting in exhaustion of the nervous system and leading to cell death (WALKER, 1999).

Glutamic acid, in addition to behavioral disorders, has been linked to obesity and by extension

to diabetes and metabolic syndrome in which high corticosteroids in the blood, hypophagia, and hypoactivity occur. So, from the moment of the appearance of all of the above, other problems such as increased triglycerides or cholesterol are given. Thus, Majewski et al., (2018) who investigated the potential effects of glutamic acid in obesity, clearly demonstrated that vascular hyperpolarization is affected, and blood pressure increases due to increased production of prostanoids and a concomitant decrease in potassium.

15. WHITENING COMPOUNDS

Chlorine is a mineral used in water as a disinfectant and has been accused of adversely affecting human health. Either inhalation of chlorine or dermal exposure to it is of concern. On the one hand, chlorine has oxidizing properties, killing harmful microorganisms. Chlorine can also be used as a bleaching agent. Also, in contact with organic materials it releases some compounds that are considered to be related to brain cancer and problems of the immune and reproductive system (DROGUI, 2015).

Fluoride is an additional element being investigated. A serious worldwide problem is water contamination due to which a large population including many children have fluoridation. Fluoride in water and soil can come from minerals (geogenic source) but it can also come from industry, the use of fertilizers (anthropogenic source). Thus, when drinking water or food containing fluoride, it enters the human body and causes health problems. Excess fluoride can lead to dental and skeletal fluoride. Chronic consumption can cause bone deterioration, impaired cognition, impaired intelligence, and developmental problems. Ingested fluoride is rapidly absorbed through the gastrointestinal tract and lungs (YADAV, 2018).

Research by Choi et al (2017) reports in their review of published studies on the neurotoxicity of fluoride causing problems in neurobehavioral development. The results of the meta-analysis prove the possibility of a negative effect on high amounts of fluoride, since the children exposed to them presented a lower IQ than the rest. Dental fluoridation is a major indicator of high fluoride consumption.

16. ALLERGENIC FOODS

In recent decades, food-induced allergic reactions have been a public health concern in the US. Food allergies endanger physical and mental health in children and adults. A common allergy that adversely affects children is cow's milk allergy. Initial symptoms are gastrointestinal and respiratory problems. Accumulating research evidence links food hypersensitivity to autism, anxiety, depression, and ADHD. Alteration of gut microbiota due to food allergy correlates with the pathogenesis of autism or autism-like behaviors. Behaviors such as decreased social interaction and increased repetitive behavior can be a result of bowel dysfunction. This causes changes in the immune system and the gut-brain axis (CAO et al., 2022).

Miyazaki et al., (2017) also report the frequent occurrence of allergic diseases in children with ADHD. More specifically the literature review showed a relationship between these children and asthma,

allergic rhinitis, atopic dermatitis and also allergic conjunctivitis. Therefore, the relationship between the immune response and the central nervous system may predispose some of the children to ADHD, autism or impulsive behavior.

Autism is a neurological disorder with many unknown causes. Many children with autism have medical conditions such as gastrointestinal symptoms in addition to behavioral problems. Many parents of children with autism attribute gastrointestinal problems to food allergies. For this reason, they often resort to diets where the behavioral symptoms seem to improve. More specifically, diets free of dairy and wheat (casein and gluten-free diets) - products that lead to food allergies may help improve the behavior of the autistic spectrum (JYONOUCHI, 2009).

17. METHOD

This study utilized research sources and used scientific articles to gather information and record data related to nutrition impacts in general on health and more specifically on disorders such as autism and ADHD. The study was a bibliographic review based on past and present articles on nutrition. The technique used is the creation of 15 chapters that each refer to each of the 15 negative nutrition evils of the diet.

18. CONCLUSION

In the present literature study, sugar sweetened beverages are mostly consumed by children and are considered harmless. Sugar is referred to by different names and consumers are confused as to whether a food contains sugar. This kind of food is dangerous for obesity. Also, the evidence of sugar addiction is clear. This substance alone or together with other substances can trigger hyperactive behaviors and autistic symptoms. But the worsening of behavioral symptoms can also be caused by gluten. That is, the consumption of wheat found in bread, cereals, pasta and other foods consumed daily appears to be an important factor affecting human health.

Another study of clinical interest is that salt can disrupt the immune system and cause hypertension. However, high blood pressure can also be caused by trans fats since they increase cholesterol. These are included in poor nutrition and combination with the consumption of red meat, alcohol and fats are more likely to cause problems in the human body.

Another important finding of the study was that by reducing dairy products and implementing the casein-free diet, positive effects on abilities and skills were reported in people with autism. But the gluten-free diet also seems to have valuable properties for health. The controversy surrounding the causes of poor health has extended to other nutritional foods such as preservatives, monosodium glutamate, sweeteners, allergenic foods, chlorine, fluoride and simple carbohydrates. The consumption of all of the above seems to be linked to serious diseases (such as cancer, diabetes and cardiovascular disease) but also to a decrease in mental functions, weakening of skills and abilities (such as memory and attention).

In summary the findings of this study contribute to the research literature in terms of exploring the 15 white foods and how they contribute to poor health. The fact that specific dietary factors create problems in mental and physical health makes it necessary to further investigate the issue of nutrition.

Finally we underline the importance of the digital technologies in education domain and especially in healthy living education that is very productive and successful, facilitates and improves the assessment, the intervention and the educational procedures via Mobiles which brings educational activities everywhere, various ICTs applications which are the core supporters of education, AI, STEM & ROBOTICS which raise educational procedures into new levers of performance, and games which transforms the education in a very friendly and enjoyable interaction. Additionally, the enhancement and combination of ICTs with theories and models of metacognition, mindfulness, meditation and emotional intelligence cultivation as well as with environmental factors and nutrition, accelerates and improves more over the educational practices and results, especially in the healthy living education domain.

REFERENCES

AFROZ, K. F.; ALVIÑA, K. Maternal elevated salt consumption and the development of autism spectrum disorder in the offspring. **Journal of Neuroinflammation**, v. 16, n. 265, 2019. doi.org/10.1186/s12974-019-1666-2

ALEXOPOULOU, A.; BATSOU, A.; DRIGAS, A. Resilience and academic underachievement in gifted students: causes, consequences and strategic methods of prevention and intervention. **International Journal of Online and Biomedical Engineering (iJOE)**, v. 15, n. 14, p. 78, 2019.

ALISON, J.; MCAFEE, A. J.; MCSORLEY, E. M.; CUSKELLY, G. J.; MOSS, B. W.; JULIE, M. W.; WALLACE, J. M. W.; BONHAM, M. P.; FEARON, A. M. Red meat consumption: An overview of the risks and benefits. **Meat Sci**, v. 84, n. 1, p. 1-13, 2010. doi: 10.1016/j.meatsci.2009.08.029

ANAGNOSTOPOULOU, P.; ALEXANDROPOULOU, V.; LORENTZOU, G.; LYKOTHANASI, A.; NTAOUNTAKI, P.; DRIGAS, A. Artificial intelligence in autism assessment. **International Journal of Emerging Technologies in Learning**, v. 15, n. 6, p. 95-107, 2020. https://doi.org/10.3991/ijet.v15i06.11231

ANGELOPOULOU, E.; DRIGAS, A. Working Memory, Attention and their Relationship: A theoretical Overview. **Research. Society and Development**, v. 10, n. 5, p. 1-8, 2021. https://doi.org/10.33448/rsd-v10i5.15288

BAKOLA, L.; DRIGAS, A. Technological development process of emotional Intelligence as a therapeutic recovery implement in children with ADHD and ASD comorbidity. **International Journal of Online & Biomedical Engineering**, v .16, n. 3, p. 75-85, 2020.

BAMICHA, V.; DRIGAS, A. The Evolutionary Course of Theory of Mind - Factors that facilitate or inhibit its operation & the role of ICTs. **Technium Social Sciences Journal**, v. 30, p. 138-158, 2022.

BAMICHA, V.; DRIGAS, A. ToM & ASD: The interconnection of Theory of Mind with the social-emotional, cognitive development of children with Autism Spectrum Disorder. The use of ICTs as an alternative. **Technium Social Sciences Journal**, v. 33, p. 42-72, 2022.

JOURNAL HEALTH AND TECHNOLOGY - JHT
ISSN 2764-7625

BEHRMAN, J. R.; DEOLALIKAR, A. B. **Health and Nutrition**. New York: Elsevier Science Publishers, 1988.

BRAVOU, V.; DRIGAS, A. A contemporary view on online and web tools for students with sensory & learning disabilities **iJOE**, v. 15, n. 12, p. 97, 2019.

BRAVOU, V.; OIKONOMIDOU, D.; DRIGAS, A. Applications of Virtual Reality for Autism Inclusion. **A review Retos**, v. 45, p. 779-785, 2022.

CAO, L. H.; HE, H. J.; YUAN-YUAN ZHAO, Y. Y.; ZHEN-ZHEN WANG 1, XING-YUAN JIA, X. Y.; KAMAL SRIVASTAVA, K.; MIAO, M. S.; LI, X. M. Food Allergy-Induced Autism-Like Behavior is Associated with Gut Microbiota and Brain mTOR Signaling. **J Asthma Allergy**, v. 15, p. 645-664, 2022. doi: 10.2147/JAA.S348609

CHAIDI, I.; DRIGAS, A Parents' Involvement in the Education of their Children with Autism: Related Research and its Results. **International Journal Of Emerging Technologies In Learning**, v. 15, n. 14, p. 194-203, 2020.

CHAIDI, I.; DRIGAS, A. "Parents' views Questionnaire for the education of emotions in Autism Spectrum Disorder" in a Greek context and the role of ICTs Technium. **Social Sciences Journal**, v.33, p. 73-91, 2022.

CHAIDI, I.; DRIGAS, A. Digital games & special education Technium. **Social Sciences Journal,** v. 34, p. 214-236, 2022.

CHAIDI, I.; DRIGAS, A. S. “Autism, Expression, and Understanding of Emotions: Literature Review,” **Int. J. Online Biomed. Eng**., v. 16, n. 02, p. 94–111, 2020. https://doi.org/ 10.3991/ijoe.v16i02.11991

CHAKRABORTY, S. P. Patho-physiological and Toxicological Aspects of Monosodium Glutamate. **Toxicol Mech Methods**, v. 29, n. 6, p. 389-396, 2019. doi: 10.1080/15376516.2018.1528649

CHOI, A. L.; SUN, G.; ZHANG, Y.; GRANDJEAN, P. Developmental Fluoride Neurotoxicity: A Systematic Review and Meta-Analysis. **Environmental Health Perspectives**, v. 120, n. 10, p. 1362-8, 2017. doi: 10.1289/ehp.1104912

CROSS, A. J.; FREEDMAN, N. D.; REN, J.; WARD, M. J.; HOLLENBECK, A. R.; SCHATZKIN, A.; SINHA, R.; ABNET, C. C. Meat consumption and risk of esophageal and gastric cancer in a large prospective study. **Am J Gastroenterol**, v. 106, n. 3, p. 432-42, 2011. doi: 10.1038/ajg.2010.415

DOULOU, A.; DRIGAS, A. Electronic, VR & Augmented Reality Games for Intervention in ADHD Technium. **Social Sciences Journal**, v. 28, n. 159, 2022.

DRIGA, A. M.; DRIGAS, A. S. “ADHD in the Early Years: Pre-Natal and Early Causes and Alternative Ways of Dealing.” **International Journal of Online and Biomedical Engineering (IJOE)**, v. 15, n. 13, p. 95, 2019. doi:10.3991/ijoe.v15i13.11203

DRIGA, A. M.; DRIGAS, A. S. “Climate Change 101: How Everyday Activities Contribute to the Ever-Growing Issue”. **International Journal of Recent Contributions from Engineering, Science & IT**, v. 7, n. 1, p. 22-31, 2019. https://doi.org/10.3991/ijes.v7i1.10031

DRIGAS, A. S.; ARGYRI, K.; VRETTAROS, J. Decade review (1999-2009): artificial intelligence

techniques in student modeling. **World Summit on Knowledge Society**, p 552–564, 2009.

DRIGAS, A. S.; IOANNIDOU, R. E. ICTs in special education: A review. In World Summit on Knowledge Society. Berlin, Heidelberg: Springer, 2011. p. 357-364.

DRIGAS, A. S.; KARYOTAKI, M. A Layered Model of Human Consciousness. International **Journal of Recent Contributions from Engineering**, v. 7, n. 3, p. 41- 50, 2019. https://doi.org/10.3991/ijes.v7i3.11117

DRIGAS, A. S.; KARYOTAKI, M.; SKIANIS, C. An Integrated Approach to Neuro-development, Neuroplasticity and Cognitive Improvement. **International Journal of Recent Contributions from Engineering**, v. 6, n. 3, p. 4-18.

DRIGAS, A. S.; KOUKIANAKIS, L.; PAPAGERASIMOU, Y. “An elearning environment for nontraditional students with sight disabilities.”. *In:* **Frontiers in Education Conference**, 36th Annual. IEEE, 2006. p. 23-27.

DRIGAS, A. S.; KOUREMENOS, D. An e-learning system for the deaf people. **WSEAS transaction on advances in engineering education**, v. 2, n. 1, p. 20–24, 2005.

DRIGAS, A. S.; LEFTERIS, K. Government online: An e-government platform to improve public administration operations and services delivery to the citizen. **WSKS**, v. 5736, 2009.

DRIGAS, A. S.; PAPPAS, M. “The Consciousness-Intelligence-Knowledge Pyramid: An 8x8 Layer Model.” **International Journal of Recent Contributions from Engineering, Science & IT (iJES**), v. 5, n. 3, p 14-25, 2017. https://doi.org/10.3991/ijes.v5i3.7680

DRIGAS, A. S.; POLITI-GEORGOUSI, S. Icts as a distinct detection approach for dyslexia screening: A contemporary view. **International Journal of Online and Biomedical Engineerin**, v. 15, 13, p. 46–60, 2019.

DRIGAS, A. S.; RODI-ELENI, I. A Review on Artificial Intelligence in Special Education, **Information Systems, Elearning, and Knowledge Management Research**, v. 278, p 385-391, 2013. http://dx.doi.org/10.1007/978-3-642-35879-1_46

DRIGAS, A. S.; STAVRIDIS, G.; KOUKIANAKIS, L. A Modular Environment for E-learning and E-psychology Applications. **WSEAS Transactions on Computers**, v. 3, n. 6, p. 2062-2067, 2004.

DRIGAS, A. S.; VLACHOU J. A. “Information and communication technologies (ICTs) and autistic spectrum disorders (ASD).” **Int. J. Recent Contrib. Eng. Sci. IT (iJES)**, v. 4, n. 1, p. 4, 2016. https://doi.org/10.3991/ijes.v4i1.5352

DRIGAS, A. S.; VRETTAROS, J.; KOUKIANAKIS, L. G.; GLENTZES, J. G. A Virtual Lab and e-learning system for renewable energy sources. **Int. Conf. on Educational Tech**., 2005.

DRIGAS, A. S.; VRETTAROS, J.; KOUREMENOS, D. ‘Teleeducation and e-learning services for teaching English as a second language to deaf people, whose first language is the sign language’, **WSEAS Transactions on Information Science and Applications**, v. 1, n. 3, p.834–842, 2004.

DRIGAS, A. S.; VRETTAROS, L.; STAVROU, D.; KOUREMENOS. E-learning Environment for Deaf people in the E-Commerce and New Technologies Sector. **WSEAS Transactions on Information**

Science and Applications, v. 1, n. 5, nov. 2004.

DRIGAS, A.; DOUROU, A. A Review on ICTs, E-Learning and Artificial Intelligence for Dyslexic's Assistance. **iJet**, v. 8, n. 4, p. 63-67, 2013.

DRIGAS, A.; IOANNIDOU, R. E. Special education and ICT's. **International Journal of Emerging Technologies in Learning**, v. 8, n. 2, p. 41– 47, 2013.

DRIGAS, A.; KARYOTAKI, M. Attention and its Role: Theories and Models. **International Journal of Emerging Technologies in Learning**, v. 14, n. 12, p. 169-182, 2019.

DRIGAS, A.; KARYOTAKI, M. Attentional control and other executive functions. **Int J Emerg Technol Learn iJET**, v. 12, n. 03, p. 219–233, 2017.

DRIGAS, A.; KARYOTAKI, M. Executive Functioning and Problem Solving: A Bidirectional Relation. **International Journal of Engineering Pedagogy**, v. 9, n. 3, 2019.

DRIGAS, A.; KARYOTAKI, M. Learning Tools and Application for Cognitive Improvement. **International Journal of Engineering Pedagogy**, v. 4, n. 3, p. 71-77, 2014.

DRIGAS, A.; KOKKALIA, G. ICTs and Special Education in Kindergarten. **International Journal of Emerging Technologies in Learning**, v. 9, n. 4, p. 35–42, 2017.

DRIGAS, A.; KOKKALIA, G.; LYTRAS, M. D. Mobile and Multimedia Learning in Preschool Education. **J. Mobile Multimedia**, v. 11, n. 1-2, p. 119–133, 2015.

DRIGAS, A.; KONTOPOULOU, M. T. L. ICTs based Physics Learning. **International Journal of Engineering Pedagogy (iJEP)**, v. 6, n. 3, p. 53-59, 2016. https://doi.org/10.3991/ijep.v6i3. 53-59

DRIGAS, A.; KOSTAS, I. On Line and other ICTs Applications for teaching math in Special Education. **International Journal of Recent Contributions from Engineering, Science & IT (iJES),** v. 2, n. 4, p-46, 2014. http://dx.doi.org/10.3991/ijes.v2i4.4204

DRIGAS, A.; KOUKIANAKIS, L. An open distance learning e-system to support SMEs e-enterprising. In proceeding of 5th. **WSEAS Internationalconference on Artificial intelligence, knowledge engineering**, 2006.

DRIGAS, A.; KOUKIANAKIS, L.; PAPAGERASIMOU, Y. Towards an ICT-based psychology: Epsychology. **Computers in Human Behavior**, v. 27, p. 1416–1423, 2011. https://doi.org/10.1016/j.chb.2010.07.045

DRIGAS, A.; LELIOPOULOS, P. Business to consumer (B2C) e-commerce decade evolution. **Int. J. Knowl. Soc. Res**. (IJKSR), v. 4, n. 4, p. 1–10, 2013.

DRIGAS, A.; MITSEA, E. 8 Pillars X 8 Layers Model of Metacognition: Educational Strategies, Exercises &Trainings. **International Journal of Online & Biomedical Engineering**, v. 17, n. 8, 2021. https://doi.org/10.3991/ijoe.v17i08.23563

DRIGAS, A.; MITSEA, E. A metacognition based 8 pillars mindfulness model and training strategies. **International Journal of Recent Contributions from Engineering**, v. 8, n. 4, p. 4-17, 2020.

JOURNAL HEALTH AND TECHNOLOGY - JHT
ISSN 2764-7625

DRIGAS, A.; MITSEA, E. Conscious Breathing: a Powerful Tool for Physical & Neuropsychological Regulation. The role of Mobile Apps Technium. **Social Sciences Journal,** v. 28, p. 135-158, 2022.

DRIGAS, A.; MITSEA, E. Metacognition, stress-relaxation balance & related hormones. **International Journal of Recent Contributions from Engineering, Science & IT (iJES)**, v. 9, n. 1, p. 4–16, 2021. https://doi.org/10.3991/ijes.v9i1.19623

DRIGAS, A.; MITSEA, E. Neuro-Linguistic Programming & VR via the 8 Pillars of Metacognition X 8 Layers of Consciousness X 8 Intelligences Technium. **Soc. Sci. J.,** v. 26, n. 159, 2021.

DRIGAS, A.; MITSEA, E. The 8 Pillars of Metacognition. **International Journal of Emerging Technologies in Learning (iJET)**, v. 15, n. 21, p. 162-178, 2020. https://doi.org/10.3991/ijet.v15i21.14907

DRIGAS, A.; MITSEA, E. The Triangle of Spiritual Intelligence, Metacognition and Consciousness. **International Journal of Recent Contributions from Engineering, Science & IT (iJES)**, v. 8, n. 1, p. 4-23, 2020. https://doi.org/10.3991/ijes.v8i1.12503

DRIGAS, A.; MITSEA, E.; SKIANIS, C. Virtual Reality and Metacognition Training Techniques for Learning Disabilities. **SUSTAINABILITY**, v. 14, n. 16, p. 10170, 2022.

DRIGAS, A.; MITSEA, E.; SKIANIS, C. Clinical Hypnosis & VR, Subconscious Restructuring-Brain Rewiring & the Entanglement with the 8 Pillars of Metacognition X 8 Layers of Consciousness X 8 Intelligences. **International Journal of Online & Biomedical Engineering,** v. 18, n. 1, 2022.

DRIGAS, A.; MITSEA, E.; SKIANIS, C. Neuro-Linguistic Programming, Positive Psychology & VR in Special Education. **Scientific Electronic Archives,** v. 15, n. 1, 2022.

DRIGAS, A.; MITSEA, E.; SKIANIS, C. Subliminal Training Techniques for Cognitive, Emotional and Behavioural Balance. The role of Emerging Technologies. **Technium**. **Social Sciences Journal**, v. 33, p. 164-186, 2022.

DRIGAS, A.; MITSEA, E.; SKIANIS, C. The Role of Clinical Hypnosis and VR in Special Education. **International Journal of Recent Contributions from Engineering Science**, v. 9, n. 4, p. 4-17, 2021.

DRIGAS, A.; PAPANASTASIOU, G. Interactive White Boards in Preschool and Primary Education. **International Journal of Online and Biomedical Engineering (iJOE)**, v. 10, n. 4, p. 46–51. https://doi.org/10.3991/ijoe.v10i4.3754

DRIGAS, A.; PAPOUTSI, C. The Need for Emotional Intelligence Training Education in Critical and Stressful Situations: The Case of COVID-19. **Int. J. Recent Contrib. Eng. Sci. IT**, v. 8, n. 3, p. 20–35, 2020. 10.3991/ijes.v8i3.17235

DRIGAS, A.; PAPPAS, M.; LYTRAS, M. “Emerging technologies for ict based education for dyscalculia: Implications for computer engineering education.” **International Journal of Engineering Education**, v. 32, n. 4, p. 1604–1610, 2016.

DRIGAS, A.; PETROVA, A. ICTs in speech and language therapy. **International Journal of Engineering Pedagogy** (iJEP), v. 4, n. 1, p. 49-54, 2014.

DRIGAS, A.; SIDERAKI, A. Emotional Intelligence in Autism. **Technium Soc. Sci. J**., v. 26, n. 80, 2021.

JOURNAL HEALTH AND TECHNOLOGY - JHT
ISSN 2764-7625

DRIGAS, A.; VRETTAROS, J. An Intelligent Tool for Building e-Learning Contend-Material Using Natural Language in Digital Libraries. **WSEAS Transactions on Information Science and Applications**, v. 5, n. 1, p. 1197–1205, 2004.

DROGUI, P.; DAGHRIR, R. Chlorine for Water Disinfection: Properties, Applications and Health Effects. **Environmental Chemistry for a Sustainable World**, v. 5, p. 1-32, 2015. doi 10.1007/978-3-319-11906-9_1

ELWOOD, P. C.; PICKERING, J. E.; FEHILY, A. M. Milk and dairy consumption, diabetes and the metabolic syndrome: the Caerphilly prospective study. **J Epidemiol Community Health**, v. 61, n. 8, p. 695–698, 2007. doi: 10.1136/jech.2006.053157

ELWOOD, P. C.; PICKERING, J. E.; GIVENS, D. I.; GALLACHER, J. E. The consumption of milk and dairy foods and the incidence of vascular disease and diabetes: an overview of the evidence. **Lipids**, v. 45, p. 925–939, 2010. doi: 10.1007/s11745-010-3412-5

ERTL, K.; GOESSLE, W. Grains, whole flour, white flour, and some final goods: an elemental comparison. **European Food Research and Technology**, v. 244, p. 2065–2075, 2018. doi.org/10.1007/s00217-018-3117-1

FIDLER, M. N.; BRAAGER, C.; BRONSKY, J.; CAMPOY, C.; DOMELLÖF, M.; EMBLETON, N. D.; HOJSAK, I.; HULST, J.; INDRIO, F.; LAPILLONNE, A. MIHATSCH, W.; MOLGAARD, C.; VORA, R.; FEWTRELL, M. Sugar in Infants, Children and Adolescents: A Position Paper of the European Society for Paediatric Gastroenterology, Hepatology and Nutrition Committee on Nutrition. **Journal of Pediatric Gastroenterology and Nutrition**, v. 65, n. 6, p. 681-696, 2017. doi.org/10.1097/MPG.0000000000001733

FREEMAN, C. R.; ZEHRA, A.; RAMIREZ, V.; WIERS, C.; VOLKOW, N. D.; WANG, J-G. Impact of sugar on the body, brain, and behavior. **Frontiers In Bioscience, Landmark**, v. 23, p. 2255-2266, 2018.

GALITSKAYA, V.; DRIGAS, A. The importance of working memory in children with and Dyscalculia. **Ageometria Scientific Electronic Archives,** v. 14, n. 10, 2021.

GOLOMB, B. A.; BUI, A. K. A Fat to Forget: Trans Fat Consumption and Memory. **Plos One**, 2015. doi: org/10.1371/journal.pone.0128129

HEADEY, D. D.; ALDERMAN, H. H. The Relative Caloric Prices of Healthy and Unhealthy Foods Differ Systematically across Income Levels and Continents. **The Journal of Nutrition**, v. 149, n. 11, p. 2020-2033, 2019. doi.org/10.1093/jn/nxz158.

HU, A. E.; PAN, A.; MALIK, V.; SUN, Q. White rice consumption and risk of type 2 diabetes: meta-analysis and systematic review. **BMJ**, v. 344, p. 1-9, 2012. doi: 10.1136/bmj.e1454

HYMAN, S.; STEWART, A. P.; FOLEY, J.; CAIN, U.; PECK, R.; MORRIS, D. D.; WANG, H.; SMITH, T. The Gluten-Free/Casein-Free Diet: A Double-Blind Challenge Trial in Children with Autism. **J Autism Dev Disord**, p. 1-16, 2015. doi: 10.1007/s10803-015-2564-9

JACOBSON, N. L. The Controversy Over the Relationship of Animal Fats to Heart Disease. **BioScience**, v. 24, n. 3, p. 141–147, 1974. doi.org/10.2307/1296759

JYONOUCHI, H. Food Allergy and Autism Spectrum Disorders: Is There a Link? **Curr Allergy Asthma**

JOURNAL HEALTH AND TECHNOLOGY - JHT
ISSN 2764-7625

Rep, v. 9, n. 3, p. 194-201, 2009. doi: 10.1007/s11882-009-0029-y

KAPSI, S.; KATSANTONI, S.; DRIGAS, A. The Role of Sleep and Impact on Brain and Learning. **Int. J. Recent Contributions Eng. Sci**., v. 8, n. 3, p. 59-68, 2020.

KARYOTAKI, M.; BAKOLA, L.; DRIGAS, A.; SKIANIS, C. Women's Leadership via Digital Technology and Entrepreneurship in business and society. **Technium Social Sciences Journal**, v. 28, n. 1, p. 246–252, 2022.

KARYOTAKI, M.; DRIGAS, A. Online and other ICT Applications for Cognitive Training and Assessment. **International Journal of Online and Biomedical Engineering**, v. 11, n. 2, p. 36-42, 2015.

KARYOTAKI, M.; DRIGAS, A. S. "Latest trends in problem solving assessment," International **Journal of Recent contributions from Engineering**, v. 4, n. 2, p. 4-10, 2016..

KASTRITSI, T.; PAPAGEORGIOU, D.; SARANTOPOULOS, I.; STAVRIDIS, S.; DOULGERI, Z. Guaranteed active constraints enforcement on point cloud-approximated regions for surgical applications 2019. *In:* **International Conference on Robotics and Automation (ICRA)**, 2019. p. 8346-8352

KASTRITSI, T.; SARANTOPOULOS, I.; STAVRIDIS, S.; PAPAGEORGIOU, D .; DOULGERI, Z. Manipulation of a Whole Surgical Tool Within Safe Regions Utilizing Barrier Artificial Potentials Mediterranean. *In:* **Conference on Medical and Biological Engineering and Computing**, Z.

KEFALIS, C.; KONTOSTAVLOU, E. Z.; DRIGAS, A. The Effects of Video Games in Memory and Attention. **Int. J. Eng. Pedagog**., v. 10, n. 1, p. 51-61, 2020.

KOKKALIA, G.; DRIGAS, A Economou 2016 Mobile learning for preschool education. **International Journal of Interactive Mobile Technologies,** v. 10, n. 4, 2015.

KOKKALIA, G.; DRIGAS, A.; ECONOMOU, A. The role of games in special preschool education. **International Journal of Emerging Technologies in Learning** (iJET), v. 11, n. 12, p. 30-35, 2016.

KOKKALIA, G.; DRIGAS, A.; ECONOMOU, A.; ROUSSOS, P. School readiness from kindergarten to primary school. **International Journal of Emerging Technologies in Learning**, v. 14, n. 11, p. 4-18, 2019.

KONTOSTAVLOU, E. Z.; DRIGAS, A. S. The Use of Information and Communications Technology (ICT) in Gifted Students. **International Journal of Recent Contributions from Engineering, Science and IT**, v. 7, n. 2, p. 60-67, 2019. doi:10.3991/ijes.v7i2.10815

KOTCHEN, T. A.; COWLEY, A. D.; FROHLICH, D. E. Salt in Health and Disease — A Delicate Balance. **N Engl J Med**, v. 368, n. 13, p. 1229-37, 2013. doi: 10.1056/NEJMra1212606

KULUSHTAYEVA, B.; REBEZOV, M.; IGENBAYEV, A.; KICHKO, Y.; BURAKOVSKAYA, N.; KULAKOV, V.; KHAYRULLIN, M. Gluten-Free Diet: Positive and Negative Effect on Human Health. **Indian Journal of Public Health Research and Development**, v. 10, n. 7, p. 913-916, 2019. doi: 10.5958/0976-5506.2019.01690.5

LANGE, K. W.; HAUSER, J.; REISSMANN, A. Gluten-free and casein-free diets in the therapy of autism.

Wolters Kluwer Health, v. 18, n. 6, p. 573-575, 2015.

LIZETA, N., BAKOLA, Nikolaos D.; DRIGAS, A. S. "ICTs for Emotional and Social Skills Development for Children with ADHD and ASD Co-existence". **International Int. J. Emerg. Technol. Learn**., v. 14, n. 5, p. 122-131, 2019.

LYTRA, N.; DRIGAS, A. STEAM education-metacognition–Specific Learning Disabilities. **Scientific Electronic Archives,** v. 14, n. 10, 2021.

MAJEWSKI, M.; JURGOŃSKI, A.; FOTSCHKI, B.; JUŚKIEWICZ, J. The toxic effects of monosodium glutamate (MSG) - The involvement of nitric oxide, prostanoids and potassium channels in the reactivity of thoracic arteries in MSG-obese rats. **Toxicol Appl Pharmacol**., v. 359, p. 62-69, 2018. doi: 10.1016/j.taap.2018.09.016

MILLWARD, C.; FERRITER, M.; CALVER, S.; CONNELL-JONES, G. Gluten- and casein-free diets for autistic spectrum disorder (Review). **The Cochrane Library**, v. 1, 2008. doi: 10.1002/14651858.CD003498.pub2

MITSEA, E.; DRIGAS, A. S.; MANTAS, P. Soft Skills & Metacognition as Inclusion Amplifiers in the 21st Century," **Int. J. Online Biomed. Eng. IJOE**, v. 17, n. 04, 2021. https://doi.org/10.3991/ijoe.v17i04.20567

MITSEA, E.; DRIGAS, A.; SKIANIS, C. Breathing, Attention & Consciousness in Sync: The role of Breathing Training, Metacognition & Virtual Reality. **Technium Social Sciences Journal**, v. 29, p. 79-97, 2022.

MITSEA, E.; LYTRA, N. A.; AKRIVOPOULOU, A.; DRIGAS, A. Metacognition, Mindfulness and Robots for Autism Inclusion. **Int. J. Recent Contributions Eng. Sci**. **IT**, v. 8, n. 2, p. 4-20, 2020.

MIYAZAKI, C.; KOYAMA, M.; OTA, E.; SWA, T.; MLUNDE, L.; AMIYA, YOSHIYUKI TACHIBANA, Y.; YAMAMOTO-HANADA, K.; MORI, R. Allergic diseases in children with attention deficit hyperactivity disorder: a systematic review and meta-analysis. **BMC Psychiatry**, v. 17, n. 120, p. 1-12, 2017. doi:10.1186/s12888-017-1281-7

MOLINA, B. S. G.; PELHAM, W. E.; GNAGY, E. M.; THOMPSON, A. L.; MARSHAL, M. P. Attention-deficit/hyperactivity disorder risk for heavy drinking and alcohol use disorder is age specific. **Alcohol., Clin. Exp. Res**., v. 31, n. 4, p. 643–654, 2007. https://doi.org/ 10.1111/j.1530-0277.2007.00349.x

MOZAFFARIAN, D.; MARTIJN, B.; KATAN, M. B.; ASCHERIO, A.; STAMPFER, M. J.; WALTER, C.; WILLETT, W. J. Trans fatty acids and cardiovascular disease. **N Engl J Med**, v. 354, n. 15, p. 1601-13, 2006. doi: 10.1056/NEJMra054035

OLMO, A.; CALZADA, J. Manuel Nuñez. Benzoic Acid and Its Derivatives as Naturally Occurring Compounds in Foods and as Additives: Uses, Exposure and Controversy. **Crit Rev Food Sci Nutr**., v. 57, n. 14, p. 3084-3103, 2017. doi: 10.1080/10408398.2015.1087964.

ORLANDO, A.; CAZZANIGA, E.; GIUSSANI, M.; PALESTINI, P.; GENOVESI, S. Hypertension in children: role of obesity, simple carbohydrates, and uric acid. **Frontiers in Public Health**, v. 6, p. 1-7, 2018. doi.org/10.3389/fpubh.2018.00129

PAPAGEORGIOU, D.; STAVRIDIS, S.; PAPAKONSTANTINOU, C.; DOULGERI, Z. Task geometry

aware assistance for kinesthetic teaching of redundant robots. *In:* **IEEE/RSJ International Conference on Intelligent Robots and Systems**, 2021.

PAPANASTASIOU, G.; DRIGAS, A. S.; SKIANIS, C. H.; LYTRAS, M.; PAPANASTASIOU, E. "Patient-Centric ICTs based Healthcare for students with learning, physical and/or sensory disabilities," **Telemat Inform**, v. 35, n. 4, p. 654–664, 2018. https://doi. org/10.1016/j.tele.2017.09.002

PAPANASTASIOU, G.; DRIGAS, A.; SKIANIS, C.; LYTRAS, M. Brain computer interface based applications for training and rehabilitation of students with neurodevelopmental disorders. A literature review. **Heliyon**, v. 6, p. e04250, 2020. doi: 10.1016/j.heliyon.2020.e04250

PAPOUTSI, C.; DRIGAS, A. Empathy and Mobile Applications. **International Journal of Interactive Mobile Technologies,** v. 11, n. 3, p. 57, 2017. https://doi.org/10.3991/ijim.v11i3.6385

PAPOUTSI, C.; DRIGAS, A. Games for Empathy for Social Impact. **International Journal of Engineering Pedagogy**, v. 6, n. 4, p. 36-40, 2016.

PAPOUTSI, C.; DRIGAS, A.; SKIANIS, C. Emotional intelligence as an important asset for HR in organizations: Attitudes and working variables. **International Journal of Advanced Corporate Learning**, v. 12, n. 2, p. 21–35, 2019. https://doi.org/10.3991/ijac.v12i2.9620

PAPOUTSI, C.; DRIGAS, A.; SKIANIS, C. Virtual and augmented reality for developing emotional intelligence skills. **Int. J. Recent Contrib. Eng. Sci**., v. 9, n. 3, p. 35-53, 2021.

PAPPAS, M. A.; DRIGAS, A. S. ICT based screening tools and etiology of dyscalculia. **International Journal of Engineering Pedagogy**, v. 5, n. 3, p. 61-66, 2015.

PAPPAS, M. *et al.* Cognitive Based E-Learning Design for Older Adults. **Social Sciences**, v. 8, n. 1, jan. 2019.. https://doi.org/10.3390/socsci801000

PAPPAS, M.; DEMERTZI, E.; PAPAGERASIMOU, Y.; KOUKIANAKIS, L.; KOUREMENOS, D.; LOUKIDIS, I.; DRIGAS, A. 2018. E-Learning for deaf adults from a user-centered perspective. **Education Sciences**, v. 8, n. 4, p. 206, 2020.

PAPPAS, M.; DRIGAS, A. Computerized Training for Neuroplasticity and Cognitive Improvement. **International Journal of Engineering Pedagogy**, v. 9, n. 4, p. 50-62, 2019.

PAPPAS, M.; DRIGAS, A. Incorporation of artificial intelligence tutoring techniques in mathematics. **International Journal of Engineering Pedagogy**, v. 6, n. 4, p. 12–16, 2016. https://doi.org/10.3991/ijep.v6i4.6063

PAPPAS, M.; DRIGAS, A.; PAPAGERASIMOU, Y.; DIMITRIOU, H.; KATSANOU, N.; PAPAKONSTANTINOU, S. *et al.* Female Entrepreneurship and Employability in the Digital Era: The Case of Greece. **Journal of Open Innovation: Technology, Market, and Complexity**, v. 4, n. 2, p. 15, 2018.

PEARLMAN, M.; OBERT, J.; CASEY, L. The Association Between Artificial Sweeteners and Obesity. **Curr Gastroenterol Rep**, v. 19, n. 64, 2017. doi: org/10.1007/s11894-017-0602-9

RASPINI, B.; PROSPERI, M.; GUIDUCCI, L.; SANTOCCHI, L.; TANCREDI, R.; CALDERONI, S.; MORALES, M. A.; MORELLI, M.; SIMIONE, M.; FIECHTNER, L.; MURATORI, F.; CENA, H. Dietary

Patterns and Weight Status in Italian Preschoolers with Autism Spectrum Disorder and Typically Developing Children. **Nutrients**, v. 13, n. 11, 2021. doi: org/10.3390/nu13114039

ROBINSON, A. T.; EDWARDS, G. D.; FARQUHAR, W. B. The Influence of Dietary Salt beyond Blood Pressure. **Curr Hypertens Rep**, v. 21, n. 42, 2019. doi: 10.1007/s11906-019-0948-5

RODOP, B. B.; BAŞKAYA, E.; ALTUNTAS, L.; ERBAS, O. Nutrition Effect on Autism Spectrum Disorders. **Journal of Experimental and Basic Medical Sciences**, v. 2, n. 1, p. 7-17, 2021. doi: 10.5606/jebms.2021.75633

SACKS, F. M.; LICHTENSTEIN, A. J.; WU, J. H. Y.; APPEL, L. J.; CREAGER, A. M.; KRIS-ETHERTON, P. M.; MILLER, M.; RIMM, E. B.; RUDEL, L. L.; ROBINSON, G. J.; STONE, N. J.; HORN, V. L. Dietary Fats and Cardiovascular Disease: A Presidential Advisory. **AHA Presidential Advisory**, v. 136, n. 3, p. 1-23, 2017. doi.org/10.1161/CIR.0000000000000510

SALEH, A. S. M.; WANG, P.; WANG, N.; YANG, L.; XIAO, Z. Brown Rice Versus White Rice: Nutritional Quality, Potential Health Benefits, Development of Food Products, and Preservation Technologies. **Comprehensive Reviews in Food Science and Food Safety**, v. 18, n. 4, 2019. doi.org/10.1111/1541-4337.12449

SCHNOLL, R.; BURSHTEYN, D.; CEA-ARAVENA, J. Nutrition in the treatment of attention-deficit hyperactivity disorder: a neglected but important aspect. **Applied Psychophysiology and Biofeedback,** v. 28, p. 63–75, 2003.

SHIL, A.; CHICHGER, H. Artificial Sweeteners Negatively Regulate Pathogenic Characteristics of Two Model Gut Bacteria, E. coli and E. faecalis. **Int J Mol Sci**, v. 22, n. 10, 2021. doi: 10.3390/ijms22105228

SQUEGLIA, L. M.; GRAY, K. M. Alcohol and drug use and the developing brain. **Curr. Psychiatry Rep**., v. 18, n. 5, 2016. doi.org/10.1007/s11920-016-0689-y

STANHOPE, K. L. Carbohydrates. **Advanced Nutrition and Dietetics in Diabetes**, p. 30-40, 2016. doi.org/10.1002/9781119121725.ch5

STATHOPOULOU, A. et al. Mobile assessment procedures for mental health and literacy skills in education. **International Journal of Interactive Mobile Technologies**, v. 12, n. 3, p. 21-37, 2018.

STATHOPOULOU, A.; KARABATZAKI, Z.; TSIROS, D.; KATSANTONI, S.; DRIGAS, A. Mobile apps the educational solution for autistic students in secondary education. **Journal of Interactive Mobile Technologies**, v. 13, n. 2, p. 89-101, 2019.

STATHOPOULOU, A.; LOUKERIS, D.; KARABATZAKI, Z.; POLITI, E.; SALAPATA, Y.; DRIGAS, A. S. “Evaluation of Mobile Apps Effectiveness in Children with Autism Social Training via Digital Social Stories,” **Int. J. Interact. Mob. Technol. (iJIM)**, v. 14, n. 03, 2020.

STAVRIDIS, S.; DOULGERI, Z. Bimanual assembly of two parts with relative motion generation and task related optimization 2018. *In:* **IEEE/RSJ International Conference on Intelligent Robots and Systems**, 2018.

STAVRIDIS, S.; FALCO, P.; DOULGERI, Z. Pick-and-place in dynamic environments with a mobile dual-arm robot equipped with distributed distance sensors. *In:* **IEEE-RAS 20th International Conference on Humanoid Robots (Humanoids)**, 2020.

JOURNAL HEALTH AND TECHNOLOGY - JHT
ISSN 2764-7625

STAVRIDIS, S.; PAPAGEORGIOU, D.; DOULGERI, Z. Dynamical system based robotic motion generation with obstacle avoidance. **IEEE Robotics and Automation Letters**, v. 2, n. 2, p. 712-718, 2017.

STAVRIDIS, S.; PAPAGEORGIOU, D.; DROUKAS, L.; DOULGERI, Z. Bimanual crop manipulation for human-inspired robotic harvesting arXiv. **preprint** arXiv: 2209.06074, 2022.

STAVRIDOU, T. H.; DRIGA, A. M.; DRIGAS, A. S. Blood Markers in Detection of Autism. **International Journal of Recent Contributions from Engineering Science & IT (iJES),** v. 9, n. 2, p. 79-86, 2021.

STENDER, S.; DYERBERG, J.; BYSTED, A.; LETH, T.; ASTRUP, A. A trans world journey. **Atherosclerosis Supplements**, v. 7, n. 2, p. 47–52, 2006. doi.org/10.1016/j.atherosclerosissup.2006.04.011

STEVENS, L.; KUCZEK, T.; BURGESS, J.; HURT, E.; ARNOLD, E. Dietary Sensitivities and ADHD Symptoms: Thirty-five Years of Research. **Clinical Pediatrics**, v. 50, n. 4, p. 279-293, 2011. doi: 10.1177/000992281038472

STEVENS, L.; KUCZEK, T.; BURGESS, J.; STOCHELSKI, M., ARNOLD, E.; GALLAND, L. Mechanisms of behavioral, atopic, and other reactions to artificial food colors in children. **Nutrition Reviews**, v. 71, n. 5, p. 268–281, 2013. doi:10.1111/nure.12023.

THEODOROU, P.; DRIGAS, A. ICTs and Music in Generic Learning Disabilities. **Int. J. Emerg. Technol. Learn,** v.12, n. 4, p. 101–110, 2017.

TOURIMPAMPA, A.; DRIGAS, A.; ECONOMOU, A.; ROUSSOS, P. Perception and text comprehension. It'sa matter of perception!. **International Journal of Emerging Technologies in Learning**, v. 13, n. 7, 2018.

VRETTAROS, J.; TAGOULIS, A.; GIANNOPOULOU, N.; DRIGAS, A. An empirical study on the use of Web 2.0 by Greek adult instructors in educational procedures**. World Summit on Knowledge System (WSKS)**, v. 49, p. 164-170, 2009. http://dx.doi.org/10.1007/978-3-642-04757-2_18

WALKER R. The significance of excursions above the ADI. Case study: monosodium glutamate. **Regul Toxicol Pharmacol**, v. 30, p. 119-121, 1999. doi: 10.1006/rtph.1999.1337

WALTON, R., G.; MONTE, W., C. Dietary methanol and autism. **Medical hypotheses**, v. 85, n. 4, p. 441-446, 2015. doi: org/10.1016/j.mehy.2015.06.025

WHITELEY, P.; RODGERS, J.; SAVERY, D.; SHATTOCK, P. A glutenfree diet as an intervention for autism and associated spectrum disorders: Preliminary findings. **Autism**, v. 3, n. 1, p. 45–65, 1999. doi:10. 1177/1362361399003001005

YADAV, N.; RANI, K.; YADAV, S. S.; YADAV, D. K.; YADAV, V. K.; YADAV, N. Soil and Water Pollution with Fluoride, Geochemistry, Food Safety Issues and Reclamation-A Review. International **Journal of Current Microbiology and Applied Sciences**, v. 7, n. 5, p. 1147-1162, 2018. doi: org/10.20546/ijcmas.2018.705.140

ZAVITSANOU, A.; DRIGAS, A. Nutrition in mental and physical health. **Technium Soc. Sci. J**., v. 23, n. 67, 2021.

JOURNAL HEALTH AND TECHNOLOGY - JHT
ISSN 2764-7625

ZEIGLER, D. W.; WANG, C. C.; YOAST, R. A.; DICKINSON, B. D.; MCCAFFREE, M. A.; ROBINOWITZ, C. B.; STERLING, M. L. **Preventive Medicine**, v. 40, p. 23-32, 2005. doi:10.1016/j.ypmed.2004.04.044

ZHANG, O.; DU, G.; JOHN, V.; KAPAHI, P.; BREDESEN, D. E. Alzheimer's Model Develops Early ADHD Syndrome. **J Neurol Neurophysiol**, v. 6, n. 6, 2015. doi: 10.4172/2155-9562.1000329