ANALYSING THE EFFECT OF BODY, MIND AND SOUL STATE ON SUBJECTIVE WELL-BEING DURING COVID-19 PANDEMIC

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Abstract:  
The concern about health is continuously increasing and the COVID-19 pandemic has caused so many changes at a global level, affecting people, regardless demographic features. Different analysis show that people have been affected from different points of view, physically, mentally, and emotionally. The research is focusing on Romanians’ perceptions, beliefs and behaviours in respect with their body, mind and soul (BMS) condition. The paper evaluates the effect of the state of BMS on subjective well-being during the Covid-19 pandemic. It was conducted a descriptive research, using interviews based on an online anonymous questionnaire. The study reveals that when referring to their well-being, the majority are considering emotional and mind condition first. More hours spent in front of a screen and lack of socialization are the main effects of the pandemic. The respondents considered that their emotional state was impacted most in the last year. More than 60% became more aware of the importance of well-being. The majority of the respondents evaluated separately their physical, mental and emotional condition as being good, sustaining their state especially through walking, sleeping enough hours per night and socializing with others, and spending less then 100 euros per month for maintaining their subjective well-being.

Key words: subjective well-being, body condition, mind state, soul state, Covid-19 pandemic

1. Introduction

Considering the current context of the COVID-19 pandemic, people are becoming more and more health-conscious. They understand that good health is above most of their lives’ aspects and nowadays, one of the most emblematic currents regarding health and the way each can define this state is called subjective well-being. ‘Subjective well-being (SWB), also called self-reported well-being, refers to how people experience and evaluate their lives and specific domains and activities in their lives’ (Krueger et al., 2009; Layard,
2006). The interest in information concerning this subject is continuously increasing, especially now that the World is facing a challenging situation. Since its onset, the COVID-19 pandemic has caused so many changes at a global level, affecting people, regardless nationality, age, sex etc. Overwhelming evidence of the negative effects of the lockdowns have been demonstrated in several studies showing that people have been affected from different points of view, physically, mentally, and emotionally. The three aspects are interconnected and closely related one to the other. They all make up a whole and meet in the centre of the human being.

Firstly, the physical health represents the area on which people have felt the first negative effects after the COVID-19 pandemic started. A medical study reveals that 1 in 10 deaths worldwide is caused by physical inactivity (Sloane, 2012). Even though the benefits of sport are well known since the 1950s, physical inactivity remains in top 5 most dangerous habits on someone’s health (Kohl et al., 2012).

Together with the physical inactivity, people have faced psychological negative effects. Studies show that regulate physical exercise significantly improves mental well-being, by reducing stress, anxiety, mood-swings, irregular sleep patterns and so on (Kenneth, 1999). Around 450 million people experience mental disorder globally talking, and by 2020, depression was expected to be the highest rank cause of disease in the developed world (Creek, 2008). Looking from the opposite angle, depression and anxiety are known for being significantly prevalent causes of physical illness (APA, 2020; APA, 2021).

Lastly, emotional well-being was the area that was affected the most, especially if referring to the COVID-19 pandemic. Even though the mental well-being and the emotional one somehow over-lap, people managed to identify their feelings and 40% of them affirmed that their emotional state was the most affected during the past months (Lades et al., 2020).

The principal aim of the present study was to identify and analyse the level of subjective well-being after the Covid-19 Pandemic, approached from three different points of view: physically, mentally, and emotionally. As a second research purpose, the paper investigated respondents' perceptions regarding the term 'subjective well-being' and the means they are using in other to achieve this state. The past months of lockdowns and restrictions were used as a reference and reached participants from all over Romania to understand their perceptions on subjective well-being.

Being addressed separately in previous research, the originality of the present study is represented by the summation of the three dimensions composing someone’s subjective well-being.

2. Literature review

The subjective well-being (SWB) has become more important than ever since the past year, considering the multitude of unfortunate events caused by the emergence of the new virus COVID-19. SWB describes how people experience the quality of their lives, and their reactions towards several aspect involving their state of good. Its evaluation may be made and studied from different angles, using internationally validated scales.
Regarding the physical well-being the physical activity, exercise and sport was considered. Many studies offer information concerning physical activity and the beneficial effects it has on the well-being of people. The benefits of physical activity are countless: it strengthens the heart, strengthens the lungs, controls weight, regulates blood pressure, helps prevent cancer, reduces blood sugar levels and the list endless. In the COVID-19 pandemic, Brand et al. studied the frequency of physical activities and the changes in exercise behaviour during this period (Brand et al., 2020). Even though there was not registered a decrease in the exercise levels, the study shows that positive effects on the well-being are obtained in the case of almost daily exercise routines. So, mood (which was measured using the Profile of Mood Scale) or behaviour might be influenced by the often practiced and sustained physical activity (Brand et al., 2020). A study conducted in 2012 by Kohl et al. points out that “physical inactivity is the fourth cause of death worldwide”. The physical inactivity is a problem that should be addressed globally, and its importance may never be underestimated. The situation must be deeply understood, and the progress should continue to arise in policy, planning, leadership, advocacy, workforce training, surveillance and so on. ‘This is a crucial step for public health’ (Kohl et al., 2012).

Wheatley and Bickerton (2017) analysed the positive effects generated by sport. The study proves that the overall happiness and satisfaction can be increased by doing sport and recreational exercises (Wheatley and Bickerton, 2017).

A range of studies show that physical activity also generates mental benefits, and by this people will receive an increased sense of well-being. Downward and Rasciute (2011) underlines the fact that sport does not bring benefits to the individual only, but ‘to the society through externalities’ and ‘demonstrates that sports participation has a positive effect upon the subjective well-being of the population, and moreover, estimates its monetary value’ (Downward and Rasciute, 2011). When asked, the respondents having the options “Yes” or “No”, 58.77% of them answered affirmatively to the statements ‘Engaged in any sport’, ‘Played any team sport’ 17.63 %, ‘Played any individual sport’ 56.86 %, ‘Did fitness’ 27.98 %, ‘Played football’ 9.28 %, ‘Did swimming’ 32.71 %, ‘Did cycling’ 17.77 %. Sport is positively seen by the respondents and the top three activities associated with life satisfaction are: ‘Engagement in sports’, ‘Team sports and individual sports’, and ‘Swimming’ (Fujiwara et al., 2014). As presented above, the health concern is growing all over the World, and so it does in the United States and Canada, considering the high rates of physical inactivity and obesity. Heroux (2017) presents the serious problem of people facing sedentarism nowadays and nevertheless the numbers that show how sport participation has decreased since 2004. ‘Physical inactivity is associated with increased risk of mortality and chronic diseases, particularly heart disease, stroke, colon cancer, and non-insulin-dependent diabetes’ (Heroux, 2017). Cosma et al. examine people’s attitudes concerning physical activities. On the first hand, the frequency of Romanians having body care activities (gym, fitness etc.) in a working day equals to 2,28 (1 meaning ‘never’ and 4 meaning ‘frequently’). On the other hand, results show that the same people reached a frequency of 2,33 in a free day. Outdoor activities tend to be more popular among Romanians, 2,88 in a working day and 3,25 in a free day (Cosma et al., 2018).
Strongly connected with the physical well-being, the mental well-being was also a topic of high interest in the research studies over the year. By overcoming this dimension, people may reach significant results. This leads to changes that enhance a healthier behaviour that shall help in positive thinking, expressing emotions better, doing better at work and in many other aspects of life, higher motivation, self-development, overcome of fears and reach of maximum psychological potential. It has been proven that exercise plays a key role in mental health and ‘physical activity can improve the mental well-being in the general population’ (Fox, 1999). Physical activity may be used a ‘means of upgrading life quality through enhanced self-esteem, improved mood states, reduced state and trait anxiety, resilience to stress, or improved sleep’. The most valuable evidence demonstrated it refers to depression and anxiety, and both states may be treated through exercise. The large scale conducted surveys show that there is an ‘association between physical activity and indices of subjective well-being’ (Fox, 1999).

In 2012 Paluska and Schwenk presented the link between physical activity and mental well-being. Despite the fact people are aware of the benefits exercise may have on their mental condition, few are currently engaged in regular physical activity. The figures showed that 60% of adults were physically inactive or irregularly active during leisure-time. In the United States, ‘Third National Health and Nutrition Examination Survey found that 22% of Americans engaged in no leisure-time physical activity at all’. Another result is that ‘physical activity appears as effective as psychotherapy’ when talking to mild or moderate mental well-being affections. Therefore, any type of physical activity will improve or alleviate the symptoms of depression or anxiety (Paluska and Schwenk, 2012).

Creek and Lougher (2008) underlines the importance of mental health for the citizens and the society. Around 450 million people experience mental disorder around the world. For Europe, studies have shown that 27% of adults are estimated to experience at least one mental ill health during any one year. The most common forms of mental ill health EU faces are anxiety disorder and depression. By 2020, depression was expected to be the highest rank cause of disease in the developed world (Creek and Lougher, 2008).

The emotional branch can only come closer to completion by returning to the origins, into the heart of nature. The communication and by increasing the number of new relationships, there have been proven several benefits, such as: we live longer; we heal quicker, we bolster our immune systems. Lades et al. (2020) studied the emotional well-being during the COVID-19 pandemic. The research shows that some activities are associated with raised positive effects of peoples’ well-being such as exercising, going for a walk, gardening, engaging in in-person interactions with friends. On the other hand, being at work, home-schooling children or obtaining information about the new virus, have generated not so pleasant feeling and a decreased emotional well-being rate among interviewed people (Lades et al., 2020). ‘Since the onset of industrialization humans have increasingly separated themselves from nature. With the onset of capitalism and increasing desirability for material objects, nature is featuring less in many people’s lives’ (Louv, 2005). The topic is of utmost importance and is discussing how outdoor adventures and tourism activities are considered beneficial for humans and their nature. Hannaa et al. (2019) summarize the positive effects people may resent on their emotional well-being by participating in outdoor adventure activities (Hannaa et al., 2019). The reconnection to
nature is highlighted and closely approached by Carpenter and Harper. It is an evident fact that 'human health and well-being in enhanced through meaningful connections between people and places'. The contact with nature, the outdoor activities and the relationships created between humans are indispensable (Carpenter and Harper, 2016). As The World Health Organization expressed, ‘Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity’ (WHO, 1946), there may be multiple approaches and visions about well-being. The research in talk ‘suggests that outdoor activities enable people to engage physically, intellectually, emotionally and spiritually with other people within outdoor environments.’

Bell et al. (2007) mentions that as society changes, so are the trends and demands. Studies recognize more and more benefits to health and well-being from closer contact with nature. In the United States, on the list of the fastest growing activities we find hiking, sight-seeing, bicycling and so on. Results show that the forecast index for hiking will increase every 10 years starting from 2010 (Bell et al., 2007). Considering Romania, the study of Tatar et al. reveals that 63% of Romanians never practice sports, as compared to only 46% as the average in Europe. According to the mentioned research, in Romania only 6% of the people practice sports regularly. When asked about the factors generating motivation in the direction of exercise and physical activity, Romanians answered the following: to improve health (15%), to relax (14%), to improve weight (9%), to improve fitness (8%), other (54%) (Tatar et al, 2018).

3. Material and Methods

An exploratory and descriptive research was performed, using secondary data analysis as research method for studying the literature at a national and international level and the interview considering a questionnaire. This was an online anonymous questionnaire containing 33 questions (questions with pre-coded answers, questions with scaled answers and open questions), structured in five parts. The time needed to fill in the questionnaire was about 10 to 15 minutes. Qualitative information was obtained, and this led to a better understanding of the reasons and the motivations of people for choosing to be more concerned about their well-being, the areas where they felt the most negative effects of the Covid-19 Pandemic and their willingness to take actions to improve their state. This also revealed peoples’ attitudes concerning the three dimensions (physical - body, mental - mind, and emotional - soul) addressed separately and together and uncovers their thoughts and opinions. Quantitative information on the other hand, helped to qualify data and generalize the results for the sample. After collecting this data, statistical instruments to compute tabulations were used.

The first part of the questionnaire contains basic questions regarding the general state of subjective well-being and about the negative effects the respondents experienced during the Covid-19 Pandemic. In other to gather information about attitudes and perceptions concerning the level of satisfaction of life, the ‘Satisfaction with Life Scale’ developed by Diener et al. was applied (Diener et al, 1985). The next three parts of the questionnaire addressed separately the three dimensions of the subjective well-being (physical well-being – body, mental well-being – mind, emotional well-being – soul/spirit).
By using several validated scales, this offered valuable and accurate findings. The ‘Scale of Positive and Negative Experience (SPANE)’ developed by Diener et al. in 2009 (https://novopsych.com.au/wp-content/uploads/2020/05/spane_assessment.pdf) was used for all three sections, and testing how the respondents feel about their physical, respectively their mental and emotional well-being. To gather information about what kind of physical activities people were involved into during lockdown and the level of effort, we used the ‘The Quick Physical Activity Rating (QPAR) Scale’ (Galvin et al., 2020). The ‘Warwick Edinburg Mental Wellbeing Scale – WEMWBS’ (https://warwick.ac.uk/fac/sci/med/research/platform/wemwbs/) offered insight concerning the level of satisfaction people experience when referring to their mental well-being and what kind of actions are they taking to ensure their mental well-being. Moving forward to the emotional well-being, we applied another validated scale to collect information about how people experienced the negative effects of the Coronavirus pandemic, this being ‘The EPOCH Measure of Adolescent Well-Being’ developed by Kern et al. in 2015 (https://www.peggykern.org/uploads/5/6/6/7/56678211/epoch_measure_of_adolescent_well-being_102014.pdf). This delivered information about respondents’ habits in regards their emotional state. The last part of the questionnaire includes 7 identification questions, this bringing social and demographic information such as age, sex, monthly average income, marital status, occupation, education level and residence.

A sample of 302 recruited people was used, filling in the questionnaire and leading to a deeper understanding and investigation of the data collected starting from the 1st of November 2020, until the 15th of May 2021 via Google Forms Questionnaires Tool. We have disseminated the link to the questionnaire through personal networks and social media. This article used only a part of the collected data obtained in this marketing research and this information was analysed and processed using statistical tools.

4. Results and discussions

The purpose of the study was to identify Romanian’s perceptions in respect with their body, mind, and soul condition, and the main goal was to evaluate the effect of the state of BMS on SWB during Covid-19 Pandemic. Table 1 presents the demographic characteristics of the sample.

<table>
<thead>
<tr>
<th>Category</th>
<th>Items</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20-30</td>
<td>111</td>
<td>36.75</td>
</tr>
<tr>
<td></td>
<td>30-40</td>
<td>42</td>
<td>13.91</td>
</tr>
<tr>
<td></td>
<td>40-50</td>
<td>52</td>
<td>17.22</td>
</tr>
<tr>
<td></td>
<td>50-60</td>
<td>63</td>
<td>20.86</td>
</tr>
<tr>
<td></td>
<td>60-70</td>
<td>14</td>
<td>4.64</td>
</tr>
<tr>
<td></td>
<td>&gt;70</td>
<td>1</td>
<td>0.33</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>127</td>
<td>42.05</td>
</tr>
</tbody>
</table>

Table 1. Demographic characteristics of the sample
Consider the demographic characteristics of the sample, half of the respondents are between 20 and 40 years old. From the gender point of view, the sample was balanced. Almost 80% of the respondents have university studies and upper including Master and PhD. Half of the respondents have an income lower that 700 EURO/month, and almost 60% of them have children. All the respondents are Romanians but live-in different cities all around the country and abroad also.

When evaluating the SWB, the respondents are referring prior to mental and emotional state (Fig. 1).
The findings show that almost 74% of the respondents are satisfied and extremely satisfied with their lives. The satisfaction with life was measured with five items. For all of them we obtained a weight average above 3, meaning that the respondents are satisfied with their lives. The highest score was obtained for the statement ‘I am satisfied with my life’ (Fig. 2).

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>In most ways my life is close to my ideal</td>
<td>3.4</td>
</tr>
<tr>
<td>The conditions of my life are excellent</td>
<td>3.61</td>
</tr>
<tr>
<td>I am satisfied with my life</td>
<td>3.73</td>
</tr>
<tr>
<td>So far, I have gotten the important things I want in life</td>
<td>3.38</td>
</tr>
<tr>
<td>If I could live my life over, I would change almost nothing</td>
<td>3.26</td>
</tr>
</tbody>
</table>

Referring to the negative effects of the Covid-19 Pandemic, most declared longer screen time, lack of socialization, followed by the need for changing the routine (Fig. 3).
Irregular sleep patterns
Longer screen time
Unhealthy diet
Losing contact with people
Loneliness
Anxiety
Depression
Physical activity
Stress
Phone addiction
Irritability
Lack of socialization
The need for changing the routine
Others

Fig. 3. The negative effects of the Covid-19 Pandemic
Source: own calculations

In the present study we formulated four hypotheses:
H1 Perceived physical state does not contribute to the subjective well-being',
H2 'Mental health does not contribute to the subjective well-being',
H3 'Emotional state does not contribute to the subjective well-being', and
H4 ‘Physical activity, mental and emotional state does not contribute to the subjective well-being’.

Referring to the perceived physical state contribution to the SWB, the Scale of Positive and Negative Experience offered 3 scores: the positive SPANE-P, the negative SPANE-N, and the balance SPANE-B.

Fig. 4. Perceived physical state
Source: own calculations
feeling SPANE-N, and the overall affect balance score SPANE-B (between -24 unhappiest to 24 the happiest). It was compared the obtained scores for physical state with the benchmarked scores and the result indicate that the respondents are happy. More than half of the respondents are considering their physical state as being good, but 32% are considering themselves as having a very bad physical state (Fig. 4). Applying chi square test, the study revealed that the physical state contributes to the SWB. H1 was rejected, and with 95% probability, physical state significantly contributes to the SWB ($p$-value=0.0007).

Referring to the practiced main activities related to the physical state, the respondents mainly walk outside for different reasons (Fig. 5).

<table>
<thead>
<tr>
<th>Activity</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walk outside for reason such as exercise, walking the dog, in a mall or park</td>
<td>192</td>
</tr>
<tr>
<td>Any heavy housework such as home repairs, painting, yard work, moving furniture</td>
<td>65</td>
</tr>
<tr>
<td>Any moderate housework activities such as vacuuming, washing windows, laundry</td>
<td>141</td>
</tr>
<tr>
<td>Any light housework such as dusting, washing dishes, mopping floors, ironing</td>
<td>168</td>
</tr>
<tr>
<td>Engage in flexibility activities such as stretching, yoga, Tai Chi</td>
<td>65</td>
</tr>
<tr>
<td>Any exercise to increase muscle strength or endurance</td>
<td>88</td>
</tr>
<tr>
<td>Engage in strenuous activities such as jogging, swimming, cycling, single tennis, skiing</td>
<td>69</td>
</tr>
<tr>
<td>Engage in moderate activities such as double tennis, dancing, hunting, skating</td>
<td>76</td>
</tr>
<tr>
<td>Engage in light activities such as bowling, billiards, fishing</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 5. Activities related to physical state
Source: own calculations

Referring to the mental state contribution to the SWB, the SPANE-B value indicated that the respondents are happy. More than half of the respondents are considering their mental state as being good, and 30% are neutral (Fig. 6). Applying chi square test, the study showed that the mental state contributes to the SWB. H2 was rejected, and with 95% probability, mental state significantly contributes to the SWB ($p$-value=0.0001).
Referring to the practiced main activities related to the mental state, the respondents mainly drank enough water and slept enough hours a night (Fig. 7).

**Fig. 6.** Perceived mental state  
Source: own calculations

**Fig. 7.** Activities related to mental state  
Source: own calculations
Considering the emotional state contribution to the SWB, the SPANE-B value indicated that the respondents are again happy. More than half of the respondents are evaluating their emotional state as being good, and almost 30% are neutral (Fig. 8). Applying chi square test, the research demonstrated that the emotional state also contributes to the SWB. H3 was rejected and, with 95% probability, emotional state significantly contributes to the SWB (p-value=0.000).

Referring to the practiced main activities related to the emotional state, the majority socialized with people and surrounded themselves with positive people.

<table>
<thead>
<tr>
<th>SPANE-P</th>
<th>SPANE_N</th>
<th>SPANE-B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>21.33</td>
<td>14.17</td>
</tr>
<tr>
<td>SD</td>
<td>4.46</td>
<td>4.30</td>
</tr>
</tbody>
</table>

**Fig. 8.** Perceived emotional state
Source: own calculations

**Fig. 9.** Activities related to emotional state
Source: own calculations
Conceiving the contribution of all these 3 dimensions (physical, mental, and emotional) to the SWB, almost 56% declared a good influence (Fig. 10). Applying chi square test, the study revealed that all the three dimensions brought together have a statistically significant influence on the SWB. H4 was rejected and, with 95% probability, physical, mental, and emotional state significantly contribute to the SWB (p-value=0.0001).

![Fig. 10. Perceived BMS state](Source: own calculations)

5. Conclusions

During the Covid-19 pandemic, the most common activities among respondents considering their:
- physical state are: walk outside for reasons such as exercise, walking the dog, walk in a mall or park; any light housework such as dusting, washing dishes, mopping floors, ironing; any moderate housework activities such as vacuuming, washing windows, laundry;
- mental state are: drinking enough water; sleeping enough hours/night; reading self-development books;
- emotional state are: socialize with a variety of people; surround themselves with positive people; break up the monotony.

In the present paper four hypotheses were formulated in our trial to understand the contribution of physical, mental, and emotional state to the subjective well-being. The first three hypotheses concerned about each state contribution to the subjective well-being, but the fourth hypothesis wants to connect all three dimensions and their influence of subjective well-being. For the first time, the three dimensions are brought together. All the null formulated hypotheses were rejected, and with a probability of 95% the physical state, and the mental state, and the emotional state significantly contribute to the SWB. And all together significantly contribute to the SWB.
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