

# Effects of the COVID-19 Pandemic on Happiness and Socioeconomic Conditions: Differences Across Countries and Individuals' Personality Traits\*

## COVID-19 Pandemisinin Mutluluk ve Sosyoekonomik Koşullar Üzerindeki Etkileri: Ülkeler ve Bireylerin Kişilik Özellikleri Arasındaki Farklılıklar

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### ABSTRACT

Individuals' reactions to the impacts of Covid-19 on their lives and their happiness may be different. The differences in personality traits of those individuals can be affected by uncertainty, restrictions, quarantine, measures, etc. within the pandemic environment. We investigate the extent to which they tend to behave in situations and to what extent their happiness differs. We estimate that the pandemic affects people's happiness and that such situations may differ on the personality traits of people. To this end, we explain both how happiness changes during the pandemic and how individuals with certain personality traits are affected by the pandemic both socioeconomically and in terms of happiness, along with certain studies conducted so far and some of the data obtained from the World Database of Happiness. Unhappiness has increased in many countries due to the conditions brought by the pandemic, and this is often related to economic policies. Changes in the way individuals do business during the pandemic process, closing their workplaces due to restrictions, being unemployed, or increasing their workload are the most important factors that affect happiness. In general, those who were most negatively affected by the pandemic are women, the unemployed, and the poor, whom we can specify as the disadvantaged group even before the pandemic. With this study, we advise policymakers to consider happiness and personality traits when determining pandemic policy.

**Keywords:** Covid-19, Happiness, Socioeconomic condition, Personality traits, Economic behavior

**Jel Code:** D01, D31, I31



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## ÖZ

Bireylerin Covid-19'un yaşamlarına etkisine verdikleri tepki ve mutluluklarına etkisi farklı olabilir. Bu bireylerin kişilik özelliklerindeki farklılıklar, pandemi ortamındaki belirsizlikten, kısıtlamalardan, karantinadan, önlemlerden vb. etkilenebilir. Bu çalışma bireylerin bu durumlarda nasıl davrandıklarını ve mutluluklarının ne derece farklı olduğunu araştırmaktadır. Pandeminin insanların mutluluğunu etkilediği ve bu durumun insanların kişilik özelliklerine göre de farklılaşabileceğini tahmin etmektedir. Bunun için hem yaşam memnuniyetinin pandemide nasıl değiştiği hem de belli kişilik özelliklerine sahip bireylerin pandemiden hem sosyoekonomik hem de mutluluk bakımından nasıl etkilendikleri bu zamana kadar yapılmış bazı çalışmalar ve bir kısmını Dünya Mutluluk Veritabanı'ndan (World Database of Happiness) alınan verilerle açıklanmaktadır. Pandeminin getirdiği koşullar nedeniyle çoğu ülkede mutsuzluk artmıştır ve bu genellikle ekonomi politikalarıyla ilgilidir. Pandemi sürecinde bireylerin iş yapış şekillerinde meydana gelen değişiklikler, kısıtlamalar nedeniyle işyerlerini kapatmaları, işsiz kalmaları veya iş yüklerinin artması mutluluğu etkileyen en önemli faktörlerdir. Genel olarak pandemiden en olumsuz etkilenenler, pandemi öncesinde de dezavantajlı grup olarak tanımlayabileceğimiz kadınlar, işsizler ve yoksullardır. Bu çalışma ile politika yapıcılara pandemi politikasını belirlerken mutluluk ve kişilik özelliklerini dikkate almaları önerilmektedir.

**Anahtar Kelimeler:** Covid-19, Mutluluk, Sosyoekonomik durum, Kişilik özellikleri, İktisadi davranış

**Jel Code:** D01, D31, I31

## 1. Introduction

Overall happiness is about people's love of their own life and is the degree of positive evaluation of the quality of life as a whole (Veenhoven, 1984). The concept of overall happiness is expressed in different words. Since the 1960s, life satisfaction is also referred to as overall happiness. Subjective well-being is also used in a wider sense than this happiness. Subjective well-being is the state of being satisfied with one's life while feeling good, and it also includes both cognitive and affective evaluations of life (Diener, 1984).

More specifically, Veenhoven distinguishes four qualities of life: livability of the environment, life-ability of the individual, the usefulness of one's life, and satisfaction with life. Veenhoven then defined happiness as satisfaction with one's life as a whole, which is synonymous with life satisfaction (Kamilçelebi, 2018). Veenhoven (2000) stated that happiness, life satisfaction, and subjective well-being have been used interchangeably, however, happiness was an umbrella concept used for all good things. Happiness refers to a judgment of life satisfaction that includes an individual's evaluation of their expected future experiences as well as the past. Happiness is a subjective evaluation of individuals' own lives. Happiness includes the cognitive component called 'contentment' whenever we get what we want, and the emotional component called the 'hedonic level of affect' whenever we consider how good we feel upon evaluating our lives. Nonetheless, people seem to act according to the emotional component rather than the cognitive component (Veenhoven, 2014).

Many studies have revealed that there is a firm relationship between personality traits and happiness (DeNeve & Cooper, 1998). Personality traits may shape individuals' reactions to lively situations by influencing individuals' cognitive evaluations, associated emotions,

and strategies used to regulate these emotional activations (McCrae & Costa, 2006). Behavioral and psychological reactions to the pandemic may be affected by personality traits (Di Crosta et al., 2020). In this field, Costa and McCrae's (1990) Big-5 model has been one of the most frequently used determinants of personality traits. The purpose and limitation of this research; are to examine how both happiness and personality traits are affected by the pandemic, with some studies and some of the data we received from the World Database of Happiness, and to make recommendations to policymakers. Because for the first time, all people living in the world faced quarantines, restrictions, pandemic rules, the crisis created by the pandemic, especially in the economic and health institutions, and the rupture of the supply chain. Moreover, the unpreparedness of the World Health Organization (WHO) and the governments and the inconsistent decisions regarding the pandemic have seriously affected people's emotions and behaviors according to their personality traits.

Our study is unique in that it deals with these issues together and presents policy recommendations by creating a synthesis. In the second part of our study, the effects of Covid-19 on happiness and socioeconomic condition will be explained. In the third part, especially considering Big-5 personality traits, how individuals are affected by the conditions brought by Covid-19 (e.g., hoarding, restrictions, pandemic rules) and how they behave will be examined. In the fourth part, how Covid-19 affects the happiness of individuals with certain personality traits will be examined and policy recommendations will be made.

## **2. The Effect of Covid-19 on Happiness, Economic, Socioeconomic, and Non-Economic Determinants**

In this section, the impact of Covid-19 on happiness related to both economic and socioeconomic and non-economic conditions will be examined. Some of the publications on Covid-19 effects on happiness are found in the Bibliography of Happiness, World Database of Happiness (World Database of Happiness, 2022a; 2022b).

### ***2.1. The Effect of Covid-19 on Happiness, Economic, Socioeconomic, and Demographic Determinants***

The pandemic has significantly affected the happiness of individuals. Using a recent survey conducted in South Korea, China, Italy, Japan, the UK, and the USA, it was examined whether exposure to the Covid-19 pandemic lowers people's happiness. It was found that people from areas of higher Covid-19 prevalence are more likely to express unhappiness and extreme unhappiness. Women, the elderly, and urban people were more prone to the pandemic than men, young people, and rural people. While the pandemic had not had a significant impact on individuals with middle-income levels, it tended to make the poor and rich miserable. It also made individuals unhappy not only for economic reasons but also for

non-economic reasons. People in regions with higher rates of Covid-19 were more prone to income decline and job loss, which are negatively associated with happiness. The pandemic caused more loneliness, boredom, and sleeping problems for individuals, and these factors are inversely related to happiness. Therefore, it is emphasized that governments should implement policies for social interaction as well as economic policies to increase well-being and happiness (Nguyen, 2021).

Data collected from full-time workers in the UK as of 2019 and the first six months of the pandemic compared the extent to which Covid-19 restrictions and involuntary work-at-home affected the health and work performance. Accordingly, the work-related well-being of those working at home during the quarantine was not adversely affected. Those individuals experienced fewer negative emotions and felt more connected to their organization. However, their home-life satisfaction and job performance according to their own evaluations decreased (Pelly, Daly, & Delaney, 2021).

Table 1 shows that the US adults with the lowest household incomes are more unhappy than those with higher incomes, according to a Gallup study conducted in April and May 2020. Republicans are happier than Democrats. Men are happier than women. Married or widowed adults are happier than single or divorced adults (Brenan, 2020; Kamilçelebi, 2020).

**Table 1: Americans' Happiness at the Beginning of Covid-19**

	Happiness %
<b>Annual Household Income</b>	
<\$36.000	56
\$36.000-<\$90.000	74
\$90.000+	75
<b>Party ID</b>	
Republicans	77
Independents	74
Democrats	66
<b>Gender</b>	
Women	71
Men	73
<b>Marital status</b>	
Married	77
Widowed	76
Divorced	62
Single/Never married	61

**Source:** Brenan, M. (2020). U.S. Adults Report Less Worry, More Happiness. Americans' Emotions During COVID-19 Crisis, <https://news.gallup.com/poll/311135/adults-report-less-worry-happiness.aspx>

In another study, the American Time Use Survey conducted over the period 2012–2013 was used to simulate the impacts of Covid-19 quarantines on life satisfaction. In a simulation

of the quarantine impact on a person with one's spouse and alone in the United States, the decline in satisfaction of married couples due to the curfew combined with the lack of freedom, income, and uncertainty about life was at least partially alleviated by spending more time with one's spouse. Singles, on the other hand, increased their dissatisfaction since the time they spent alone increased due to restrictions (Hamermesh, 2020).

Life dissatisfaction with Covid-19 was investigated using the data collected at the beginning of 2020 from 25 developed and developing countries located on four continents. Healthier people, those with salaried jobs, those who exercise daily, and those who suffer less from loneliness reported less dissatisfaction. It was found that higher age was related to lower levels of dissatisfaction, although the elderly was more vulnerable to the Covid-19 pandemic. People with higher education degrees reported less dissatisfaction. Those who lived with a partner were found to have higher satisfaction. Work-related changes due to the pandemic, such as decreased income levels and increased or decreased workloads, have been associated with greater dissatisfaction. It was stated that government restrictions on mobility and the requirement to wear protective clothing in public places promoted dissatisfaction. It was found that increasing numbers of confirmed Covid-19 cases boosted dissatisfaction, but such an impact decreased along with the higher number of cases. It was determined that life dissatisfaction was positively affected by the cumulative number of Covid-19 cases. It was stated that the increasing number of cases at the beginning of the pandemic boosted dissatisfaction, but such an impact decreased when the number of cases was high (de Pedraza, Guzi, & Tjidsens, 2020).

In Switzerland, it was investigated whether vulnerable groups were more affected by the pandemic, especially in terms of increased workload, social isolation, and limited availability of socioeconomic resources. Utilizing the longitudinal data obtained from the Swiss Household Panel, changes in life satisfaction were estimated at the end of the semi-quarantine compared to the pre-crisis period. Due to social isolation; young individuals, spouses, Covid-19 risk groups, women due to their workloads, and economic reasons; the life satisfaction of the individuals who were unemployed and suffered financial distress decreased, and no overall change was found in the life satisfaction of other individuals (Kuhn et al., 2021).

More strict pandemic policies were found to significantly reduce life satisfaction in Italy, Sweden, France, Spain, and Germany. The decrease in life satisfaction was higher for women, individuals with weak labor market connections, and those with relatively high household incomes. Governments' economic support was not found to have an impact on life satisfaction (Clark & Lepinteur, 2021).

Utilizing the data obtained from a monthly longitudinal survey of middle-aged and older Singaporeans, it was investigated the extent to which the Covid-19 global health and economic crisis affected overall life satisfaction and site-specific satisfaction and detected major decreases in overall life satisfaction and site-specific satisfaction, excluding health-related satisfaction. Life satisfaction was found to remain below pre-pandemic levels even after the lockdown was lifted. It was also found that people who reported a decline in household income levels during the Covid-19 pandemic experienced a plunge in overall life satisfaction that was almost twice as large as those who did not state any loss of income (Cheng, Kim, & Koh, 2020). In Japan, it was examined how the same healthcare workers affect their happiness levels compared to other workers during pandemic restrictions as well as when restrictions are lifted. It was determined that the happiness levels of healthcare workers were lower than that of other people. The difference between the happiness levels of healthcare workers and the happiness levels of other workers was not the greatest during the restriction but after the removal of restrictions. It was determined that healthcare workers were distressed and unhappy once the crisis environment softens (Yamamura & Tsutsui, 2021).

South Africa was experiencing an economic crisis during the pandemic. Besides these, quite strict restriction rules have been introduced. The determinants of happiness have been investigated in South Africa before and after curfews and during the Covid-19 pandemic. A decline in overall happiness was observed after quarantine. Moreover, it was stated that the most important thing for happiness under restriction was not pertinent to macroeconomic policies, but difficulties regarding the restriction. For instance, lack of mobility in access to liquor, worries about school/workplace, the threat of dismissal, and pay cuts. Here, the number of daily Covid-19 cases was inversely associated with happiness, but it was seen that a U-shaped association existed between happiness and the number of cases over time. Therefore, while the number of cases initially caused a decline in happiness, owing to the high recovery and low death rates, the threat of the disease was felt less, and people's happiness levels increased slightly. Utilizing simulations, the probability of being happy without any restriction, the probability of an increasing number of Covid-19 cases, and the probability of being happy with restriction were investigated. It was determined that the probability of being satisfied with the implemented curfew regulations was 23%, and the probability of not having a curfew was 30%. Therefore, it was found that the lockdown had a 7% probability of being happy. It has been stated that South Africans would be happier with an increased number of Covid-19 cases and no quarantine arrangements, rather than fewer Covid-19 cases and existing quarantine arrangements. Therefore, the authors made recommendations such as improving working conditions from home, enabling children to go to school (online schooling or teaching that allows social distancing), resuming the sale of

alcohol and tobacco, allowing consumers to move with less restraint, returning to work, accessing the internet, and allowing people to restore their consumption patterns to a certain extent in case policymakers wish to raise people's happiness levels and increase the likelihood of reaching their 2019 happiness levels (Greyling, Rossouw, & Adhikari, 2020a).

A study, which examined the extent to which news about Covid-19 affected people, detected those long-term restrictions on movement, flu, and Covid-19-like symptoms, economic uncertainty, social distance, and news about pandemics had negative impacts on subjective well-being (Carpi, Hino, Iacus, & Porro, 2021). It was also examined whether the effects of Covid-19 differed by gender in terms of happiness. The relationship between working conditions and gender differences in happiness within the course of the beginning of the pandemic in Germany was investigated. Compared with the results describing happiness before and during the Covid-19, it was found that a decline in happiness of all participants existed, especially among women and mothers with young children. However, further decreases in women's well-being were not associated with systematic differences in working conditions during the pandemic (Zoch, Bächmann, & Vicari, 2021).

Unhappiness caused by the Covid-19 virus, not only socioeconomic conditions but also age and gender, etc. affect the variables. Table 2 shows that according to Gallup research conducted in the USA in 2019 before the pandemic and at the end of March and the beginning of April 2020, the life satisfaction percentage of all adults who rate their current life as 7-10 out of 10 decreased by 9.5% (Witters & Harter, 2020a). At the end of April 2020, the life satisfaction percentage of all adults who rate their current life as 7-10 out of 10 decreased by 10.8% (Witters & Harter, 2020b; Kamilçelebi, 2020).

**Table 2: Americans' Life Satisfaction at the Beginning of Covid-19, by Age**

Current life satisfaction (7-10)	Sep. 30 to Oct. 14, 2019	Mar. 21 to Apr. 5, 2020	Apr. 20-26, 2020	Mar. 21 to Apr. 5, 2020 Change %	Apr. 20-26, 2020 Change %
18-44	60.6	50.3		-10.3	
45-64	70.6	61.7		-8.9	
65+	78.6	68.3		-10.3	
All adults	67.7	58.2	56.9	-9.5	-10.8

**Source:** Witters, D., & Harter, J. (2020a). In U.S., Life Ratings Plummet to 12-Year Low, <https://news.gallup.com/poll/308276/life-ratings-plummet-year-low.aspx>; Witters, D., & Harter, J. (2020b). Worry and Stress Fuel Record Drop in U.S. Life Satisfaction, <https://news.gallup.com/poll/310250/worry-stress-fuel-record-drop-life-satisfaction.aspx>

Table 3 shows that Australians aged 15 and older reported their overall life satisfaction as 7.5 in 2019 and 7.6 in 2014, with an average of 7.2 in 2020. Except for individuals aged 70 and older, most individuals stated lower overall life satisfaction in 2020 compared to the previous year. In 2020, individuals aged 70 and older reported their overall life satisfaction as 7.9, whereas younger individuals aged between 15-24 as 6.9. Those with long-term health problems have low life satisfaction with a score of 6.9, those who defined themselves as gay,

lesbian, or bisexual with a score of 6.3, whereas those with mental health problems with a score of 5.8 (ABS, Australian Bureau of Statistics, 2021).

**Table 3: Persons aged 15 years and over in Australia, Overall Life Satisfaction–By Sex, 2014, 2019, and 2020, Mean score**

	2014			2019			2020		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
<b>Age group</b>									
15–24	7.8	7.7	7.7	7.8	7.7	7.7	6.8	7.1	6.9
25–39	7.6	7.7	7.7	7.5	7.4	7.5	7.1	7.1	7.1
40–54	7.4	7.3	7.4	7.1	7.4	7.2	7.1	7.0	7.0
55–69	7.5	7.8	7.6	7.5	7.9	7.7	7.0	7.3	7.1
70+	8.1	8.2	8.1	7.8	7.8	7.8	7.8	7.9	7.9
<b>Recent migrants and temporary residents</b>	7.6	7.7	7.7	7.8	7.6	7.7	7.1	7.0	7.1
<b>Not a recent migrant or temporary resident</b>	7.6	7.7	7.6	7.5	7.6	7.5	7.1	7.3	7.2
<b>Has a mental health condition</b>	6.3	6.9	6.6	6.2	6.5	6.4	5.5	5.9	5.8
<b>Does not have a mental health condition</b>	7.8	7.9	7.9	7.6	7.8	7.7	7.3	7.5	7.4
<b>Has a long-term health condition</b>	7.4	7.5	7.5	7.2	7.4	7.3	6.8	7.0	6.9
<b>Does not have a long-term health condition</b>	7.9	7.9	7.9	7.7	7.8	7.7	7.3	7.5	7.4
<b>Has disability</b>	7.2	7.3	7.2	6.8	7.1	7.0	6.6	6.8	6.7
<b>Has no disability</b>	7.8	7.9	7.8	7.8	7.8	7.8	7.3	7.4	7.4
<b>Heterosexual</b>	7.6	7.7	7.7	7.5	7.7	7.6	7.2	7.3	7.2
<b>Gay, Lesbian or Bisexual</b>	7.0	7.0	7.0	6.8	7.0	6.8	7.0	5.8	6.3

Source: ABS, Australian Bureau of Statistics. (2021). General Social Survey: Summary results Australia, <https://www.abs.gov.au/statistics/people/people-and-communities/general-social-survey-summary-results-australia/latest-release>

According to a Gallup survey conducted in March 2020, when schools were closed due to the pandemic and nearly all US children were home-bound, nearly 9 out of 10 parents with children under the age of 18 claimed that their children experienced 88% happiness “most of the day”, despite their own happiness were stated as 77% (Jones, 2020).

Upon examining people aged 60 and over from Poland and Germany compared with different age groups, elderly people rated their happiness higher than young people during the pandemic (Bidzan-Bluma et al., 2020). The impacts of Covid-19 restrictions on parents with dependent children in Germany were investigated. According to a parent well-being survey in Germany as of 2020, when schools and daycare centers were closed, however, other measures were relaxed and new case levels were low, well-being during that period was compared to a pre-pandemic period for different groups. It was found that the pandemic reduced the relative well-being of adults with children, women, and people with secondary school education, especially individuals with young children (Huebener, Waights, Spiess, Siegel, & Wagner 2021). In a study in Turkey, it was revealed that gender, age, fear of Covid-19, and the existence of individuals infected with Covid-19 were not found to be associated with happiness in adults (Karataş, Uzun, & Tagay, 2021).

## *2.2. The Effect of Covid-19 on Happiness and Non-Economic Determinants*

In addition to the restrictions and quarantine measures implemented by policymakers to reduce the spread of the Covid-19 virus, non-economic conditions also affected happiness. Upon examining the time graphs in the national reports, we can see sizable differences in happiness across countries, e.g., a strong dip in Denmark and almost no decline yet in Germany in 2021 (for other countries, see Veenhoven, 2022).

Studies investigating the impacts of Covid-19 before and after the pandemic, as well as at the beginning and after the pandemic, are also important in terms of comparing the change in people's life satisfaction. A study, which measured whether the pandemic has reduced Dutch individuals' life satisfaction by comparing it to certain periods, found that their life satisfaction decreased by 3%, to approximately 4%, between the summer of 2020 and spring of 2021. Although the level of happiness loss of those individuals was lower in the early days of the pandemic, their happiness decreased further by the end of 2021 (Veenhoven, Burger, & Pleeging, 2021).

During the pandemic, it was revealed that Polish people experienced a significant decrease in their happiness level (Gawrych, Cichoń, & Kiejna, 2021). Another study on Poland highlighted the important role of fear of Covid-19 and a sense of consistency in well-being. It was determined that the individual's sense of consistency could affect their happiness and assist them to manage stress and reduce anxiety (Dymecka, Gerymski, & Machnik-Czerwik, 2021).

Restrictions imposed by governments have also affected life satisfaction. In one of the studies regarding this subject, besides the restrictive measures implemented by governments, the spread of the virus was also pertinent to lower life satisfaction and well-being (Ahmed,

et al., 2020). The early stages of the pandemic and curfew, partially due to increases in community connectedness, were claimed to have minimum short-term harmful impacts on subjective well-being (Sibley et al., 2020).

In the Northern European country group, life satisfaction was merely negatively associated with the spread of Covid-19, whereas no significant association was found in the South and West. But it is pertinent to the rigidity of policies. Strict quarantine measures mitigated the negative association in the North, whereas the strictness of these policies was inversely related to life satisfaction in the West. Thus, although strict quarantine measures could reduce concerns about the pandemic, they reduced life satisfaction once their strictness levels exceeded a certain threshold (Bachmann, Gonschor, Korfhage, & Wübker, 2021).

A study, which investigated the impact of quarantine experiences and attitudes towards Covid-19 in China, found that the authorities' attitudes towards the reliability of real-time updates on Covid-19 and reliance on pandemic control fostered the rise in happiness. People with lower levels of happiness (or vigorous depressive symptoms) were found to become more susceptible to the severity of the pandemic. Also, at the community level, quarantine was inversely related to happiness, whereas self-quarantine at home was associated with increased happiness (Lu, Nie, & Qian, 2020).

Duong (2021) found that anxiety and fear of Covid-19 were strongly associated with psychological distress, sleeping disorder, and happiness among Vietnamese university students, whereas anxiety and fear of Covid-19 reduced happiness through psychological distress and increased sleeping disorder.

Another study analyzed the causal impact of mandatory quarantine on happiness in New Zealand, South Africa, and Australia, regardless of the country's characteristics or the type or duration of quarantine regulations; and claimed that the curfews caused a decline in happiness. Also, the negative impacts differ by country. Of the three countries, South Africa suffered the most, since stay-at-home regulations were stricter in nature (Greyling, Rossouw, & Adhikari, 2020b).

### **3. Effects of Covid-19 on Big-5 and Dark Triad Personality Traits**

In this section, the effects of Covid-19 on both the Big-5 personality traits and the Dark Triad will be examined.

#### ***3.1. Effects of Covid-19 on Big-5 Personality Traits***

Costa and McCrae's (1990) Big-5 model has been one of the most used determinants of personality traits. These five factors are agreeableness, conscientiousness, extroversion,

openness to experience, and neuroticism (emotional instability). This self-report measure includes 10 items attributed to five factors that assess the Big-5 fields of personality. The direction and consistency of the emotions, thoughts, and behaviors of individuals with different life experiences can be measured using these characteristics. As a result of a research study, the Big-5 personality traits of agreeableness, conscientiousness, extroversion, openness to experience; seeking support from others, reinterpreting events positively, dealing with the problem, and accepting it, were positively associated with emotional instability (Afshar et al., 2015). Conscientiousness, agreeableness, and low neuroticism from Big-5 personality traits were found to be related to better overall and mental health (Strickhouser, Zell, & Krizan, 2017). Besides, neuroticism was found to be associated with the perception of adverse, unpleasant, or stressful situations (Hisler et al., 2020). This, in turn, affects the way individuals evaluate and perceive Covid-19. The relationship between the Covid-19 pandemic and Big-5 personality traits was investigated. It was stated that agreeableness and conscientiousness were factors that could have supported the more functional use of people's defense mechanisms. It was stated that neuroticism created more intense and permanent emotional reactions in relation to the tendency to perceive the impacts of stressful events more intensely in stressful situations and that the neurotic personality trait had the strongest impact in a distressing situation such as Covid-19 (Gori, Topino, Palazzeschi & Di Fabio, 2021). Confronting Covid-19 was found to be inversely related to emotional stability (Bernabe-Valero, Melero-Fuentes, De Lima Argimon, & Gerbino, 2021).

In a study conducted at the beginning of the pandemic, it was found that neuroticism was related to health anxiety and a positive relationship existed between neuroticism and Covid-19 anxiety (Lee et al., 2020). Similarly, in the study conducted during the pandemic, it was stated that individuals with high neuroticism were more concerned about Covid-19 (Aschwanden et al., 2021). Nikčević and Spada (2020) also mentioned other personality traits, and other Big-5 personality traits were found to be inversely related to Covid-19 anxiety. He observed that high neuroticism was a vulnerability factor for Covid-19 anxiety syndrome, whereas high extraversion and conscientiousness were protective factors. While previous research studies also indicated an inverse association of compliance with anxiety and depression throughout the pandemic (Nikčević, Marino, Kolubinski, Leach, & Spada, 2021), people with conscientiousness traits exhibited higher compliance with the Covid-19 prevention guidelines (Bogg & Milad, 2020).

The anxiety of people facing various restrictions such as curfew due to Covid-19 has increased. For this reason, some people hoarded food, disinfectants, masks, surgical gloves, toilet paper, etc. from the markets (Kamilçelebi, 2020). At the beginning of the Covid-19 pandemic in Japan, it was found that those with high levels of agreeableness, neuroticism,

and openness to experience according to the Big 5 personality traits tend to hoard (Yoshino, Shimotsukasa, Hashimoto, & Oshio, 2021).

Extraversion and openness to experience are associated with higher levels of positive emotions and subjective well-being (Anglim, Horwood, Smillie, Marrero, & Wood, 2020). However, preventive measures taken to reduce the effects of the pandemic often negatively affected people with these personality traits. Negative emotions in individuals with this personality trait could be alleviated without further progress. In other words, the level of individuals' adaptation may vary according to the environment and period (Fletcher & Sarkar, 2013). For introverts, restrictions have a negative impact on depressive symptoms, whereas, for extroverts, they have a positive, but not significant, impact on depressive symptoms. Although strict measures often help people worry less and feel more secure, this lifestyle is felt more natural to introverts than extroverts (Wijngaards, Sisouw de Zilwa, & Burger, 2020).

### ***3.2. Effects of Covid-19 on the Dark Triad***

The behavior of people with the personality traits of Machiavellianism, narcissism, and psychopathy, called the Dark Triad, during the Covid-19 process was investigated. Dark Triad personality trait studies began with McHoskey, Worzel, and Szyarto (1998), who examined the similarities between psychopathy and Machiavellianism. Paulhus and Williams (2002) coined the term Dark Triad personality traits for Machiavellianism, narcissism, and psychopathy. They clarified the differences and similarities between them. Christie (1970) defines Machiavellian personality traits as using and manipulating others to achieve their own ends, deceiving, exploiting, lack of interpersonal affect, indifference to public morals, and a selfish tendency. The narcissistic personality trait is associated with feelings of smugness, self-indulgence, and entitlement (Morf & Rhodewalt, 2001) and with exploitative behavior towards others, egocentric, and grandiose tendencies (Dowgwillo, Dawood, and Pincus, 2016). Psychopathy is characterized by fearlessness, thrill-seeking, impulsivity, callousness, and aggression (Hare & Neumann, 2008; Patrick, Fowles, and Krueger, 2009) and is often the most malicious of the dark triad (Paulhus & Williams, 2002).

Paulhus and Williams (2002) stated that similar characteristics of the Dark Triad are egocentrism, apathy, unpleasantness, lack of honesty-humility, deception, and tendencies towards interpersonal manipulation and exploitation. It was found that they exhibited less adaptive behavior in terms of observing social distance, abiding by hygiene rules, and taking into account the guidelines to protect others (Blagov, 2020). In another study, which considered the Dark Triad personality traits, people were found to score low in terms of agreeableness and were found to be less likely to comply with pandemic restrictions

(Zajenkowski, Jonason, Leniarska, & Kozakiewicz, 2020). It detected higher levels associated with less harmonious behavior towards rules and regulations aimed at reducing the spread of Covid-19 (Nowak et al., 2020). Dark Triad personality traits were negatively associated with accepting personal restrictions to fight Covid-19 (Zettler et al., 2021), not associated with Machiavellianism, but with narcissism and some degree of psychopathy, and those traits appeared to be less effective than Big-5 personality traits that were also detected (Modersitzki, Phan, Kuper, & Rauthmann 2021).

#### **4. Examination of Covid-19 in terms of the Big-5 Personality Traits and Its Effect on Happiness**

In studies conducted before Covid-19, it was determined that neuroticism, extraversion, and conscientiousness were strongly correlated with well-being in the Big-5 model (Anglim, Horwood, Smillie, Marrero, & Wood, 2020; Meléndez et al., 2019; Grant, Langan-Fox, & Anglim, 2009). It was stated that higher levels of happiness were related to higher levels of conscientiousness, agreeableness, extraversion, and lower levels of emotional stability (Soto, 2015).

Personality has a crucial role in affect and emotions, but this trait is not so valid in cognitive assessment of one's satisfaction with life upon concentrating on a particular situation such as a pandemic. Changes in the sense of social connection of adults from the US and the UK were monitored during the pandemic, with participants exhibiting a small but significant reduction in their loneliness, although they indicated no change in their commitment during the pandemic compared to pre-pandemic. It was revealed that the most introverted participants exhibited significant improvements in loneliness, whereas the most extroverted participants exhibited no improvement in loneliness. Nevertheless, upon considering the levels of loneliness before the pandemic, no significant relationship was found between extraversion and loneliness during the pandemic. For both introverts and extroverts, changes in social relationships and loneliness were associated with life satisfaction (Folk, Okabe-Miyamoto, Dunn, & Lyubomirsky, 2020).

It was suggested that the pandemic might have mitigated the impact of certain personality traits on well-being. The introduction of isolation measures in the pre-Covid-19 period and with the arrival of the second wave reduced the well-being and positive effect of extroverts since these measures mean deprivation of social contact, which is one of the sources of happiness for extroverts (Anglim & Horwood, 2021). Another result supporting this view was obtained. In the study that measured Big-5 personality traits in Slovakia, a negative correlation was found between present and future happiness, and negative emotionality of people with higher depression or anxiety who tended to evaluate their own life more

negatively (Halama, Kohút, Soto, & John, 2020). The relationship between extraversion and pre-pandemic life satisfaction was stronger than that of present and future life satisfaction. In other words, the pandemic has reduced the life satisfaction of Slovak adults (Kohút, Šrol, & Čavojová, 2022).

## 5. Conclusion

At the beginning of the pandemic, WHO's inconsistent decisions increased people's anxiety even more. However, in the event of a new pandemic, we do not know what the WHO and governments' preparations are and how they will take precautions. People need to trust that the policies implemented by policymakers adhere to the principles of openness, transparency, and accountability and are made public. As it will be remembered, the vaccine was first distributed to developed countries. Because the vaccine is found by private companies, and they do not share the vaccine patent, the states should establish institutions such as health institutes that will find the cure for diseases and share the patents of drugs/vaccines. Automation and dissemination of primary and secondary health care services, for which preparations have been started in some countries, will facilitate people's access to health services. Thus, people will be able to easily benefit from health services during the pandemic. It should be accepted by policymakers that other diseases also exist and require routine control, and it is important to reduce or remove pandemic restrictions for these patients, otherwise, health problems will increase.

At the same time, it is also important to make policies according to the personality traits of individuals. In addition to previous studies explaining that personality traits are related to life satisfaction, we can say that personality traits have an impact on adapting to and not being able to adapt to the challenging conditions caused by the pandemic, and this may be related to happiness. Studies on this subject can be made more comprehensive in the future. Life satisfaction should be considered in determining the pandemic policy. While policymakers' prohibitions/restrictions negatively affect or do not affect people's overall life satisfaction, one exception would be healthcare professionals and elderly people. The life satisfaction of women, people with low incomes, and the unemployed were adversely affected by the pandemic. Some of the individuals in developing countries and low-income individuals could not adapt to the new working conditions that came with the pandemic restrictions due to the lack of financial opportunities. These include the inability to adapt to the conditions of distance education and working from home, the inability to access the internet and computers, and the inability of relatively smaller and more populated households to have more than one computer or the technological tools required by their working. Among these individuals, there may be those who were unemployed during this period, and it is possible that they also experienced anxieties such as losing their jobs and closing their workplaces completely. In order to solve

this situation, we expect policymakers to take decisions to increase salaries or provide additional income. Without waiting for the repetition of extraordinary situations such as pandemics, the state can decide to ensure that employers' workplaces are not closed and workers are not dismissed, and thus mutual trust can be established. This policy will reduce people's fear and anxiety.

Working parents have been in a difficult situation as policymakers also closed nurseries at the beginning of the pandemic process. The inability of working parents to send their children to kindergarten has created a burden, especially for mothers. Although restrictions have been reduced recently, regulations can be made to decrease the workload of women. In addition to these, policymakers' sales hours of alcohol and tobacco, etc. restrictions also influence the unhappiness of individuals. Since such restrictions were not encountered in more developed countries, general unhappiness research was conducted neither during the pandemic nor before.

Extroverted or neurotic individuals were more adversely affected due to pandemic restrictions. Studies conducted in more developed countries have revealed that extroverts are negatively affected due to pandemic restrictions. Individuals with a high-income level cannot leave the house due to restrictions, encounter travel barriers, etc. circumstances may have affected them more. This may be more likely to occur in more developed countries, assuming that low-income individuals have fewer travel budgets or are unable to travel.

Neuroticism is associated with depression and pessimism. Therefore, it is seen that individuals with this personality pattern are even more unhappy in an extraordinary situation such as a pandemic. Among these individuals, the unemployed may have increased concerns about the future and not being able to find a job. Policymakers should not make decisions that will make them even more unhappy by considering the personality traits of individuals while making decisions. Psychological support should also be provided to them in this process. In addition to these, for example, while individuals with a developed sense of responsibility abide by the rules by considering the people around them during the pandemic process, some people exhibit less harmonious behaviors in terms of their characteristics of complying with social distance, hygiene rules and considering the guidelines to protect others. It is known that people with these personality traits are more manipulative, lack empathy, and are less likely to comply with restrictions since their level of compatibility is low. When creating policies for rules and regulations aimed at reducing the spread of Covid-19, it should be considered that individuals with these personality traits are less likely to adapt. Therefore, the indirect punishment of those who comply with the pandemic rules, such as quarantine, restrictions, and rules, will negatively affect the happiness of the compliant people. Policymakers should also consider the behavior of people with maladaptive personalities in their decisions.

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