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**Socioeconomic Determinants of Health-Related Quality of Life and
Life Satisfaction During COVID-19 Pandemic in Hungary**

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1. Research background and justification for the selection of the topic

1.1 Background

The COVID-19 pandemic, declared a global health emergency by the World Health Organization in March 2020, profoundly disrupted daily life, economies, and healthcare systems worldwide. By the end of 2023, the virus had caused over 772 million confirmed infections and nearly seven million deaths globally. Governments responded with strict measures, such as lockdowns, movement restrictions, and quarantine mandates, to control transmission. While these interventions were essential in curbing infections, they also had far-reaching consequences on socioeconomic stability, mental health, and overall well-being.

Hungary experienced significant pandemic-induced challenges. As the government imposed restrictions, economic activity slowed, unemployment rates fluctuated, and access to healthcare services was strained. The social isolation and financial hardships exacerbated stress levels, leading to deteriorations in both Health-Related Quality of Life (HRQoL) and life satisfaction. Given these adverse effects, this research investigates how socioeconomic determinants influenced HRQoL and subjective well-being in Hungary during the pandemic.

1.2 Why this topic?

HRQoL is a crucial indicator of public health, capturing both physical and mental well-being. Similarly, life satisfaction reflects subjective well-being and plays a key role in assessing social and psychological impacts. Existing research highlights that specific groups—such as women, younger adults, the unemployed, and those with pre-existing health conditions—were disproportionately affected by the pandemic. However, limited studies focus specifically on Hungary’s population, particularly in relation to economic and social determinants. This study seeks to fill this research gap by analyzing the impact of factors such as income level, employment status, education, gender, age, mental health status, and COVID-19 exposure on HRQoL and life satisfaction.

1.3 Literature context and research contribution

A systematic review of HRQoL studies during COVID-19 revealed that the pandemic had a universally negative impact on well-being, but its severity varied across countries and demographic groups. Studies from Western Europe and North America emphasize the role of socioeconomic inequalities, while research from Eastern Europe remains scarce. Furthermore, while previous studies often rely on general well-being indicators, this study applies validated health and psychological assessment tools. Additionally, this research integrates economic evaluation principles and health technology assessment (HTA) methodologies to provide

empirical insights. By linking socioeconomic factors with well-being outcomes, the study offers critical evidence for policymakers aiming to design targeted interventions and enhance resilience against future public health crises.

2. The methods used

This study employed a cross-sectional research design to assess the impact of socioeconomic determinants on HRQoL and life satisfaction during the COVID-19 pandemic in Hungary. The research was conducted through structured questionnaire survey, collecting data on demographic characteristics, economic status, mental health indicators, and self-reported well-being.

2.1 Study design and population

The study focused on the general Hungarian adult population. A stratified random sampling approach was used to ensure representation across different age groups, genders, and socioeconomic statuses. Data collection occurred in the spring of 2021, capturing pandemic-related experiences and their impact on the participants.

2.2 Data collection

A professional survey company conducted a large cross-sectional online survey between May 25 and June 8, 2021. Data collection continued until the desired sample size of 2,000 adults aged 18 and over was reached. Permission to conduct the study was granted by the Research Ethics Committee of the Corvinus University of Budapest (reference No. KRH/109/2021). Respondents were informed that participation was completely voluntary, data would remain anonymous, not linked to

personal information, and used only for scientific purposes. Respondents gave informed consent before starting the survey.

2.3 Survey instruments used

The study employed a variety of instruments to evaluate multiple dimensions of well-being. The EQ-5D-5L was used to measure HRQoL across five dimensions: mobility, self-care, usual activities, pain/discomfort, and anxiety/depression. The Satisfaction with Life Scale (SWLS), a widely utilized instrument, was employed to assess life satisfaction. Depression severity was evaluated using the Patient Health Questionnaire-9 (PHQ-9), while anxiety levels were measured with the Generalized Anxiety Disorder-7 (GAD-7). Furthermore, the participants were asked to respond to a series of demographic and socioeconomic questions, including their age, gender, monthly income, employment status, education level, and whether they/their family member had been exposed to the COVID-19. These additional data points were collected to provide context for the analysis.

2.4 Data analysis and statistical modeling approach

This study employed both descriptive and inferential statistics to analyze the data. Descriptive statistics yielded an overview of the participants' demographic characteristics (age, gender, education, employment status, and monthly income) and key psychosocial variables, including HRQoL, life satisfaction, anxiety, and depression. The application of summary

measures for these variables was instrumental in establishing a foundational understanding of the sample's overall profile.

For the purpose of conducting inferential analysis, T-tests and one-way ANOVA were applied to compare life satisfaction and mental health outcomes across different demographic groups. Multivariate regression analysis was used to explore the relationship between socioeconomic factors and COVID-19 related factors and HRQoL/life satisfaction. Logistic and linear regression models were employed to assess the likelihood of reduced well-being based on factors such as financial stress, job loss, and mental health conditions. All statistical analyses were conducted using SPSS and R software.

In the modeling approach, logistic and linear regression analyses were performed to examine the factors associated with HRQoL, life satisfaction, anxiety, and depression scores. The models incorporated a range of sociodemographic variables, including age, gender, education level, employment status, and monthly income. Additionally, they considered select factors related to the pandemic, such as infection status (individual, household, and family), the severity of infection, quarantine status, and vaccination status. The selection of these variables was driven by the hypothesis that they might exert a significant influence on health outcomes.

3. Scientific results of the dissertation (in bullet points)

The study sample consisted of a diverse population group, reflecting Hungary's demographic landscape.

- Younger individuals and women reported lower life satisfaction and HRQoL, particularly due to increased psychological distress.
- Employment status was a key determinant of well-being, with unemployed individuals reporting the lowest HRQoL and life satisfaction.
- Higher education levels were associated with greater resilience, leading to better well-being despite pandemic-related hardships.
- HRQoL was significantly impacted by the COVID-19 pandemic, with lower scores among those infected with the COVID-19 with symptoms or facing economic instability.
- Mental health assessments showed a high prevalence of anxiety and depression, particularly among younger respondents and unemployed individuals.
- Preventive measures had mixed effects—while they reduced infection rates, they also exacerbated mental health issues and social isolation.

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