

Youths' Perceived Coping with the COVID-19 Pandemic and Subjective Well-Being: The Moderating Role of Subjective Social Status

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Abstract

Using panel data from Luxembourg, we investigate the relationship between young individuals' perceived coping with the COVID-19 pandemic context and subjective well-being during the short and mid-term phases of the pandemic (i.e., a few months after its outbreak in July 2020 and one year later in July 2021). Additionally, the study examines how this relationship evolves depending on youths' subjective social status. Luxembourg is an important setting, as it is one of the happiest countries in the world, with the highest GDP per capita. According to our results, perceived coping with the COVID-19 context matters for subjective well-being beyond individual and macro characteristics. We found a strong correlation between perceptions of coping with the COVID-19 pandemic context and subjective well-being in high-social-status individuals and a weaker correlation for low- and middle-social-status individuals. Furthermore, the relationship between perceptions of coping with the pandemic and well-being was stable over time. The article stipulates several reasons for these results, such as a 'comfort conditioning' response to the pandemic for young high-social-status individuals.

Keywords

Perceptions, coping, subjective well-being, subjective social status, COVID-19, youth

1 Introduction

The COVID-19 pandemic resulted in many risks, uncertainties, fears, and losses worldwide. While policy efforts in member countries of the Organisation for Economic Co-operation Development (OECD) focused on assessing material impacts of the pandemic on society, non-material impacts, such as citizens' emotional experiences, are only recently being addressed (WHO, 2022). Similarly, growing psychological and public policy literature examines psychological consequences for individuals (Büssing et al., 2020; Fancourt et al., 2023; Kim et al., 2023; Mondino et al., 2020; Tubadji et al., 2023), which is also important in post-crisis scenarios to explore potential enduring psychological effects and better predict citizens' reactions in future macro crises (Stiglitz et al., 2018, Tucker & Czapla, 2021).

One of the population groups that has received little attention when assessing the scope of the COVID-19 pandemic and previous macro crises like the 2008 Great Recession is the youth (Raccanello et al., 2023; WHO, 2022). However, the existing empirical evidence has highlighted that compared to other population groups, youth particularly suffer in adverse macro contexts (Panchal et al., 2023; Polanczyk et al., 2015; Racine et al., 2021), given their vulnerability in entering the labour market and transitioning to adulthood.

The emergence of non-material aspects on the agenda of many politicians and academics may advance our understanding of how subjective experiences can drive the young population's well-being during macro crises. Psychology and behavioural economics research shows that individuals may cope differently and have different perceptions of the same socio-economic conditions, which can influence their well-being differently, over and above objective factors (Kahneman, 2011). Social psychology literature argues that social cognitive biases are fundamental for how (young) individuals within countries generally cope and perceive their situation and sense of well-being (Bandura, 1999, 2002). Depending on

youths' subjective social status—perceptions of their family's position in the socio-economic hierarchy (Jackman & Jackman, 1973) encompassing wealth, education, and labour market position (Locke et al., 1999)—social cognitive biases are produced, as from an early age, individuals have a tendency to interact more with and more like others of similar perceived social status. Consequently, they may develop cognitive reactions and ways to cope with daily experiences that differ substantially from other social groups (Fiske & Markus, 2012), which can help reproduce established social inequalities (Greco et al., 2015).

Overall, it has been overlooked how young individuals' perceived coping with the COVID-19 pandemic context contributes to their subjective well-being after accounting for individual characteristics, and how this relationship can be moderated by subjective social status.

This article addresses the following questions: How does young individuals' perceived coping with COVID-19 pandemic context relate to their subjective well-being, beyond objective micro and macro factors? Does perceived coping play a greater role in the mid-term of the pandemic, and does it differ across subjective social status groups? We focus our analysis on Luxembourg during 2020–2021—a few months after the pandemic outbreak, and one year later, respectively. The rationale is twofold. First, Luxembourg has the world's highest gross domestic product (GDP) per capita (World Bank, 2021) and is one of the world's happiest countries (Helliwell et al., 2021), making it a relevant but rarely studied case. Second, Luxembourg hosted a panel survey, 'Young People and COVID-19' (YAC), that followed the same young individuals during two different periods of the pandemic, providing relevant data.

Our study contributes to two literature streams within the social sciences. First is to subjective well-being literature in sociology and economics, which explores the socio-economic determinants of subjective well-being in different macro contexts (Layard, 2005;

Rojas, 2019). Youths' perceived coping with macro conditions can affect their well-being. Those with positive coping can be more determined to choose studies and jobs they are passionate about and to find purpose, such as meaningful relationships with friends and family (Forgeard et al., 2011). In contrast, individuals with negative coping may more likely develop mental health problems; have higher stress, uncertainty, and insecurity in daily life (Stiglitz et al., 2018); and experience burnout (Layard, 2010). From a social perspective, while positive coping with adverse contexts can promote social integration (Nezlek & Derks, 2001), negative coping can increase political polarisation and support for populist political positions and discourage entrepreneurship after recessions (Stiglitz et al., 2018).

The second contribution is to literature focused on youth inequalities. Understanding how youths from different social status groups experience macro crises can help policymakers design policies to promote youths' well-being and understand how social inequalities are experienced, maintained, and reproduced.

A final contribution is the presentation of panel data evidence. In a review of psychological consequences of the pandemic, the WHO highlighted a 'lack of studies with longitudinal designs' (WHO, 2022, p. 3). The longitudinal survey we use, includes two psychological variables (perceived coping and subjective well-being) measured during the COVID-19 pandemic, offering the empirical advantage of taking heterogeneous fixed effects into account (Van Praag & Ferrer-i-Carbonell, 2011).

The following section describes the relevant research on perceived coping with contextual conditions and subjective well-being and the moderating role of subjective social status, from which our hypotheses are derived. Then, the case of Luxembourg and the analytical strategy are described. Lastly, we present and discuss our results and offer conclusions.

2 Theoretical Discussion

2.1 Perceived Coping and Subjective Well-being

We define perceived coping as how individuals feel they are coping with COVID-19 pandemic context and subjective well-being as self-reported cognitive and emotional appraisal of one's life (Diener et al., 2002), broadly equated with happiness in the social science literature (Veenhoven, 2012). Most research on perceived coping with contextual conditions and subjective well-being comes from psychology literature and reports a significant relationship between both variables over and above individual characteristics (e.g., see Chen, 2016; Fischer et al., 2021). For instance, in a study with young individuals, Alipour et al. (2010) found a significant relationship between coping strategies and happiness in the university context.

Classical psychological literature also shows strong links between youth and adult coping experiences and psychological pathologies related to subjective well-being controlling for individual characteristics. These studies mainly focused on depression (Beck & Greenberg, 1974; Coyne et al., 1981), anxiety (Kondo, 1997; Marks, 1978), and suicidal ideation (Horwitz et al., 2011; Zhang et al., 2012).

Other subjective well-being literature on variables related to perceived coping focused on perceptions of current conditions, mainly on economic dimensions, such as perceived economic conditions (Otis, 2017) or consumer confidence (Merkle et al., 2003), or on the labour market sphere, such as perceptions of macro labour market opportunities ([reference excluded to ensure anonymity]), subjective job insecurity (Chung & Mau, 2014; Geishecker, 2012), or employability perceptions (Berntson & Marklund, 2007; Gowan, 2012). These studies find strong associations controlling for individual covariates.

Based on the empirical evidence mentioned, we can expect that perceived coping with the COVID-19 pandemic context will matter for subjective well-being beyond individual characteristics such as age, gender, and health conditions (*Hypothesis 1*).

While the relationships between subjective well-being and adverse macro conditions such as macroeconomic crises (e.g., Blanchflower, 1991; De Neve et al., 2018; Di Tella et al., 2003) and natural disasters (e.g., Jensen & Tiwari, 2021; Rehdanz et al., 2015) have been researched extensively, few studies have researched links between perceived coping with current conditions, adverse macro conditions, and subjective well-being. One related study showed that in the 2008 Great Recession, in most advanced economies, people continued to perceive a crisis context even after economic recovery (Stiglitz et al., 2018)—similar to Giugni and Mexi's (2018) study in Switzerland and Uba's (2018) in Sweden. The authors argued that although the Great Recession had almost no impact on those economies, their citizens still experienced negative perceptions of the situation, which influenced their subjective well-being.

More recent empirical research has examined the COVID-19 pandemic's impact on people's perceptions and well-being, with growing evidence of negative effects of people's perceived coping with COVID-19 on well-being (e.g., Barari et al., 2020; Donato et al., 2023; Özmen et al., 2021). For instance, Paredes et al. (2021) found that individuals' perceived COVID-19 threat under their conditions negatively impacted subjective well-being during lockdown in Spain in June 2020. Similar results were reported by Aslan et al. (2020) and Peker and Cengiz (2022) in Turkey, with university students and adults, respectively. Using a longitudinal twin design with children and parents, Achterberg et al. (2021) found a significant increase in negative perceptions of their situation during the lockdown and, consequently, their subjective well-being.

Understandably, due to the COVID-19 pandemic being a relatively recent and unprecedented phenomenon, there is a limited body of research examining the effects of individuals' perceived coping with the current circumstances and their subjective well-being on the medium-term of the COVID-19 pandemic (i.e., the impact almost a year after its outbreak). Nonetheless, despite the current limited theoretical advancements related to the pandemic—understandable given the time required for theory building—the available empirical studies consistently indicate a negative association. Zacher and Rudolph (2021) examined four timepoints from December 2019 to May 2020 in Germany, finding deterioration of subjective well-being levels over time and a mostly non-significant relationship with positive coping strategies to achieve a better perception of current conditions. Using South Korean panel data capturing the initial outbreak phase and the intense social distance phase, Kim et al. (2022) showed a general decrease in individuals' perceived coping with the situation and their subjective well-being, although some of them developed positive coping strategies. Büssing et al. (2021) found that perceptions of current conditions negatively changed between the first and second waves of the pandemic (June vs. September 2020), with overall deterioration of individuals' subjective well-being. Similarly, Wang et al. (2022) found general deterioration of subjective well-being as lockdown time increased among 35,516 adolescents in China.

Overall, the COVID-19 pandemic is an example of a macro crisis that can create sustainable levels of negative perceptions in the mid-term even if recovery signals are present, similar to other macro adverse conditions such as the 2008 Great Recession.¹ Based

¹ Subjective well-being research shows, nonetheless, that we could expect some degree of adaptation in terms of perceived coping with the situation and subjective well-being in the longer term of the pandemic (see Sen, 1987). The growing availability of panel data surveys showed that even if

on previous empirical evidence, we expect perceived coping with the COVID-19 pandemic context will matter more to subjective well-being at mid-term than a few months after the outbreak (*Hypothesis 2*). However, individual experience of this association will likely vary, as elaborated in the next section.

2.2 The Role of Subjective Social Status

Social cognitive theory (Bandura, 1999) maintains that, depending on subjective social status, individuals can have different perceptions of the socio-economic situation, which can affect their sense of well-being differently. Subjective social status integrates life experiences, family wealth and educational level, and social class (Locke et al., 1999). Based on these elements, individuals from an early age may self-classify as pertaining to high, middle, or low social status (Connelly et al., 2016). Due to within- and between-group social norms and expectations, (young) individuals with the same perceived status tend to behave and socialise in similar ways and have similar expectations, coping mechanisms, and self-perceptions (Bandura, 1999; Fiske & Markus, 2012). Consequently, they rely on social cognitive biases rooted in their perceived social status to navigate their daily lives.

Substantial empirical evidence with the youth population, mainly in sociology of education, confirms the importance of subjective social status for how perceived coping with current educational conditions is related to subjective well-being. For instance, research has indicated that low-objective socio-economic status students usually feel less competent and

individuals never fully adapt to some situations, a certain degree of adaptation in terms of subjective well-being will likely occur, for example, in unemployment (Clark et al., 2008), income variability (Van Praag & Ferrer-i-Carbonell, 2011), partner relationships after unemployment experience (Blom & Perelli-Harris, 2021), or disabilities (Oswald & Powdthavee, 2008).

have more incentives to learn less and underperform than their counterparts of high and middle status, due to within- and between-social norms and pressures (see Batruch et al., 2017; Rubin, 2012). Another pertinent example is the study by Hoff and Pandey (2005) involving Indian students. The findings revealed that when caste information was not made public, similar performance levels were observed among students in maze games. However, when caste was revealed, significant changes in performances occurred, with students from lower castes exhibiting lower performance levels. The authors argue that their results can be explained by the social and internal pressure students felt when they learned in the second round of games that they were no longer anonymous and therefore their identities would be public and revealed to others as in their everyday lives. As a result, those from lower castes adopted the social belief that they are less capable than those from higher castes. The study can illustrate how beliefs about caste status influence everyday behaviour and performance, highlighting the role of social cognitive biases in shaping outcomes.

These theoretical considerations and the related empirical research contribute to our understanding of why subjective social status can lead young individuals to perceive and emotionally react differently to the same conditions. Some other related empirical studies with the adult population have examined how social status can moderate the relationship between perceived adverse macro-conditions and subjective well-being. For instance, a study by [reference excluded to ensure anonymity] with Spanish panel data examined a related concept of subjective social status, namely individuals' social origin based on their father's social class. The findings revealed that perceived economic conditions mattered beyond objective conditions and became a strong factor for subjective well-being during the Great Recession, especially for individuals of middle social origin. The authors speculate that this might be attributed to the fact that individuals from middle social origin usually have greater

aspirations for social mobility and face increased pressure to succeed than lower and high social status, coupled with the absence of economic security enjoyed by higher social groups.

Another relevant study, conducted by Kiess and Lahusen (2018) in Germany, found that individuals who perceived themselves as belonging to the middle social status were more impacted by the 2008 Great Recession than those who considered themselves of high or low social status. The authors found that subjective social status affiliation, rather than objective indicators of social status, played a more important role. They speculated that individuals who identified themselves as middle social status often experienced greater pressure and challenges in maintaining their position compared to their lower social status counterparts, as they feel they have 'something to lose'. When it becomes more difficult to attain these aims in times of macro adversities, these dynamics become reinforced, as these individuals might cope worse with the situation and therefore suffer more in terms of subjective well-being compared to those with fewer aspirations (low social status) or with more wealth (high social status). This aligns with the theoretical claims of Steijn et al. (2012), suggesting that young individuals who perceive themselves as belonging to the middle social status in Western countries have suffered the most during adverse macro conditions since the 1980s flexibilisation trend in the labour market, which has made them feel more pressured and anxious to secure and improve their socio-economic position. In contrast, individuals of high perceived social status often feel more protected due to their economic security, while those considering themselves of lower social status tend to underestimate their competence, preventing themselves from taking advantage of opportunities for social mobility (see also the empirical studies of Day and Fiske [2017] and Soria and Stebleton [2013], which support this rationale when utilising subjective socio-economic status and objective social origin).

Thus, in an uncertain environment such as the COVID-19 pandemic, young individuals of middle subjective social status might feel particularly pressured and anxious to achieve their educational and labour-market outcomes compared to young individuals of low subjective social status. They might also be more worried about the current conditions than young individuals of high social status, as they cannot rely on high levels of economic resources.

Against this background, we expect that perceived coping with the COVID-19 pandemic context matters strongly for the subjective well-being of those young individuals of middle subjective social status, and comparably less for those of low and high subjective social status (*Hypothesis 3a*). We also expect that perceived coping with the COVID-19 pandemic context will matter more in the mid-term of the COVID-19 pandemic for those young individuals of middle subjective social status than those from low and high subjective social status (*Hypothesis 3b*).

2.3 The Focus: Youth in Luxembourg

Our study focuses on young people in Luxembourg. Currently, there is growing empirical evidence showing the relevance of examining the youth population's perceived coping and well-being during the COVID-19 pandemic compared to older age groups. Groarke et al. (2020) employed a cross-sectional online survey design with UK adults during the initial phase of the COVID-19 pandemic and found that the risk factors for loneliness were especially present in the younger age group. Employing a 14-day diary study with adults in mainland China, Jiang (2020) found age to play a moderating role in the relationship between self-reported stress and emotional well-being: older adults reported lower stress related to the COVID-19 pandemic in daily life than younger adults. Similar findings were reported by Prati

(2021) in Italy and by Klaiber et al. (2021) in Canada and the United States. Similarly, Ruiz et al.'s (2021) cross-sectional analysis found that older individuals were coping better during the pandemic in the UK, South Korea, Finland, the Philippines, Latin America, North America, Spain, and Italy. This supports Röhr et al.'s (2020) qualitative study during the first lockdown in April 2020, showing that the subjective well-being of the older German population was largely unaltered in comparison with the younger population, which seemed to suffer more.

Our hypotheses were tested during different periods of the COVID-19 pandemic in Luxembourg. Luxembourg ranks among the world's top countries in terms of GDP per capita (World Bank, 2021) and happiness (Helliwell et al., 2021). Therefore, testing our hypotheses in this affluent context and time with the youth population is relevant.

3 Methodology

3.1 Data

The study used representative panel data of young individuals aged between 12 and 29 from July 2020 (three to four months after the outbreak of the pandemic in Luxembourg) until July 2021 (one year later). These two time points are adequate to test our hypotheses in this affluent society. The fact that the objective effects of the pandemic were present but relatively low at both moments (i.e., in terms of infection rates, restrictions, and vaccination rates) allowed us to observe whether perceived coping with the situation still matters for the young population beyond these objective conditions.²

² The Luxembourg government COVID-19 data information site (Le Gouvernement Luxembourgeois 2022) shows similar daily new confirmed cases and deaths in July 2020 and 2021. These percentages were relatively low compared to other epidemic peaks such as those in April 2020, December 2020, March 2021, or January 2022. Similar patterns were observed in neighbouring countries (Germany,

Participants were selected from the national registry of natural persons using a stratified random sampling procedure [reference excluded to ensure anonymity]. It had individuals as a unit of analysis and consisted of two waves (2020–2021) that offered key information on socio-economic conditions, perceptions, personal media use, and subjective well-being. The participants were contacted by a governmental department (*Centre des technologies d'Information de l'État*) via personalised postal invitation in French, Luxembourgish, and German to voluntarily complete an online survey. Upon completion, participants received a generic voucher allowing online purchases at over 300 retailers across Europe. The final dataset contained 2,598 observations, and the attrition of the final sample was approximately 60%, even if the response rate in the first wave was very high (see [reference excluded to ensure anonymity] for more details). This is mainly because the responsible Luxembourgish authority, the Centre des technologies de l'information de l'État (CTIE), only allowed us to send one reminder letter to participate in the second wave, in which 1,329 individuals took part.³

France, and Belgium). For more information on the incidence of the pandemic among youth individuals, see the report ([reference excluded to ensure anonymity]).

³ A regression with the missing cases of our sample shows no attrition effects. The model controlled for the variables introduced in the main models as well as new ones that could potentially affect the missing cases (e.g., municipality of the respondent, migration status). The new variables appeared as not significant for the missing cases and thus were not included in the main models. These results can be provided upon request.

3.2 Analytical Strategy

We used panel models to fully exploit the longitudinal nature of our data and to control individual unobserved heterogeneities (Van Praag & Ferrer-i-Carbonell, 2011). The following equation was modelled to test our hypotheses:

$$SW_{it} = \alpha + coping_{it}\psi + covid_t\beta + [copingxcovid_{it}] + X_{it}\delta + \varepsilon_{it},$$

where SW represents the subjective well-being of individual i in wave t ; $coping$ indicates the perceived coping with the COVID-19 context by individual i in wave t and allowed us to test Hypothesis 1 when including $covid$, which refers to the contextual COVID-19 times dummy in the short term (wave 1) and mid-term (wave 2); and the vector X_{it} includes age and subjective health, which are considered individual time-varying variables relevant to the youth population. $copingxcovid_{it}$ indicates the interaction between perceived coping by individual i in wave t and the COVID condition dummy. This interaction allowed us to test Hypothesis 2. Finally, ε is the error term. Subsequently, to test Hypotheses 3a and 3b, we divided the sample based on youths' subjective social status. Since the Hausmann test rejects the null hypothesis of equality between random and fixed-effects estimates, we based our analysis on fixed effects (Allison, 2009). Fixed-effects estimations allow to control for individual time-invariant heterogeneities, such as gender or persistent differences in personality between pessimistic and optimistic people. To further control for auto-correlated yearly errors, we adjusted for clustered standard errors. It is important to highlight that our analysis was conducted at two time points (July 2020 and July 2021) when young individuals were already immersed in the COVID-19 pandemic context.

3.3 Dependent and Independent Variables

The dependent variable was self-reported life satisfaction. The Satisfaction with Life Scale originally created by Diener et al. (1985) has become the main measure of cognitive subjective well-being in happiness research within social sciences (e.g., Layard, 2010; Veenhoven, 2012). This measure usually asks, 'Taking all things into consideration, what is your level of satisfaction with life in general? Note that 0 is very dissatisfied and 10 is very satisfied'. This question was also used in YAC surveys. Hence, the term 'life satisfaction' is utilised during the empirical section of our analyses. In the discussion and conclusion section, we return to the concept of subjective well-being.

Perceived coping with the COVID-19 pandemic context. This is the main independent variable, captured by the question: '*Overall, how well are you coping with the current situation and possible changes caused by coronavirus/COVID-19? Where would you place yourself on the ladder below?*' This aligns with the above-presented definition of perceived coping with the COVID-19 pandemic context. Individuals can choose among 10 rungs of the ladder, where '*The top level on the ladder means that you are coping very well with the current situation, the bottom level on the ladder means that you are not coping well at all*'. To facilitate a more intuitive interpretation, given the negative nature of the COVID-19 pandemic context, we processed the values from better to worse, where 0 indicates that individuals perceive themselves as coping very well, while a value of 10 indicates that they perceive themselves as coping very poorly with the COVID-19 pandemic context.

COVID-19 pandemic context. This dummy variable denotes the contextual COVID-19 pandemic times in the survey waves. It is coded either zero to represent the first wave in July 2020 (short term) or one to represent the second wave one year after in June–July 2021 (mid-term).

Youths' subjective social status. This variable has been categorised based on the first-wave question: *'Below is a ladder that shows the situation of people in Luxembourg. The people at the top are those who are doing well. They have lots of money, a high level of education, and/or a good job. Those at the bottom are those who are doing badly. They have little money, a low level of education, and/or a poor job or no job. Where would you put your family on the ladder?'* This question is the youth version of the MacArthur Scale of Subjective Social Status. It is widely used in the literature as a measure of youths' subjective social status and is based on the subjective assessment of the family's social status (Amir et al., 2019; Goodman et al., 2001). This is a comprehensive question that goes beyond the economic aspect, incorporating dimensions such as family education and labour market standing. This aligns with the provided definition of young people's subjective social status, which entails their personal evaluation of their family's educational attainment, economic position, and wealth. The selected question allows respondents to choose among 10 options in the ladder: *'The higher up the ladder you are, the closer you are to people who are doing well, and the lower you are, the closer you are to people who are doing badly.'* Consistent with the related empirical research on socio-economic inequalities that used the same ladder question (Amir et al., 2019; Andersson, 2018; Speer, 2016) or a similar one (Kraus et al., 2012; Sweeting et al., 2011), we subdivided individuals into three categories and classified them as belonging to low (0–4), middle (5–8), and high subjective social status (9–10). Robustness checks contained in Appendix A show the results using alternative plausible categorisations of the three groups of subjective social status.

3.4 Control Variables

We adjusted for age, age squared, and subjective health. These basic variables are well known to be relevant to youths' subjective well-being in countries with a high Human Development Index (see Dolan et al., 2008; Layard, 2010). Age squared was added to be consistent with the literature that stipulates its U-shaped relationship with subjective well-being (Clark & Oswald, 2006). Subjective health (very good=1, good=2, fair=3, poor=4, and very poor=5) was also included.

3.5 Sample

The initial sample contained 2,718 observations. The final sample includes 2,598 observations, with the following percentage of missing values per variable: 1.58% on subjective well-being (43 missing values), 2.32% on perceived coping with the COVID-19 pandemic (63 missing values), 0.22% on subjective health (6 missing values), and 2.21% on subjective social status (60 missing values). List-wise deletion was used to drop observations with missing values (see Figure 1 in Appendix B, which plots the overall and restricted samples for the key variables subjective well-being and perceived coping, showing an almost identical distribution for both).

4 Results

4.1 Descriptive Statistics

Table 1 in Appendix E presents the descriptive statistics of the entire analysis sample. The life satisfaction of the youth population had an average value of 6.5. This is lower than the reported value of 7.3 in the World Happiness Report of the United Nations (Helliwell et al., 2021), where Luxembourg is ranked 8th worldwide. The difference could be because the UN

report is based on pre-pandemic surveys conducted in 2018 and 2019. The mean value of perceived coping with the COVID-19 pandemic was 3.18 (0–10 scale, better to worse). This suggests that, on average, the youth population in Luxembourg had perceived to cope well with the COVID-19 pandemic. The sample also shows that there was a majority of females (i.e., 57.1% females and 42.8% males). The mean age of the participants was 20.1 years, owing to the nature of the sample, which was composed of young individuals from 12 to 29 years of age. As expected from a young population, the mean subjective health value was 1.7 (1–5, better to worse), showing a good health status. The majority (75.4%) of respondents considered themselves of middle social status, 15% from low social status, and 9.5% from high social status. Table 2 illustrates the mean value of the main research variables, life satisfaction and perceived coping with the COVID-19 pandemic context, for each subjective social status group at the start of the pandemic (wave 1) and after one year (wave 2).

Table 2. Means and standard errors (in parentheses) of life satisfaction and perceived coping with the COVID-19 pandemic context in the short term (July 2020, wave 1) and mid-term (June–July 2021, wave 2) of the COVID-19 pandemic outbreak by subjective social status

Subjective social status	Short-term COVID-19 Pandemic		Mid-term COVID-19 Pandemic	
	Life satisfaction	Coping	Life satisfaction	Coping
All (n: 2,598)	6.76 (1.95)	3.02 (2.04)	6.34 (1.92)	3.36 (2.06)
High (n: 249)	7.91 (1.76)	2.22 (1.97)	7.34 (1.61)	2.68 (2.04)
Middle (n: 1,959)	6.90 (1.80)	2.97 (1.92)	6.46 (1.77)	3.32 (1.95)
Low (n: 390)	5.32 (2.08)	3.75 (2.43)	5.09 (2.22)	4.00 (2.41)

Data source: 'Young People and COVID-19' (YAC), Luxembourg

A few months after the outbreak of the COVID-19 pandemic, the average life satisfaction was 6.8. Individuals of a high subjective social status reported the highest life satisfaction, with a profound difference between social status groups. All subjective social status groups scored differently on average, and significant differences were found between groups (see Appendix C). After one year of the COVID-19 pandemic, we can observe a general deterioration for individuals, particularly those of high subjective social status (deterioration of 0.57 points on a 0–10 scale). Perceived coping with the COVID-19 pandemic context seems to deteriorate after one year of the pandemic, with the biggest deterioration shown by the high social status group (deterioration of 0.46 on a 0–10 scale).

4.2 Perceived Coping with the COVID-19 Pandemic Context and Subjective Well-being

Table 3 presents the four models that allowed us to test Hypotheses 1 and 2. First, the empty model is presented containing our main dependent and independent variables only. The second model introduces micro-level covariates such as age, age squared, and subjective health. The third model includes the role of the COVID-19 pandemic, which is operationalised through a COVID dummy (short term versus mid-term). The last model adds the interaction between perceived coping with the COVID-19 pandemic context and the COVID-19 pandemic. In other words, it demonstrates the extent to which the mid-term effects of the pandemic moderate the relationship between perceived coping with the COVID-19 pandemic context and life satisfaction.

Table 3. Predicting life satisfaction using ordinary least square fixed-effects regression models

<i>Variables</i>	Model 1	Model 2	Model 3	Model 4
Perceived coping with COVID-19 pandemic context	-0.157*** (0.027)	-0.128*** (0.026)	-0.116*** (0.026)	-0.118*** (0.031)
Mid-term effects of COVID-19 pandemic			-0.342*** (0.050)	-0.354*** (0.103)
Mid-term effects of COVID-19 pandemic x perceived coping with COVID-19 pandemic context				0.004 (0.030)
Subjective health (Ref: Very good health)				
Good		-0.326** (0.101)	-0.322** (0.101)	-0.323** (0.102)
Fair		-0.729*** (0.169)	-0.760*** (0.171)	-0.760*** (0.171)
Poor		-1.539*** (0.317)	-1.624*** (0.313)	-1.625*** (0.314)
Very poor		-3.904*** (0.847)	-4.184*** (0.891)	-4.193*** (0.897)
Age		-1.118*** (0.187)		
Age squared		0.019*** (0.004)		
Constant	7.058	21.754	7.358	7.364
Observations	2,598	2,598	2,598	2,598
Number of individuals	1,329	1,329	1,329	1,329
R-squared	0.037	0.125	0.113	0.113

Robust standard errors in parentheses

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Data source: 'Young People and COVID-19' (YAC), Luxembourg

Perceived coping with the COVID-19 pandemic context was negatively correlated with life satisfaction in all models. Models 2 and 3 show that perceived coping was significantly correlated with life satisfaction at 0.001% after controlling for individual covariates (Model 2) and the mid-term effects of the COVID-19 pandemic (Model 3). Therefore, Hypothesis 1 can be corroborated, as perceived coping mattered for subjective well-being beyond individual characteristics. Models 2, 3 and 4 show a negative significant effect for individuals who reported an unhealthy status and Model 2 shows a significant U-shaped relationship between age and subjective well-being.

Model 4 shows the effect of the mid-term of the COVID-19 pandemic compared to the short term on our relationship of interest. The interaction shows a weak and insignificant effect size, suggesting that the relationship between perceived coping with the COVID-19 pandemic context and life satisfaction of young individuals in Luxembourg was stable over time (see Figure 2 in Appendix D). Hypothesis 2 predicted that the relationship between perceived coping with the COVID-19 pandemic context and subjective well-being would matter more during the mid-term of the COVID-19 pandemic than a few months after its outbreak. The results, however, show that the prolongation of the COVID-19 pandemic did not significantly influence the relationship between youths' perceived coping with the COVID-19 pandemic context and their life satisfaction. Disaggregating the mid-term effects by individuals' subjective social status will be useful to see which social group experienced a higher variation after one year.

4.3 Perceived Coping with the COVID-19 Pandemic Context and Subjective Social Status

Hypothesis 3 was examined by conducting separate analyses for each subjective social status group, which was considered a time-invariant individual characteristic for the purpose of our analysis. Table 4 presents the results for each subjective social status group separately (i.e., high, medium, and low) with two columns: one without (Model 1) and another with (Model 2) the interaction between perceived coping with the COVID-19 pandemic context and the COVID-19 pandemic dummy.

Table 4. Predicting life satisfaction and perceived coping with the COVID-19 pandemic context by subjective social status using ordinary least square fixed-effects regression models

	High Social Status		Middle Social Status		Low Social Status	
<i>Variables</i>	Model 1a	Model 2a	Model 1b	Model 2b	Model 1c	Model 2c
Perceived coping with COVID-19 pandemic context	-0.297*** (0.069)	-0.382*** (0.089)	-0.079** (0.029)	-0.065 (0.033)	-0.169* (0.069)	-0.164 (0.083)
Mid-term effects of COVID-19 pandemic	-0.441** (0.136)	-0.858** (0.279)	-0.368*** (0.056)	-0.281* (0.119)	-0.134 (0.154)	-0.090 (0.327)
Mid-term effects of COVID-19 pandemic x perceived coping with COVID-19 pandemic context		0.172 (0.114)		-0.028 (0.035)		-0.012 (0.073)
Subjective health: (Ref: Very good)						
Good	-0.452 (0.274)	-0.456 (0.279)	-0.248* (0.110)	-0.245* (0.111)	-0.651 (0.342)	-0.645 (0.344)
Fair	-1.278* (0.523)	-1.329** (0.506)	-0.694*** (0.203)	-0.691*** (0.203)	-0.891* (0.436)	-0.887* (0.439)
Poor			-1.941*** (0.391)	-1.922*** (0.392)	-0.924 (0.495)	-0.916 (0.495)
Very poor			-4.319*** (0.828)	-4.253*** (0.821)		
Constant	8.812	9.005	7.334	7.291	6.483	6.457
Observations	249	249	1,959	1,959	390	390
Number of individuals	126	126	1,002	1,002	201	201
R-squared	0.296	0.323	0.119	0.120	0.076	0.076

Robust standard errors in parentheses

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Data source: 'Young People and COVID-19' (YAC), Luxembourg

Models 1a, 1b, and 1c in Table 4 show that while there was a strong relationship in terms of effect size and significance between perceived coping with the COVID-19 pandemic context and life satisfaction for young individuals of high subjective social status, this relationship was weaker for individuals of middle and low subjective social status.⁴ While individuals of high subjective social status showed a strong negative correlation (coefficient of -0.297, significant at 0.001%), individuals of middle and low subjective social status showed less strong

⁴ Robustness checks changing the operationalisation of subjective social status to equalise the number of individuals within each group gave the same qualitative nature of results (see Appendix A).

coefficients (-0.079 , significant at 1%, and -0.169 , significant at 5%, respectively). It is noteworthy that even if our analysis aims to understand the dynamics generated among individuals who reported the same social status only, the interaction effects between perceived coping and subjective social status were significant (see Appendix C). In particular, this holds when comparing the middle-social-status group with its high-status counterparts (i.e., an increase of 0.227 points in terms of life satisfaction, significant at 1%, for those of middle subjective social status compared to those of high subjective social status). It is also important to notice the constant in the model that showed the overall higher life satisfaction levels of the high subjective social status group (8.812) compared to its middle and low status counterparts (7.334 and 6.483, respectively).

Regarding the reaction to the mid-term effects of the COVID-19 pandemic, perceived coping with the COVID-19 pandemic context of individuals with different subjective social status did not seem to be affected by it. In other words, interaction effects were not found for individuals of any social status (Models 2a, 2b, and 2c). There were no statistically significant differences in life satisfaction between the short- and mid-term effects of the pandemic for individuals of any subjective social status at most levels of perceived coping with the COVID-19 pandemic context (see Figure 3 in Appendix D). Overall, our results give evidence that the relationship between perceived coping with the COVID-19 pandemic context and life satisfaction differed by subjective social status and was stable over the COVID-19 pandemic. Even if the interactions were insignificant, it is worth mentioning that in terms of variation, only the high subjective social status group reported positive effects (0.172) compared to those of middle (-0.028) and low social status (-0.012).

These results, however, partly contradict the studies presented in the theoretical discussion. Thus, there is no basis to corroborate Hypotheses 3a and 3b, which expected a

strong relationship between perceived coping with the COVID-19 pandemic context and subjective well-being for middle subjective social status individuals, and a less strong one for those of low and high subjective social status (*Hypothesis 3a*), and that perceived coping with the COVID-19 pandemic context will matter strongly in the mid-term of the COVID-19 pandemic for those of middle subjective social status and less strongly for those of low and high subjective social status (*Hypothesis 3b*). On the contrary, our findings indicate that especially the perceptions of coping with the COVID-19 pandemic context among young individuals of high subjective social status were strongly associated with life satisfaction in a somewhat homogeneous way in the short and mid-term of the COVID-19 pandemic in Luxembourg.

5 Discussion and Conclusions

This study examined the relationship between youths' perceived coping with the COVID-19 pandemic situation and subjective well-being. It also analysed how this relationship changes among young individuals of diverse subjective social statuses. Using a panel data survey in Luxembourg with the young population, three findings emerged: (1) perceived coping with the COVID-19 pandemic context mattered for subjective well-being beyond objective individual and macro factors; (2) mid-term effects of the pandemic did not alter the way perceived coping with the COVID-19 pandemic context was a relevant determinant of subjective well-being; and (3) while young individuals of high subjective social status presented a strong relationship between perceived coping with the COVID-19 pandemic context and subjective well-being, the link was less strong for individuals of middle and low subjective social status.

The analyses suggest that policies should consider young people's perceived coping with the COVID-19 pandemic context and subjective well-being when forecasting post-pandemic recovery policies. Our results can also give relevant information about young individuals' subjective experiences in adverse contexts, which can be useful in future macro crises. However, our results diverge from previous studies that suggest a stronger relationship between perceived coping with the COVID-19 pandemic context and subjective well-being in the mid-term of the COVID-19 pandemic compared to the short term (see Büssing et al., 2021; Zacher & Rudolph, 2021). This could be due to the timing of our survey – the second wave was conducted during the summer (June and July 2021) when restrictions were eased, younger cohorts had access to vaccines, and infection rates were low.⁵ Furthermore, the results might have differed if the first round of data collection had been executed at the outset of the pandemic (i.e., around March–April 2020), when its scope and duration were uncertain, compared to a few months later in July 2020, when individuals were already accustomed to their pandemic lives. Overall, the fact that perceived coping with the COVID-19 pandemic context still mattered for the youths' subjective well-being at these two points of time—where the objective effects of the pandemic were relatively low—speaks for the importance of perceptions. In other words, even though signs of recovery were present at both points in time in the affluent society we studied, its young population still felt its effects.

This leads to a second point of discussion: to understand how perceived coping with the COVID-19 context relates to subjective well-being it is important to consider subjective social status. Contrary to our initial hypothesis, perceived coping with the COVID-19 pandemic

⁵ For an overview of the general evolution of the COVID-19 pandemic in Luxembourg, see: <https://covid19.public.lu/fr/graph.html> (last visited: 30/09/2022).

situation was strongly associated with subjective well-being in young individuals of high subjective social status. A strong relationship indicates that young individuals who report coping well with the COVID-19 pandemic context experience greater subjective well-being benefits than those from lower social groups. This is likely due to their more comfortable living conditions, which offer better protection against pandemic-related adversities. Descriptive statistics support this, showing that these individuals generally report higher life satisfaction and better coping abilities during the pandemic than those from other subjective social status groups. Conversely, when they perceive their coping as poor, they experience a greater decline in subjective well-being compared to other groups.

One possible explanation is that individuals from privileged backgrounds (Kiess & Lahusen, 2018) may have developed a comfort conditioning response to the pandemic. Comfortable living conditions, while generally enhancing quality of life, can also lead to increased psychological vulnerability in the face of unusual adversities, especially among the young. The high-subjective social status young in Luxembourg suffered their first large-scale macro crisis restricting their freedom and lifestyle. This could have exposed their psychological sensitivity to cope with adversities that manifested in persistent psychological effects even when the objective conditions of the pandemic were relatively mild in terms of restrictions, infection rates, and access to vaccinations in the two surveyed periods. This observation aligns with social science research on prior unemployment experiences (Clark et al., 2001), access to health treatments for different social status families (Gengler, 2020), and psychological reactions to disappointments of previously happy or well-off people. For instance, the negative psychological effects of widowhood and divorce persist more for those who were happy with their marriages (Carr et al., 2000; Kalmijn & Monden, 2006).

In contrast, individuals with a middle subjective social status might be more used to coping with life adversities, which could explain why their perceived coping with the COVID-19 pandemic has less impact on their subjective well-being. Their previous experiences with adversities have equipped them with the ability to navigate and overcome difficult situations, thereby attenuating the impact of perceived coping with the COVID-19 pandemic on their subjective well-being. Consequently, youths of middle subjective social status might have been more confident that the pandemic would eventually be overcome, especially when recovery signals were present and given the lower financial impact of the pandemic in the country compared to previous (financial) macro crises that could have activated more clearly the mechanisms described in the theoretical section.

The results regarding individuals of low subjective social status are also rather unexpected. Contrary to the initial predictions that perceived coping with the COVID-19 pandemic would not matter for them, the results show that there is a significant relationship between their perceived coping with the COVID-19 pandemic and their subjective well-being. These results challenge related literature stating that young individuals of low social status usually have low expectations and goals (Day & Fiske, 2017; Soria & Stebleton, 2013). One possible explanation for our finding is that those of the low social status may feel particularly vulnerable, pressured, and anxious to secure and improve their socio-economic position during the uncertain times of the COVID-19 pandemic, compared to their middle social status counterparts. The potential presence of poorer material conditions (e.g., smaller houses and flats) among the low social status group may render them more susceptible to the challenges associated with the COVID-19 context, as compared to individuals of middle social status. Another explanation can be the different available operationalisations of subjective social

status or related concepts such as social class or social origin in the literature, which could influence results (see Meraviglia et al., 2016).

Overall, our study supports the postulates of the social cognitive theory by showing that individuals' cognitive appraisals of their coping abilities have implications for their psychological well-being. The study highlights the influence of social factors, such as subjective social status, on individuals' cognitive processes and the ways in which they perceive and respond to the COVID-19 pandemic. The differential relationships manifested between individuals' perceived coping with the COVID-19 pandemic context and subjective well-being across different subjective social status groups provide insights into the social-cognitive mechanisms at play. Furthermore, given that our study examines the short and mid-term of the pandemic, it shows a consistent and stable pattern across subjective social status groups, thereby showing the dynamic influence of subjective social factors on cognition and perceived behaviour, which social cognitive theory emphasises.

Finally, the results of this study are subject to some limitations. First, even if the use of panel data allows to control for unobserved fixed effects (e.g., intrinsically optimistic or pessimistic individuals), other unobserved variables could also play a role, and issues of reverse causality between perceived coping and subjective well-being could be present. Second, the analysis suffered from substantial attrition from the first wave to the second wave, which could have influenced the results, considering the relatively small number of observations available in the study when analysing individuals of high and low subjective social status. To address the latter, Appendix A shows results with different operationalisations of subjective social status that allow a more balanced distribution of individuals across groups, showing the same qualitative nature of results. Third, although it was argued that the youth population was a good subsample from the whole population to

test the hypotheses, some differences still exist. For example, other groups of the population may have also experienced severe consequences from the COVID-19 pandemic, such as first-generation migrants, the disabled, or the chronically ill (e.g., Umucu & Lee, 2020). Stronger effects can be expected if the hypotheses were tested throughout the population.

More research is needed to distinguish between the short-, mid-, and long-term effects of the pandemic (i.e., comparison with the years to come). Additionally, it would be valuable to replicate our analysis using alternative panel datasets that interviewed participants at different times during the pandemic, such as the German Socio-Economic Panel (SOEP) or the UK Household Longitudinal Study (Understanding Society). Analysing these and similar datasets would enable to assess the generalisability of our hypotheses beyond Luxembourg and explore the consistency of the findings across countries with lower GDP per capita and lower levels of happiness.

Finally, one of the central objectives of this study was to analyse the dynamics of young individuals from the same subjective social status. However, for a deeper understanding, the effects between different subjective social status groups should be more directly compared (see Appendix C for a first approximation, where significant results appear when interacting with the subjective social status variable for the whole young population).

To conclude, this study provides empirical evidence on how perceived coping with adverse macro contexts is associated with subjective well-being. Specifically, it builds on previous social psychology and sociological literature showing how subjective social status moderates this relationship. Our results suggest that perceived coping with current conditions is relevant for subjective well-being beyond individual and macro conditions. Policymakers may consider this when designing, implementing, and examining policies aimed at increasing individual well-being during future macro crises as well as in post-crisis scenarios.

References

- Achterberg, M., Dobbelaar, S., Boer, O. D., & Crone, E. A. (2021). Perceived stress as mediator for longitudinal effects of the COVID-19 lockdown on wellbeing of parents and children. *Scientific Reports*, 11(1), 1–14.
- Alipour, A., Hashemi, T., Babapour, J., & Tousi, F. (2010). Relationship between coping strategies and happiness among university students. *Journal of Modern Psychological Researches*, 5(18), 71–86.
- Allison, P. D. (2009). *Fixed effects regression models*. SAGE Publications.
- Amaral, M. A., de Oliveira, M. M., & Javarone, M. A. (2021). An epidemiological model with voluntary quarantine strategies governed by evolutionary game dynamics. *Chaos, Solitons & Fractals*, 143, 110616.
- Amir, D., Valeggia, C., Srinivasan, M., Sugiyama, L. S., & Dunham, Y. (2019). Measuring subjective social status in children of diverse societies. *PLOS ONE*, 14(12), e0226550.
- Andersson, M. A. (2018). An odd ladder to climb: Socioeconomic differences across levels of subjective social status. *Social Indicators Research*, 136(2), 621–643.
- Aslan, I., Ochnik, D., & Çınar, O. (2020). Exploring perceived stress among students in Turkey during the COVID-19 pandemic. *International Journal of Environmental Research and Public Health*, 17(23), 8961.
- Bandura, A. (1999). Social cognitive theory: An agentic perspective. *Asian Journal of Social Psychology*, 2(1), 21–41.
- Bandura, A. (2002). Social cognitive theory in cultural context. *Applied Psychology*, 51(2), 269–290.
- Barari, S., Caria, S., Davola, A., Falco, P., Fetzer, T., Fiorin, S., Hensel, L., Ivchenko, A., Jachimowicz, J., King, G., Kraft-Todd, G., Ledda, A., MacLennan, M., Mutoi, L., Pagani, C., Reutskaja, E., Roth, C., & Slepoy, F. R. (2020). Evaluating COVID-19 public health messaging in Italy: Self-reported

- compliance and growing mental health concerns. *MedRxiv*, 2020-03. DOI: <https://doi.org/10.1101/2020.03.27.20042820>
- Batruch, A., Autin, F., & Butera, F. (2017). Re-establishing the social-class order: Restorative reactions against high-achieving, low-SES pupils. *Journal of Social Issues*, 73(1), 42–60.
- Beck, A. T., & Greenberg, R. L. (1974). *Coping with depression*. Center for Cognitive Therapy, University of Pennsylvania.
- Berntson, E., & Marklund, S. (2007). The relationship between perceived employability and subsequent health. *Work & Stress*, 21(3), 279–292.
- Blanchflower, D. G. (1991). Fear, unemployment and wage flexibility. *Economic Journal*, 101, 483–496.
- Blom, N., & Perelli-Harris, B. (2021). Temporal dimensions of unemployment and relationship happiness in the United Kingdom. *European Sociological Review*, 37(2), 253–270.
- Büssing, A., Rodrigues Recchia, D., Dienberg, T., Surzykiewicz, J., & Baumann, K. (2021). Dynamics of perceived positive changes and indicators of well-being within different phases of the COVID-19 pandemic. *Frontiers in Psychiatry*, 12, 748.
- Büssing, A., Rodrigues Recchia, D., Hein, R., & Dienberg, T. (2020). Perceived changes of specific attitudes, perceptions and behaviors during the Corona pandemic and their relation to wellbeing. *Health and Quality of Life Outcomes*, 18(1), 1–17.
- Carr, D., House, J. S., Kessler, R. C., Nesse, R. M., Sonnega, J., & Wortman, C. (2000). Marital quality and psychological adjustment to widowhood among older adults: A longitudinal analysis. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 55(4), S197–S207.
- Chen, C. (2016). The role of resilience and coping styles in subjective well-being among Chinese university students. *The Asia-Pacific Education Researcher*, 25(3), 377–387.
- Chung, H., & Mau, S. (2014). Subjective insecurity and the role of institutions. *Journal of European Social Policy*, 24(4), 303–318.
- Clark, A. E., Diener, E., Georgellis, Y., & Lucas, R. E. (2008). Lags and leads in life satisfaction: A test of

- the baseline hypothesis. *The Economic Journal*, 118(529), F222–F243.
- Clark, A., Georgellis, Y., & Sanfey, P. (2001). Scarring: The psychological impact of past unemployment. *Economica*, 68(270), 221–241.
- Clark, A. E., & Oswald, A. J. (2006). The curved relationship between subjective well-being and age. No. halshs-00590404. HAL.
- Connelly, R., Gayle, V., & Lambert, P. S. (2016). A review of occupation-based social classifications for social survey research. *Methodological Innovations*, 9, 2059799116638003.
- Coyne, J. C., Aldwin, C., & Lazarus, R. S. (1981). Depression and coping in stressful episodes. *Journal of Abnormal Psychology*, 90(5), 439.
- Day, M. V., & Fiske, S. T. (2017). Movin' on up? How perceptions of social mobility affect our willingness to defend the system. *Social Psychological and Personality Science*, 8(3), 267–274.
- De Neve, J. E., Ward, G., De Keulenaer, F., Van Landeghem, B., Kavetsos, G., & Norton, M. I. (2018). The asymmetric experience of positive and negative economic growth: Global evidence using subjective well-being data. *Review of Economics and Statistics*, 100(2), 362–375.
- Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71–75.
- Diener, E., Lucas, R. E., & Oishi, S. (2002). Subjective well-being: The science of happiness and life satisfaction. *Handbook of Positive Psychology*, 2, 63–73.
- Di Tella, R., MacCulloch, R. J., & Oswald, A. J. (2003). The macroeconomics of happiness. *Review of Economics and Statistics*, 85(4), 809–827.
- Dolan, P., Peasgood, T., & White, M. (2008). Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. *Journal of Economic Psychology*, 29(1), 94–122.
- Donato, S., Brugnera, A., Adorni, R., Molgora, S., Reverberi, E., Manzi, C., ... & Morrissey, S. (2023).

- Workers' individual and dyadic coping with the COVID-19 health emergency: A cross-cultural study. *Journal of Social and Personal Relationships*, 40(2), 551-575.
- Fancourt, D., Steptoe, A., & Bu, F. (2023). Psychological consequences of long COVID: comparing trajectories of depressive and anxiety symptoms before and after contracting SARS-CoV-2 between matched long-and short-COVID groups. *The British Journal of Psychiatry*, 222(2), 74-81.
- Finkel, S. E. (1995). *Causal analysis with panel data* (No. 105). Sage.
- Fischer, R., Scheunemann, J., & Moritz, S. (2021). Coping strategies and subjective well-being: context matters. *Journal of Happiness Studies*, 22(8), 3413–3434.
- Fiske, S. T., & Markus, H. R. (Eds.). (2012). *Facing social class: How societal rank influences interaction*. Russell Sage Foundation.
- Forgeard, M. J., Jayawickreme, E., Kern, M. L., & Seligman, M. E. (2011). Doing the right thing: Measuring wellbeing for public policy. *International Journal of Wellbeing*, 1(1), 79–106.
- Geishecker, I. (2012). Simultaneity bias in the analysis of perceived job insecurity and subjective well-being. *Economics Letters*, 116(3), 319–321.
- Gengler, A. M. (2020). *"Save my kid": How families of critically ill children cope, hope, and negotiate an unequal healthcare system*. NYU Press
- Giugni, M., & Mexi, M. M. (2018). The silent crisis: Perceptions and experiences of the economic crisis in Switzerland. In M. Giugni & M. T. Grasso (Eds.) *Citizens and the crisis* (pp. 215–238). Palgrave Macmillan.
- Goodman, E., Adler, N. E., Kawachi, I., Frazier, A. L., Huang, B., & Colditz, G. A. (2001). Adolescents' perceptions of social status: development and evaluation of a new indicator. *Pediatrics*, 108(2), e31–e31.
- Gowan, M. A. (2012). Employability, well-being and job satisfaction following a job loss. *Journal of Managerial Psychology*, 27(8), 780–798.

- Greco, S., Holmes, M., & McKenzie, J. (2015). Friendship and happiness from a sociological perspective. In M. Demir (Ed.), *Friendship and happiness* (pp. 19–35). Springer, Dordrecht.
- Groarke, J. M., Berry, E., Graham-Wisener, L., McKenna-Plumley, P. E., McGlinchey, E., & Armour, C. (2020). Loneliness in the UK during the COVID-19 pandemic: Cross-sectional results from the COVID-19 Psychological Wellbeing Study. *Plos One*, 15(9), e0239698.
- Helliwell, J. F., Huang, H., Wang, S., & Norton, M. (2021). World happiness, trust and deaths under COVID-19. *World Happiness Report, 2021*, 13–57.
- Hoff, K., & Pandey, P. (2005). Opportunity is not everything: How belief systems and mistrust shape responses to economic incentives. *Economics of Transition*, 13(3), 445–472.
- Horwitz, A. G., Hill, R. M., & King, C. A. (2011). Specific coping behaviors in relation to adolescent depression and suicidal ideation. *Journal of Adolescence*, 34(5), 1077–1085.
- Jackman, M. R., & Jackman, R. W. (1973). An interpretation of the relation between objective and subjective social status. *American Sociological Review*, 38(5), 569–582.
- Jensen, O., & Tiwari, C. (2021). Subjective well-being impacts of natural hazards: A review. In T. Chaiechi (Ed.), *Economic Effects of Natural Disasters* (pp. 583–599). Academic Press
- Jiang, D. (2020). Perceived stress and daily well-being during the COVID-19 outbreak: The moderating role of age. *Frontiers in Psychology*, 11, 571873.
- Kahneman, D. (2011). *Thinking, fast and slow*. Macmillan.
- Kalmijn, M., & Monden, C. W. (2006). Are the negative effects of divorce on well-being dependent on marital quality? *Journal of Marriage and Family*, 68(5), 1197–1213.
- Kiess, J., & Lahusen, C. (2018). An island of bliss—For everyone? Perceptions and experiences of the crisis across social classes in Germany. In M. Giugni & M.T. Grasso (Eds.) *Citizens and the crisis* (pp. 189–214). Palgrave Macmillan.
- Kim, J., Park, S., Subramanian, S. V., & Kim, T. (2023). The psychological costs of the COVID-19

- pandemic and heterogeneous effects in South Korea: Evidence from a difference-in-differences analysis. *Journal of Happiness Studies*, 24(2), 455-476.
- Kim, J. H., Shim, Y., Choi, I., & Choi, E. (2022). The role of coping strategies in maintaining well-being during the COVID-19 outbreak in South Korea. *Social Psychological and Personality Science*, 13(1), 320–332.
- Klaiber, P., Wen, J. H., DeLongis, A., & Sin, N. L. (2021). The ups and downs of daily life during COVID-19: Age differences in affect, stress, and positive events. *The Journals of Gerontology: Series B*, 76(2), e30–e37.
- Kondo, D. S. (1997). Strategies for coping with test anxiety. *Anxiety, Stress, and Coping*, 10(2), 203–215.
- Kraus, M. W., Piff, P. K., Mendoza-Denton, R., Rheinschmidt, M. L., & Keltner, D. (2012). Social class, solipsism, and contextualism: How the rich are different from the poor. *Psychological Review*, 119(3), 546.
- Lachman, M. E., & Weaver, S. L. (1998). The sense of control as a moderator of social class differences in health and well-being. *Journal of Personality and Social Psychology*, 74(3), 763.
- Layard, R. (2005). *Happiness*. Allen Lane.
- Layard, R. (2010). Measuring subjective well-being. *Science*, 327(5965), 534–535.
- Lefranc, A., Pistolesi, N., & Trannoy, A. (2008). Inequality of opportunities vs. inequality of outcomes: Are Western societies all alike? *Review of Income and Wealth*, 54(4), 513–546.
- Le Gouvernement Luxembourgeois. (2022). *CORONAVIRUS*.
<https://covid19.public.lu/fr/graph.html#top>
- Locke, E. A., Noorderhaven, N. G., Cannon, J. P., Doney, P. M., & Mullen, M. R. (1999). Some reservations about social capital. *Academy of Management Review*, 24(1), 8–11.
- Marks, I. M. (1978). *Living with fear: Understanding and coping with anxiety*. McGraw-Hill.

- Marty, M. A., Segal, D. L., & Coolidge, F. L. (2010). Relationships among dispositional coping strategies, suicidal ideation, and protective factors against suicide in older adults. *Aging and Mental Health, 14*(8), 1015–1023.
- Meraviglia, C., Ganzeboom, H. B., & De Luca, D. (2016). A new international measure of social stratification. *Contemporary Social Science, 11*(2–3), 125–153.
- Merkle, D. M., Langer, G. E., & Sussman, D. (2003, May). *Consumer confidence: Measurement and meaning*. Conference of the American Association for Public Opinion Research, Nashville, TN.
- Mondino, E., Di Baldassarre, G., Mård, J., Ridolfi, E., & Rusca, M. (2020). Public perceptions of multiple risks during the COVID-19 pandemic in Italy and Sweden. *Scientific Data, 7*(1), 1–7.
- Nezlek, J. B., & Derks, P. (2001). Use of humor as a coping mechanism, psychological adjustment, and social interaction. *International Journal of Humor Research, 14*(4), 395–413.
- Oswald, A. J., & Powdthavee, N. (2008). Does happiness adapt? A longitudinal study of disability with implications for economists and judges. *Journal of Public Economics, 92*(5–6), 1061–1077.
- Otis, N. (2017). Subjective well-being in China: Associations with absolute, relative, and perceived economic circumstances. *Social Indicators Research, 132*(2), 885–905.
- Özmen, S., Özkan, O., Özer, Ö., & Yanardağ, M. Z. (2021). Investigation of COVID-19 fear, well-being and life satisfaction in Turkish society. *Social Work in Public Health, 36*(2), 164–177.
- Panchal, U., Salazar de Pablo, G., Franco, M., Moreno, C., Parellada, M., Arango, C., & Fusar-Poli, P. (2023). The impact of COVID-19 lockdown on child and adolescent mental health: systematic review. *European Child & Adolescent Psychiatry, 32*(7), 1151–1177.
- Paredes, M. R., Apaolaza, V., Fernandez-Robin, C., Hartmann, P., & Yañez-Martinez, D. (2021). The impact of the COVID-19 pandemic on subjective mental well-being: The interplay of perceived threat, future anxiety and resilience. *Personality and Individual Differences, 170*, 110455.
- Peker, A., & Cengiz, S. (2022). Covid-19 fear, happiness and stress in adults: the mediating role of

- psychological resilience and coping with stress. *International Journal of Psychiatry in Clinical Practice*, 26(2), 123–131.
- Pitlik, H., & Rode, M. (2016). Free to choose? Economic freedom, relative income, and life control perceptions. *International Journal of Wellbeing*, 6(1), 81–100.
- Polanczyk, G. V., Salum, G. A., Sugaya, L. S., Caye, A., & Rohde, L. A. (2015). Annual research review: A meta-analysis of the worldwide prevalence of mental disorders in children and adolescents. *Journal of Child Psychology and Psychiatry*, 56(3), 345–365.
- Prati, G. (2021). Mental health and its psychosocial predictors during national quarantine in Italy against the coronavirus disease 2019 (COVID-19). *Anxiety, Stress, & Coping*, 34(2), 145–156.
- Raccanello, D., Rocca, E., Vicentini, G., & Brondino, M. (2023, August). Eighteen months of COVID-19 pandemic through the lenses of self or others: a meta-analysis on children and adolescents' mental health. In C. Weems (Ed.) *Child & Youth Care Forum* (Vol. 52, No. 4, pp. 737–760). Springer US.
- Racine, N., McArthur, B. A., Cooke, J. E., Eirich, R., Zhu, J., & Madigan, S. (2021). Global prevalence of depressive and anxiety symptoms in children and adolescents during COVID-19: a meta-analysis. *JAMA Pediatrics*, 175(11), 1142–1150.
- Rawls, J. (2009). *A theory of justice*. Harvard University Press.
- Rehdanz, K., Welsch, H., Narita, D., & Okubo, T. (2015). Well-being effects of a major natural disaster: The case of Fukushima. *Journal of Economic Behavior & Organization*, 116, 500–517.
- Roemer, J. E., & Trannoy, A. (2015). Equality of opportunity. In A.B. Atkinson & F. Bourguignon (Eds.) *Handbook of income distribution* (Vol. 2, pp. 217–300). Elsevier.
- Röhr, S., Reininghaus, U., & Riedel-Heller, S. G. (2020). Mental wellbeing in the German old age population largely unaltered during COVID-19 lockdown: results of a representative survey. *BMC Geriatrics*, 20(1), 1–12.

- Rojas, M. (2019). The relevance of Richard A. Easterlin's groundbreaking work: A historical perspective. In M. Rojas (Ed.) *The Economics of Happiness* (pp. 3–24). Springer.
- Rubin, M. (2012). Social class differences in social integration among students in higher education: A meta-analysis and recommendations for future research. *Journal of Diversity in Higher Education*, 5(1), 22.
- Ruiz, M. C., Devonport, T. J., Chen-Wilson, C. H., Nicholls, W., Cagas, J. Y., Fernandez-Montalvo, J., Youngjun, C., & Robazza, C. (2021). A cross-cultural exploratory study of health behaviors and wellbeing during COVID-19. *Frontiers in Psychology*, 11, 608216.
- Sen, A. (1987). *On ethics & economics*. Basil Blackwell.
- Soria, K. M., & Stebleton, M. J. (2013). Social capital, academic engagement, and sense of belonging among working-class college students. *College Student Affairs Journal*, 31(2), 139.
- Speer, I. (2016). Race, wealth, and class identification in 21st-century American society. *The Sociological Quarterly*, 57(2), 356–379.
- Steijn, B., Berting, J., & De Jong, M. J. (Eds.). (2012). *Economic restructuring and the growing uncertainty of the middle class*. Springer Science & Business Media.
- Stiglitz, J., Fitoussi, J. P., & Martine, D. (2018). *Beyond GDP: Measuring what counts for economic and social performance*. OECD Publishing.
- Sweeting, H., West, P., Young, R., & Kelly, S. (2011). Dimensions of adolescent subjective social status within the school community: Description and correlates. *Journal of Adolescence*, 34(3), 493–504.
- Tubadji, A., Boy, F., & Webber, D. J. (2023). Narrative economics, public policy and mental health. *Applied Research in Quality of Life*, 18(1), 43-70.
- Tucker, P., & Czapla, C. S. (2021). Post-COVID stress disorder: another emerging consequence of the global pandemic. *Psychiatric Times*, 38(1), 9–11.

- Uba, K. (2018). *Critical men? Perceptions of crisis without crisis in Sweden*. In M. Giugni & M. T. Grasso (Eds.), *Citizens and the crisis* (pp. 239-260). Palgrave Macmillan.
- Umucu, E., & Lee, B. (2020). Examining the impact of COVID-19 on stress and coping strategies in individuals with disabilities and chronic conditions. *Rehabilitation Psychology*, 65(3), 193.
- Vanhercke, D., De Cuyper, N., Peeters, E., & De Witte, H. (2014). Defining perceived employability: a psychological approach. *Personnel Review*, 43(4), 592–605.
- Van Praag, B. M., & Ferrer-i-Carbonell, A. (2011). Happiness economics: A new road to measuring and comparing happiness. *Foundations and Trends in Microeconomics*, 6(1), 1–97.
- Veenhoven, R. (2012). Happiness: Also known as “life satisfaction” and “subjective well-being”. In Land, K., Michalos, A. & Sirgy, M. (Eds.) *Handbook of social indicators and quality of life research* (pp. 63–77). Springer.
- Wang, D., Zhao, J., Ross, B., Ma, Z., Zhang, J., Fan, F., & Liu, X. (2022). Longitudinal trajectories of depression and anxiety among adolescents during COVID-19 lockdown in China. *Journal of Affective Disorders*, 299, 628–635.
- World Bank. (2021). *GDP per capita, PPP (current international \$) | Data*. World Bank Data. https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD?year_high_desc=true.
- World Health Organization (WHO). (2022). *Mental health and COVID-19: Early evidence of the pandemic’s impact: scientific brief*. [WHO/2019-nCoV/Sci_Brief/Mental_health/2022.1](https://www.who.int/publications-detail/WHO/2019-nCoV/Sci_Brief/Mental_health/2022.1)
- Zacher, H., & Rudolph, C. W. (2021). Individual differences and changes in subjective wellbeing during the early stages of the COVID-19 pandemic. *American Psychologist*, 76(1), 50.
- Zhang, X., Wang, H., Xia, Y., Liu, X., & Jung, E. (2012). Stress, coping and suicide ideation in Chinese college students. *Journal of Adolescence*, 35(3), 683–690.

Appendix A. Subjective Social Status Operationalisation

Table 5A. Subjective social status operationalised: 0–4, low; 5–7, middle; 8–10, high

Predicting life satisfaction and perceived coping with the COVID-19 pandemic context by subjective social status using ordinary least squares fixed-effects regression models

	High Social Status		Middle Social Status		Low Social Status	
<i>Variables</i>	Model 1a	Model 2a	Model 1b	Model 2b	Model 1c	Model 2c
Perceived coping with COVID-19 pandemic context	–0.130** (0.045)	–0.154** (0.058)	–0.091** (0.034)	–0.075 (0.039)	–0.169* (0.069)	–0.164 (0.083)
Mid-term effects of COVID-19 pandemic	–0.524*** (0.087)	–0.653*** (0.184)	–0.310*** (0.064)	–0.207 (0.137)	–0.134 (0.154)	–0.090 (0.327)
Mid-term effects of COVID-19 pandemic x perceived coping with COVID-19 pandemic context		0.046 (0.067)		–0.032 (0.039)		–0.012 (0.073)
Good	–0.454* (0.176)	–0.444* (0.174)	–0.198 (0.126)	–0.190 (0.127)	–0.651 (0.342)	–0.645 (0.344)
Fair	–0.706* (0.349)	–0.710* (0.350)	–0.776*** (0.223)	–0.771*** (0.223)	–0.891* (0.436)	–0.887* (0.439)
Poor	–2.731 (1.407)	–2.770* (1.348)	–1.876*** (0.412)	–1.853*** (0.411)	–0.924 (0.495)	–0.916 (0.495)
Very poor	–3.890*** (0.420)	–4.019*** (0.469)	–4.371*** (1.246)	–4.301*** (1.224)		
Constant	8.232	8.293	7.190	7.138	6.483	6.457
Observations	685	685	1,523	1,523	390	390
Number of individuals	348	348	780	780	201	201
R-squared	0.207	0.209	0.107	0.107	0.076	0.076

Robust standard errors in parentheses

*** p<0.001, ** p<0.01, *p<0.05

Data source: ‘Young People and COVID-19’ (YAC), Luxembourg

Table 5B. Subjective social status operationalised: 0–5, low; 6–8, middle; 9–10, high

Predicting life satisfaction and perceived coping with current conditions by subjective social status
using ordinary least square fixed-effects regression models

	High Social Status		Middle Social Status		Low Social Status	
<i>Variables</i>	Model 1a	Model 2a	Model 1b	Model 2b	Model 1c	Model 2c
Perceived coping with COVID-19 pandemic context	–0.297*** (0.069)	–0.382*** (0.089)	–0.083** (0.033)	–0.054 (0.038)	–0.119** (0.050)	–0.118** (0.059)
Mid-term effects of COVID-19 pandemic	–0.441*** (0.136)	–0.858*** (0.279)	–0.434*** (0.060)	–0.258** (0.130)	–0.111 (0.104)	–0.104 (0.228)
Mid-term effects of COVID-19 pandemic x perceived coping with COVID-19 pandemic context		0.172 (0.114)		–0.058 (0.040)		–0.002 (0.053)
Good	–0.452 (0.274)	–0.456 (0.279)	–0.284** (0.119)	–0.279** (0.120)	–0.344 (0.228)	–0.344 (0.228)
Fair	–1.278** (0.523)	–1.329*** (0.506)	–0.656*** (0.230)	–0.655*** (0.228)	–0.807*** (0.306)	–0.807*** (0.308)
Poor			–2.007*** (0.508)	–1.971*** (0.502)	–1.150*** (0.364)	–1.149*** (0.366)
Very poor			–5.137*** (0.704)	–4.962*** (0.714)	–2.158*** (0.379)	–2.157*** (0.380)
Constant	8.812	9.005	7.492	7.405	6.524	6.520
Observations	249	249	1,588	1,588	761	761
Number of individuals	126	126	809	809	394	394
R-squared	0.296	0.323	0.146	0.148	0.055	0.055

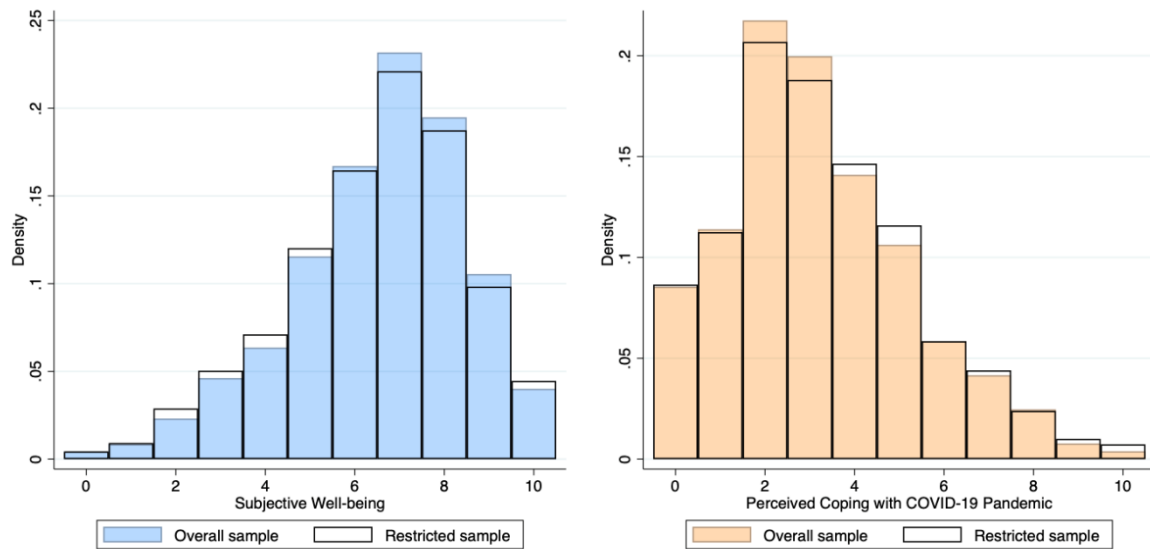
Robust standard errors in parentheses

*** p<0.001, ** p<0.01, *p<0.05

Data source: ‘Young People and COVID-19’ (YAC), Luxembourg

Appendix B. Histograms with Overall and Restricted Samples

Figure 1: Histograms with overall and restricted samples in terms of subjective well-being and perceived coping with the COVID-19 pandemic context



Data source: 'Young People and COVID-19' (YAC), Luxembourg

Appendix C. Interaction with Subjective Social Status

Table 6. Predicting life satisfaction and perceived coping with the COVID-19 pandemic context using ordinary least square fixed-effects regression models

<i>Variables</i>	Model Double Interaction	Model Triple Interaction
Perceived coping with COVID-19 pandemic context	−0.309*** (0.070)	−0.324*** (0.085)
COVID-19 pandemic	−0.341*** (0.050)	−0.330** (0.106)
Middle social status x perceived coping with COVID-19 pandemic context	0.227** (0.076)	
Low social status x perceived coping with COVID-19 pandemic context	0.158 (0.099)	
(Ref: High SSS, Short-term COVID-19)		
High social status x Mid-term COVID-19 x perceived coping with COVID-19 pandemic context		0.020 (0.074)
Middle social status x Short-term COVID-19 x perceived coping with COVID-19 pandemic context		0.251** (0.088)
Middle social status x Mid-term COVID-19 x perceived coping with COVID-19 pandemic context		0.237* (0.094)
Low social status x Short-term COVID-19 x perceived coping with COVID-19 pandemic context		0.154 (0.112)
Low social status x Mid-term COVID-19 x perceived coping with COVID-19 pandemic context		0.185† (0.111)
Good	−0.332*** (0.100)	−0.328** (0.101)
Fair	−0.777*** (0.171)	−0.774*** (0.171)
Poor	−1.653*** (0.312)	−1.624*** (0.315)
Very poor	−4.282*** (0.895)	−4.234*** (0.913)
Constant	7.339	7.339
Observations	2,598	2,598
Number of individuals	1,329	1,329
R-squared	0.119	0.121

Robust standard errors in parentheses

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, † $p < 0.1$

Data source: 'Young People and COVID-19' (YAC), Luxembourg

Appendix D. Interaction with Mid-Term COVID-19

Figure 2. Life satisfaction and perceived coping with the COVID-19 pandemic context (0–10, better to worse) in the short term and mid-term of the COVID-19 pandemic (predicted values) with 95% confidence intervals

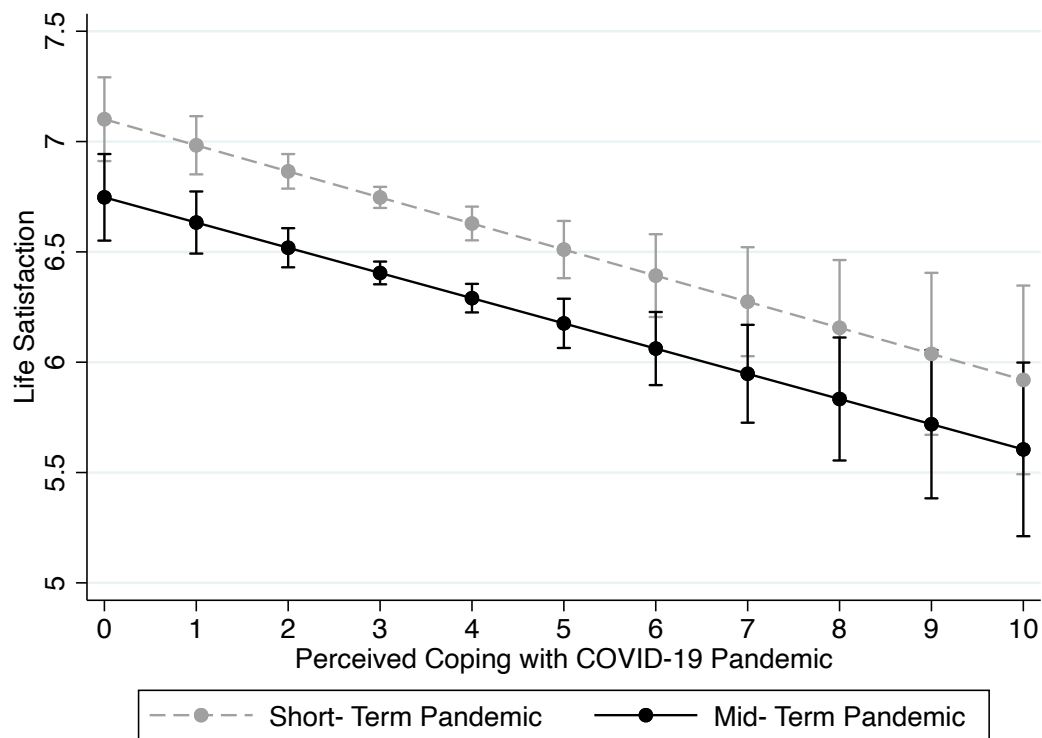
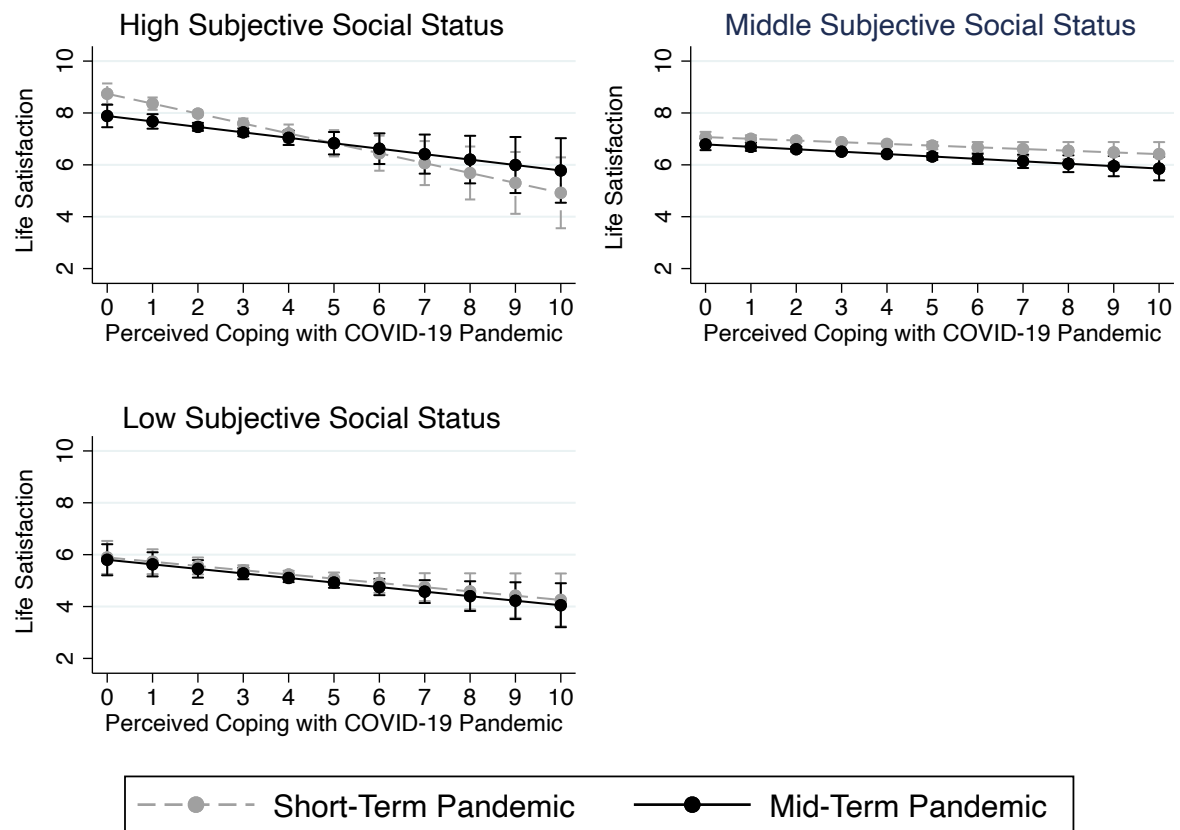


Figure 3. Life satisfaction and perceived coping with the COVID-19 pandemic context (0–10, better to worse) in the short term and long term of the COVID-19 pandemic. Predicted values for individuals of high, middle, and low subjective social status with 95% confidence intervals.



Appendix E. Additional Descriptive Statistics

Table 1. Descriptive statistics of the entire sample without wave distinctions

VARIABLES	Mean (Standard Dev.)
Life satisfaction	6.55 (1.95)
Perceived coping with COVID-19 pandemic context	3.189 (2.06)
COVID-19 pandemic	0.49 (0.50)
Gender	1.42 (0.49)
Age	20.19 (5.37)
Very good health	0.43 (0.49)
Good health	0.43 (0.49)
Fair health	0.11 (0.32)
Poor health	0.01 (0.13)
Very poor health	0.00 (0.03)
High subjective social status	0.09 (0.27)
Middle subjective social status	0.75 (0.43)
Low subjective social status	0.15 (0.35)
Observations	2,598
Number of individuals	1,329

Data source: 'Young People and COVID-19' (YAC), Luxembourg