



Socio-Economic Status, Comparisons of Subjective Affectedness and Life Satisfaction During the COVID-19 Pandemic in Germany

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Abstract

This paper examines the role of social comparisons in evaluating the consequences of the COVID-19 pandemic in Germany between 2020 and 2022. Our approach drew on previous research concerning economic inequalities and reference groups, engaging with the broader literature on comparisons and subjective well-being. We hypothesized that individuals' evaluations of their personal economic affectedness—what we term “subjective affectedness”—would be influenced not only by objective factors such as employment and income changes but also by their socioeconomic status at the onset of the pandemic. We primarily investigated how individuals evaluate their subjective affectedness in relation to others and how these evaluations varied according to their initial socioeconomic status. Additionally, we analyzed whether these comparisons influenced subjective well-being, specifically life satisfaction, during the pandemic. Our results show that individuals generally viewed themselves as economically less affected than others, including their immediate social circle, other people in Germany, and especially others in the EU. However, lower-status groups perceived both themselves and others as more affected and were more likely to assess themselves as more affected than others—even in the absence of objective factors such as job or income loss. Our findings suggest that individuals rely on personal reference groups, which leads to biased evaluations of others. Those who evaluated themselves as more affected than others also reported lower life satisfaction. Overall, our findings indicate that socioeconomic status played a crucial role in shaping evaluations and social comparisons during the pandemic.

Keywords Socioeconomic status · Social comparisons · Evaluations · Economic affectedness · Subjective well-being · COVID-19 pandemic

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1 Introduction

The COVID-19 pandemic and the measures taken in response led to an economic shock and significant changes in people's day-to-day lives. From the earliest stages of the pandemic, scholars have analyzed its impact on life satisfaction and other aspects of subjective well-being. Many studies have corroborated the general expectation that the pandemic—along with its social and economic consequences—negatively affected life satisfaction for most (e.g., Delhey et al., 2023; Easterlin & O'Connor, 2023; Möhring et al., 2021; Prati & Mancini, 2021; Zacher & Rudolph, 2021). However, looking back at the overall impacts of the pandemic, these studies also suggest that such adverse effects were relatively modest and—at least to some extent—diminished over the course of the pandemic.

In contrast, several studies from the early phases of the pandemic found that subjective well-being increased overall, or among specific groups, despite the COVID-19-related burdens (Entringer et al., 2020; Kivi et al., 2021; Recchi et al., 2020). These studies alluded to shifts in reference points or reference groups to explain their unexpected findings. Some argued that people who were not directly affected by illness, unemployment, or other disruptions compared themselves to those who were and thus arrived at a more positive evaluation of their own situation. This paper aims to provide further evidence of the significance of such social comparisons.

We focus specifically on individuals' evaluations of their own economic affectedness during the pandemic and the role of social comparisons—that is, comparisons with others. Earlier studies have suggested that such comparisons were central to explaining rising well-being at the beginning of the pandemic. However, empirical evidence on their longer-term consequences and underlying mechanisms remains scarce, a gap that our study intends to address. We used a rating scale to measure individuals' evaluations of both their own economic affectedness—what we refer to as “subjective affectedness”—and that of others. In addition, we relied on indicators such as changes in employment and income to measure objective affectedness.

We analyzed how people evaluated the impact of the pandemic on their own economic situation, as well as on that of their immediate social circle, others in Germany, and others across the EU. Our approach was inspired by previous research on economic inequalities and reference groups within the EU, particularly work that examined how people compare living conditions in their own countries with those in other countries (Delhey & Kohler, 2006). We also drew on the broader literature concerning comparisons and subjective well-being (Clark & Oswald, 1996; Clark & Senik, 2010; Schneider & Schupp, 2014; Wolbring et al., 2013). We analyzed the extent to which critical changes in employment and income during the pandemic, along with individuals' socioeconomic status at its outset, affected how they evaluated their own economic situation compared to others. Considering that individuals' evaluations of others often rely on limited information and are subject to cognitive biases (Tversky & Kahneman, 1974), we explored differences in these evaluations across socioeconomic status groups in all analyses.

While the core of this paper focuses on self-evaluations and social comparisons, our starting point was the counterintuitive finding from previous studies (e.g., Kivi et al., 2021) that subjective well-being did not decline—and, in some cases, even increased—during the early phase of the pandemic. Due to data limitations, we cannot provide a comprehensive analysis of changes in subjective well-being across the entire pandemic. Instead, we investigated the extent to which life satisfaction is associated with comparisons of affectedness. This offers tentative evidence regarding whether such comparisons might help explain the

surprising patterns in life satisfaction reported in prior research. Based on the concept of relative deprivation (Merton & Rossi, 1968; Runciman, 1966), we hypothesized that individuals who perceived their economic situation as worse than that of others would experience a sense of personal deprivation. This, in turn, would negatively impact life satisfaction. By contrast, regardless of whether individuals experienced objective affectedness during the pandemic, those who evaluated their situation as better than that of others were expected to report a higher degree of life satisfaction. If most individuals perceived themselves as better off—that is, less affected—this could help explain the positive well-being outcomes found in earlier studies.

We used a panel dataset comprising four waves collected between 2020 and 2022 and combined these individual-level data with county-level aggregate data to map regional pandemic and labor market developments. In addition to capturing potential changes over the course of the pandemic, we placed strong emphasis on the role of socioeconomic status at its outset—that is, a constant factor—in explaining evaluations of economic affectedness. Accordingly, we primarily employed pooled analyses using random-effects models. For time-varying factors like changes in employment and income, we also provided estimates from fixed-effects models. As life satisfaction was measured only in the final wave of our data, we examined the relationship between life satisfaction and comparisons of affectedness from a cross-sectional perspective.

Our results show that, on average, individuals evaluated themselves as less economically affected by the pandemic than others—a pattern that persisted across the entire observation period despite some changes over time. Nonetheless, clear differences emerged by socioeconomic status, with lower-status groups evaluating not only themselves but also others as being more severely economically affected. Although these differences were not highly pronounced, the findings offer some support for the expectation that individuals rely on their personal reference groups when making inferences about others' situations. In addition, consistent with earlier literature (e.g., Wolbring et al., 2013), we found that individuals who evaluated their situation as worse than others exhibited lower levels of life satisfaction. However, this effect was largely driven by their evaluation of their own affectedness rather than by how they evaluated others. Therefore, our findings do not necessarily support the claims that comparisons with others help explain the unexpected rise in subjective well-being during the pandemic. Overall, our study contributes to the existing literature on the outcomes of the COVID-19 pandemic and highlights the role of social comparisons in times of crisis.

2 Reference Groups, Social Comparisons, and Subjective Well-Being

The role of social comparisons has been addressed across various fields of research, including studies on economic inequalities in the EU (Delhey & Kohler, 2006), subjective social status (Evans & Kelley, 2004), and, quite extensively, life satisfaction and subjective well-being (Clark & Oswald, 1996; Clark & Senik, 2010; Schneider & Schupp, 2014; Wolbring et al., 2013). Within these domains, the term “reference group” is widely used, which led us to adopt the concept in examining how individuals compared their own economic situation during the COVID-19 pandemic to that of others.

The idea of reference groups was originally established in sociology by Merton and Rossi (1968) in their discussion of the seminal study conducted by Stouffer et al. (1949). It was also in this context that the concept of “relative deprivation” emerged, which was

later further popularized by Runciman (1966). In the economic literature, the notion of “relative income,” which shares essential features with a reference group perspective, was introduced in the late 1940s (Duesenberry, 1949). Additionally, there are strong conceptual links between reference group theory and social comparison theory (Festinger, 1954). Broadly speaking, social comparison refers to the common cognitive process through which individuals evaluate themselves—either by comparing themselves directly to others or, as reference group theory suggests, to their reference groups.

While these foundations of reference group theory have been emphasized in earlier literature on social comparisons and life satisfaction (Clark & Oswald, 1996: 361),¹ the term reference group itself has become relatively generic in recent literature and is often used without explicit reference to earlier theoretical work. As a result, its meaning has become less specific and is frequently used to refer more generally to any reference point through which individuals assess their position in relation to others. As Merton and Rossi (1968: 287) noted, “Reference groups are, in principle, almost innumerable.” Studies on social comparisons and well-being have therefore used a wide variety of reference groups. For some of these groups, research has shown that individuals who evaluate themselves negatively in comparison to others tend to report lower levels of well-being (e.g., Wolbring et al., 2013).

In a similar vein, studies conducted during the early phase of the COVID-19 pandemic suggested that social comparisons may help explain the unexpected increases in life satisfaction and other aspects of subjective well-being (Entringer et al., 2020; Kivi et al., 2021; Recchi et al., 2020). In a general sense, individuals who were not directly affected by illness, unemployment, or other pandemic-related issues compared themselves to those who were, resulting in a more favorable evaluation of their own situation. To describe the phenomenon of increasing well-being in times of crisis, Recchi et al. (2020) coined the term “eye of the hurricane paradox.” Kivi et al. (2021) further alluded to a cross-national comparative dimension in which evaluations were made compared to other, more severely affected countries. This seems particularly plausible in the context of the EU, where supranational institutions and overarching discourses around European solidarity are highly salient (Bauhr & Charron, 2021). Although earlier studies posited that such comparisons contributed to the initial rise in perceived well-being during the pandemic, there remains limited empirical evidence regarding their longer-term consequences or the underlying mechanisms through which they operate.

In our paper, we provide an encompassing analysis of the role of social comparisons across three years of the pandemic (2020–2022). Building on previous research, we address two main questions. *First*, how did individuals from different socioeconomic status groups evaluate their own economic affectedness during the pandemic in comparison to others? As in earlier studies, we adopted a relatively broad understanding of reference groups but distinguished between more proximate and more distant groups, including family, friends, and acquaintances, as well as other people in Germany and in the EU. This approach draws inspiration from prior work on cross-national comparisons, particularly that of Delhey and Kohler (2006), which found that individuals’ evaluations of their country’s living standards in relation to other European countries influenced their life satisfaction. However, our study does not focus on general living standards but rather on the economic affectedness

¹ Notably, Clark and Oswald (1996) did not—at least not directly—acknowledge Merton and Rossi (1968), a core sociological contribution. However, they did refer to Stouffer et al. (1949) and Runciman (1966), both of which are closely related to Merton’s and Rossi’s work.

of different status groups due to the pandemic. While our primary focus was on subjective affectedness—that is, individuals’ evaluations of their own economic situation—we also considered measures of objective affectedness, such as changes in income and employment. Germany was moderately affected by the pandemic compared to many other European countries, especially in the early stages (Kowall et al., 2021). Given this context, including “other people in the EU” as a potential reference group is consistent with the comparative assumptions of Kivi et al. (2021).

Second, do evaluations of one’s own economic affectedness and related social comparisons influence outcomes such as life satisfaction? Prior research on relative deprivation (Runciman, 1966; Smith et al., 2012) clearly suggests that individuals who see themselves as worse off than others tend to report lower life satisfaction. In this paper, we analyze how individuals’ self-assessed affectedness during the pandemic, relative to others, influenced their life satisfaction. While our dataset includes repeated measures of economic affectedness—which we used to address the first question—life satisfaction was only considered in the final wave of the panel. Therefore, our analysis of this second question is based solely on cross-sectional data.

3 Socioeconomic Status and Evaluations of Economic Affectedness During the COVID-19 Pandemic

A starting point for understanding differences across socioeconomic status groups in their subjective economic affectedness during the COVID-19 pandemic is their objective affectedness. The impacts of the pandemic on employment (e.g., remote work, short-time work, and unemployment) were socially selective and often accompanied by income losses, which, though largely absorbed by redistributive measures, were unequally distributed (e.g., Adams-Prassl et al., 2020; Blom & Möhring, 2021; Christl et al., 2023; Clark et al., 2021; Grabka, 2021). Consequently, individuals’ personal crisis experiences varied markedly across population groups, contributing to the reinforcement of pre-existing inequalities. For instance, individuals with a lower socioeconomic status at the outset were more likely to experience job or income loss during the pandemic.

Beyond these direct impacts, it is also necessary to consider how lower-status groups may have been indirectly affected by the pandemic, as they generally had fewer economic resources to cope with the consequences of the crisis. Earlier research on the individual-level impact of natural disasters, such as earthquakes and hurricanes, has shown that individuals with lower socioeconomic status are particularly vulnerable in such situations (for a review, see Bolin & Kurtz, 2018). In addition to incurring direct material losses, lower-status groups tend to perceive greater risk and threat, be less prepared, and face more challenges during recovery and reconstruction. These vulnerabilities are likely to be relevant in the context of a prolonged crisis like the pandemic—for example, additional health-related expenses and the cost of protective measures may have posed further difficulties for lower-status groups as they attempted to reorganize and normalize their lives under lockdown conditions.

How do these objective aspects of affectedness translate into evaluations of subjective affectedness and comparisons with others? If it were possible to assess affectedness “objectively,” one might expect lower-status groups to evaluate themselves as more affected than others and higher-status groups as less affected. However, it remains unclear how individuals arrive at such evaluations of others and to what extent these assessments may be biased.

In a series of papers published in the 1970 s, Tversky and Kahneman (1973, 1974) stressed that individuals employ what they termed “judgmental heuristics” as cognitive shortcuts to evaluate complex issues. In essence, individuals often base their evaluations of larger groups or society at large on specific cases they recall, which can lead to systematic cognitive biases. People tend to evaluate society based on information from those closest to them—that is, their reference groups, such as family, friends, or neighbors (e.g., Cruces et al., 2013; Evans & Kelley, 2004). Moreover, individuals may also form biased assessments when comparing different reference groups (Hvidberg et al., 2023), thereby further compounding the biases present in their broader social evaluations.

This paper builds on these previous findings and considerations to investigate how individuals assessed the economic affectedness of others during the pandemic. To this end, we propose that individuals draw on a broader set of references when evaluating their affectedness through social comparisons. These include not only close personal contacts—family, friends, and acquaintances—but also more distant groups, such as fellow compatriots or individuals across the EU. For these more distant groups, it is likely that people supplement inference with information obtained from the media (Boomgaarden et al., 2011; Mutz, 1992). Frequent media consumers, in particular, are more likely to make comparisons with more distant groups (Clark & Senik, 2010).

In this context, biases in evaluations can be conceptualized as twofold. First, individuals may form biased assessments of their personal reference group by recalling specific—and possibly unrepresentative—cases. Second, their evaluations of more distant groups may, in turn, be biased by their perceptions of personal reference groups. Media information, especially for evaluations of more distant groups, may help mitigate such biases—assuming, of course, that misinformation is not involved. In this paper, we aimed to identify potential biases by comparing individuals’ evaluations of their own affectedness with their evaluations of others’. In an unbiased population sample, the mean evaluations of one’s own affectedness and of others’ affectedness are not expected to differ; any difference between the two would indicate biases in the evaluations.²

From these theoretical considerations, we derived several hypotheses regarding the formation and outcomes of economic affectedness evaluations in the context of social comparisons across different socioeconomic groups, as presented in Fig. 1. We use the term “subjective affectedness” to describe individuals’ self-assessment of economic affectedness as distinct from objective indicators such as changes in employment or income. We specifically focused on three types of dependent variables: evaluations of affectedness of self and others, subjective affectedness in comparison to others, and life satisfaction.

First, we hypothesized that *individuals with a lower socioeconomic status would evaluate themselves as being more economically affected by the pandemic* (H1). As discussed above, this expectation rests on the fact that lower-status groups were more likely to experience short-time work, job loss, and income loss during the pandemic.³ Additionally, we also expected that socioeconomic status would have a direct impact on subjective affectedness. Regardless of individual crisis experiences during the pandemic, lower-status groups generally had fewer resources and more significant obstacles to cope with the strains of the pandemic. In this context, we further hypothesized that the relationship between

² Using a similar instrument, Delhey and Kohler (2006: 132) demonstrated that the mean evaluation of others’ living conditions was lower than the mean of one’s own living conditions, although the differences they observed were relatively small.

³ Short-time work is the literal translation of the term for the German job retention scheme *Kurzarbeit*.

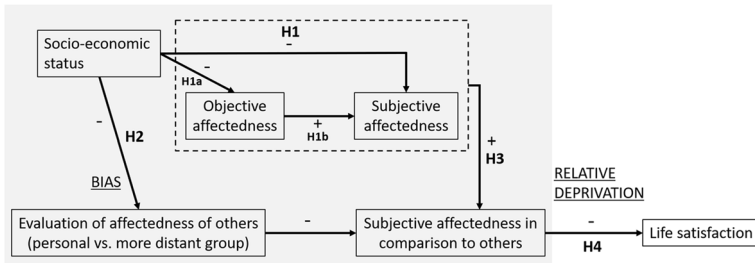


Fig. 1 Socioeconomic status, comparative affectedness, and life satisfaction

socioeconomic status and subjective affectedness would be partially mediated by objective affectedness in terms of job or income loss—in other words, *individuals from lower-status groups were more likely to experience objective affectedness during the pandemic* (H1a), and would therefore *evaluate themselves as being more affected* (H1b).

Second, we examined the relationship between socioeconomic status and both the evaluations of others' affectedness and the evaluation of personal affectedness compared to others. Building on the literature regarding judgmental heuristics and cognitive biases, we assumed that evaluations of others' affectedness would be biased due to the limited knowledge individuals possess about the experiences of different reference groups during the pandemic. These evaluations are relevant because they shape how individuals perceive their own affectedness relative to others. Specifically, individuals may be more likely to evaluate their own affectedness as higher when they assess either their own affectedness as greater or the affectedness of others as lesser. A key question, therefore, is which specific group individuals draw on as the reference point when making this comparison.

On the one hand, if individuals use people they know personally as their reference group, we assumed that these groups would be relatively homogeneous and similar in socio-economic status. As a result, evaluations of the economic affectedness of family, friends, and acquaintances should broadly align with self-evaluations, leading to no substantial differences in comparative self-evaluations across socioeconomic groups. However, since we expected lower-status groups to assess their own affectedness as higher (as stated in H1), we should also see a similar group difference in their evaluations of the affectedness of "others." Therefore, we hypothesized that *evaluations of the economic affectedness of others would be higher among lower-status groups than among higher-status groups* (H2).

On the other hand, individuals may also compare themselves with more distant groups, such as people in Germany or the EU. We assumed that evaluations of these broader groups rely more heavily on media representations than on personal experiences. Therefore, such evaluations should be less aligned with individuals' assessments of their own affectedness. In this case, both lower- and higher-status groups would receive similar information about the affectedness of people in Germany or the EU, and the evaluation of one's own economic affectedness compared to others across different status groups would vary primarily according to the evaluation of one's own affectedness. Given that individuals from lower-status groups may be more likely to perceive themselves as being more affected (H1), we hypothesized that *they are more likely to evaluate their own economic affectedness as higher than that of others* (H3).

Finally, building on theories of social comparison and relative deprivation, we posited that the comparison made by individuals in evaluating their economic affectedness due to the pandemic further influenced their life satisfaction. We expected that individuals feel relatively deprived when they perceive themselves as being more affected than others, thus being less satisfied with their lives in general. This leads to our last hypothesis, namely that *individuals exhibit a lower level of life satisfaction when they evaluate themselves as being more economically affected than others* (H4).

4 Data and Methods

For the main analysis, we used survey data from four panel waves conducted between 2020 and 2022, collected through two research projects in Germany (Beblo et al., 2024). The first wave took place between 6 and 31 March 2020, at the onset of the pandemic in Germany. The second wave was conducted from 23 June to 12 July 2020, the third from 12 to 28 April 2021, and the final panel wave from 15 July to 10 August 2022. A total of 1,535 respondents participated in the first panel wave, who were recruited through an online access panel via quota sampling based on gender, age, education, and income. Of the original sample, 1,304 respondents (85%) participated in Wave 2, 1,034 (67.5%) in Wave 3, and 896 (58.4%) in the final panel wave.⁴ For our analysis, we used an unbalanced panel (Waves 2 to 4) comprising 2,625 valid observations, with Wave 1 information on initial socioeconomic status included in all analyses.⁵

In our analysis, we used three groups of dependent variables, comprising a total of eight variables. Summary statistics for all variables are provided in Table A1. The first group consisted of four variables measuring subjective economic affectedness due to the pandemic, which were surveyed in each wave from the summer of 2020 onwards. Respondents were asked to evaluate the economic affectedness of themselves, their social circle (i.e., family, friends, and acquaintances), people in Germany, and people in the EU using a thermometer scale (see Figure A1). Values ranged from 0 (“no economic affectedness”) to 100 (“strong economic affectedness”). The second group of dependent variables included three dummy variables derived from these metric variables, indicating whether respondents rated their own affectedness as higher than that of each respective group. Our final outcome variable was a standard measure of general life satisfaction ranging from 0 to 10, which was surveyed only in the last panel wave in July/August 2022. For robustness checks, we also analyzed respondents’ satisfaction in various life domains (i.e., health,

⁴ In the last two panel waves, fresh samples of 203 and 220 respondents were drawn, respectively. In this paper, we only analyze the original sample, for which individual socioeconomic status before or at the onset of the pandemic was measured. For further information on data collection, see Lohmann et al. (2024).

⁵ Allison (2002: 84) concluded that listwise deletion can be quite robust. Furthermore, he stressed that it cannot be ruled out that other methods to handle missing data may produce biased estimates. Therefore, we used a sample of respondents with valid information in all variables of the main analysis. To check for potential biases due to the selection of our sample, we regressed all our dependent variables on our main indicator of socioeconomic status (monthly net equivalized income) using different samples (balanced/unbalanced, with/without missing values in other variables). As the response rate for our main variables on economic affectedness was high and monthly income was observed for all respondents, the initial sample for these robustness checks was nearly as large as the full sample. Figure A2 shows that the results did not change substantially, even for the most restricted sample (balanced and without missing values in any of the included variables).

job, household duties, household income, childcare options, family life, and democracy in Germany).

Our main independent variables included measures of individuals' objective affectedness during the pandemic. In additional analyses focusing on mediation, we also used these as dependent variables. Respondents were asked about their employment status in each of the four panel waves. We distinguished six employment categories: "employed (not short-time work/working from home)," "self-employed (not short-time work/working from home)," "short-time work," "(partially) working from home," "unemployed," and "inactive." In each of the last three panel waves, respondents were also asked about changes in their net household income, with answers ranging from 1 ("strongly decreased") to 5 ("strongly increased"), which we summarized into three categories ("decreased," "about the same," and "increased"). This variable served as a measure of individuals' direct economic affectedness.

Another central variable was socioeconomic status at the outset of the pandemic. In the main analysis, we used monthly net equivalized household income as an indicator of status (applying the modified OECD scale), which was surveyed as a question with categorical responses. We distinguished between low-, medium-, and high-income groups: respondents with an equivalized income of less than 1,200€ were classified as low-income, those with incomes between 1,200€ and 2,100€ as medium-income, and those with incomes of 2,100€ or more as high-income. We chose monthly net income primarily because it was used in panel recruitment and, therefore, had no missing values. We acknowledge, however, that there may be some concerns related to this measure (e.g., time of measurement, categorical format, and the exclusion of non-monetary dimensions of socioeconomic status). Therefore, for robustness checks, we also used annual net household income (in 2019, both metric and categorized), occupation, and subjective social status as additional measures of socioeconomic status (see Section 6).

In the main analysis, we included gender, age group, education, panel wave, and region (West or East Germany) as control variables. We also accounted for the potential effects of an information experiment on relative income positions conducted in Wave 1. Although income perceptions are not the focus of this paper, and we did not expect any treatment effects, we nevertheless controlled for treatment group membership in all models.

In additional analyses, we drew on information regarding individuals' COVID-19 status (symptoms, tested, infection) and frequency of media use (traditional, online, social). While data on COVID-19 were collected in all waves, the questions varied over time due to changing test availability and related factors. For the sake of consistency, we used retrospective information from Wave 4, which is not available for respondents who dropped out of the panel. In contrast, media use was only surveyed in Wave 1 and carried forward to subsequent waves. Although we consider these variables relevant, they were included only in additional models due to higher non-response rates and potential measurement issues.

In addition to the individual-level data, we included fine-grained regional information at the county level to account for pandemic context effects. Specifically, we used data on 7-day incidence rates and changes in the share of short-time workers since the start of the pandemic.

Because socioeconomic status at the outset of the pandemic did not vary over time and due to the hierarchical nature of pooled panel data, we employed random-effects regression models. For the subjective affectedness of individuals themselves, we additionally examined the role of objective affectedness using fixed-effects models. We then used linear probability models (RE) to estimate the probability of respondents evaluating themselves as more affected than others. For robustness checks, we also provide results from logit

models using average marginal effects. Since life satisfaction and satisfaction with specific life domains were only surveyed in Wave 4, we employed linear models (OLS) to analyze how satisfaction during the pandemic was associated with individuals' evaluations of their personal economic affectedness compared to others.

5 Results: Evaluations of Economic Affectedness and Life Satisfaction

Before presenting the results of the regression models, we provide an overview of the development in the evaluation of economic affectedness from 2020 to 2022. Figure 2 shows trends by socioeconomic status from the early phase of the pandemic in the summer of 2020 through to the late summer of 2022. For all reported differences across groups and over time, we conducted significance tests, which supported the patterns shown in Fig. 2. The following discussion refers only to statistically significant differences (unless stated otherwise).

Overall, the findings indicate that a majority of Germans evaluated the affectedness of others as greater than their own. Respondents perceived higher levels of affectedness among family, friends, and acquaintances, as well as among people in Germany and the EU—particularly in the latter, more distant groups. Notably, in 2020, people in the EU were perceived as the most affected. This result may have been driven by news coverage of the severe consequences of the pandemic in Italy and other countries during the first half of 2020. Given the widespread perception that others were more affected, only a minority of respondents saw themselves as more affected than others—especially when compared to people in the EU and Germany.⁶ This general pattern of perceiving others as more affected appeared across all socioeconomic status groups and, with only minor exceptions, in all time periods.

Over time, evaluations of one's own affectedness increased, while perceptions of the affectedness of people in the EU declined by 2022. This rise in perceived personal affectedness likely reflects not only the pandemic's effects but also the influence of other concurrent crises—namely, the Russian invasion of Ukraine, inflation, and the energy crisis. Other research based on Eurobarometer data (Wang, 2024) has shown that economic worries peaked in the second half of 2022 but had already declined by 2023. Therefore, we interpret the 2022 increase in subjective affectedness in our data—although respondents were asked specifically about their economic affectedness due to the pandemic—as a temporary shock caused by these crises rather than an intensification of a longer-term trend. Nevertheless, even with these changes over time, respondents continued to evaluate their own economic affectedness as substantially lower than that of others. This finding aligns with earlier research on the 2008/09 financial crisis (Boomgaarden et al., 2011), which similarly found that individuals tend to evaluate the national economic situation more pessimistically than their own during times of crisis. Since these general patterns remained consistent from 2020 to 2022, the following discussion primarily focuses on differences across status groups.

Our findings suggest that respondents either underestimated their own affectedness or overestimated that of others. Because we used a population sample, the mean value of subjective affectedness can be interpreted as an estimate of average affectedness in Germany. There was a large gap between the average evaluation of one's own affectedness and the evaluation of people in Germany, with the latter being nearly twice as high. As

⁶ Exact figures are displayed in Table A1 in the appendix. In particular, 18.2% evaluated themselves as more affected than other people in the EU, while 17.7% evaluated themselves as more affected than others in Germany.

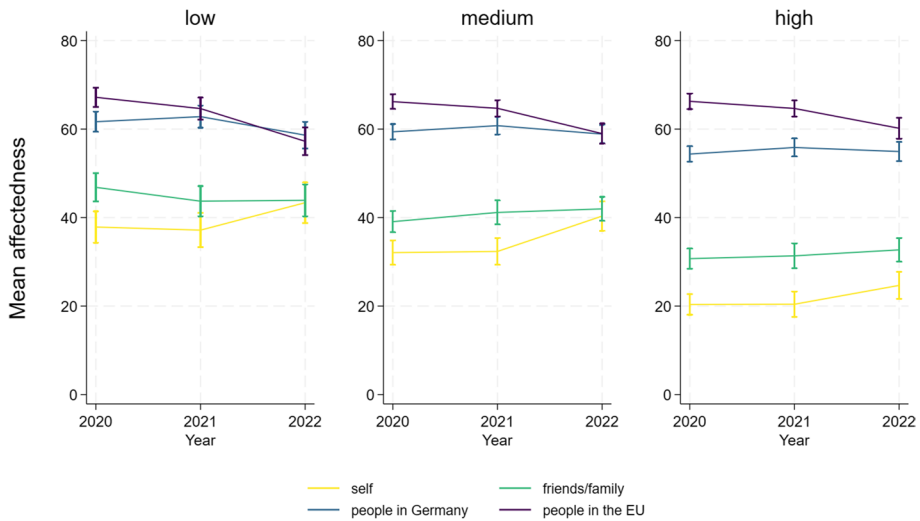


Fig. 2 Affectedness by socioeconomic status (means, 2020–2022). Note: Means and 95% confidence intervals. Waves 2–4 (weighted)

noted above, we interpret such differences as the result of biased evaluations. Moreover, since individuals possess more detailed information about their own situation, we assume that evaluations of others may be biased—for instance, by relying on perceptions of reference groups when assessing more general populations. However, the results presented in Fig. 2 provide only limited insights into how these evaluations are formed. From an additional survey, we found evidence suggesting that individuals tend to base their evaluations on people they know, although media also seemed to play a particularly influential role. Yet, because these findings concern crises in general rather than the pandemic specifically, we do not discuss them in detail here.⁷

Regarding differences according to socioeconomic status, Fig. 2 clearly illustrates a higher level of subjective affectedness among lower-status groups, consistent with our first hypothesis (H1). In each time period, the gap between lower- and the higher-status groups exceeded 15 percentage points. Differences by socioeconomic status were less pronounced in the evaluation of others' affectedness, particularly with regard to more distant groups, such as people in Germany and the EU. While evaluations of friends and family, as well as people in Germany, mostly showed significant differences—especially between the low- or medium-status groups and the high-status group—differences in the evaluation of people in the EU were not statistically significant.

In the next steps of our analysis, we examined whether these patterns also held in multivariate models, particularly focusing on those who evaluated themselves as being more

⁷ In December 2023, we conducted an additional cross-sectional survey (German adult population, N = 2,092). Respondents were asked to evaluate the economic affectedness of themselves and others due to recent crises. Our focus was the sources of information individuals used for their evaluations in comparing themselves to others. Table A2 shows that in all groups, respondents referred most frequently to people they knew as the basis for their evaluations of others. Traditional media seemed to play a larger role only among the group who evaluated themselves as being less affected than others.

affected than others. Finally, we investigated how the evaluation of being more affected than others impacted life satisfaction.

5.1 Regression Results: Socioeconomic Status, Subjective/Objective Affectedness and Social Comparisons

In this section, we provide more detailed analyses of economic affectedness and how individuals evaluate the affectedness of others. In line with our hypotheses, we first examined subjective and objective affectedness (H1), then evaluations of others' affectedness (H2), and finally, whether people evaluated themselves as more affected than others (H3). In the following section, we discuss our findings regarding social comparisons and life satisfaction (H4).

Figure 3 presents the results of a series of regression models on subjective affectedness (full model results are provided in Table A4 in the appendix). The first model included only our main independent variable—socioeconomic status at the outset of the pandemic. The second added a variable for employment status during the pandemic. The third model incorporated income change, and the fourth added a set of control variables. As discussed in Section 4, we also estimated additional models that included individual-level variables for COVID-19 infections and media use; however, these models were based on a smaller sample. Importantly, their results did not differ substantially from those of Model 4 (see appendix tables).

We found strong support for the first hypothesis—namely that lower-status groups would evaluate themselves as more economically affected by the pandemic. In Model 1 (M1), respondents in the lowest status group evaluated their affectedness as 17.5 percentage points higher than those in the highest status group, with the medium-status group reporting a 12.5 percentage point higher level. These differences remained largely stable in Model 2 (M2), which accounted for objective affectedness in the form of short-time work or unemployment. Including income changes in Model 3 (M3) reduced the size of status differences somewhat, but they remained clearly visible. The inclusion of further variables

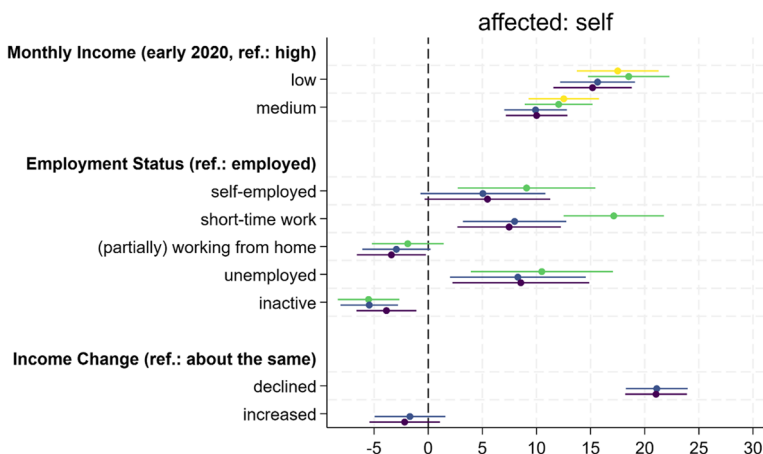


Fig. 3 Subjective affectedness (affectedness: self), coefficients of RE regression models. Note: Coefficients and 95% confidence intervals (cluster robust standard errors). Waves 2–4 (weighted). From top to bottom: M1 (yellow): socioeconomic status (based on monthly income), panel wave. M2 (green): M1 + employment status. M3 (blue): M2 + income change. M4 (purple): M3 + further controls. For full models, see Table A4 in the appendix

in Model 4 (M4) led to only marginal changes in the results. We also found that negative employment changes and income losses were associated with higher levels of subjective affectedness, which were corroborated by additional evidence from fixed-effects models (see Figure A3).

As outlined above, we expected the relationship between socioeconomic status and subjective affectedness to be partially mediated by objective affectedness. Specifically, individuals in lower-status groups were more likely to experience negative employment changes (such as unemployment and short-time work) and income losses (H1a), which, in turn, should lead to higher levels of subjective affectedness (H1b). The changes in the coefficients from M2 to M3 in Fig. 3 provide indirect evidence of such mediation. More direct support came from our additional analyses, which we present in the appendix. After including controls, we found that the probability of experiencing a negative employment change was nearly 15 percentage points higher in the lowest-status group compared to the highest. Similarly, income losses were over 10 percentage points more frequent in the lowest-status group (see Figure A4). These results suggest that objective affectedness may function as a mediator in the relationship between socioeconomic status and subjective affectedness.

However, our mediation analyses indicate that only a modest portion of the status effect on subjective affectedness was mediated by employment and income changes. Depending on the model specification and status group, income loss accounted for 16.7 to 29.2 percent of the total effect (see Table A3).⁸ Negative employment change was less relevant as a mediator (4.2 to 11.1 percent of the total effect). In summary, consistent with our expectations (H1a and H1b), objective affectedness—that is, negative changes in employment and income—was more frequent among individuals in lower-status groups, and income loss in particular acted as a mediator between socioeconomic status and subjective affectedness. Still, the direct effect of socioeconomic status remained substantial, accounting for approximately two-thirds to five-sixths of the total effect. These results are reflected in the coefficients reported in Fig. 3, which show that even after accounting for objective affectedness, subjective affectedness was significantly higher among lower-status groups.

We therefore conclude that lower-status groups exhibited higher levels of subjective affectedness, thereby corroborating our first hypothesis. There is some evidence for a partial mediation via objective affectedness, particularly income loss.⁹

Turning to our second and third hypotheses, Fig. 4 shows that socioeconomic status at the outset of the pandemic also had an impact on the evaluation of others' economic affectedness (upper panel) and the comparison of personal affectedness relative to others (lower panel). These patterns remained consistent after accounting for objective affectedness and other individual-level characteristics (for the full results, see Tables A5–A7 in the appendix). In both panels of Fig. 4, we report models analogous to those in Fig. 3, though here we focus on the coefficients for socioeconomic status.

⁸ Table A3 presents the proportion of the total effect mediated by negative employment change and income loss, respectively, which indicates the indirect effect as a proportion of the total effect. We reported models in which we specified interactions between the status variable and respective mediators.

⁹ We found some overarching patterns for other variables not reported in Fig. 3 (for detailed results, see appendix Table A4). For instance, older respondents evaluated themselves as less affected than younger people. Individuals in larger households, particularly households with children, exhibited higher levels of subjective affectedness. Additionally, the level of subjective affectedness differed according to regional economic conditions. In counties with a stronger increase of short-time work after the outset of the pandemic, individuals evaluated their own economic affectedness as higher, regardless of whether they had personally experienced short-time work.

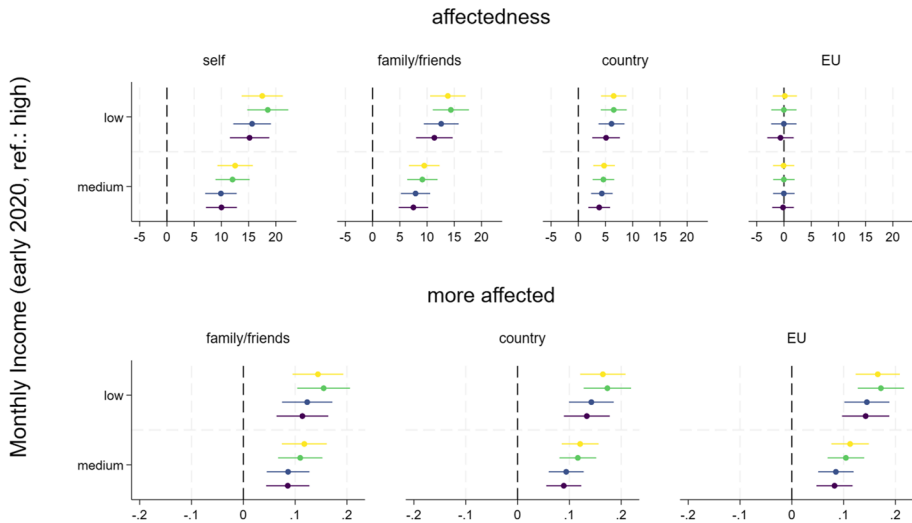


Fig. 4 Affectedness self, family and friends, country, and EU; coefficients of RE regression models. Note: Coefficients of socioeconomic status (based on monthly income) on the evaluation of economic affectedness of oneself and different groups of others (upper panel) and the evaluation of personal affectedness compared to different groups of others (lower panel), with 95% confidence intervals (cluster robust standard errors). Waves 2–4 (weighted). For each panel from top to bottom: M1 (yellow): socioeconomic status, panel wave, M2 (green): M1 + employment status, M3 (blue): M2 + income change, M4 (purple): M3 + further controls. For full models, see the Tables A4–A10 in the appendix

The upper panel of Fig. 4 shows that lower-status groups not only reported higher levels of personal affectedness due to the pandemic but also evaluated others—particularly those within their social circles—as more affected. The coefficients were larger for closer groups (i.e., family, friends, and acquaintances) and smaller for more distant ones. While we found significant associations for evaluations of personal contacts and people in Germany, the coefficients for people in the EU were close to zero and statistically insignificant. These results lend support for H2, which posited that the evaluation of others' economic affectedness would be more significant among lower-status groups than higher-status groups. This suggests that respondents drew on their own experiences and the situations of those in their immediate environment to assess the affectedness of others. However, for more distant groups, such as people in the EU, the negative association between socioeconomic status and perceived affectedness largely disappeared. Moreover, when compared to the general gap between how people evaluated their own affectedness and that of others in Germany or the EU, differences across socioeconomic status groups were relatively small.

The lower panel of Fig. 4 presents the results related to our third hypothesis (H3), focusing on whether respondents evaluated themselves as more affected than others. As mentioned above, only a small share of respondents evaluated themselves as being more affected than others. Considering the concept of relative deprivation, such negative comparisons should be particularly relevant due to their impact on outcomes such as subjective well-being. Overall, lower-status groups were more likely to see themselves as more affected than others, regardless of whether the comparison group consisted of close relations (friends, family, and acquaintances) or more distant groups (people in Germany or the EU).

In contrast to the results presented in the upper panel, differences between reference groups were less pronounced.¹⁰ The descriptive results in Table 1 may help explain this: variations in how individuals evaluated their own affectedness compared to others across different status groups were primarily driven by differences in self-evaluation rather than in the evaluation of others. This pattern was most evident in the comparison with other people in Germany. In both groups—those who considered themselves more affected than others and those who did not—the average evaluation of how affected people in Germany were was relatively similar (59.7 vs. 55.6). However, the average evaluation of one's own affectedness differed substantially (22.5 vs. 76.0). A similar pattern, albeit less pronounced, was also observed in comparisons with family, friends, and acquaintances, as well as with people in the EU.

In conclusion, individuals in lower-status groups were more likely to perceive themselves as more affected than others, primarily due to their own high levels of subjective affectedness rather than a belief that others were less affected—which lends support to H3. While individuals with a lower socioeconomic status did tend to evaluate others as more affected (H2), this did not offset their strong self-perception of economic affectedness (H1).

5.2 Regression Results: Social Comparisons and Life Satisfaction

As the final step in our analysis, we turned to the question of how the evaluation of personal affectedness relative to others impacts subjective well-being, specifically in terms of life satisfaction. As mentioned above, the data collection primarily focused on perceptions of affectedness and social comparisons; life satisfaction was only surveyed in the final wave in 2022. Nonetheless, this analysis can offer insights into whether comparisons with others have a potential impact on subjective well-being, as suggested by studies documenting unexpected increases in subjective well-being during the early phase of the pandemic. Drawing on the concept of relative deprivation, we hypothesized that individuals would report lower levels of life satisfaction if they considered themselves more economically affected than others (H4).

The results are presented in Fig. 5, which incorporates the relevant covariates and controls used in the previous analyses. The left-hand panel displays the coefficients for the evaluation of personal affectedness compared to others. Additionally, we estimated coefficients for the comparisons both before (in purple) and after (in orange), controlling for the evaluation of personal affectedness. The finding that individuals who saw themselves as more affected than others were less satisfied with their lives supports H4. In particular, those who evaluated themselves as more affected than people in the EU reported the lowest levels of life satisfaction. However, these coefficients became insignificant once personal affectedness was accounted for.

The right-hand panel of the figure, in turn, shows how life satisfaction is associated with the perceived affectedness of oneself and of others, respectively. We found that higher self-evaluated economic affectedness was negatively associated with life satisfaction. In contrast, the coefficients for the perceived affectedness of others—especially more distant groups—were smaller and statistically insignificant.

Taken together, the results presented in the two panels of Fig. 5 suggest that life satisfaction primarily depends on one's level of personal affectedness. Thus, the findings do not lend support to the mechanism of relative deprivation. We conclude that the evaluation of personal affectedness is more consequential than social comparisons in explaining life satisfaction.

¹⁰ As mentioned in Section 4, for the ease of interpretation, we estimated linear probability models (RE). The results proved very robust when estimating logit models (see Figure A5 in the appendix).

Table 1 Means and distribution of affectedness according to evaluations of one's own affectedness compared to others

	Affectedness compared to:								
	Family, friends, acquaintances			People in Germany			People in the EU		
	Same or less	More	Total	Same or less	More	Total	Same or less	More	Total
Mean: Affectedness self	21.8	63.0	33.3	22.5	76.0	33.4	22.0	76.4	33.3
Mean: Affectedness others	37.2	47.2	40.0	59.7	55.6	58.9	66.6	51.0	63.4
Q1: Affectedness others	15.0	25.0	18.0	47.0	43.0	46.0	54.0	38.0	51.0
Q2: Affectedness others	30.0	50.0	36.0	60.0	56.0	59.0	68.0	53.0	65.0

Note: *Q1* first quartile, *Q2* second quartile (median). Wave 2–4 (weighted)

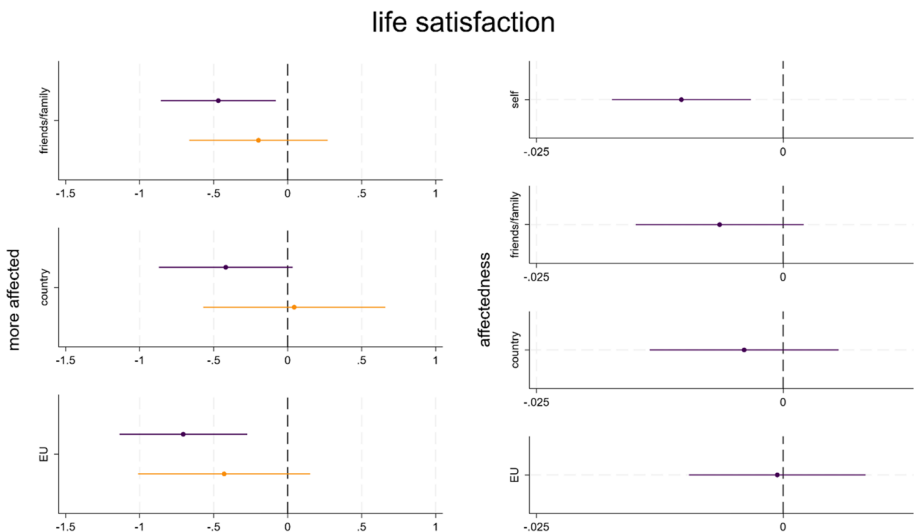


Fig. 5 Life satisfaction, coefficients of OLS regression models. Note: Coefficients of the evaluation of personal affectedness compared to different groups of others (left-hand panel) and the evaluation of the affectedness of oneself and different groups of others (right-hand panel) on life satisfaction, with 95% confidence intervals (cluster robust standard errors). Waves 2–4 (weighted). For the left-hand panel, the evaluation of personal affectedness was not included in M1 (purple), but it is included in M2 (orange). Employment status, income change, and further controls were included in all models of both panels. For full models, see the Tables A11–A17 in the appendix

6 Robustness Checks

In this section, we address two further questions. First, are our results robust when analyzing satisfaction across specific life domains rather than life in general? We acknowledge that a cross-sectional analysis of life satisfaction is likely to be plagued by measurement issues and potential unobserved heterogeneity. Given the limitations of our data (see

Section 4), we cannot fully resolve these problems. Nevertheless, examining satisfaction across different life domains offers a broader perspective for validating our finding that the evaluation of economic affectedness—rather than unobserved factors—is what impacts life satisfaction. If this is the case, we would expect to find a stronger association between perceived affectedness and satisfaction with economic domains as opposed to other areas of life.

Second, regarding the evaluation of economic affectedness, are our results robust when using alternative indicators of socioeconomic status measured at the outset of the pandemic? Thus far, we have used monthly net household income as our main indicator of socioeconomic status in all our analyses. This choice was primarily pragmatic, as this variable was used for panel recruitment and thus had no missing values. However, there are three potential issues with this measure. First, monthly income was surveyed only as a categorical variable, which reduces variation and may gloss over nuanced differences between income groups. Second, the data were collected in March 2020 during the first wave of the survey. Although most respondents were surveyed in mid-March—before policy measures such as short-time work gained any significant momentum—we cannot rule out the possibility that the reported income was already affected by the pandemic. Third, income captures only one dimension of socioeconomic status.

To address these concerns, we ran additional models with three alternative indicators: yearly net equivalized household income in 2019, occupational class, and subjective social status. Using annual income addresses two of the issues above: it was measured at the metric level (we also used a categorized version for direct comparisons with the monthly income models) and refers to the year before the pandemic started. Occupational class tends to be more stable and less affected by external shocks, and it reflects a broader understanding of socioeconomic status beyond income, which also applies to our last additional indicator, subjective social status.

Turning to our first question concerning life satisfaction, Fig. 6 presents the coefficients for all three variables on being more affected than others (i.e., family, friends, and acquaintances, as well as with other people in Germany and the EU) across different life domains. Because our purpose with this was to assess the consistency of these coefficients—rather than to evaluate the relative importance of subjective affectedness versus social comparisons—we excluded the evaluation of personal affectedness in all models. As illustrated in the figure, nearly all coefficients were negative; that is, perceiving oneself as more affected than others was associated with lower satisfaction across a range of life domains. This pattern is consistent with our main finding regarding life satisfaction in general. However, only the coefficients for income and, in one case, job satisfaction reached statistical significance. We interpret this as supporting evidence that it is primarily perceived affectedness in the economic domain that influences life satisfaction.

We present the results of the analyses using alternative measures of socioeconomic status in the appendix (see Figures A6 and A7). Given the use of four alternative status variables and eight dependent variables, we estimated a total of 32 additional model sets. The overall pattern of these results was consistent with our findings in the previous section. Lower socioeconomic status corresponded with higher evaluations of both subjective affectedness and the affectedness of others, particularly in relation to family, friends, and acquaintances, as well as other people in Germany. Additionally, lower-status groups were more likely to evaluate themselves as more affected than others, although some coefficients—specifically occupation and subjective social status—were statistically insignificant.

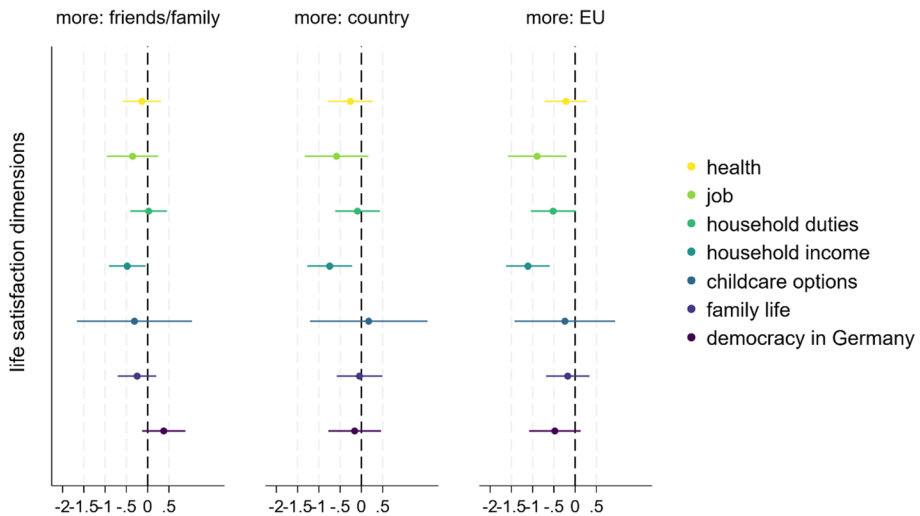


Fig. 6 Life satisfaction dimensions, coefficients of OLS regression models. Note: Coefficients of the evaluation of economic affectedness compared to different groups of others on different dimensions of life satisfaction, with 95% confidence intervals (cluster robust standard errors). Waves 2–4 (weighted). Satisfaction with childcare options was only surveyed if younger children were living in the household. Employment status, income change, and further controls were included in all models

7 Discussion and Conclusion

This paper examined the role of social comparisons in evaluating the consequences of the COVID-19 pandemic. We analyzed how Germans perceived the pandemic's economic impact on themselves relative to others, differentiating between immediate social circles (i.e., family, friends, and acquaintances), people in Germany, and people in the EU. We investigated the extent to which these evaluations varied by individuals' socioeconomic status at the outset of the pandemic. Additionally, we explored how subjective affectedness and comparisons relate to life satisfaction. Our paper contributes to the literature on the socially unequal consequences of the pandemic and on social comparisons across different status groups.

We found that while lower-status groups reported higher levels of subjective affectedness, these were only partially mediated—and not primarily driven—by objective affectedness, such as job or income loss. Moreover, evaluations of others' affectedness varied depending on the reference group, with cognitive biases seemingly playing a substantive role, particularly in assessments of more distant groups. Additional analyses supported our assumption that the evaluation of affectedness is an important factor in subjective well-being: individuals who perceived themselves as more economically affected than others tended to report lower levels of life satisfaction. However, our findings also indicate that evaluations of personal affectedness were more influential than comparisons with others in explaining life satisfaction during the pandemic. In this regard, our results do not provide empirical support for the claim of earlier studies that social comparisons may help explain surprising trends in subjective well-being. Nonetheless, since life satisfaction was measured two years after the onset of the pandemic in our data, we cannot rule out the possibility that comparisons may have played a role only during the early phase of the crisis.

We acknowledge several limitations of our study. First, although we used panel data, our main analyses were pooled or cross-sectional. This is because one of our main objectives was to examine how evaluations of economic affectedness during the pandemic were associated with individuals' socioeconomic status at its outset, which remained constant over time. Accordingly, we do not suggest that these relationships are causal; rather, our aim was to identify differences between status groups. While the observed patterns generally support our hypotheses, we cannot rule out the possibility that unobserved factors influenced the results. For time-varying variables, we conducted additional panel models as robustness checks, which largely corroborated our results.

Second, we did not address the trends in evaluations over time in great detail. Across all survey years (2020 to 2022), we found that individuals generally perceived themselves as less economically affected by the pandemic than others—particularly people in the EU. However, we also observed a trend of convergence: by the summer of 2022, individuals evaluated their own affectedness as higher than two years earlier, while their assessments of others remained consistent or even declined slightly. This increase in subjective affectedness likely cannot be attributed solely to the pandemic, given the Russian invasion of Ukraine and the subsequent energy crisis in early 2022. Although this lies beyond the scope of our paper, it seems plausible that individuals may feel particularly affected during overlapping crises. This highlights the need for future research to gather data over longer time spans in order to better understand the relationship between social comparisons and subjective well-being during times of crisis.

Finally, although our initial survey was conducted at the onset of the pandemic in Germany in March 2020, it is possible that our measure of monthly income—used as a proxy for socioeconomic status—was already affected by the pandemic. Nevertheless, our findings remained robust when using alternative measures of socioeconomic status that are less sensitive to temporal changes or refer to an earlier reference period. These included occupation, subjective social status, and yearly income for 2019.

In conclusion, our findings reveal that socioeconomic status plays a crucial role in shaping evaluations of economic affectedness during a crisis like the COVID-19 pandemic. This suggests that inequalities during crises extend beyond objective indicators. By providing evidence on social comparisons across status groups, our study highlights the relevance of analyzing subjective affectedness—an aspect that does not necessarily align with objective conditions but has implications for subjective well-being—during times of crisis.

Our study also contains several practical implications. On the one hand, the results emphasize the significant role of the welfare state in providing social security to its citizens, as reflected in individuals' own evaluations. Specifically, German respondents tended to see themselves as being less economically affected by the pandemic, suggesting that government measures—such as the extension of short-time work—were at least partially successful in mitigating the pandemic's negative effects, including on subjective affectedness. On the other hand, respondents tended to perceive others as more affected, pointing to a broader concern about society and the national economy during periods of crisis. This general concern deserves greater attention in political discourse and policy-making—especially in light of its impacts on subjective well-being, as well as other individual-level outcomes, such as social and political trust, attitudes, and participation.

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Code availability Stata code has been archived at GESIS, Cologne, Germany, <https://doi.org/10.7802/2882>.

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