



**211 Report** by Laura Buchinger, Theresa Entringer, and Daniel Graeber

## Income, work, and health satisfaction differ primarily by household income, age, and parental status

- Income, work, and health satisfaction have increased or remained constant since 2004
- Gap in income satisfaction between men and women has almost closed
- Health satisfaction is particularly low for people in the bottom income tercile as well as parents

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## AT A GLANCE

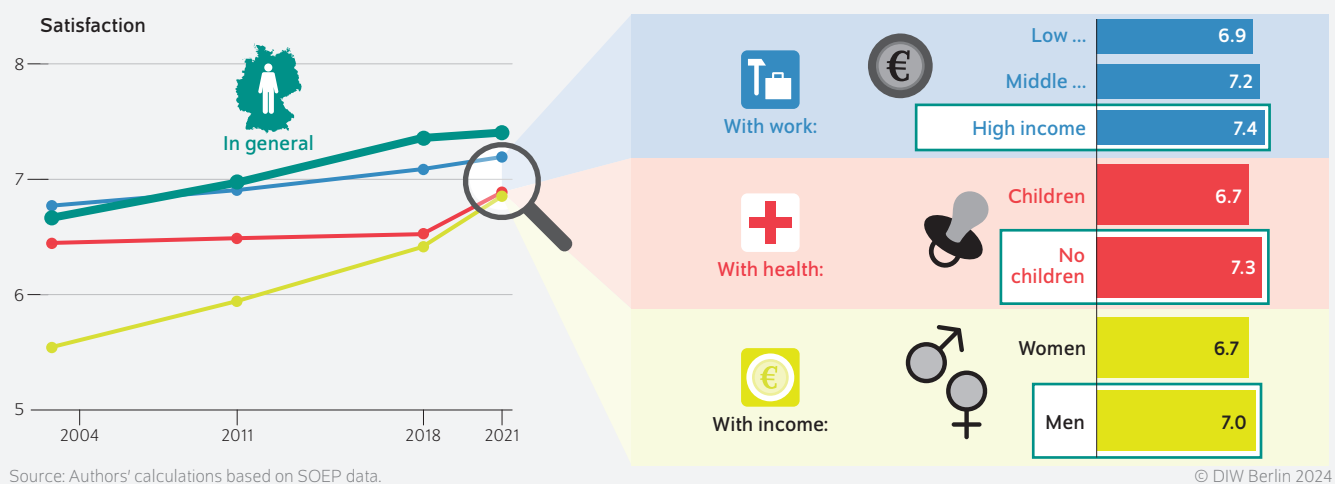
# Income, work, and health satisfaction differ primarily by household income, age, and parental status

By Laura Buchinger, Theresa Entringer, and Daniel Graeber

- General life satisfaction as well as income, work, and health satisfaction have either increased or remained constant since 2004
- Gaps in income satisfaction between women and men, east and west German residents, and younger and older people have shrunk considerably
- There are serious group differences when it comes to health satisfaction
- Health satisfaction is particularly low for people in the bottom income tercile and parents
- Policymakers should relieve the burden on these groups, for example by improving the childcare situation or reducing bureaucracy involved in applying for benefits

## Satisfaction has increased in many areas – however, there are some major differences

Scale from 0 (not at all satisfied) to 10 (completely satisfied)



## FROM THE AUTHORS

*“There are differences in income, work, and health satisfaction between east and west Germany. However, one positive finding is that the gap in satisfaction between east and west Germany is closing.”*

— Daniel Graeber —

## MEDIA



**Audio Interview** with Daniel Graeber (in German)  
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# Income, work, and health satisfaction differ primarily by household income, age, and parental status

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## ABSTRACT

Subjective well-being is essential for both quality of life and a healthy society. Studies have shown that satisfied people have better relationships, are more productive, and have a longer life expectancy. General life satisfaction is being discussed as an alternative measure of prosperity beyond GDP. Thus, findings on this topic are relevant for both the scientific community as well as policymakers. This Weekly Report investigates the income, work, and health satisfaction of the German population from 2004 to 2021. Using data from the Socio-Economic Panel, we investigate if there are differences in satisfaction between genders, regions (east/west), age groups, parental status, and income groups. The analysis shows that general life satisfaction as well as income, work, and health satisfaction have either increased or remained constant since 2004. However, differences between groups, some quite significant, still remain, especially in terms of health satisfaction. Comparatively, low-income earners and parents are dissatisfied. To counter this, policy measures to unburden parents and improve the childcare system are needed.

Subjective well-being has a significant impact on the quality of life in a society. Psychological and medical studies have shown that people who are more satisfied have better relationships,<sup>1</sup> are more productive at work,<sup>2</sup> and even have a longer life expectancy.<sup>3</sup> Subjective well-being is also a topic of research in economics.<sup>4</sup> The discussion around subjective well-being as a measure of human progress is being revived as the suitability of GDP as a measure of human progress is being questioned due to climate change and increasingly scarce resources.<sup>5</sup> Findings on the subjective well-being of the German population are thus extremely relevant for both science and policymakers.

The literature differentiates between affective well-being—the frequency with which people experience positive and negative feelings—and cognitive well-being, how people evaluate their life overall compared to their ideal vision of it.<sup>6</sup> Studies capture cognitive well-being by estimating general life satisfaction as well as satisfaction in individual domains. While the majority of the literature focuses on general life satisfaction, there are relatively few studies on satisfaction with different life domains. This Weekly Report contributes to the literature by analyzing inequalities in satisfaction in three different domains: personal income, work, and health. Work is a key part of life for most adults, and work satisfaction thus plays an important role in the well-being of most adults in Germany. The same applies to satisfaction with personal income; income enables social participation and

<sup>1</sup> Shannon More and Ed Diener, "Types of subjective well-being and their associations with relationship outcomes," *Journal of Positive Psychology and Wellbeing* 3, no. 2 (2019): 112–118.

<sup>2</sup> Jesús F. Salgado and Silvia Moscoso, "Cross-cultural evidence of the relationship between subjective well-being and job performance: A meta-analysis," *Journal of Work and Organizational Psychology* 38, no. 1 (2022): 27–42 (available online; accessed on August 1, 2024). This applies to all other online sources in this report unless stated otherwise.

<sup>3</sup> Natalia Martín-María et al., "The impact of subjective well-being on mortality: a meta-analysis of longitudinal studies in the general population," *Psychosomatic Medicine* 79, no. 5 (2017): 565–575 (available online).

<sup>4</sup> Richard A. Easterlin and Kelsey J. O'Connor, "The Easterlin Paradox," *Handbook of Labor, Human Resources and Population Economics* (2022): 1–25.

<sup>5</sup> European Commission, "Alternative Measures of Progress beyond GDP," (2024) (available online).

<sup>6</sup> Ulrich Schimmack, "The structure of subjective well-being," *The science of subjective well-being* 54, no. 1 (2008): 97–123.



## Box

**Dataset: The Socio-Economic Panel (SOEP)**

The Socio-Economic Panel (SOEP) is a representative and multidisciplinary household survey. Households and their members in Germany have been surveyed on their general life situation on an annual basis since 1984.<sup>1</sup> These surveys cover education, the labor market situation, and health of the respondents. As of 2024, around 30,000 respondents from around 15,000 households are surveyed annually. Data on general life satisfaction and on personal income, work, and health satisfaction of the SOEP respondents were used for the analysis. Specifically, the respondents were asked: "How satisfied are you currently with [life domain]?" The respondents indicated their satisfaction on a scale of 0 (not at all satisfied) to 10 (completely satisfied). The question about work satisfaction was only posed to people who are working. The question about health satisfaction was posed to all people living in Germany. To be able to make better comparisons over time, refugees are not included in the analysis.

<sup>1</sup> Jan Goebel et al., "The German Socio-Economic Panel (SOEP)," *Journal of Economics and Statistics* 239, no. 2 (2019): 345–360.

is key to individual consumption decisions. As health is the basis for all aspects of life, health satisfaction is a key indicator for participation in all parts of life.

For the analysis, we use data from the Socio-Economic Panel (SOEP), one of the few datasets in Germany that contains representative data on general life satisfaction as well as on satisfaction with different life domains (Box).<sup>7</sup> The analysis period is from 2004 to 2021, as income satisfaction has been included in the SOEP since 2004.<sup>8</sup> Differences between women and men, east and west Germany, people with and without children, people below and above 30, and people with low, middle, and high net household incomes are analyzed descriptively in this period.<sup>9</sup> These indicators have already shown meaningful differences in other analyses.<sup>10</sup> The respondents rated their satisfaction with different life domains on a scale from 0 (not at all satisfied) to 10 (completely satisfied). The findings of this analysis can inform policymakers in which life domains and for which population groups measures to increase well-being are particularly relevant.

<sup>7</sup> Jan Goebel et al., "The German Socio-Economic Panel (SOEP)," *Journal of Economics and Statistics* 239, no. 2 (2010): 345–360.

<sup>8</sup> This analysis uses data that covers up to 2021.

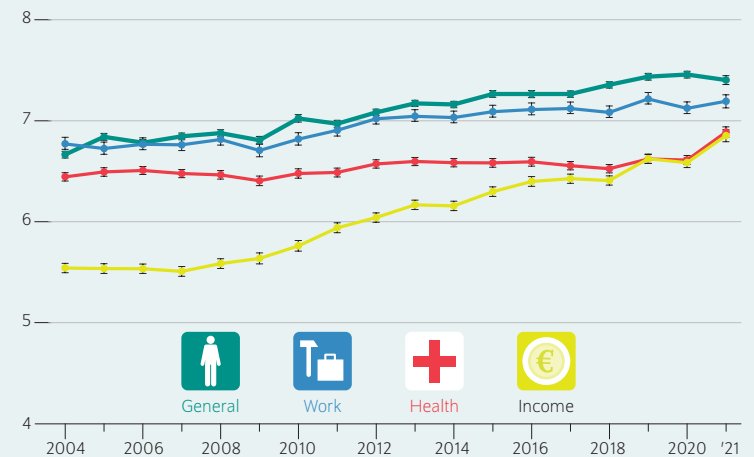
<sup>9</sup> We differentiate between different income terciles.

<sup>10</sup> Theresa M. Entringer and Laura Buchinger, *Subjektives Wohlbefinden und Sorgen. Datenreport 2024 – Ein Sozialbericht für die Bundesrepublik Deutschland* (Federal Statistical Office (Destatis), Berlin Social Science Center (WZB), Federal Institute for Population Research (BiB) together with the Socio-Economic Panel (SOEP) at the German Institute for Economic Research (DIW Berlin), 2024).

Figure 1

**General life, income, work, and health satisfaction**

Scale from 0 (not at all satisfied) to 10 (completely satisfied)



Source: Authors' calculations based on SOEP data.

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Income, work, and health satisfaction have either increased or remained constant since 2004.

### Major differences between general life satisfaction and satisfaction with different domains

Depending on the domain, the level of satisfaction and its development over the past years differ greatly (Figure 1). In 2004, for example, general life satisfaction was rated the highest with an average of 6.7 points, while personal income satisfaction was lowest with an average of 5.5 points. By 2021, both values had improved, with satisfaction with personal income (6.9) rising less steadily but more strongly than general life satisfaction (7.4). In comparison, the increase in real wages during a similar period, 2004 to 2019, was around ten percent.<sup>11</sup> Similarly, although not quite as steeply, work satisfaction increased from 6.8 to 7.2. In contrast, health satisfaction has remained constant over the years at around 6.5. Its only increase, to 6.9, occurred during the coronavirus pandemic in 2021.

### Women and east Germans have caught up in terms of income satisfaction

There are considerable gender differences when it comes to personal income satisfaction: Compared to women, men have been consistently more satisfied with their income over the years (Figure 2).<sup>12</sup> In 2004, men were around 0.4 points

<sup>11</sup> Guido Zinke, *Lohnentwicklung in Deutschland und Europa* (2020: Bundeszentrale für politische Bildung) (in German; available online).

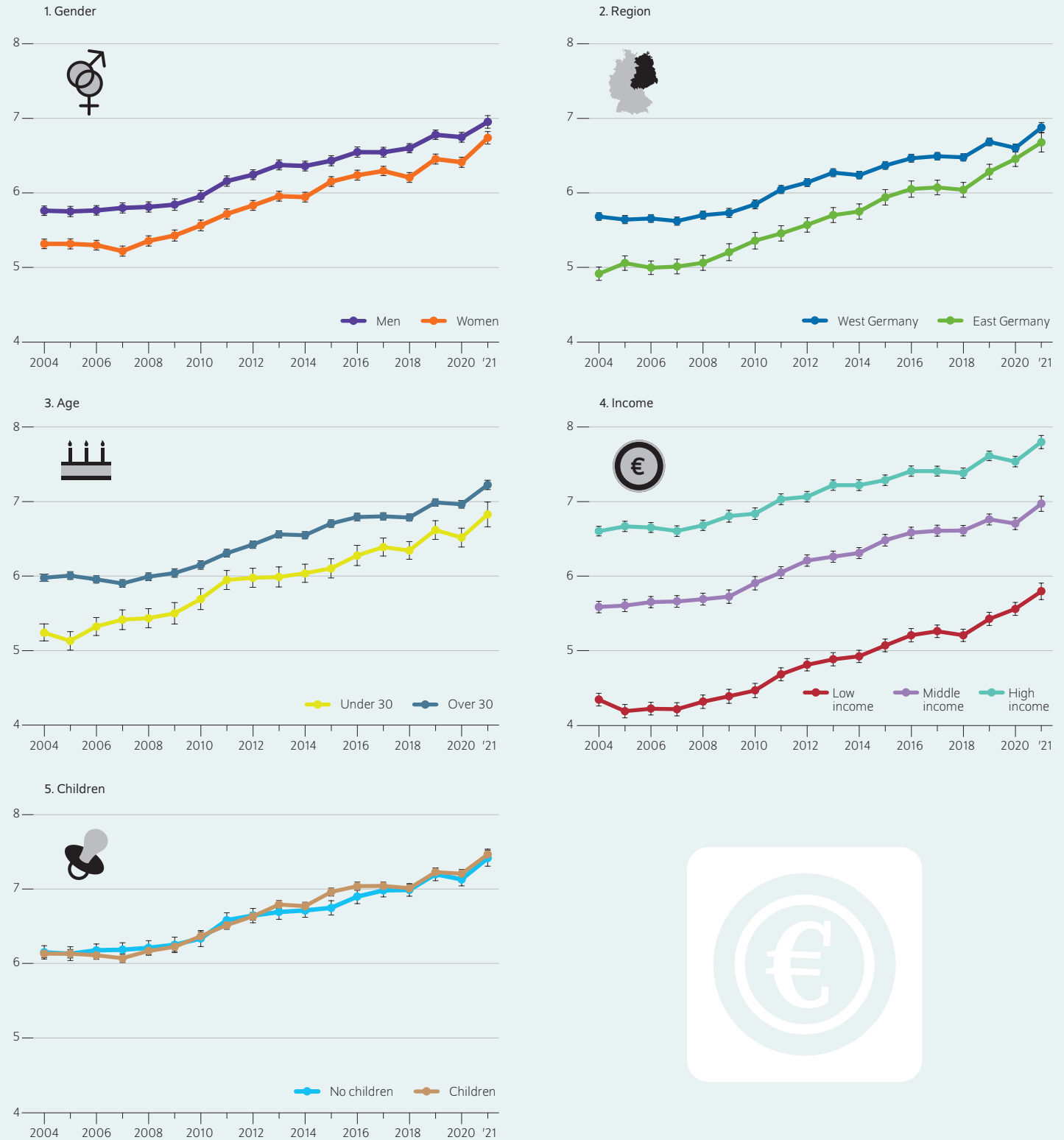
<sup>12</sup> This refers to labor income only. As a result, only employed people are considered in this analysis.

## SATISFACTION

Figure 2

### Income satisfaction

Scale from 0 (not at all satisfied) to 10 (completely satisfied)



Source: Authors' calculations based on SOEP data.

Over the years, men have been consistently more satisfied with their personal income than women.

more satisfied with their personal income than women. In 2007, their satisfaction increased to 0.6 points. After this, however, women's satisfaction began to catch up and men were only 0.2 points more satisfied than women by 2021. While personal income satisfaction has increased over time for both men and women, the increase was much greater for women. While there are many reasons for the gender gap in personal income satisfaction, the main reason is likely that women still earn less than men. In 2005, the gender pay gap was around 16.8 percent. By 2021, it had shrunk to 13.5 percent.<sup>13</sup> Thus, women and men have converged in terms of income satisfaction, similarly to how they are converging in wages.

There are also differences between east and west Germany. For example, people in east Germany are considerably more dissatisfied with their personal income compared to people in west Germany. The average value in east Germany was 4.9 points in 2004 compared to an average 5.7 points in west Germany. By 2021, the personal income satisfaction gap between east and west Germany had shrunk considerably. In 2021, east Germans (6.7) were nearly as satisfied as west Germans (6.9). The pay gap between east and west, which has become smaller over the years, may be relevant here. While the gross hourly wage in east Germany was only around 75 percent of the gross hourly wage in west Germany in 2004, it had increased to around 87 percent in 2021.<sup>14</sup>

In regards to age, people below 30 were considerably less satisfied with their personal income (4.9) than people above 30 (5.7), although the gap has decreased over the years. In 2021, for example, younger adults' personal income satisfaction was 6.5, while it was 6.9 for older adults over 30. People who are finishing training or an apprenticeship or who recently began their professional career were increasingly more satisfied with their personal income. One possible reason for this could be how the labor market has changed over the last 20 years. The early 2000s were characterized by unemployment and limited labor market prospects, especially for young people.<sup>15</sup> By 2022, half of all companies were affected by a shortage of skilled professionals.<sup>16</sup> This is likely to have had a positive impact on starting salaries and the general labor market for young people. This was then possibly also reflected in young people's income satisfaction.

In terms of household income, the respondents are divided into three groups of equal size and compared: the lowest income earners (first tercile), the middle-income earners (second tercile), and the highest income earners (third tercile). Unsurprisingly, personal income satisfaction differs

depending on household income.<sup>17</sup> While respondents with the lowest household incomes were comparatively unsatisfied with their personal income (4.3) in 2004, those with middle (5.6) or high incomes (6.6) were significantly more satisfied. While these differences are considerable, the gaps did narrow to some extent in 2021: The gap between the highest and middle incomes shrank (from 1.0 to 0.8) and the gap between the lowest and middle incomes remained the same (1.2). In principle, this gap indicates that the additional satisfaction from additional income decreases along the income distribution.

There are no discernible differences between people with and without children over the entire period; both are equally satisfied with their income.

### Differences in work satisfaction are comparably low

Working women and men in Germany are similarly satisfied with their work (Figure 3). Considering that women, on average, report lower satisfaction with their personal income on average, this similarity is remarkable. While women are more dissatisfied than men in terms of their income, other aspects of their jobs, like colleagues, work hours, field, and the demands placed on such aspects do not appear to result in differences in work satisfaction.

Compared to west Germany, people in east Germany were more dissatisfied with their work from 2004 to 2018. Despite this, the gap shrunk from 0.5 to 0.3 points in this period and there have been no more differences between the regions since 2019. One possible explanation for these differences and the subsequent convergence could be economic differences between east and west Germany. For historical reasons, the economic structure in east Germany differs greatly from that in west Germany. For example, people in east Germany frequently work in different professions than people in west Germany.<sup>18</sup> The headquarters and research departments of large companies are still located in the west. Above all, however, unemployment in east Germany was high for a long time, which likely resulted in a far more pronounced fear of unemployment in the east.<sup>19</sup> This could lead to average work satisfaction being lower in east Germany compared to west Germany. Catch-up processes may ultimately have led to a convergence of work satisfaction in east and west Germany.

When comparing people under and over 30, it is noticeable that the under-30 group has, on average, greater work satisfaction than the over-30 group. This gap remained largely constant over the observation period. However, the difference in work satisfaction was only 0.2 points in 2021. This

<sup>13</sup> OECD, "Gender Wage Gap," (2024) (available online; accessed on June 20, 2024.) Relative differences in the mean values (median) are reported.

<sup>14</sup> Jannik André Nauerth and Johan Pflanz, "Lohnlücke Ost-West – Ewige Disparität oder schiefer Vergleich?" *Ifo Dresden berichtet* 30, no. 5 (2023): 8–13.

<sup>15</sup> Sandra Buchholz and Karin Kurz, "Increasing employment instability among young people? Labor market entries and early careers in Germany since the mid-1980s," *FlexCAREER Working Paper* no. 3 (2005); Brigitte Schels, "Job entry and the ways out of benefit receipt of young adults in Germany," *IAB-Discussion Paper* 16 (2009).

<sup>16</sup> Andreas Peichl, Stefan Sauer, and Klaus Wohlrabe, "Fachkräftemangel in Deutschland und Europa – Historie, Status quo und was getan werden muss," *ifo Schnelldienst*, 75, no. 10 (2022): 70–75.

<sup>17</sup> For this analysis, the net household income was needs-adjusted using the square root of the household size. Further, it was deflated using the consumer price index.

<sup>18</sup> Jannik André Nauerth and Johan Pflanz, "Lohnlücke Ost-West – Ewige Disparität oder schiefer Vergleich?" *Ifo Dresden berichtet* 30, no. 5 (2023): 8–13.

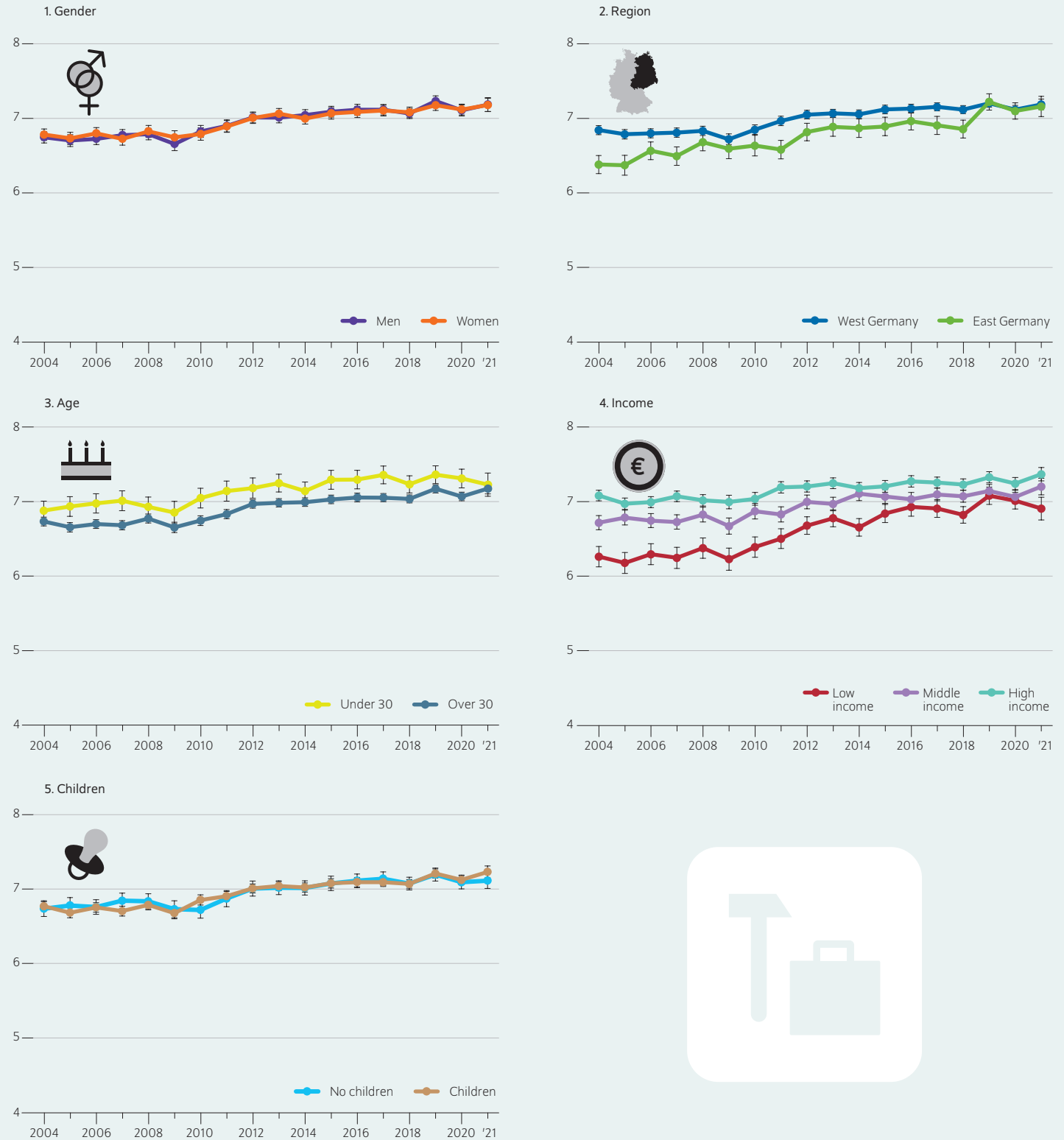
<sup>19</sup> Michaela Fuchs et al., "Baustelle Arbeitsmarkt – die Beschäftigungsdynamik in Ost und West hat sich angeglichen," *IAB-Forum* 9 (2018) (available online).

## SATISFACTION

Figure 3

### Work satisfaction

Scale from 0 (not at all satisfied) to 10 (completely satisfied)



Source: Authors' calculations based on SOEP data.

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Differences in work satisfaction are only observed between the different income groups.



could be related to the fact that younger people have not been working for very long and thus still have a multitude of career development possibilities and paths before them, which decrease with age. At the same time, younger people often do not yet have any additional family responsibilities and may therefore not require as much flexibility from their employers.

The greatest differences in work satisfaction are between the groups with different household incomes. Low-income earners (first tercile) were the most dissatisfied with work, followed by middle-income earners and high-income earners (second and third terciles). The differences were greatest between the lowest and middle income terciles. The difference was around 0.5 points in 2004 but had sunk to 0.3 points by 2021, and the gap between the middle and highest incomes sank from 0.4 to 0.2. One possible explanation for this is that people from the bottom third of earners more frequently have jobs with poor working conditions, such as shift work, little schedule flexibility, and significant physical and mental burdens. These are factors that have been proven to negatively affect work satisfaction.<sup>20</sup>

Similar to gender, no significant differences can be found between people with and without children over the observation period.

### Men have higher health satisfaction than women

On average, men were more satisfied with their health than women (Figure 4): While men reported health satisfaction of 6.6 points in 2004, women reported only 6.3. The time series of the two ran almost parallel until 2020. In 2021, both values increased by around 0.3 points, likely an effect of the coronavirus pandemic. Thus, men report, on average, that they are in better health than women. Moreover, studies show that men go to the doctor less frequently and are also less likely to be absent from work due to illness.<sup>21</sup> However, men die earlier and are more affected by some common diseases than women. At the same time, women suffer more frequently from some hormone-related physical and mental illnesses, especially in relation to the menstrual cycle, pregnancy, birth, and menopause. Thus, when observing different indicators of health, it is often unclear whether women or men are healthier. Differing gender norms could also explain the continuing gap in health satisfaction between men and women. For example, studies have shown that most people find it socially unacceptable for men to talk about their health problems.<sup>22</sup>

There are also ongoing differences between people with and without children: On average, parents were more dissatisfied with their health (6.2 in 2004) than people without children

(6.7). The gap increased to 0.6 points by 2021, with the health satisfaction of people without children increasing in particular (7.3 compared to 6.7 for parents). As parenthood is associated with stress factors, such as less and worse sleep,<sup>23</sup> relationship problems,<sup>24</sup> less time for relaxation,<sup>25</sup> and financial issues,<sup>26</sup> this is not surprising. Numerous studies have already shown that many people are less satisfied with their physical or mental health after becoming parents.<sup>27</sup>

Differences between east and west Germany have lessened over time: People in east Germany were more dissatisfied with their health than people in west Germany. In 2004, the difference was 0.4 points and by 2021, it had shrunk to only 0.1 points. Many east Germans have fragmented employment histories due to their experiences post-reunification. At the same time, significant health differences between people of high and low socioeconomic status, for example approximated by employment status, are well documented in the scientific literature.<sup>28</sup>

Compared to people over 30, people under 30 were 1.4 points more satisfied with their health on average in 2004. Surprisingly, this difference had been steadily decreasing until 2021; that year, the difference was only 1.1 points. One explanation for this convergence could be that the state of health in old age is steadily improving across birth cohorts.<sup>29</sup>

When looking at the different household income groups, people from the bottom third were the least satisfied with their health, followed by people from the middle third, while the highest income earners were the most satisfied with their health. The gaps between the groups were around 0.4 points each and have remained relatively constant over the years. This may reflect the well-documented socio-economic differences in health in Germany.<sup>30</sup>

<sup>20</sup> Sarah A. Burgard and Katherine Y. Lin, "Bad Jobs, Bad Health? How Work and Working Conditions Contribute to Health Disparities," *American Behavioral Science* 57, no. 8 (2013): 1105–1127.

<sup>21</sup> Thomas Grobe and Sven Bessel, *Gesundheitsreport 2023 – Arbeitsunfähigkeiten* (Techniker Krankenkasse, 2023) (in German; available online).

<sup>22</sup> Eve Caroli and Lexane Weber-Baghdiguian, "Self-Reported Health and Gender: The Role of Social Norms," *Social Science & Medicine* 153 (2016): 220–229.

<sup>23</sup> David Richter et al., "Long-term effects of pregnancy and childbirth on sleep satisfaction and duration of first-time and experienced mothers and fathers," *Sleep* 42, no. 4 (2019): zsz015.

<sup>24</sup> Manon A. van Scheppingen et al., "Self-Esteem and Relationship Satisfaction During the Transition to Motherhood," *Journal of Personality and Social Psychology* 114, no. 6 (2018): 973–991.

<sup>25</sup> Amy Claxton and Maureen Perry-Jenkins, "No Fun Anymore: Leisure and Marital Quality Across the Transition to Parenthood," *Journal of Marriage and Family* 70, no. 1 (2008): 28–43.

<sup>26</sup> Matthias Pollmann-Schult, "Parenthood and Life Satisfaction: Why Don't Children Make People Happy?" *Journal of Marriage and Family* 76, no. 2 (2014): 319–336.

<sup>27</sup> Michael D. Krämer and Joseph Lee Rodgers, "The Impact of Having Children on Domain-Specific Life Satisfaction: A Quasi-Experimental Longitudinal Investigation Using the Socio-Economic Panel (SOEP) Data," *Journal of Personality and Social Psychology* 119 (6) (2020): 1497–1514; Thomas Hansen, "Childlessness and Psychological Well-Being in Midlife and Old Age," in *Encyclopedia of Quality of Life and Well-Being Research*, ed. Filomena Maggino (2021), 1–5.

<sup>28</sup> Hannes Kröger, Eduwin Pakpahan, and Rasmus Hoffmann, "What Causes Health Inequality? A Systematic Review on the Relative Importance of Social Causation and Health Selection," *European Journal of Public Health* 25, no. 6 (2015): 951–960; Hans-Ulrich Brauttsch, "Aktuelle Trends: Durchschnittsalter Der Bevölkerung: Deutsches Ost-West-Gefälle," *Wirtschaft im Wandel* 25, no. 1 (2019): 4.

<sup>29</sup> Maximilian König et al., "Historical Trends in Modifiable Indicators of Cardiovascular Health and Self-Rated Health among Older Adults: Cohort Differences over 20 Years between the Berlin Aging Study (BASE) and the Berlin Aging Study II (BASE-II)," *PLoS One* 13, no. 1 (2018): e0191699.

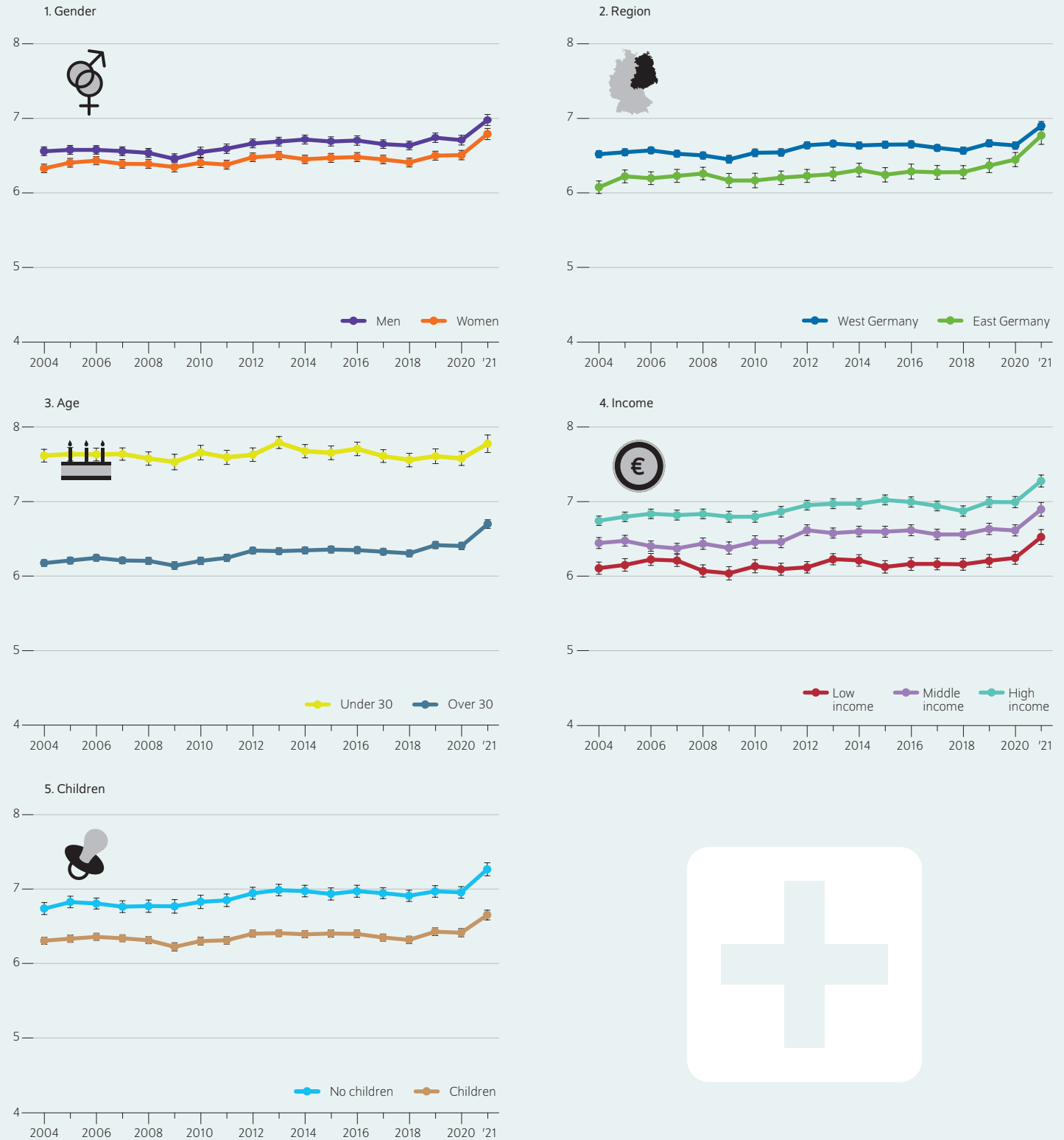
<sup>30</sup> Thorsten Lampert et al., "Sozioökonomischer Status und Gesundheit: Ergebnisse der Studie zur Gesundheit Erwachsener in Deutschland (DEGS1)," *Bundesgesundheitsblatt, Gesundheitsforschung, Gesundheitsschutz* 56, no. 5–6 (2013): 814–821.

## SATISFACTION

Figure 4

### Health satisfaction

Scale from 0 (not at all satisfied) to 10 (completely satisfied)



Source: Authors' calculations based on SOEP data.

Health satisfaction is particularly low among parents and people in the bottom income tercile.

### Conclusion: Low income and parenthood are risk factors for health satisfaction

Income, work, and health satisfaction have increased or remained constant over the past 20 years. In regard to income satisfaction, the gap between people in east and west Germany, women and men, and younger and older people have shrunk markedly or closed completely. However, these positive findings are offset by the

sometimes still serious group differences in terms of health satisfaction. The bottom third of income earners as well as parents are especially dissatisfied with their health. It cannot be policymakers' intention that low income and parenthood are risk factors for well-being. It is their duty to relieve these groups; they could start by improving the childcare system, reducing bureaucracy when applying for benefits, and making low-threshold support services more visible.

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