



Society-related Fears and Personal Mental Health

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Abstract

This paper explores the relationship between society-related fears and personal mental health. Respondents of an online survey representing the German population (18+ years) answered how much they are worried about eight societal developments (armed conflicts, social inequality, rise of right-wing extremism, crime and terror, immigration, climate change, artificial intelligence, pandemics). The analysis demonstrate that the sum score of society-related fears is significantly associated with higher levels of anxiety and depression. Particularly concerns about poverty, digitalization and pandemics are associated with higher anxiety and depression scores. Further explorations show that specific fears are intermingled with political ideologies, i.e. people fear different societal developments according to their ideological standpoints. Politically left-leaning individuals regard climate change and rising right-wing extremism as more threatening, while politically right-leaning individuals' fears relate more strongly to migrants, terror and crime. The fears with the largest negative effect on mental health are poverty and armed conflicts for individuals who identify as left and digitalization for individuals who identify as right. Overall, findings lend support to the general notion that the world's current 'polycrisis' is highly relevant and generally detrimental for mental health and human wellbeing.

Keywords Anxiety · Crisis · Depression · Uncertainty · Wellbeing

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Introduction

A myriad of crisis scenarios related to economic, financial, humanitarian, social, political or environmental problems are occupying public discourse. Whether war or global warming, each crisis has the potential to induce fear. Crises are per definition events of great difficulty and danger that potentially can disrupt society and harm the wellbeing of many people (Walby, 2015). As such, crises systematically produce a moment of ambiguity and uncertainty, pointing to a future that is open at best, and endangered at worst (Steg, 2019). Some authors have even argued that contemporary society is characterized by “multiple crises” (Brand, 2009) or “polycrisis” (Lawrence et al., 2024). These terms refer to a condition where crisis of amplifying severity follow each other at an accelerating pace, thus becoming a kind of permanent condition.

In fact, many of society’s crisis pose a real threat to people and their quality of life: For instance, the climate crisis destroys livelihoods and biodiversity in many regions of the planet, leading to global warming and extreme weather events (Abbasi et al., 2023). Rising levels of economic inequality and further social frictions between rich and poor are associated with anxiety, stress and poor health (Pickett & Wilkinson, 2015). Digitalization and artificial intelligence (AI) have the potential to disrupt employment: Forecasts suggest that 47% of current jobs are “at high risk” of being replaced by technology within the next 20 years (Frey & Osborne, 2017). It is reasonable to assume that these developments could trigger fears and thus produce a public mood of “an extraordinarily uncertain and threatening future” (Borisch, 2023: 332).

In several theoretical accounts it has been argued that fear has become the basic, underlying tone of contemporary society (Bauman, 2006; Bude, 2014; Furedi, 1997). In Bauman’s terms (2006), it is a vague and undefined “liquid fear” that is rather a kind of background feeling of permanent uncertainty in a society in which reliable certainties erode. According to him, the persistence of fear relates to the speed of change in late modernity and the associated loss of fixed points of reference. Furedi (1997) states that a “culture of fear” is grounded in a ubiquitous perception of the world as a dangerous place. He understands this as a collective disposition, i.e. as a very basic and underlying sentiment that attaches itself to and shapes concrete human experiences.

Bude (2014) claims that current society is no longer held together by the promise of social advancement (as in previous decades), but rather by the threat of social exclusion. He also argues that a fundamental insecurity exists, namely that younger generations cannot take it for granted that the future will be better than the present and the past. This perception creates a fear of social decline that reaches deep into the middle class and helps to create constantly self-optimizing personalities who are driven by the subliminal fear of falling out of the middle of society.

Some authors emphasize the social constructionist nature of fear (Furedi, 1997; Tudor, 2003) and stress that contemporary culture has a tendency to foreground risk. The divergence between objective risk and subjective feelings of threat can be best illustrated in the field of crime and terrorism, where studies show that people’s fear is substantially shaped by media consumption (Romer et al., 2003; Williamson et al., 2019). Hence, fear is often not based on experience, but rather on risk communication (Guzelian, 2004). Particularly the news media are a key factor in the promotion

and amplification of a “discourse of fear” (Altheide, 2002). However, the public discourse must not necessarily amplify fear, but could potentially also calm fear, highlighting the plasticity of society-related fears (Heins, 2021).

As all societal crises have serious and negative implications for a large number of people, it is not surprising that public opinion polls from Germany show that a majority of Germans reports that crises, such as the climate or migration crisis, cause them worry (Infratest dimap, 2024; Ipsos, 2024). In recent decades, war, crime, and migration have been the issues Germans have been most concerned about, however, with significant fluctuations over time (Lübke, 2019). Less clear is the question whether society-related fear is associated with increased risks of personal mental health issues.

One previous German survey study examined the relationship between personal anxiety and fears related to the social and societal environment (Adolph et al., 2016). They show, for instance, that higher levels of fear related to political and economic issues, including terrorism or environmental disasters, are associated with severe anxiety symptoms. They argue that an “intensity continuum” exists that stretches from political and economic anxieties over anxieties related to the person’s social life to various forms of clinical anxiety at the personal level (Adolph et al., 2016).

That society can be a source of fear is certainly not an entirely new idea. Yet, society-related fears have hardly been systematically included in the discourse on mental health and wellbeing to date. This paper aims to address three key questions that have not yet been adequately answered: (1) *What is the proportion of people who are worried or afraid of specific societal crises?* (2) *To what extent does fear of societal crises reflect people’s political positions?* (3) *Does fear of societal crises as a whole, or any individual societal fear, have an impact on personal mental health?* The present paper explores these questions based on survey data that represent the German population.

Literature Review

Although the topic of society-related fear has received too little attention in the wellbeing and mental health literature, exceptions are studies that more narrowly address one specific crisis or one specific fear. Hence, studies addressing economic recessions, crime fear, the COVID-19 pandemic, or climate anxiety could help summarizing the state of knowledge. In addition, I also summarize few studies that addressed society-related fears more generally with its links to individual mental health or wellbeing outcomes. Finally, I recap literature that examined or reflected on the ideological nature of society-related fears and concerns.

Society-related Fears and Their Consequences for Wellbeing and Mental Health

A scoping review based on 127 quantitative studies conducted in OECD countries summarizes that depression and anxiety levels rise during *economic recessions*, particularly in those groups with insecure jobs (Guerra & Eboime, 2021). This finding also holds for life satisfaction, which declines in times of economic crisis (Burger et al., 2023). In a series of experimental studies participants reported higher levels of

fear when they found themselves in an experimental group that had to expect a status decline or downward mobility (Jetten et al., 2021). Data from the *European Quality of Life Survey* also demonstrate that status anxiety is associated with unhappiness (Delhey & Dragolov, 2014). Empirical trend analyses from Germany further show that the fear of job loss and social decline increased in the German middle class in periods where the labor market was difficult and the economic outlook rather pessimistic (Lengfeld & Hirschle, 2009; Schöneck et al., 2011). Closely related to status anxiety are fears about increasing levels of *social inequality*, which rank among the most frequently mentioned worries reported by Germans (Ipsos, 2024).

Regarding *fear of crime*, studies show that the regional crime rate is positively associated with fear (Bug et al., 2015) and negatively associated with wellbeing (Powdthavee, 2005). However, the perception of crime is also important and predicts lower life satisfaction even when controlling for victimization experiences (Brenig & Proeger, 2018) or real crime rates (Manning et al., 2022). An Austrian study further shows that fear of crime relates to underlying social and existential threats, i.e. constituting a generalized syndrome of insecurity (Hirtenlehner, 2006). Sometimes, public discourse relates fear of crime to *immigration*, as there is a widespread perception that immigrants contribute to increased levels of crime (Gurinskaya et al., 2024; Hirtenlehner, 2019). Academics have also discussed fears related to immigration (Blanc, 2023; Bloom, 2015). Data from several European countries show that fear of immigration has increased over three decades, in Germany particularly during the so-called “immigration crisis” of 2015/16 (Fraser & Üngör, 2019). A “migration panic” is nurtured by economic anxieties, concerns about status decline and perceptions of disorder (Hirtenlehner, 2019). However, inasmuch such perceptions translate into personal anxiety has not been thoroughly researched yet.

Germany, as well as many other European countries, has experienced a rise in *right-wing extremism* (Pisoiu & Ahmed, 2016). Many regard the rise of populist and extremist movements and right-wing parties as worrying. Anecdotal evidence from Germany suggests that the 2024 mass demonstrations against right-wing parties were driven in part by anxiety and concern (WDR, 2024). A commercial poll from February 2024 suggests that 59% of Germans fear a rise of (right-wing) political extremism (R+V Infocenter, 2024). However, there is a lack of scientific research on the relationship between fear of extremism and personal anxiety or wellbeing levels.

In the context of the *COVID-19 pandemic* fear also played a role. A cross-national analysis of European countries reveals that in stages of the pandemic with higher death rates, life satisfaction dropped (Easterlin & O’Connor, 2023). A review shows that COVID-19 related fear was associated with mental health problems, such as anxiety, distress, depression, and insomnia (Şimşir et al., 2022). Women usually reported higher levels of COVID-19 related fear (Metin et al., 2022). A survey experiment from Sweden further shows that fear (in the sense of scare) and anxiety (in the sense of worry) were higher in participants who were reminded of the deadliness of the virus and the strained situation in the health care system (Renström & Bäck, 2021).

Climate anxiety or eco-anxiety, i.e. the fear concerning the devastating consequences of climate change for life on earth, is another emerging field of research. To date, some studies found associations between climate anxiety and personal mental health issues, such as elevated levels of stress, anxiety and depression (Hajek &

König, 2023; Heinzl et al., 2023; Pihkala, 2020; Thomson & Roach, 2023; Wulenkord et al., 2021). Moreover, climate anxiety negatively correlates with age, indicating that this type of fear – in contrast to most other society-related fears – is particularly threatening for younger age groups (Hajek & König, 2023; Heinzl et al., 2023).

Research also addressed fears associated with the development and diffusion of *digital and AI technologies*. These fears may include the possible replacement of humans in a significant proportion of occupations (Frey & Osborne, 2017), the lack of human control over emerging “super AI” systems, for instance, in the military domain (Sehrawat, 2017) or concerns about privacy violations (Li & Huang, 2020). Fear of AI technologies, such as autonomous robots or driving systems, may extend to 18–26%, according to representative U.S. and German surveys (Liang & Lee, 2017; Meinschmidt et al., 2023). Studies further show that a negative view and concerns regarding AI technologies correlate with lower life satisfaction at micro and macro social levels (Hinks, 2024; Zhao et al., 2024).

Finally, a source of fear are *wars and armed conflicts*. Research shows that the experience of armed conflicts is a trigger for various mental health problems (Charlson et al., 2019). Witnessing armed conflicts in closer proximity may also cause concerns, i.e. about a possible escalation of that war. War anxiety is associated with stress and insomnia (Vargová et al., 2024). About 50% of Germans reported severe fear of war in a survey carried out in March 2022 (Hajek et al., 2023a). Moreover, another German study measured a higher anxiety level in the population in the first weeks of the Russian war against Ukraine as during the COVID-19 pandemic (Gottschick et al., 2023). Fears either of Germany becoming involved in a war or the outbreak of a nuclear war were both associated with heightened levels of anxiety and depression (Hajek et al., 2023b).

Apart from studies that have looked at single fears, there are few studies that examined society-related fears in general, i.e., independent of one specific problem or crisis. Using “big data”, a US study on fear in society concludes that fear is on the rise (Kovács, 2023). Analyzing approximately 7 million online reviews by applying a semantic coding approach with computational linguistics, it is illustrated that anxiety-related content increased by 20% from 2006 to 2021. Another descriptive account (Ipsos, 2024) indicates that issues such as “inflation”, “crime and violence”, “poverty and social inequality” and “climate change” represent the primary fears of the German population, with 24–29% expressing concern about each of these developments.

Regarding the literature on society-related fears, it seem reasonable to assume that (a) a larger proportion of the German population is concerned about societal developments and trends and (b) a link could exist between fears related to the societal level and mental health issues at the personal level.

The Ideological Nature of Society-related Fears

Not everyone shares the same societal fears and concerns. Individual differences, however, do not reflect purely personal characteristics, but can be situated within a larger political or ideological framework. For instance, Nussbaum (2018) describes that working class Americans are threatened by globalization and digitalization and

that particularly right-wing populists can easily capitalize from these fears. For example, fear helps create a desire for a strong leader, mobilize for extreme positions, and scapegoat minorities. Recent accounts elaborate on the mechanisms that link insecurity and migration-related anxiety on the one hand to right-wing ideologies and support on the other, highlighting the role of affective reactions to political issues and the search for stable sources of meaning and identity (Salmela & von Scheve, 2017; Yendell & Pickel, 2019). Fear of migrant crime and the perception that a cultural or national identity is threatened are textbook examples for topics that right-wing parties usually exploit. For instance, recent opinion polls indicate that 90% of supporters of the far-right party, *Alternative für Deutschland*, express concern about a perceived decline of German culture and language (Infratest dimap, 2024). Some scholars even argue that a heightened sensitivity to perceive uncertainty and change as threatening is at the core of conservative ideologies (Jost et al., 2007).

Notwithstanding the link between a culture of fear, conservatism and right-wing populism, the relationship might still be more complex. Nussbaum (2018) further explains that people, who self-identify as “left”, also fear societal developments. In the US context, they fear the removal of “hard-won rights for women and minorities” or the “collapse of democratic freedoms – of speech, travel, association, press” (Nussbaum, 2018: p. 2). In Germany, supporters of the Social Democratic Party report higher levels of fear related to wars compared to supporters of center-right and far-right parties (Hajek & König, 2022), whereas supporters of the Green Party are most worried about the consequences of climate change (Infratest dimap, 2024). It can be conjectured from these findings that there are fears on both sides of the ideological spectrum, but it is other societal developments that are interpreted as most threatening.

Which societal developments trigger fear is likely to depend on an individual’s ideological standpoint. It can be assumed, for example, that the population group that is most concerned about the climate crisis and the population group that is most concerned about incoming refugees are anything, but identical. Rather, each crisis “emotionalizes” and threatens a different population group. If this assumption is correct, then fear should depend on the political and ideological lens through which people look at society. Furthermore, a person’s ideological standpoint could also influence which societal developments or crises translate into personal fears and thus might impair mental health. A more exploratory analysis thus tests whether or not (a) society-related fears are associated with ideological standpoints and (b) whether or not differences exist between people who identify as politically “left”, “right”, and “center” in terms of the effects of particular societal fears on personal mental health.

Methods

Study Design and Data Collection

This study used a cross-sectional design, drawing on data from a large-scale representative survey. The survey was integrated into an existing German panel to which access was provided by Forsa, a company specializing in public opinion research.

In order to ensure a probability sample that accurately represents the German population, Forsa employs an offline recruitment process for all panelists that utilizes *Random Digit Dialing* (RDD; Wolter et al., 2009). The RDD procedure guarantees that all individuals with a telephone connection, whether mobile or landline, have an equal opportunity to be invited into the panel, thereby ensuring that the panel's composition mirrors that of the German population. All panelists gave their written consent to be contacted for this study and participated voluntarily. They received information about the present study via Email together with a link to the anonymous online questionnaire. Respondents were able to answer the questionnaire directly on their computers, tablets, or mobile phones and were permitted to terminate the survey at any point and resume at a later time. Data collection was carried out between January 5 and January 13, 2024.

Sample

The resulting sample ($N=1,001$) broadly represents the population living in Germany (≥ 18 years) with access to the Internet. The mean age is 48.4 years ($SD=17.2$). The sample includes similar proportions of males (50.4%) and females (49.6%). With regard to education, 22.1% have a lower secondary grade ("Hauptschulabschluss"), 34.3% have a medium secondary grade ("Mittlere Reife"), and 43.6% have a higher secondary grade ("Abitur"). Despite the fact that the raw data reflect the composition of the German population fairly well, still a weighting factor is applied in all analyses that corrects for minor bias in the sample, most notably for a slight underrepresentation of younger age groups and individuals living in East German federal states.

Variables

Mental Health Issues Mental health complaints are measured with the *Patient Health Questionnaire for Depression and Anxiety* (PHQ-4; Kroenke et al., 2009). The PHQ-4, introduced as a brief screening tool for anxiety and depression, has proved its validity and reliability and its brevity makes it particularly useful for large-scale surveys (Adzrago et al., 2024; Kroenke et al., 2009; Löwe et al., 2010). Respondents are asked how often they have been bothered by four symptoms in the past two weeks. Two items refer to anxiety (e.g. "not being able to stop or control worrying") and two items measure depressive symptoms (e.g. "little interest or pleasure in doing things"). The rating scale provided allows responses from 1="not at all", 2="several days", 3="more than half the days" to 4="nearly every day". The final scale has a good reliability (Cronbach's $\alpha=0.88$); its mean is $M=1.68$ ($SD=0.73$; $\min=1.00$; $\max=4.00$).

Society-related Fears A new measure was created to capture society-related fears. Respondents were presented with a list of eight societal developments and crises and then were asked how often they had fears or worries related to the crisis described. The list of potentially worrying societal developments included: a) climate change and its consequences, b) immigration of refugees and asylum seekers, c) poverty and rising levels of social inequality, d) digitalization and artificial intelligence, e) wars

and armed conflicts, f) crime and terrorism, g) the rise of right-wing extremist parties and movements, h) pandemics and novel pathogens. Respondents could use a 5-point Likert scale to rate the fear related to each of these developments ranging from 1=“no fear at all” to 5=“very strong fear”. Figure 1 shows descriptive statistics of these eight items. Besides the single items, the analyses also use a mean score of the eight variables ($M=3.58$; $SD=0.62$; $\min=1.00$; $\max=5.00$).

Political ideology The *Left-Right Self-Placement scale* (LRS) measures a basic political stand on a left-right dimension. In Germany, a “right” orientation refers to conservative, market-liberal, and nationalistic attitudes, whereas a “left” orientation favors progressive and egalitarian policies. Scholars consider the left-right pole as the most important and as a rather stable ideological dimension, which relates to voting behavior and is part of most studies that examine political or ideological issues (Klingemann, 1972; Knutsen, 1998). Participants indicated their ideological orientation on a LRS scale that ranged from 1=“left” to 10=“right”. In the present sample, the mean score of the scale is $M=5.49$ ($SD=2.21$; $\min=1.00$; $\max=10.00$).

Demographic Variables The regression models include a variety of covariates, given that anxiety and mental health levels vary with socioeconomic and sociodemographic variables. Previous studies refer to increased mental health problems among older and socioeconomically disadvantaged groups, females, and immigrants (Adolph et al., 2016; Guerra & Eboime, 2021; Metin et al., 2022; Walther et al., 2021), whereas being in a relationship (Pieh et al., 2020) or being religiously affiliated (Hodapp & Zwingmann, 2019) could somewhat protect from mental health issues. Therefore, I control for age (in years), gender (1=“female”, 0=“male”), the highest educational

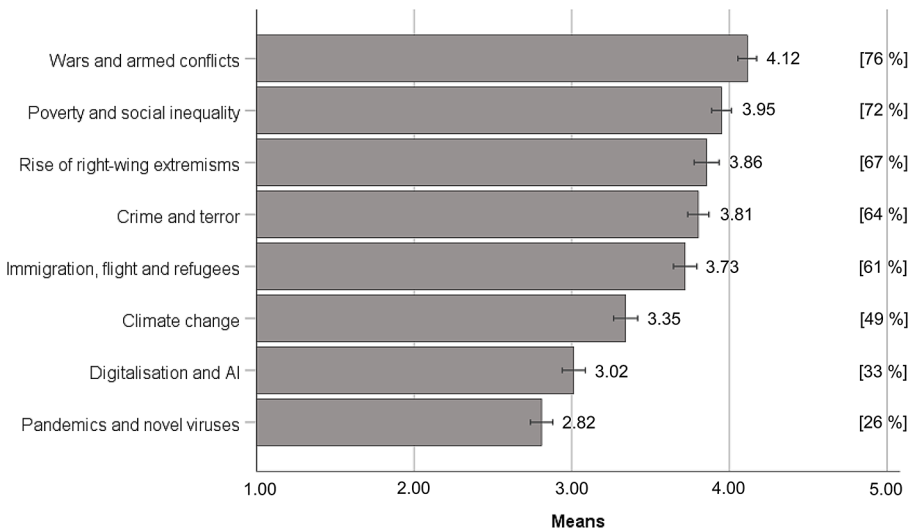


Fig. 1 Means scores for eight society-related fears. Error bars show 95% confidence interval of the mean. Percentages in brackets indicate the proportion of respondents with “strong” or “very strong” fear. Data represent the German population 18+ years with Internet access ($N=1,001$)

degree obtained by the respondent (1="lower secondary education" to 4="tertiary education"), the respondent's personal net income (in 10 income groups from 1= "no income" to 10 ">5.000 €"), relationship status (1="living with partner", 0="single/widowed"), immigrant status (1="1st/2nd generation immigrants", 0="natives"), religious affiliation (1="any denominational affiliation", 0="no denominational affiliation) and residence (1=East Germany, 0=West Germany). Controlling for these variables allows for a more accurate estimation of the effect of society-related fears. It needs to be pointed out that the variable for income – despite being measured in 10 categories – is meant to estimate a linear effect, i.e., that a higher income level is associated with fewer mental health problems.

Analytical Approach

The paper first presents mean values with standard errors of the mean for the eight society-related fears, indicating the level of worry the surveyed crises and developments cause among Germans. In addition, I indicate the proportion of respondents who reported "strong" or "very strong" fear, i.e. those with response options 4 and 5. In a second step, associations of society-related fears and political ideology are examined. Based on the respondents' position on the LRS scale, the paper analyses inasmuch society-related fears vary between individuals who position on the left, on the right or in the center of the ideological spectrum. A one-way ANOVA is applied for each fear to test for significant differences between the three ideological groups ("left", "center", "right"). Thirdly, I calculate multiple linear (ML) regression models with personal mental health (PHQ-4) as the dependent variable. The ML regressions assess whether individuals with higher levels of society-related fears report worse mental health. A first model shows whether all societal fears in sum are associated with mental health complaints. For this purpose, regression models were calculated in which a mean score was included that reflects the extent to which a person feels threatened by the eight societal developments examined here. A second regression model then tests for associations between mental health and the single society-related fears. I calculate this regression also separately for individuals who identify as politically left, right and center, as it is likely that ideology affects the relationship between societal developments and personal mental health issues. Both regression models include the above-mentioned sociodemographic control variables. Because these models consider the eight society-related fears simultaneously and thus account for possible correlations between them, I also report zero order correlations for each fear. This allows estimating the effect of each fear on mental health with and without controlling for the influence of the other society-related fears. The regression models document unstandardized and standardized regression estimates (b , β). All data analyses were performed using IBM SPSS 29.

Results

The Proportion of Germans who are Afraid of Specific Societal Crises

The eight society-related problems selected here do indeed arouse fears and concerns in a large proportion of people (Fig. 1). The highest fear level is shown for wars and armed conflicts ($M=4.12$; $SD=0.94$; $SE=0.030$), causing “strong” or “very strong” concerns in 76% of all respondents. Growing social inequality and concerns about poverty also cause fear, with 72% being worried about this issue ($M=3.95$; $SD=0.99$; $SE=0.032$). Two-thirds (67%) say they are concerned about the rise of right-wing extremism ($M=3.95$; $SD=1.25$; $SE=0.040$). Crime and terror ($M=3.81$; $SD=1.06$; $SE=0.034$), as well as immigration and flight to Germany ($M=3.73$; $SD=1.17$; $SE=0.038$), are also issues of worry to six in ten Germans (64% and 61% respectively). Climate change has a lower average score ($M=3.35$; $SD=1.21$; $SE=0.039$) and is a concern for half of respondents (49%). The least fearful issues are digitalization and AI ($M=3.02$; $SD=1.15$; $SE=0.037$) and pandemics and novel pathogens ($M=2.82$; $SD=1.13$; $SE=0.036$), with a third (33%) and a fourth (26%) of respondents reporting “strong” or “very strong” fear.

Society-related Fears’ Relation to People’s Political Positions

All society-related fears are significantly associated with respondents’ ideological position on the LRS scale, but to varying degrees (Fig. 2). People on the left of the ideological spectrum are significantly more worried about the rise of right-wing extremist movements ($\eta^2=0.22$; $p<.001$) and also significantly more worried about

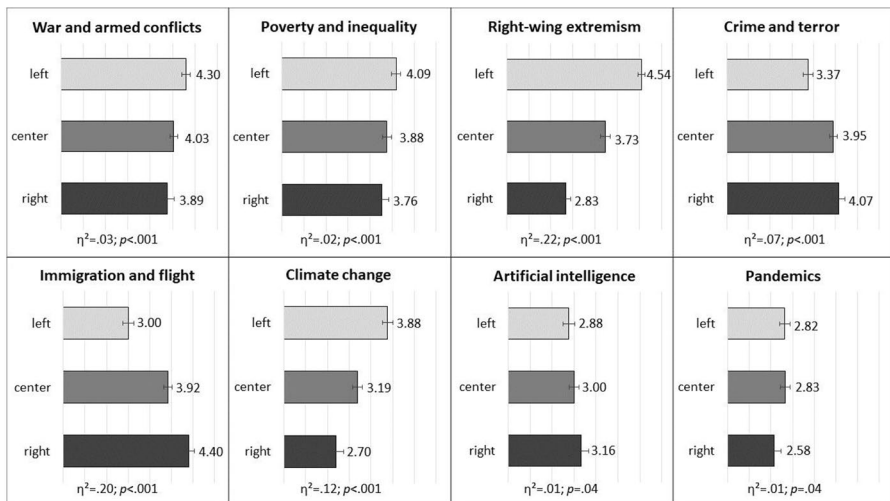


Fig. 2 Means scores for eight society-related fears depending on individuals’ ideological left-right self-placement. Error bars show 95% confidence interval of the mean. Self-reported scores of 1–4 were considered “left”, scores of 5 and 6 were considered “center”, scores of 7–10 were considered “right”. Data represent the German population 18+ years with Internet access ($N=1,001$)

the consequences of climate change ($\eta^2=0.12$; $p<.001$). Conversely, people on the political right are far more concerned about migration ($\eta^2=0.20$; $p<.001$) as well as crime and terror ($\eta^2=0.07$; $p<.001$). By comparison, the differences in the other society-related fears are less pronounced: wars and conflicts cause slightly more concern among people on the left ($\eta^2=0.03$; $p<.001$), as do increasing poverty and social inequality ($\eta^2=0.02$; $p<.001$). People on the right are slightly more afraid of the consequences of digitalization and AI ($\eta^2=0.01$; $p<.04$) and slightly less afraid of pandemics ($\eta^2=0.01$; $p=.04$). Overall, it is clear that most people experience certain societal developments as threatening, but as assumed, ideological standpoints play a crucial role in determining which developments and which crises trigger the most fear.

Associations of Society-related Fears with Personal Mental Health

A first set of multiple linear regression models examine whether the sum of all society-related worries reported by a respondent is associated with mental health complaints (Table 1). Models 1a and 1b both show that personal anxiety and depression

Table 1 Association of overall society-related fears with mental health (PHQ-4) scores

	Anxiety & depression (PHQ-4)					
	Model 1a		Model 1b		Model 1c	
	<i>b</i>	β	<i>b</i>	β	<i>b</i>	β
Age (in years)	---	---	-0.01***	-0.20	-0.01***	-0.20
Gender (female vs. male)	---	---	-0.01	-0.01	-0.01	-0.01
Educational degree (Ref. lower secondary)						
- medium secondary	---	---	-0.01	-0.01	-0.01	-0.01
- higher secondary	---	---	0.01	0.01	0.03	0.01
- tertiary/academic	---	---	-0.10	-0.06	-0.08	-0.05
Personal net income (in 10 groups)	---	---	-0.04***	-0.14	-0.04***	-0.15
Relationship status (Living with partner vs. single)	---	---	-0.16**	-0.10	-0.15**	-0.09
Immigrant status (1st /2nd gen. migrants vs. natives)	---	---	0.21**	0.09	0.21**	0.09
Religious affiliation (affiliated vs. non-denominational)	---	---	0.00	0.00	0.00	0.00
Region (East vs. West Germany)	---	---	-0.10	-0.05	-0.09	-0.05
Society-related fear (Mean score)	0.21***	0.18	0.28***	0.24	-0.44	-0.37
Society-rel. fear (squared)	---	---	---	---	0.10*	0.61
R²	0.031		0.141		0.147	

Note: *b*=Unstandardized coefficient; β =Standardized coefficient. Regression models 1a and 1b estimate a linear effect of societal fears and model specification 1c estimates a non-linear effect. Data represent the German population 18+ years with Internet access. $N=1,001$. Significance: * $p<.05$; ** $p<.01$; *** $p<.001$

scores are significantly associated with society-related worries, also when controls are included ($b=0.28$; $\beta=0.24$; $p<.001$). A 1-unit increase of society-related fears is associated with a 0.28-point increase on the 4-point PHQ scale. The model 1b also suggests that age ($b=-0.01$; $\beta=-0.20$; $p<.001$), income ($b=-0.04$; $\beta=-0.14$; $p<.001$) and being in a relationship ($b=-0.16$; $\beta=-0.10$; $p<.01$) are associated with a lower risk of personal anxiety and depressive tendencies. Migrants report slightly more mental health problems compared to respondents without an immigration background ($b=0.21$; $\beta=0.09$; $p<.01$).

In addition, Model 1c also includes a quadratic term for society-related fear, which is significant and points to a non-linear relationship ($b=0.10$; $\beta=0.61$; $p=.01$). In fact, the level of anxiety and depression increases exponentially the more societal developments a person perceives as threatening, which is illustrated in Fig. 3.

Further regression analyses explore whether specific societal concerns are associated with mental health problems (Table 2). These analyses show significant relations for some variables (Model 2a). Zero order correlations (i.e., without controls) indicate that concerns about poverty and inequality ($r=.18$), digitalization and AI ($r=.16$), pandemics ($r=.16$), war and armed conflicts ($r=.12$), right-wing extremism ($r=.07$) and climate change ($r=.07$) significantly correlate with increased mental health problems. A multiple regression model (i.e., which controls for correlations between society-related fears) points to three significant effects: Worries related to pandemics ($b=0.09$; $\beta=0.14$; $p<.001$), poverty and growing social inequality ($b=0.07$; $\beta=0.10$; $p<.01$), as well as digitalization and AI ($b=0.05$; $\beta=0.08$; $p=.03$) are related to higher anxiety and depression scores.

A model only with individuals who self-place on the left side of the LRS scale (Model 2b) shows that concerns about wars and military conflicts ($b=0.14$; $\beta=0.14$; $p=.03$), poverty and inequality ($b=0.14$; $\beta=0.15$; $p=.01$), pandemics ($b=0.11$;

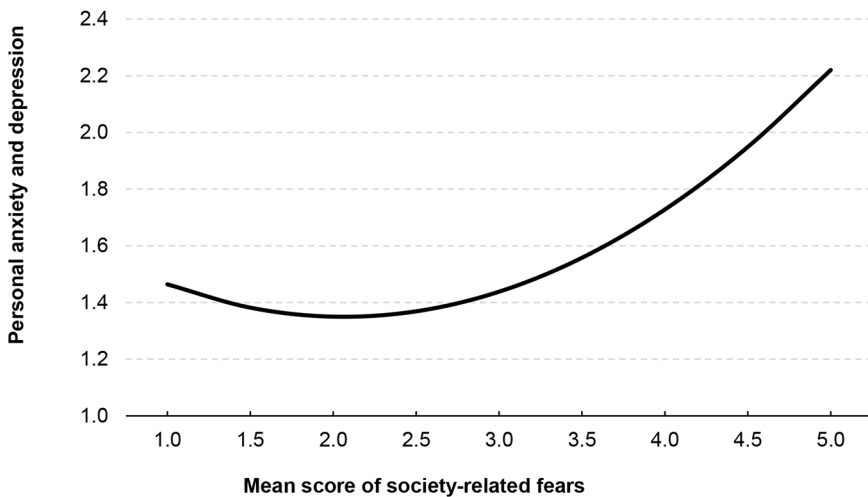


Fig. 3 Estimated effects of society-related fears on mental health (PHQ-4) scores. The figures shows the combination of the main effect for society-related fears plus the squared effect, indicating a non-linear relationship. Data represent the German population 18+years with Internet access ($N=1,001$)

Table 2 Association of single society-related fears with mental health (PHQ-4) scores

		Anxiety & depression (PHQ-4)											
Zero order correlations		Model 2a Full Sample		Model 2b Left-leaning		Model 2c Center		Model 2d Right-leaning					
<i>r</i>	<i>b</i>	<i>b</i>	β	<i>b</i>	β	<i>b</i>	β	<i>b</i>	β	<i>b</i>	β		
Fear: War and armed conflict	0.12**	0.05	0.07	0.14*	0.14	-0.01	-0.02	0.08	0.12				
Fear: Poverty and inequality	0.18***	0.07**	0.10	0.14*	0.15	0.05	0.07	0.04	0.07				
Fear: Right-wing extremism	0.07*	0.01	0.02	0.01	0.01	0.02	0.03	-0.02	-0.05				
Fear: Crime and terror	0.06	-0.04	-0.06	-0.14*	-0.20	0.02	0.03	0.06	0.09				
Fear: Immigration	0.02	0.03	0.05	0.06	0.09	-0.02	-0.02	-0.08	-0.10				
Fear: Climate change	0.07*	0.01	0.01	-0.06	-0.08	0.03	0.05	0.07	0.14				
Fear: Digitalization and AI	0.16***	0.05*	0.08	0.10*	0.14	0.01	0.02	0.15**	0.26				
Fear: Pandemics	0.16***	0.09***	0.14	0.11*	0.16	0.07*	0.12	0.05	0.08				
R²	--	0.155		0.228		0.142		0.309					

Note: b = Unstandardized coefficient; β = Standardized coefficient. Model 2a includes the full sample (N=1,001); 2b only individuals who identify as politically left (N=307); 2c only individuals who identify as politically center (N=452); 2d only individuals who identify as politically right (N=169). All models include the control variables reported in Table 1. Data represent the German population 18+ years with Internet access. Significance: * $p < .05$; ** $p < .01$; *** $p < .001$

$\beta=0.16$; $p=.02$) and digitalization ($b=0.10$; $\beta=0.14$; $p=.03$) negatively affect mental health. In contrast, a similar model for individuals who position politically in the center indicates that only the fear of pandemics is associated with poor mental health ($b=0.07$; $\beta=0.12$; $p=.04$). Among right-leaning individuals (Model 2d) only worries about digitalization and AI are significantly associated with higher anxiety and depression scores ($b=0.15$; $\beta=0.26$; $p<.01$).

Discussion

Scientific accounts (Adolph et al., 2016; Kovács, 2023) and common sense both suggest that mental health problems, such as personal anxiety or depression, can increase in times of multiple crises. Building on theorizing on fear in (post-)modern society (Bauman, 2006; Bude, 2014; Furedi, 1997) this article is meant as a pilot study to explore some empirical relationships between society-related concerns and personal mental health. Results show that Germans were most concerned about societal developments and crises such as wars, social inequalities, right-wing extremism, crime and terror, or immigration. At the time of the survey, a majority of the respondents – between 76% and 61% – regarded these developments as highly worrying. However, societal developments are perceived as worrisome to varying degrees, depending on the individual's ideological position. Left-leaning individuals are concerned about poverty, a rightward shift in society, or climate change, while right-leaning individuals rather perceive immigration and crime as threats. Most importantly, however, findings reveal that society-related fears are associated with mental health issues. Precisely, the regression models show a non-linear relationship: Mental health issues increase exponentially, the more frightened an individual is by the current societal crises. Hence, particularly in times of “polycrisis” (Lawrence et al., 2024), societal fears become a relevant and detrimental factor for human wellbeing.

The results are straightforward when it comes to the finding that people who are more worried about societal trends and conditions report poorer mental health. The results are less clear when it comes to single societal developments. These do not seem to have all the same negative effect on mental well-being. Instead, some fears do not at all correlate with personal mental health, while others are only weakly correlated. Generally, this aligns with the notion of an “intensity continuum” of anxiety (Adolph et al., 2016). Building on this idea, it can be postulated that some fears that relate to society and the wider living environment may be perceived as less stressful or less intense compared to fears that relate to something in the immediate personal environment. In addition, some scholars argue that society-related worries, such as immigration-related fears, could translate in personal anger instead of personal fear (Rico, 2024). In any case, there is some plasticity in individual reactions towards crises and not every threatening societal development must necessarily translate into a heightened personal experience of anxiety or a reduced level of happiness. Although, however, society-related concerns may not be experienced as intensely as personal fears, they often persist for longer periods. Concerns about the consequences of climate change, for instance, are likely to persist not just a few months, but years and decades. These worries probably lie in the background and not in the foreground of

individual experience. It would be valuable thus to gain a more nuanced understanding of the experiential characteristics that differentiate a rather distal and abstract society-related anxiety from a more proximal and concrete anxiety related to the personal level.

Concerning particular fears, it seems that the societal developments that trigger anxieties and potentially impair mental health highly depend on ideologies (Nussbaum, 2018). Findings presented here do not support previous studies that showed that ecological concerns *generally* translate into lower levels of mental health (Hajek & König, 2023; Heinzel et al., 2023). The findings also do not support the assumption that *all* societal developments are perceived more threatening by people on the conservative side of the political landscape (Jost et al., 2007). By analyzing ideological orientations, this article rather supports the notion that political worldviews shape society-related concerns. For instance, fears about war and poverty are more likely to have a negative effect on mental health among left-leaning individuals, but not among individuals who self-position in the center or at the right of the ideological spectrum. Fear related with the diffusion of AI technologies is also associated with reduced mental wellbeing among left- and right-leaning individuals, but not among those in the political center. Although the present study could not reveal the mechanisms that lead to this effect, it is plausible to assume that concerns about privacy violations and surveillance may play a role (for a discussion see Zuboff, 2022) that could trouble particularly individuals with more radical political views on the ideological poles.

In terms of sociodemographic variables, the present study lends support to the previous findings that individuals from lower socioeconomic strata exhibit heightened concern about societal developments (Adolph et al., 2016) and that individuals in a relationship display a reduced tendency to worry (Pieh et al., 2020). However, the analyses revealed no gender effects. While females have been found to express more fears during the pandemic (Metin et al., 2022), the present study suggests that they do not generally worry more about societal developments than males.

This study has strengths and limitations: I consider a strength to be the simultaneous analysis of a number of societal fears (rather than focusing on a single fear) in a coherent approach based on representative data. This allows for comparisons and generalizations. Only few studies have yet provided similar data and analyses (as an exception: Adolph et al., 2016). In addition, the inclusion of ideology proved to be worthwhile. However, it is a limitation that the LRS scale captures only one dimension of political ideology and that the eight societal fears analyzed here may not be comprehensive. In particular, it is likely that different crises will manifest in the future, which could lead to different worries and concerns. In particular, the cross-sectional design is a limiting factor, as it allows only robust correlations to be shown. My argument favors the interpretation that societal crises and related fears reduce mental health and well-being. However, the design used here cannot rule out the opposite assumption, that people with mental health problems view societal conditions more negatively and may react more anxiously in times of crisis. Future studies could address some of these limitations, for example by using longitudinal research designs or by including multidimensional measures of political orientations and ideologies.

Building on Bauman's (2006) concept of "liquid fear", one could argue that fear in contemporary Western societies is ephemeral, virtually free-floating and not tied to a specific threat. Hence, fear could move from one current problem to the next. If one takes this argument seriously, questions about fear-inducing social developments could represent only a snapshot in time, which could look different just a few weeks later. Nevertheless, the social crises examined here are by no means only short-term issues: the consequences of climate change, the conflicts between rich and poor, or the disruptions caused by AI will continue to preoccupy humanity for years to come. However, it is unclear whether people will get used to these matters and, at some point, start taking these uncertainties for granted. Future studies that empirically examine the stability or volatility of society-related fears over time are therefore most relevant.

In conclusion, the analysis presented here makes clear that the relationship between societal crises and related fears, on the one hand, and mental health and well-being, on the other, deserves to be studied more closely than it has been. Society-related fears may be important predictors of health, especially in times of great uncertainty and crises of planetary scale. A social science perspective, which no longer sees mental health and well-being solely as an individual characteristic, but rather as embedded in a societal, social and communicative context (e.g., Heins, 2021; Hirtenlehner, 2019; Romer et al., 2003; Williamson et al., 2019), could be particularly valuable in this regard.

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Declarations

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