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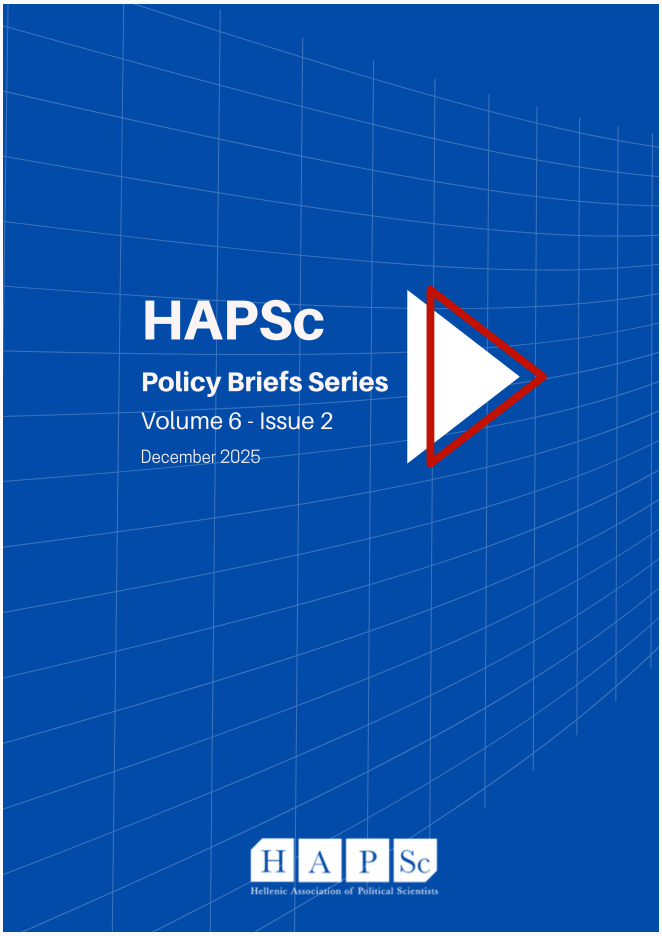


# The Suffering Extremists: Political Behaviour, Civic vs. Party Engagement and Cardiovascular Health from the European Social Survey

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# The Suffering Extremists: Political Behaviour, Civic vs. Party Engagement and Cardiovascular Health from the European Social Survey[1]

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**Abstract**

Using data from the European Social Survey and applying a range of statistical techniques, this policy brief examines how political orientation and modes of political engagement relate to health outcomes across Europe. The analysis reveals a consistent pattern: individuals positioned at either extreme of the ideological spectrum report poorer health and more unhealthy behaviors, whereas those identifying at the center or moderate left exhibit the most favorable health profiles. Beyond ideology, the form of political participation also matters. Engagement in non-party political activities, such as civic initiatives or issue-based actions, is associated with better health outcomes, while participation tied directly to political parties correlates with less advantageous health indicators. Patterns of participation differ across the spectrum: respondents on the left are more active in both party and non-party politics, centrists participate minimally, and those on the right tend to engage more selectively in party-related activities. Together, these findings highlight the complex interplay between political identity, modes of engagement, and public health, offering insights for policymakers seeking to strengthen civic life while promoting population well-being.

**Keywords**: Political orientation; Political participation; Health outcomes; European Social Survey; Civic engagement; Public health

## Introduction

Political engagement and ideological orientation are increasingly recognized as important social determinants of health, influencing both individual well-being and population health outcomes (Marmot, 2015). Political engagement, broadly defined as participation in political processes such as voting, activism, or discussion, reflects an individual's connection to societal structures and collective decision-making. This engagement has been linked to health through mechanisms such as social capital, empowerment, and access to resources (Kim & Kawachi, 2006). Simultaneously, political ideology, often situated along a left-right spectrum, shapes attitudes toward policies that affect social welfare, healthcare access, and public health initiatives. Understanding the interplay between political engagement, ideological orientation, and health is essential for addressing health disparities and promoting equitable health outcomes.

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Political engagement can foster a sense of agency and social inclusion, both of which are protective factors for mental and physical health (Verba, Schlozman, & Brady, 1995). Those who are politically active may benefit from increased social networks and community support, which mitigate stress and promote healthier behaviors (Putnam, 2000). Conversely, political disengagement may signify social isolation or disenfranchisement, conditions associated with poorer health outcomes (Kawachi & Berkman, 2001).

The left-right political spectrum encapsulates differing views on economic redistribution, social equality, and the role of government in healthcare provision. Left-leaning ideologies typically advocate for expanded social safety nets and universal healthcare, which have been associated with better population health indicators (Navarro et al., 2006). In contrast, right-leaning ideologies tend to emphasize individual responsibility and limited government intervention, which may affect health outcomes differently depending on the social context (Bambra, 2011). The interaction between political ideology and health is complex, as ideological beliefs can shape health behaviors, trust in medical institutions, and responses to public health policies (Baum, 2011).

Research exploring the nexus of political engagement, ideological orientation, and health remains limited, and the directionality and mechanisms of these relationships warrant investigation, particularly in diverse sociopolitical contexts. This paper aims to elucidate the connections between political engagement, left-right opinion, and health by reviewing existing literature and analyzing empirical data. By integrating political science and public health perspectives, we seek to contribute to a more comprehensive understanding of how political factors influence health outcomes and to inform policies that promote health equity.

We pose a set of research questions:

- Which political behaviours have a connection to health outcomes and how is political engagement connected to health?
- How does a person's placement on the left right political scale affect health?
- Which lifestyle and socio-demographic patterns explain these relationships?

## Methods

### *Study design*

This study employs an observational, cross-sectional design based on data from the European Social Survey. The analytical approach adopts an exploratory and descriptive analytical design based on data from the European Social Survey. The analysis relies on group-level comparisons, clustering

techniques, and analysis of variance (ANOVA). Therefore, the findings should be interpreted as indicative of associations and co-occurring patterns rather than independent or causal relationships.

### *Factor analysis*

To examine how different forms of political behavior cluster together, we conducted an exploratory factor analysis using nine variables from the European Social Survey (ESS) that capture a range of political actions. These items included both conventional and non-conventional political behaviors, such as contacting politicians, working in political organizations, participating in demonstrations, signing petitions, and related forms of engagement. This two-factor solution was selected to identify the major underlying dimensions that organize political behavior, specifically, to determine which political actions tend to co-occur and form coherent behavioral patterns.

### *Clustering with inference checks*

To identify distinct groups of individuals along the political spectrum, a k-means clustering procedure was applied to survey data capturing respondents' political behaviors and ideological self-placement. The feature set included (a) multiple indicators of political action (such as participation in demonstrations, contacting elected officials, or engaging in online political activities) and (b) a continuous left–right self-placement scale. These variables were standardized prior to analysis to ensure equal weighting in the clustering algorithm. A five-cluster solution was selected to represent a theoretically meaningful gradient across the political spectrum, ranging from far left, moderate left, center, moderate right, to far right. The choice of five clusters was guided by substantive expectations about ideological diversity as well as empirical inspection of within-cluster sum-of-squares and cluster interpretability. K-means clustering was implemented using the standard Lloyd–Forgy algorithm, with 100 random initializations to reduce sensitivity to local minima. Cluster centroids were examined to confirm that the resulting groups aligned with the expected ideological continuum.

To further characterize the behavioral tendencies of each cluster, respondents' scores on two latent factors representing distinct types of political action were analyzed. These factor scores were derived using Bartlett's method, which provides unbiased estimates of individuals' positions on each latent dimension. After extraction, mean Bartlett scores for each cluster were compared to assess whether particular ideological groups exhibited stronger tendencies toward specific forms of political engagement. To explore potential associations between political orientation clusters and health outcomes, the prevalence of three self-reported health conditions (heart disease, high blood pressure, and diabetes) was compared across clusters. For each condition, pairwise Z-tests for proportions were conducted to determine whether the proportion of individuals reporting the condition in a given

cluster differed significantly from the proportion in the remainder of the sample. These tests allowed for the identification of clusters with statistically higher or lower prevalence rates relative to the population baseline.

### *Single Impact Tests*

For every political action, three independent Z-tests of proportions were performed. Each test compared the prevalence of one health condition, heart disease, high blood pressure, or diabetes, between respondents who reported engaging in the activity ("yes") and those who did not ("no"). The tests assessed whether the proportion of individuals reporting each condition was significantly higher or lower among those who participated in the activity relative to non-participants. The Z statistic for each comparison was calculated using the standard formula for differences in proportions, with pooled variance estimates. All tests were two-tailed, allowing for the detection of both elevated and reduced prevalence among politically active individuals. This procedure enabled a systematic evaluation of whether specific forms of political engagement were associated with distinct health profiles, independent of the broader ideological clusters.

### *Left right scale and lifestyle habits*

To further investigate how political orientation relates to individual well-being and social behavior, a series of one-way analyses of variance (ANOVAs) was conducted using respondents' self-placement on the left–right political scale. This scale ranged from 0 (far left) to 10 (far right) and was treated as a categorical independent variable representing ten distinct political positions. Membership of the extreme cohort was defined as having a value of either 0 or 1 (extreme left) or 9 to 10 (extreme right). A set of dependent variables capturing different aspects of physical health, mental health, and social interaction was examined. These variables included indicators such as self-rated physical health, frequency of depressive symptoms, perceived stress, number of close social contacts, and frequency of social engagement. Each variable was analyzed separately to determine whether mean levels differed significantly across the ten political positions. The best and worst groups were identified for each variable.

## Results

### *Descriptives*

The dataset contained over 30,000 observations, outcomes are presented in table 1.

**Table 1. Descriptives**

| Variable | Prevalence | Variable | Prevalence / Mean |
|---|---|---|---|
| Contacted Politician | 16.0 % | Vote | 75.6 % |
| Party active | 6.8 % | Left Right Scale | 5.0 |
| Signed petition | 22.0 % | CVD | 11.5 % |
| Public Demonstration | 8,8 % | BP | 22.1 % |
| Boycotted Product | 21.3 % | Diabetes | 6.8 % |
| Closer to party | 49.2 % | | |
| Badge | 6.8 % | | |
| Posted political online | 15.7 % | | |
| Volunteered | 20.1 % | | |

### *Dimensions Political Factors*

The identified factors are presented in Table 2, based on which features have a loading above the threshold of 0.4.

**Table 2. Factors Politics Behaviour**

| Factor 1 (Non-party political participation) | Factor 2 (Party political participation) |
|---|---|
| Signed petition | Contacted politician |
| Took part in public demonstration | Donated to or participated in political party or pressure group |
| Boycotted product | Wore a political badge |

### *Single behaviour impacts*

The single factor impacts (prevalence for each of the three health outcomes among people answering respectively yes and no) can be seen in table 3. For clarity, we included only those where a z test of proportions confirmed a significant difference between the groups.

**Table 3. Single Impact Factors**

| | Heart Disease Rate among Yes/No | High BP Rate among Yes/No | Diabetes Rate among Yes/No |
|---|---|---|---|
| **Party political participation** | | | |
| **Vote** | No impact | 22.9/18.7 | No impact |
| **Contacted Politician** | 12.7/11.1 | 23.3/21.0 | No impact |
| **Party active** | 12.9/11.2 | No impact | No impact |
| **Wore political badge** | No impact | No impact | No impact |
| **Closer to party** | 13.0/9.8 | 24.6/18.7 | 7.5/5.8 |
| **Non-party political participation** | | | |
| **Signed petition** | 9.4/11.8 | 18.4/22.1 | 4.9/7.0 |
| **Public Demonstration** | 7.9/11.6 | 14.5/22.0 | 4.3/6.7 |
| **Boycotted Product** | 10.6/11.5 | 20.1/21.7 | 5.4/6.8 |
| **Posted political content online** | 9.0/11.7 | 16.8/22.2 | 4.9/6.9 |
| **Volunteered** | No impact | 19.6/21.8 | 6.0/6.7 |

Party-based political participation was more frequently associated with less favourable health outcomes, whereas non-party (civic) forms of political engagement tended to be associated with more favourable health profiles.

### *Left Right Scale and Risk Factors*

The results for analysis on the association between political scale factors is shown in table 4. The aggregation is indicated simply as which of the different groups on the 0 to 10 political scale had the most unhealthy (worst) and healthy (best) average value, respectively, on the factors. For example, people with what value on political scale answered on average having met least frequently with friends, relatives and colleagues and which group met the most.

**Table 4. Lifestyle Habits and Political Opinions**

| Variable | Worst | Best |
|---|---|---|
| **Fruit** | 2 | 4 |
| **Vegetables** | 10 | 2 |
| **Sport** | 9 | 3 |
| **Smoking** | 1 | 7 |
| **BMI** | 10 | 2 |
| **Poor sleep** | 0 | 7 |
| **How often meet friends, relatives or colleagues** | 10 | 3 |
| **How happy** | 1 | 10 |
| **Subjective general health** | 0 | 7 |

In eight of the nine factors, the worst average of behaviours was found among either the two leftmost (0-1) or the two rightmost (9-10) positions on the left - right scale.

### *Clustering*

The connections between left-right scale, type of political activity and health outcomes are given in Table 5.

**Table 5. Clustering Results**

| Political | Party Actions | Non-party | Heart Disease | BP | Diabetes |
|---|---|---|---|---|---|
| **Far Left** | High | High | High | | High |
| **Moderate right** | High | Low | | | |
| **Far Right** | High | Low | High | High | High |
| **Moderate Left** | High | High | | | Low |
| **Center** | Low | Low | | Low | |

Their relative positions on the identified factors and the prevalence of the measured health outcomes are summarised using simplified categories reflecting higher prevalence, lower prevalence, or the absence of statistically significant differences. High is defined as statistically above the average either as a loading on one of the two factors or as prevalence and low similarly comes from a low loading or a prevalence significantly below the mean value for the entire population.

**Discussion**

Similarly, the distinction between party-based and non-party forms of political participation may reflect differing social and psychological dynamics. Non-party civic engagement, such as participation in community initiatives or issue-based actions, may be associated with forms of social connectedness and collective agency that are linked in the literature to better well-being (Jennings & Stoker, 2004; Ballard et al., 2019). In contrast, party-based political involvement may involve more competitive or conflict-oriented environments (Mutz, 2015). However, these interpretations remain speculative within the context of the present study and should be tested in future research using designs that directly measure these underlying mechanisms.

The distinction between party-related and non-party political engagement provides further nuance. Our results indicate that non-party political actions, such as civic initiatives, petitions, or community activism, are associated with better health outcomes, whereas party-centered activities correlate with poorer health. This pattern resonates with research showing that civic participation can enhance well-being through social connectedness, empowerment, and a sense of agency (Jennings & Stoker, 2004; Ballard et al., 2019). Non-party engagement often involves collaborative, community-oriented activities that foster social capital, a known determinant of positive health outcomes (Kawachi & Berkman, 2000). Conversely, party-political engagement may expose individuals to more conflictual, competitive, and emotionally charged environments, which can elevate stress and reduce psychological well-being (Mutz, 2015).

The ideological differences in participation patterns observed here also reflect established trends in political behavior. Left-leaning individuals' higher engagement in both party and non-party activities is consistent with research showing that the political left tends to emphasize collective action, mobilization, and participatory norms. Centrists' low engagement aligns with findings that political moderation often coincides with lower political interest and weaker ideological motivation (Kroh & Wagner, 2010). Meanwhile, the tendency of right-leaning individuals to engage more selectively in party-related activities mirrors prior work suggesting that conservative political identity is more

strongly tied to traditional party structures and formal political channels (Carmines & D'Amico, 2015).

The findings also carry several potential implications for public policy, particularly at the intersection of public health and civic engagement. First, the observed association between non-party (civic) forms of participation and more favourable health profiles suggests that policies supporting community-based engagement, such as volunteering, local initiatives, and issue-based participation, may contribute not only to democratic vitality but also to individual well-being. Encouraging accessible, inclusive forms of civic involvement could therefore serve as a complementary strategy within public health promotion frameworks. Second, the pattern of less favourable health outcomes observed at the ideological extremes highlights the potential relevance of political polarisation as a social determinant of health. While causal mechanisms cannot be established in the present study, the findings are consistent with concerns that highly polarised environments may be associated with increased stress, reduced social cohesion, and weaker trust in institutions. Policymakers may therefore consider interventions that foster dialogue, social cohesion, and cross-group interaction as part of broader strategies to support population health. Finally, the distinction between party-based and non-party political engagement suggests that not all forms of political participation have the same social or health-related correlates. This may have implications for how civic participation is promoted within policy frameworks, particularly in educational, community, and local governance contexts. However, given the exploratory nature of the analysis, these implications should be interpreted with caution and seen as directions for further research rather than definitive policy recommendations.

This study is not without limitation. A key limitation of this study is the absence of multivariate modeling to control for confounding variables. Health outcomes such as cardiovascular disease, hypertension, and diabetes are strongly shaped by demographic, socioeconomic, and contextual factors, including age, gender, education, income, and country-specific conditions. Without accounting for these variables, it is not possible to determine whether political orientation or forms of participation are independently associated with the observed health differences. The results should therefore be interpreted with caution, as reflecting patterns of co-occurrence rather than causal or independent relationships. Second, the health indicators used in the analysis are based on self-reported data, which may be influenced by subjective perception, reporting bias, and differences in health awareness across individuals and countries. Third, health outcomes such as cardiovascular disease, hypertension, and diabetes are shaped by a wide range of demographic, socioeconomic, and environmental factors, including age, gender, education, income, and access to healthcare.

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