POLITICAL PARTY AFFILIATION, POLITICAL IDEOLOGY, AND MORTALITY

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ABSTRACT

Background: Ecological and cross-sectional studies have indicated that conservative political ideology is associated with better health. Longitudinal analyses are needed. Political beliefs, assessed by an individual's political party affiliation or political ideology, may be predictive of health and longevity.

Methods: Data were derived from the 2008 General Social Survey-National Death Index dataset. Cox proportional analysis models were used to determine whether political party affiliation or political ideology were associated with risk for mortality. Also, we attempted to identify whether self-reported happiness and self-rated health acted as mediators between political beliefs and risk for mortality.

Results: In this analysis of 32,830 participants, we find that political party affiliation and political ideology are both associated with mortality. However, with the exception of Independents (adjusted hazards ratio [AHR]=0.93, 95% Confidence Interval [CI]=0.90,0.97) political party differences are explained by the participants' underlying sociodemographic characteristics. With respect to ideology, conservatives (AHR=1.06, 95% CI=1.01,1.12) and moderates (AHR=1.06, 95% CI=1.01,1.11) are at greater risk for mortality during follow-up than liberals.

Conclusion: Political party affiliation and political ideology appear to be different predictors of mortality.

Key words: Political party affiliation, political ideology, mortality, survival analysis

1. INTRODUCTION

Although previous studies have claimed that conservative political ideology is associated with better health,[1-5] a number of limitations exist. Researchers have studied whether party affiliation or ideology is associated with health, but to our knowledge, none of these studies conducted research in an unbiased way, and in a way that incorporates both subjective measures of health, such as self-rated health, and more objective measures, such as risk for early mortality.

The empirical research on this topic has been either ecological [4-6] or utilized cross-sectional study data.[1-3] All cross-sectional studies and one ecological study examined the association between political ideology and self-reported health status[1-3] while the remaining ecological studies described the relationship between area-level political ideology (e.g. proportion of the electorate voting for conservative parties) and mortality rates.[5 6]

Findings from studies conducted in Japan and Europe have reported that individuals expressing a conservative ideology (as compared to liberal ideology)[1 2] tend to report better self-rated health. In the United States, it has been reported that Republicans are less likely to report poor health in comparison to Democrats.[3] Results from an ecological study in the UK found that mortality rates are higher in districts where there is a greater proportion of the electorate who voted for Labour and lower in districts where there is a greater proportion who voted conservative.[5] Investigators postulate that these findings are due to Labour voters being from lower socioeconomic backgrounds while conservative supporters are more likely to be drawn from higher socioeconomic backgrounds.[5]

Based on findings from ecological studies, researchers have postulated that the association between political beliefs and health is due to differences in socioeconomic characteristics, such as economic deprivation.[5] For example, in the UK, the Labour Party has long been identified with the working class while the Conservative Party has been aligned with the Middle and Upper Classes.[4] In the US, researchers theorized that political beliefs are a marker for religiosity,[7-9] civic participation,[10 11] or values that emphasize individual responsibility,[12 13] each of which has been shown correlated with a healthier pattern of behaviors (e.g. alcohol and tobacco abstinence).

Among the cross-sectional studies, researchers have attempted to control for socio-demographic covariates, such as age, sex, socioeconomic status, education, occupation, family income, race, marital status, religious service attendance, that could potentially confound the relationship between political ideology and health outcomes.[2 3]

A possible mediator between political beliefs and health status is perceived happiness. Findings from a survey conducted by the Pew Research Center indicate that 45%, 30%, and 29% of Republicans, Democrats, and independents, respectively, reported being very happy.[14] Reasons for Republicans being more likely to be happier in comparison to the Democrats and independents include demographic differences including income, age, education, sex, religiosity, and marital status.[14] Other possible explanations for these differences include differing cognitive styles and motivation between conservatives and liberals.[15] Liberals have shown to think more about their situations and seek cognitive closure, while conservatives tend to be more accepting of simple solutions and unambiguous resolutions.[16] Therefore, liberals might be more dissatisfied with their lives and health since they are more likely to experience negative effects due to rumination,

and introspection.[17] Another possible explanation is the differences in the way groups react to social and income inequality.[18] Liberals are more likely to view equality as just and desirable, while conservatives are more likely to accept gaps between the rich and poor.[19] As a result, in societies that have high inequalities, liberals are more likely to be dissatisfied. On the other hand conservatives are more likely to accept and justify income inequality and are more likely to report being happier in comparison to liberals.[20]

Previous studies have not distinguished between an individual's political party affiliation and an individual's political ideology. In other words, these two concepts of political beliefs have been studied interchangeably. However, in the United States, there are various factors, other than political ideology that can dictate political party affiliations. Family tradition, religious beliefs, the US state in which one resides can play a role in political party affiliation somewhat independent of one's personal ideology. Therefore, research that investigates the role of political beliefs on health should look at political party affiliation and political ideology separately.

We investigate the relationship between political ideology and political party affiliation and risk for mortality among a population-based and representative sample of adults within the United States. We extend previous studies describing the relationship between political beliefs and health outcomes by employing a prospective design that uses mortality as an outcome and by exploring potential mediators of this relationship.

2. METHODS

Sample and design

Data for this investigation come from the General Social Survey (GSS), a representative sample of non-institutionalized US adults aged 18 and older, linked to the US National Death Index.[21] The GSS is an annual study of opinions and attitudes among the US public collected by the National Opinion Research Center (NORC) at the University of Chicago.[21] Interviews were conducted in person and involve a core set of questions asked every year. Different people were included each year, so the survey is not a panel design. In the present study, we linked the GSS respondents from 1976 through 2008 to the US National Death Index (NDI), thereby enabling us to examine prospectively the relation between political ideology/party affiliation and subsequent risk of mortality. Models were pre-specified.

Measures

The GSS includes information on age, gender, race/ethnicity, household income, and region in which the respondent resides (Census Bureau 9).

Our main exposures of interest were political party affiliation and political ideology. Respondents were asked "Generally speaking, do you usually think of yourself as a Republican, Democrat, Independent, or what?" Response options included 1) Strong Democrat, 2) Not Strong Democrat, 3) Independent Near Democrat, 4) Independent, 5) Independent Near Republican, 6) Not Strong Republican, 7) Strong Republican, or 8) Other Party. Respondents were categorized into Democrat (1 and 2), Independent (3,4,

and 5), Republican (6 and 7), or Other (8). To test the robustness of political party affiliation, we also categorized this variable as Democrat (1, 2 and 3), Independent (4), Republican (5, 6, and 7), or Other (8). Similar findings were obtained. For political ideology, participants were then asked "We hear a lot of talk these days about liberals and conservatives. I'm going to show you a seven-point scale on which the political views that people might hold. Response options included 1) Extremely Liberal, 2) Liberal, 3) Slightly Liberal, 4) Moderate, 5) Slightly Conservative, 6) Conservative, 7) Extremely Conservative, or 8) other. Participants were categorized into Liberal (1 and 2), Moderate (3,4, and 5), Conservative (6 and 7), or other (8 or missing). Similarly, we categorized political ideology as Liberal (1, 2, and 3), Moderate (4), Conservative (5, 6, and 7), or other (8 or missing). Again, findings were similar and were therefore findings are not presented. The correlation between political party affiliation and political ideology was weak (Pearson r=0.30).

Vital status of the GSS respondents was ascertained through till December 31, 2008 from the National Death Index (NDI). The validity of mortality records from the NDI has proven to be very high. For example, of the 9,271 GSS records to have a vital status of "deceased", 99.84% were linked to underlying cause of death.[21]

Potential mediators include happiness and self-rated health. To measure happiness, participants were asked: "Taken all together, how would you say things are these days-would you say that you are: *very happy, pretty happy, or not happy.* To measure self-rated health, respondents were asked: "Would you say your own health, in general, is *excellent, good, fair, or poor*."

A subanalysis of other potential mediators among a subsample of the GSS were conducted (Appendix-1)

Statistical Analysis

We modeled time to death in Cox proportional hazard regressions. First, analyses were conducted separately to determine the crude relationship between the main exposures: political party affiliation and political ideology and risk for mortality hazard. Next, individual-level demographic variables were added to regression models: sex, education, religious affiliation, age, household income, and marital status were added to the models. In the third set of models we introduced controls for region of residence, urban/rurality (rural, urban, and suburban) and cohort (year of survey conducted) were added. Third, region of residence, setting (rural, urban, and suburban) and cohort were added. Finally, self-reported happiness and self-rated health were included in the models to test for mediation. Analyses were then stratified by income and then by cohort (before 1990's and after 1990's) to determine if the association between political party affiliation and political ideology and risk for mortality differed across sub-groups. We also tested political party affiliation x sex and political ideology x sex interaction terms to determine whether the effect of these variables differed between men and women. Because the participants were clustered within regions, the assumption that individuals are independent from each other could not be made. Therefore, we conducted clustered survival analysis, using the SAS PROC PHREG procedure (SAS Institute, Cary, NC) with the robust sandwich estimate option. Also, for all analyses, sampling weights were applied in order to get representative Hazard Ratio (HR) estimates that may be generalized to the US adult population.

To determine whether happiness and self-rated health acted as mediators between political party affiliation and political ideology and risk for mortality, we applied the Baron and Kenny method to test mediation (Appendix-2).[22]

RESULTS

Overview

The sample characteristics are shown in table 1. More than half the sample was female and a majority was white. Of the sample, 36.4%, 27.2%, 35.1%, and 1.2% identified as being Democrat, Republican, Independent, or a member of another party. With regards to political ideology, 23.8%, 31.3%, and 34.5% identified themselves as liberal, conservative, and moderate, respectively.

TABLE 1 HERE

The total follow-up time was 498,845 person-years. Total cumulative incidence of death during follow-up was 28.2% (n=9271). When stratified by political party affiliation, the cumulative incidence of death among democrats, conservatives, independents, and those affiliated with other parties, was 32.8% (n=3965), 28.3% (n=2482), 23.6% (n=2686) and 22.5% (n=88), respectively. When stratified by political ideology, the cumulative incidence of death among liberals, conservatives, moderates, and those with missing political beliefs, was 24.5% (n=1938), 29.6% (n=3000), 29.6% (n=3349), and 28.4% (n=984). The mortality rate of the total sample was 0.019 deaths per person-year.

Influence of Political Party on Mortality

Results of the crude survival analyses are shown in Tables 2 and 3. Compared with Democrats, Republicans (crude hazard ratio [HR]=0.88; 95% confidence interval [CI]=0.83,0.94), Independents (HR=0.70; 95% CI=0.68,0.72), and those affiliated with other parties (HR=0.76; 95% CI=0.62,0.92) were significantly less likely to die during follow-up (Table 2). Our findings changed when we controlled for individual level demographics. Specially, in comparison to Democrats, independents (adjusted HR=0.93 95% CI=0.90,0.97) were significantly less likely to die prematurely, but there were otherwise no differences between democrats and the other parties. These findings are independent of the influence of region, setting, and cohort variables.

TABLE 2 HERE

Influence of Ideology on Mortality

When looking at political ideology as the main exposure in unadjusted analyses, in comparison to liberals, conservatives (HR=1.26; 95% CI=1.17, 1.36), moderates (HR=1.22; 95% CI=1.14,1.32), and those who did not choose a political ideology (HR=1.40; 95% CI=1.31,1.50), were significantly more likely to die prematurely. Again, results changed when we controlled for individual-level demographics. In comparison to liberals, conservatives (adjusted HR=1.06; 95% CI=1.01,1.12) and moderates (HR=1.06; 95% CI=1.01,1.10) were significantly more likely to die prematurely. There was no significant difference in risk for mortality between democrats and those who were affiliated with other parties. As in the party affiliation analysis, our results remained the same when region, setting, and cohort were added to the models.

TABLE 3 HERE

Stratified Analyses

After stratifying by socioeconomic status, political party affiliation and political ideology were not associated with mortality among high and medium socioeconomic status respondents. Among respondents from low socioeconomic backgrounds, in comparison to liberals, conservatives were more likely to die during follow-up (HR=1.08, 95% CI=0.99, 1.92) but the results were marginally significant.

Results differed across cohorts when we stratified by cohort (before 1990 vs. after 1990). Among the cohorts followed before 1990, political party affiliation was not associated with mortality during follow-up. However, in comparison to liberals, conservatives were more likely to die during follow-up (AHR=1.07, 95% CI= 1.01,1.14). Among those followed after 1990, independents were significantly less likely to die during follow-up, in comparison to democrats. However, in comparison to liberals, only moderates were significantly more likely to die during follow-up (AHR=1.09, 95% CI=1.02,1.17).

When stratified by gender, we find that women who identify as independent (HR=0.93, 95% CI= 0.89, 0.96) were significantly less likely to die during follow-up relative to women who identify as democrats. Among males, political party affiliation was not associated with mortality. In contrast to political party affiliation, there is no linkage between political ideology and mortality among women. However, among men, being conservative (HR=1.10, 95% CI=1.02,1.18) was associated with a greater risk for dying in comparison to liberals.

Mediation Analyses

Happiness and self-rated health did not attenuate the relationship between the political beliefs variables and mortality, and therefore did not mediate the relationship (Table 4). With respect to party affiliation, in comparison to Democrats, Republicans were significantly more likely to report being very happy. Likewise, with respect to political ideology, in comparison to Liberals, Conservatives were significantly more likely to report being happy. Republicans, independents, and those affiliated with other parties were also significantly more likely to report their health to be excellent or good in comparison to Democrats or those with "other" political beliefs.

TABLE 4 HERE

In comparison to those who rated their health to be excellent, those who reported their health to be good, fair, and poor were at greater risk for mortality. Although these results indicate that happiness and self-rated health could potentially act as mediators between political beliefs and risk for mortality, results from the adjusted models indicate otherwise. More results from the sub-analyses can be found in Appendix-3.

3. DISCUSSION

We explored whether those who hold particular political party affiliations or political ideologies are at greater risk of premature mortality in the United States. We used a large, nationally-representative study with long-term follow up that is rich in sociological variables, and contains both a measure of self-rated health and a measure of mortality. Previous work has been conducted in this area, but was more exploratory as those studies

did not have both subjective measures coupled with long-term prospective mortality follow up.

Although researchers argue that the association between political party affiliation and political ideology, and health is explained by sociodemographic characteristics,[1 2] associations were held when we controlled for these variables. We observed those who identified themselves as being independents were significantly less likely to die during follow-up in comparison to democrats. When political ideology was used as the exposure of interest, conservatives and moderates were at greater risk for mortality in comparison to liberals. Proposed mediators such as happiness and religious fundamentalism did not explain these results. These findings from an American population-based and representative sample are discordant with previous identified relationships between political ideology and health observed in the USA,[3 6] Europe,[2 4 5] and Japan.[1]

There are several possible reasons for our unusual findings. The outcome, time to death, might be a more valid measure of health status, in comparison to other measures, such as self-rated health. Because both self-rated health and political ideology are inherently measures of one's subjective states, they could be confounded by perceptual states (E.g., their health states being otherwise identical, liberals may be more or less likely to perceive themselves as sick than conservatives). Furthermore, results remained consistent even when self-rated health was included in the models. Those who fall ill might plausibly change their political views on partisan issues such as universal healthcare, welfare, or disability payments. We find little evidence for such forms of reverse causality, however.

Our results indicate that happiness and self-rated health were not mediators between the relationship between political beliefs and risk for mortality. One reason for this finding is that happiness and self-rated health were collected at baseline, and thus were not time-varying covariates. Therefore, we could not determine if political party ideology and ideology influenced a change in happiness or self-rated health, which could then lead to a change in risk for mortality during follow-up. Future analyses should include looking at repeated measures of happiness and self-rated health over time so that one may determine whether political beliefs leads to a change in happiness and self-rated health, which thus leads to an increase risk for mortality. Also, other characteristics, such as social cohesion, might mediate the relationship between political beliefs and health. For example, liberals might be more likely to have stronger ties to those around them and to their community. Social cohesion has shown to be related to behaviors and health outcomes.[23 24]

Religious fundamentalism has shown to be related to poor self-rated health.[25] However, our findings indicate that fundamentalism is protective against mortality. Nonetheless, there was no evidence that the association between political party affiliation or political ideology and risk for mortality acted through fundamentalism.

With these findings, we cannot conclude that political party affiliation and political ideology are causal factors for mortality. Other researchers argue that political ideology is unlikely to be a causal factor for health, morbidity, and mortality.[2] Alternatively, political beliefs could be seen as markers of latent attitudes, values, and beliefs, such as religiosity, social and civic participation and individual responsibility, which in turn could have positive influences on health.[2 26] For example, religious involvement has been

shown to be protective against mortality.[7-9] Also, social capital, social trust, and group membership have shown to be associated with health and total mortality.[10 27] A drawback of these hypotheses is that it solely places predictors of health on the individual. This simplification ignores the social and contextual factors that shape and interact with individual level factors, such as political beliefs.

Strengths of this investigation include utilization of a large population-based and representative sample of the US population; the assessment of the outcome to death proved to be high in validity; and we were able to use longitudinal analyses. Therefore, we were able to determine if political party affiliation and political ideological beliefs reported at baseline were predictive of time to death. Another strength is that we looked at political beliefs in two separate ways; political party affiliation and political ideology. Since these proved to be not correlated, they are potentially differing concepts and thus should be included in analyses separately.

The findings from this investigation need to be interpreted with caution due to limitations. Although the study design was longitudinal, participants were assessed only at baseline. As a result, the potential relationship between time-varying covariates and time to death could not be described. More importantly, the association between changes in political party affiliation and political ideology within individuals and their subsequent effect on mortality could not be determined. Another limitation is that area level covariates, such as state-level characteristics could not be included in the analyses since we did not have access to this information. Future investigations could involve investigating cross-level interactions between political party affiliation or political ideology and state-level characteristics such as political party affiliation of the state of

residence. For example, one could identify the association between being a democrat in a state that is predominantly republican on risk mortality.

In conclusion our study suggests that political party affiliation and ideology is related to risk for mortality among a population-based and representative sample of US adults. Further research is required in order to determine the mechanisms in which whether political party affiliation or political ideology lead to adverse health outcomes such as premature death.

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Contribution Statement: Roman Pabayo helped conceive the research question, conducted the statistical analyses, conducted the literature review, was the lead author in drafting the manuscript, and is accountable for all aspects of the work in ensuring that questions related to the integrity of any part of the work are appropriately investigated and resolved. Ichiro Kawachi conceived the research questions, interpreted findings, helped draft the manuscript, and gave final approval of the version of the submitted manuscript. Peter Muennig is the principal investigator of the General Social Survey-National Death Index dataset and provided access to the data, interpreted findings, helped draft the manuscript, and provided final approval of the version to be published.

Summary Box

What is already known on this subject?

- Conservative political ideology is associated with better health.
- However, most studies that have investigated the relationship between political beliefs and health have utilized the ecological or cross-sectional study design.

What does this study add?

- Respondents who indicated that they were Independents were significantly less likely to die during follow-up, in comparison to Democrats.
- Conservatives and Moderates were at greater risk for mortality during follow-up, in comparison to Liberals.

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