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Cognition and Political Ideology in Aging

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Abstract

Objective: The impact of cognitive function and decline on political ideology is unknown. We studied the relationship between cognition and both political orientation and political policy choices in a population of older persons.

Methods: Participants were members of a longitudinal investigation of aging and dementia in the oldest-old and resided in a retirement community or its surroundings in Southern California. We analyzed 151 individuals, mean age 95 years, for political ideology and policy choices in relation to their cognitive status. The same political survey was mailed to participants twice: at time one and 6-months later. Self-identified political ideology/orientation was rank ordered from liberal (scored as 1) to conservative (scored as 7), and cognitive function was classified as normal (55%), cognitive impairment/not dementia (CIND) (33%), or dementia (12%). Political policy choices on six issues received scores ranging from liberal to conservative, and we calculated rank correlations between ideology and policy choices.

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Results: Political ideology/orientation was highly consistent over a six-month period (84% agreement) among the 122 who returned the second survey, with no significant relationship to cognitive status. Among cognitively impaired (CIND and dementia), however, there was significant loss of consistency between an individual's political orientation and their policy choices. Level of political engagement was high for participants, with more than 90% voting in the most recent presidential election.

Conclusions: In this population of older persons, political identification on the liberal-conservative spectrum was resilient despite cognitive decline, but its meaning and function were changed. For the cognitively impaired it remained a self-defining label, but no longer operated as a higher order framework for orienting specific policy preferences. There appeared to be loss of coherence between the political orientation and political policy choices of cognitively impaired individuals. Given the high level of political engagement of these individuals, these results have substantial public policy implications.

Introduction

The interface of neurology and political science (“neuropolitics”) has become a topic of increasing interest.¹⁻⁵ Much of the investigative work has focused on brain localization pertinent to political decision-making.⁶⁻⁸ Little attention has been given to the relationship between cognitive function and decline, on the one hand, and political ideology and policy preferences, on the other.

A political ideology is a higher order cognitive framework that generates a broad, coherent understanding of people and the manner in which they can and should be governed.⁹⁻¹¹ It provides a frame of reference for formulating opinions on particular issues and decisions about particular public policies. Some have found age not to be a particularly strong determinant of political ideology.¹² In addition, others have argued that older Americans' preferences with regard to specific policies, such as the funding of Social Security and Medicare, may depart from other ideological concerns they may have.¹³

The present study examines the effect of cognitive function on ideological self-identification and stated policy preferences in a population of older persons. This question is of particular relevance given the questions surrounding voting by individuals with dementia.¹⁴ In the current study, we directly address the issue of stability of political ideology and of policy preferences over a six-month period and its relationship to cognitive impairment. We hypothesized that cognitive impairment impacts political ideology, policy choices, and, more specifically, the function of ideological self-labeling as a higher order framework for orienting particular policy preferences.

Methods

Participants were members of *The 90+ Study*, a longitudinal investigation of aging and dementia in the oldest-old.¹⁵ Participants reside in a retirement community or its surroundings in southern California. Participants in this study routinely received semi-annual neurological exams and cognitive testing (see Supplemental Methods). The Institutional Review Board of the University of California Irvine (UCI) approved this study.

All participants in *The 90+ Study* who were alive and seen in-person in April to December 2017 were mailed a brief questionnaire (see Supplemental Questionnaire), which asked them to indicate their political ideology on a 7-point scale ranging from extremely liberal to extremely conservative. Additional questions included policy preferences for federal spending on public schooling, aid to the poor, and protecting the environment, as well as on policies on immigration rates, death penalty, and university admission preferences. The same survey was mailed again six months to the same participants.

We rank-ordered political ideology on a scale of 1-7, with 1 being extremely liberal and 7 being extremely conservative. Policy preferences were coded such that lower numbers indicate a liberal view and higher numbers indicate a conservative view. Thus, views on federal spending and immigration rates were ranked on a scale of 1 (increase greatly) to 5 (decrease greatly). Minority preferences in university admissions was ranked from 1 (favor strongly) to 4 (oppose strongly). Attitudes toward death penalty were ranked from 1 (oppose strongly) to 4 (favor strongly). A “total policy score” (range 6-30) was calculated by summing the six individual policy preferences, each scored on a scale of 1-5 scores (with the 1-4 rankings recoded 1-2 and 4-5). Thus 6 represents the most extreme liberal policy view and 30 the most extreme conservative view.

Proportions, means, standard deviations and rank correlations were calculated and stratified by cognitive status. Changes in variables between visit 1 and visit 2 (6-months later) were examined using % agreement and Kappa statistic. Differences in means of continuous variables and in proportions of categorical variables between cognitive status groups were tested using t-tests and chi-square tests. All analyses were performed using SAS© version 9.4 (SAS Institute, Cary, ND).

Results

Of the 190 participants mailed the political questionnaire, 151 (79%) returned it. The second questionnaire mailed six months later was returned by 122 (87%) of the 141 still alive. The characteristics of the 151 respondents included mean age 95 years, 62% female, 96% white, and 78% college-educated (Table 1). The neurological examiners classified these participants as having either normal cognition (55%), cognitive impairment, no dementia (CIND) (33%), or dementia (12%). Participants described their ideology as ranging from extremely liberal (7%) to extremely conservative (1%) (Supplemental Table S1), with 42% liberal, 19% moderate, 29% conservative. Attitudes varied widely toward federal spending (for public schooling, aid to the poor, and protecting the environment), rates of immigration, preference to minorities in university admissions, and the death penalty. The overwhelming majority (94%) voted in the 2016 election (Supplemental Table S1). Of the 29 subjects who did not return the second survey, 62% were cognitively impaired at the time of the first survey vs 41% of the 122 who did return it. Of the 122 subjects who returned the second survey, cognitive decline was evident in 11 of 72 cognitively normal individuals and 5 of the 38 CIND individuals (cognitive status of 5 unknown).

For survey 1, rank correlations between ideology and policy ranged from 0.44 to 0.50, with 0.77 for total policy score, for all subjects. For the cognitively normal group, the correlation

coefficients ranged from 0.54 to 0.67 and 0.82 for total policy score. For the cognitively impaired group, the correlations ranged from 0.31 to 0.48, and 0.65 for total policy score. For all six policy topics and the total policy score, correlations were higher for cognitively normal versus impaired, with the difference reaching statistical significance for aid to the poor, rates of immigration, minority preference in university admissions, and total policy score (Figure, Supplemental Table S2).

For survey 2, ideological self-identification was similar to that seen in survey 1. The distribution of individuals' self-identified ideology was 43% liberals, 22% moderates, and 29% conservatives. Policy preferences continued to vary widely (Supplemental Table S3). Correlations between ideological self-placement and policy preferences ranged from 0.38 to 0.68 and 0.77 for total policy score. Again, the correlations were higher for the cognitively normal group than the cognitively impaired for all six policy topics and the total score. The difference reached statistical significance in two policy areas—views on aid to the poor ($p=0.01$) and the death penalty ($p=0.001$) (Figure, Supplemental Table S4). Thus for the six comparisons in two separate surveys, all twelve correlations were higher for the cognitively normal compared with the cognitively impaired.

Ideological self-placement (classified as liberal, moderate, conservative) was highly consistent between the two visits. For all subjects, there was 84% agreement, with $\kappa=0.75$. There was little difference between consistency of political ideology for cognitively normal (at visit 1) (87% agreement, $\kappa=0.79$) versus cognitively impaired (80% agreement, $\kappa=0.70$). However, the consistency of policy preferences between survey 1 and 2 was lower for spending on public schools and aid to the poor than for the other policies among those cognitively impaired (Table 2).

Discussion

This analysis of the relationships among political ideology, policy preferences, and cognitive status demonstrates a number of novel findings. Ideological self-placement was substantially consistent ($\kappa>0.7$) over the six-month survey interval. This consistency was comparable for both cognitively normal and cognitively impaired participants. Moreover, there was a level of consistency in stated policy preferences ($\kappa = 0.3$ to 0.5) for both cognitively normal and impaired participants, except for policies related to spending for public schools and aid to the poor ($\kappa < 0.3$ for cognitively impaired). However, the internal consistency between political ideology and policy preferences was strikingly different between the cognitively normal group and the cognitively impaired. Cognitively normal participants consistently showed higher levels of congruence between ideology and preferences compared with cognitively impaired subjects. These findings suggest that individuals, with or without cognitive impairment, maintain their ideological identification as liberals or conservatives. However, with cognitive impairment political ideology appears to function more as label or identity and less as an orienting framework for judging public policy.

This tenuous linkage between ideological self-identification and policy preferences among the cognitively impaired raises questions about the political decision making of the aging electorate. Among them, how compromised is the capacity to make political decisions

consistent with one's ideological preferences? The findings of this study also speak to the ongoing tension between securing the integrity of the ballot and maintain voting rights for people who are cognitively impaired. Democratic society functions on the premise of the ability of the citizenry to offer retroactive opinions on past policies and proactive opinions on future directions. While our findings suggest that oldest-old individuals with cognitive impairment may not fare as well with policy details, their ideological preferences are relatively stable and similar to many members of the American populace at large, who retain voting rights despite varying levels of sophistication and issue voting.

With regard to exercising the franchise, the individuals surveyed here demonstrated a high level of political engagement: More than 90% voted in the 2016 election, with no significant differences between cognitively normal and impaired. The limited prior work on this subject has shown that most cognitively impaired individuals vote on their own, while a minority receives assistance from their caregivers.¹⁴ Although federal laws (ranging from the Voting Rights Act of 1965 to the Help America Vote Act of 2002) have aimed to ensure a general right to vote for people with these kinds of conditions, individual states have enacted their own constellation of voter competence laws.^{16,17} The logistics and mechanics of voting behavior among cognitively impaired individuals is an important public policy issue that warrants substantial attention. Future studies conducted during an election year might shed additional light on how this population of Americans is casting their ballot.

Our study has multiple strengths and limitations. The participants are motivated and fully characterized in neurological and cognitive function. However, this first-of-its kind study involved an oldest-old sample that is overwhelmingly white, college-educated, moderately affluent, and predominantly female; this limits the generalizability of our findings, which may be viewed at least in part as hypothesis-generating. About 10% of respondents could not or would not self-classify themselves on the political spectrum of liberal-to-conservative. It is unknown whether this might reflect a different ideology depending on the policy (e.g. liberal on social issues, conservative on fiscal policy). In addition, note that the ideological spread reported from both survey 1 and survey 2 differs with that of the of the United States general public. Results from the American National Election Study in 2016 (n=3304) identified 32% as liberal, 27% as moderate or middle of the road, and 41% as conservative.¹⁸ When compared with our results, these differences are an expected limitation of having data from California. Future research might explore participants' ideology in a more elaborated way. Moreover, our follow-up period was limited to six months. Small changes in policy preferences over time may be real and could possibly reflect perceived changes in government policy. These issues emphasize the need for caution in generalizing our findings. In addition, some subjects did not return the second survey, which may impact our findings. Finally, policy choices examined in this study were necessarily limited. Future research may usefully include additional issue areas such as the Affordable Care Act, for which residents of aged communities have been found to be more supportive.¹⁹

In conclusion, this sample of older persons demonstrated highly resilient ideological self-identification/orientation over time, regardless of cognitive function. Concurrently, the relationship between political orientation and political policy choice was strikingly dependent on cognitive function, with cognitively impaired individuals showing loss of

congruence between ideology and policy. The high level of political participation in these individuals emphasize the importance of understanding how cognitive decline affects the political behavior of older persons, and underscore the importance of the logistics of voting in this population.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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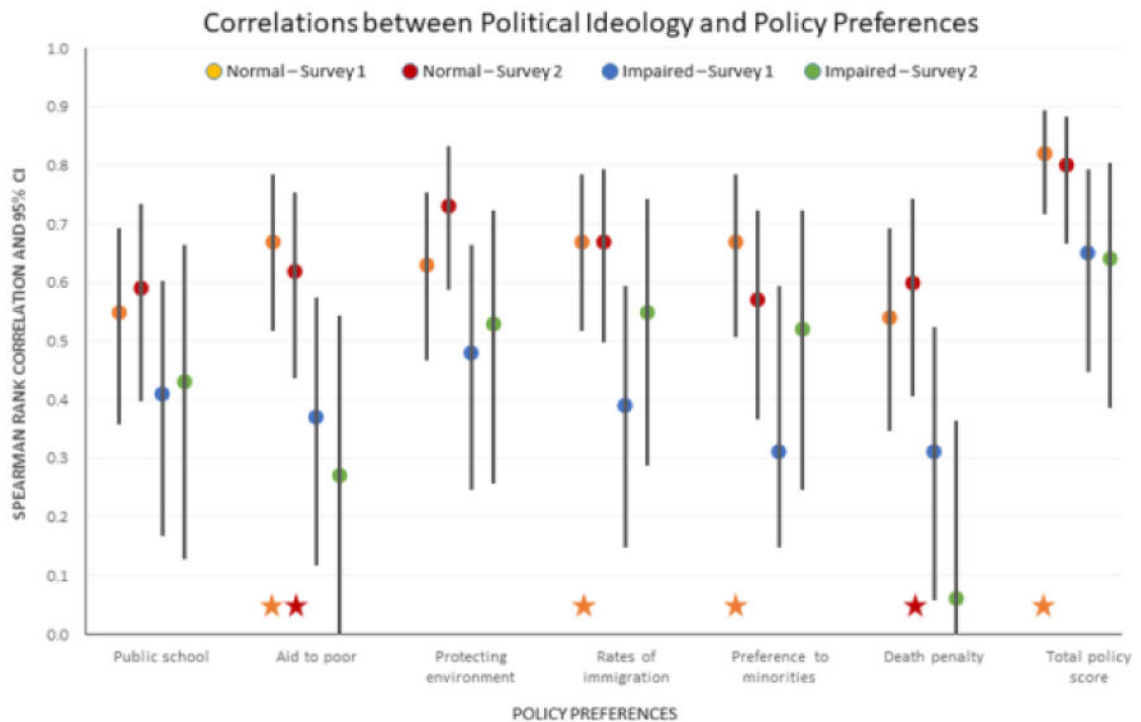


Figure.

Spearman rank correlation coefficients of political ideology with policy preferences among cognitively normal and cognitively impaired 90+ year-olds on two surveys 6-months apart. Political ideology was coded from 1=extremely liberal to 7=extremely conservative. Policy preferences were coded such that lower numbers indicate a liberal view and higher numbers a conservative view. Cognitive status is that at time of first survey. Correlation coefficients are all higher in cognitively normal than in cognitively impaired. They differ significantly (one-sided $p < 0.05$) on aid to poor, rates of immigration, preference to minorities, and total policy for survey 1 (★), and aid to poor and death penalty for survey 2 (★).

Table 1.

Characteristics of oldest-old participants at first political survey (n=151)

	Mean ± SEM	Range
Age (years)	95 ± 0.3	90 to 107
	N (%)	
Female	94 (62%)	
White race	145 (96%)	
College education	118 (78%)	
	Mean ± SEM	Range
Days between completion of political survey and collection of other info	12 ± 7.0	-158 to 231
	N (%)	
Medical history at closest in-person visit		
HBP	91 (60%)	
CAD	20 (13%)	
HVD	10 (7%)	
CHF	14 (9%)	
MI	11 (7%)	
TIA	27 (18%)	
Stroke	16 (11%)	
CVD	38 (25%)	
Diabetes	21 (14%)	
Osteoarthritis	72 (48%)	
Rheumatoid arthritis	5 (3%)	
Depression	20 (13%)	
Glaucoma	27 (18%)	
Macular degeneration	45 (30%)	
Cataract	142 (94%)	
	N (%)	
Cognitive status at closest in-person visit		
Normal	83 (55%)	
Cognitive impairment, not dementia	50 (33%)	
Dementia	18 (12%)	
	Mean ± SEM	Range
All participants		
3MS (n=140)	92.4 ± 0.67	54 to 100
MMSE (n=147)	27.3 ± 0.24	14 to 30
Cognitively normal participants		
3MS (n=77)	96.4 ± 0.35	82 to 100
MMSE (n=81)	28.6 ± 0.14	25 to 30
Cognitively impaired participants		
3MS (n=63)	87.5 ± 1.2	54 to 100
MMSE (n=66)	25.7 ± 0.44	14 to 30

Table 2.

Comparison of responses to survey 1 and survey 2 by cognitive status at survey 1

	All subjects			Cognitively normal			Cognitively impaired		
	Number	% agree	Kappa Statistic	Number	% agree	Kappa Statistic	Number	% agree	Kappa Statistic
Political ideology (liberal, moderate, conservative)	108	84%	0.75	62	87%	0.79	46	80%	0.70
Federal spending (5 levels)									
Public schooling	111	54%	0.33	67	64%	0.47	44	39%	0.12
Aid to the Poor ¹	106	58%	0.42	63	67%	0.53	43	47%	0.25
Protecting the environment	110	60%	0.44	66	61%	0.43	44	57%	0.43
Rates of immigration (5 levels)	112	60%	0.44	65	58%	0.44	47	57%	0.44
Preference to minorities in university admissions (4 levels)	111	55%	0.35	65	51%	0.30	46	61%	0.43
Death penalty for murder (4 levels)	113	53%	0.37	65	51%	0.33	48	56%	0.40
Voted in 2016 presidential election (yes/no)	118	98%	0.66	69	100%		49	96%	0.64

¹ levels 4 and 5 combined