
Racial Resentment and Public Opinion on the Death Penalty

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Appendix A. Dyad-Ratios

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In Section 2 of our Element, we assessed national-level trends in support for the death penalty using Stimson’s dyad ratios algorithm. In this Appendix, we provide further background information about that process.

Model Estimation and Fit

We searched the Roper iPoll database for all questions on the topic of “Death Penalty.” Based on previous research (see Baumgartner et al. 2008; Baumgartner et al. 2018; and Baumgartner 2025), this database was already constructed and consisted at the time of hundreds of survey questions. We discovered that the ANES was not generally included in the iPoll database, so we added all the ANES data and we confirmed that all the GSS data we analyzed in the Element were also included in the iPoll database; generally these were included but we found a few that had been omitted. In the end, we had 629 survey marginals of questions about the death penalty administered in national samples of US adults. It was last updated on August 24, 2026. Data were prepared according to the requirements of the Dyad Ratios Algorithm as implemented through Wcalc6, software generated by our colleague Jim Stimson of the University of North Carolina at Chapel Hill (see Stimson 1999, 2015, 2018). This involves identifying each question / survey house combination with a unique identifier and calculating the share of respondents

responding in the pro- and anti-death penalty direction as a share of all respondents expressing an opinion (that is, excluding “don’t know”, no answer, and neutral responses).

The Dyad Ratios Algorithm was implemented using Stimson’s “wcalc” program (<https://stimson.web.unc.edu/software/>), generating a single dimension, annual estimates, and exponential smoothing. It converged after 6 iterations with a reliability of .870, generating a dimension with an Eigen estimate of 3.44 of a possible 4.46, or 77.19 percent of variance explained.

A separate estimate was made of four subsets of this overall index. First was that set of questions using the traditional Gallup “murder” question: “Are you in favor of or opposed to the death penalty for persons convicted of murder?” This consisted of 252 survey records from 20 different survey organizations (after weighting multiple observations from the same year into a single yearly observation); it converged with two iterations with a reliability of .844 and a single dimension explaining 89.21 percent of the variance.

A similar estimate was made from 58 annualized observations from 8 different survey houses using the “Life” question: “What do you think should be the penalty for murder--the death penalty or life imprisonment with absolutely no possibility of parole?” This converged after 4 iterations with a reliability of .935, with the single dimension explaining 72.33 percent of the variance.

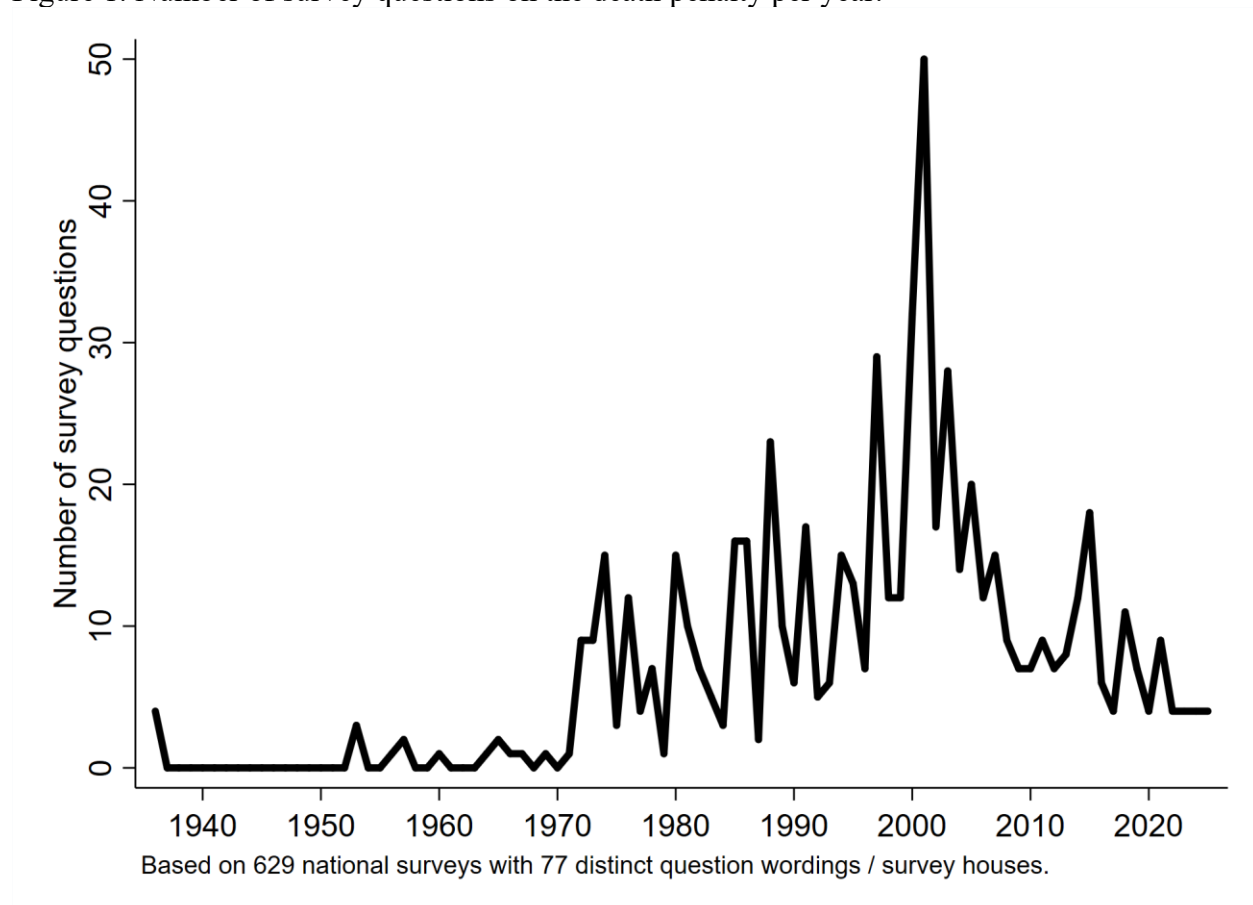
A third estimate was made only of the ANES questions, which are also include in the “murder” series above, as that is the question wording used. This series consisted of 15 records and converged after just 2 iterations with a reliability of .845 and 100 percent of the variance explained. The fourth estimate was for the GSS series, also using the same “murder” question

wording. This series had 37 records, converged after 2 iterations with a reliability of .951, and had a single dimension explaining 99.66 percent of the variance.

Number of Survey Questions per Year

Figure 1 shows the number of survey questions administered to national samples of US adults concerning the death penalty. Note that relatively few survey questions were fielded in the years before 1972, when 9 surveys took place, with no year since 1972 having a gap in survey administrations. Twenty-five years from 1936 through 1970 had no survey administrations; four questions were posed in 1936, three in 1953, but none in the years in between. There were more questions in the 1960s but the numbers were not truly robust until 1972, when the *Furman v. Georgia* decision brought the death penalty to the forefront of American politics and therefore the polling agenda as well. Results of the index may not accurately reflect any trends during the period before 1972, but Figure 1 shows that it is much more reliable in the period of interest to us, the “modern” age of the death penalty.

Figure 1. Number of survey questions on the death penalty per year.



Most Common Survey Questions on the Death Penalty

As described in the main text, we found 629 separate survey administrations with questions about the death penalty. Some surveys had several questions; some, just one. Looking both at the question wording and the survey organization, 234 distinct questions were posed. The most common question was the simple “Murder” question posed by Gallup on 65 different occasions and by other survey organizations even more often; 20 different survey organizations posed this question (or one with only very slight wording differences) 252 times. Second was the “Life” question, which was posed 58 times by 8 different survey organizations in the period from 1985 to 2021. Table 1 lists the most common survey questions.

Table 1. Most common survey questions on the death penalty.

Question Label	Question Wording
Murder	Are you in favor of or opposed to the death penalty for persons convicted of murder?
Life	What do you think should be the penalty for murder--the death penalty or life imprisonment with absolutely no possibility of parole?
Morally Acceptable	Regardless of whether or not you think it should be legal, for each one, please tell me whether you personally believe that in general it is morally acceptable or morally wrong.) How about...the death penalty?
Applied Fairly	Generally speaking, do you believe the death penalty is applied fairly or unfairly in this country today?
Too Often	In your opinion, is the death penalty imposed -- too often, about the right amount, or not often enough?

A wide variety of other questions was posed such as whether particular individuals (Timothy McVeigh, Saddam Hussein, Terry Nichols, Ted Kaczynski (the Unabomber)) should receive a sentence of death; whether the death penalty should be imposed for various crimes other than murder such as rape, treason, espionage, airplane hijacking, drug dealing, or child abuse; whether the death penalty deters; whether innocent individuals have been executed; whether black defendants are more likely than white defendants to face the death penalty; whether poor defendants are more likely than those of average income to face the death penalty; whether certain categories of defendants should be excluded from the death penalty, such as those under age 18, those under 21, those who were only accomplices to the crime, women, or those with mental illness; whether the constitution should be amended to abolish the death penalty; whether the death penalty should be mandatory for all persons convicted of premeditated murder; and so on.

Note that the Stimson dyad-ratios algorithm requires a minimum of two administrations of the same question wording by the same survey house in two different years for the question to be included. This requirement excludes 144 questions that occurred only once. Further, when the same question is posed twice during the same year, the algorithm takes the average of the results

for that year (weighted by the number of respondents in each survey). In the end, counting only those distinct questions posed more than once by the same survey organization in separate years, the index is based on 485 survey administrations of 77 distinct questions.

We provide these replication data files:

StimsonUpdate-23Aug2026.xlsx: The raw data file including question wordings, question IDs, responses, dates, and other information. This is our main repository of public opinion marginals and is used to generate the input to the Stimson algorithm.

DPOpinion3626.log: Wcalc log file with diagnostics of the main index.

MurderQuestionsOnly.log: Wcalc log file with diagnostics of the index of “murder” questions.

LifeQuestionsOnly.log: Wcalc log file with diagnostics of the index of “life” questions.

ANESOnly.log: Wcalc log file with diagnostics of the index of ANES questions.

GSSOnly.log: Wcalc log file with diagnostics of the index of GSS questions.

Fig1-3Series.xlsx: Excel file with data associated with Figure 1, extending back to 1936. This presents the full results of the index.

Fig2-DS-opinion-7226-data.xlsx: Excel file with data associated with Figure 2.

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