Assessing Criterion Validity of Using Internet Searches as a Measure of Public Attention

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Abstract

We examine the criterion validity of using internet searches as a measure of public attention to United States Supreme Court (USSC) cases. First, we construct a measure of public attention to three cases by comparing relevant search terms in Google Trends to one top search terms of the year, then sum the measure week by week during the period of the research design. To test the measure's criterion validity, we replicate Scott and Saunders' (2006) models using their dataset (created by conducting phone interviews of a national sample using random digit dialing) that was designed to assess awareness of USSC decisions. We find that public attention as measured by Google Trends data is predictive of public awareness of USSC decisions for two of their three models. We conclude that using free, publicly available big data to measure public attention to USSC cases has criterion validity, and is a valuable tool for researchers studying public policy and process. Our findings contribute to the body of research by demonstrating the validity of internet searches as a measure of public attention beyond its validity in elections and public policy, as Swearingen and Ripberger (2014) and Ripberger (2011) have done.

Introduction

Jim Lehrer of PBS NewsHour says, "If we don't have an informed electorate we don't have a democracy. So I don't care how people get the information, as long as they get it (Barrett, 2006)." The advent of the Internet and cell phones has changed the nature and volume of information the American public and electorate receives. This increased access to a breadth of information raises the importance of measuring and analyzing big data to better understand what captures public attention, or "the scarce resources that people are willing to devote toward thinking about a political issue" (Ripberger, 2011, p. 239). A better understanding of public attention is necessary on its own merits and because it provides some evidence for concern about the possibility of self-government. Before ready access to big data, polls (especially "most important problem" or MIP polls (see Soroka 2002)) and media proxy variables (e.g. Baumgartner and Jones, 1993; Newig, 2004) have been the main approaches to measuring public attention. Polls, when properly done, are powerful and accurate instruments; however, they are costly and difficult, if not impossible, to conduct retrospectively. Further, polling now faces several validity issues including low response rates, difficulties in accessing respondents who rely solely on cell phones, and, because there are so many organizations and news outlets polling, political elites are skeptical of the results of polls (Goidel, 2011). It is well established that media attention approaches are strong proxy measures of public attention, but the

assumption that the public is interested in what the media is reporting can be problematic. Thus, there is need for an additional measure of public attention that is readily available to all, cost-free, can be examined sub-nationally and can be conducted retrospectively.

Through new technological developments, we can use Google Trends, a measure of internet search volume, as a representation of public attention. Google Trends is a normalized measure that ranges from 0 to 100 based on the volume of internet searches conducted on a particular topic. The measure is normalized relative to highest (score of 100) and lowest (score of 0) search volume over time. If more than one search term is included, then the measures are normalized with respect to the highest and lowest search volumes for either measure.

In addition to being less costly, researchers can track changes using this measure on a weekly or monthly basis, allowing them to better capture the type of fluctuations characteristic of public attention (see Newig 2004 for more information). This Google Trends measure has been established as a valid measure of public attention to political campaigns (Swearingen and Ripberger, 2014; Ellis, Ripberger, and Swearingen, 2017), but needs to be conducted in other contexts as well.

We examine the criterion validity of the Google Trends search measure for public attention within the context of three United States Supreme Court (USSC) cases, *Van Orden v. Perry*, *McCreary County v. American Civil Liberties Union of Kentucky*, and *Gonzalez v. Raich*, all decided in 2005. We operationalize our public attention measure using Google Trends (see Ripberger, 2011 and Swearingen and Ripberger, 2014 for more on this), employ the variable in a model, and examine whether increasing levels of public attention to USSC decisions result in an increase in public awareness about those decisions. We find evidence that internet searches are a valid measure of public attention to USSC cases and that the public attention measure is a statistically significant predictor of the public's awareness of USSC cases.

Review of Literature
Public Attention and Information Costs

The focus or attention of the public has obvious links to discussions on political awareness and political knowledge. Researchers consistently find that the majority of United States citizens lack knowledge about political institutions, issues, and concepts (Campbell et al 1960; Bartels, 1996; Neumann, 1986; Biggers, 2012). Downs (1957) explains the lack of public participation by framing political activity and outcomes as public goods.   Under many conditions, a rational actor will not participate in politics because there is an extremely low probability that his or her individual efforts will affect the outcome of an election or a policy decision.   Thus, rational actors will often free-ride on the efforts of others.

Even when citizens do act, it is not necessarily rational for them to pay attention so as to become aware of and informed about political issues and events. Because information is costly to acquire, actors are expected to adopt a "low-information rationality" (Popkin, 1991), remaining inattentive and uninformed or poorly informed, even if relevant political information is available. Downs (1957) cites the unwillingness of many citizens to acquire political information, most preferring to use shortcuts or heuristics such as party affiliation to make political decisions.   Downs and others (see Popkin and Dimock, 1999; Popkin, 1991) have

defended the use of heuristics, but recent scholarship (Fiske and Tayler, 2008; Dancy and Sheagley, 2012) has pointed to the dangers of relying on them as low information can cause voters to take positions systematically against their interests (Singh and Roy, 2014; Fowler and Margolis, 2014; Richey, 2013).

Other authors (e.g. Schattschneider, 1935; Lowi, 1964; Skocpol, 1992; Campbell, 2010) argue conversely, that policy drives political awareness and engagement. As Campbell argues, "Policies themselves can be causal, shaping the political landscape and influencing the capacities, interests, and preferences of political actors and of the state itself" (2010, p. 334). Although many citizens cannot accurately answer a series of questions about names of officeholders or political institutions (how political knowledge is often assessed), they may become informed in response to political events (Scott and Saunders, 2006). In other words, in response to a political event, public attention may increase, prompting a greater awareness of the issue or policy.

In recent years, the cost of political information has dropped significantly because of the internet. Compared to a generation ago, most people have a much larger amount and variety of political information available to them. However, there is a debate between "techno-pessimists" and "techno-optimists" (Chung et al, 2013) on whether the availability of information alone is enough to increase public attention to political events. Prior (2007) argues that with the disaggregation of the news into various components on the internet, those with no interest in politics will not pay attention, instead consuming other types of information, thus increasing a gap between the less informed and the well-informed. Morris and Morris (2013), however, find that access to the internet increases political knowledge and engagement for those with lower SES, at least for high profile political events (they studied the 2012 election in the United States), ameliorating the existing socioeconomic (SES) gap in political knowledge and engagement.

Public Attention, Public Awareness, and the Courts

Two similar sounding terms are used in this paper so we clarify them and their relationship to each other here. We can think of public attention as the relative attention that people are paying to one issue as opposed to any other issue (Swearingen and Ripberger, 2014). Another key term in this paper is public awareness. We conceive of public awareness as the extent to which people are aware that an important political event has taken place, in this case a USSC decision. So when *Van Orden v. Perry*, the Ten Commandments case, was heard by the U.S. Supreme Court, we expect more people will Google the case more than other topics because they are paying more attention to it. However, after people stop paying attention and Google the case less frequently than before, we expect that the public's awareness of the case to remain heightened because they previously were paying attention to the case. Thus, the relationship between public attention and public awareness is that when levels of public attention to a political event increase, an increase in public awareness about that event will result.

Conventional wisdom about public attention holds that the United States citizenry is woefully uninformed about the USSC (Gibson and Caldiera, 2009). This lack of awareness and knowledge is often used to argue against the courts as being accountable to the public. If the

public has no basic knowledge about the USSC, then they cannot credibly exercise oversight. However, Gibson and Caldiera (2009) re-assess public awareness and knowledge of the USSC.

First, they examine many of the current measures used to assess public awareness or knowledge about the Court and find that many of them have no articulated justification for their use. Further, many of the questions are open-ended or involve recalling the names, for example, of USSC justices. Rejecting these types of questions as inappropriate to assess public knowledge about the USSC, the authors employ more appropriate and closed-ended questions to construct a survey. They then find that the public is much more informed about the USSC than conventional wisdom holds.

While the public may be more informed than originally thought, much of the focus of this literature has been on public reaction to USSC decisions rather than simply awareness. Gibson and Caldiera (2009) also find that those who are more knowledgeable about the USSC and its decisions consider it more legitimate than those with less knowledge. This finding is consistent with other authors that find that the USSC does generally enjoy public support and legitimacy (Dahl, 1957; Gibson, Caldeira and Spence, 2003) and may transfer its legitimacy onto its decisions (Mondak, 1992), inducing a positive response (Franklin and Kosaki, 1989) in the citizenry. Assessing awareness, Franklin, Kosaki, and Kritzer (1993) and Franklin and Kosaki (1995), find substantial evidence that the public is aware of USSC rulings, though less aware than than Presidential actions. Hoekstra (2003) finds that awareness of USSC decisions is more nuanced, in that the public is more aware of USSC decisions that originate locally. Scott and Saunders (2006) find evidence that public awareness of USSC decisions is higher after the USSC has announced its decision than before (for a discussion of Scott and Saunders' methodology see below. Also see table one for their variables and summary statistics).

Other scholarship on the effect of USSC decisions on the public centers around whether USSC decisions affect public opinion and if so, the direction of that effect. Franklin and Kosaki (1989) argue that the USSC has historically been viewed as a Republican schoolmaster, instilling virtues in the citizenry. They argue that this role works to the benefit of the USSC as well, since it needs public support for its decisions to be effective. However, Franklin, and Kosaki (1989) concluded that instead of gaining support for their decision in the controversial *Roe v. Wade* decision the USSC had a polarizing effect on public opinion. Conversely, Hoekstra (1995, 2003) finds that USSC decisions can affect public opinion positively, especially for those who regard the USSC highly. Hanley et al (2012) find that USSC decisions did positively influence public groups in the aftermath of the Roe v. Wade decision, particularly for those aware of the decision.

Ura (2014) has found that decisions made by the USSC result in a short term backlash, followed by a long term convergence with the USSC's opinion on the issue. Ura says, "at least some individuals are capable of [being aware of USSC decisions and] comparing the political content ... with their own policy preferences to render a judgment about the fitness and faithfulness of the Court as a governmental agent" (p. 112).

Internet Searches as a Measure of Public Attention

Political scientists are beginning to use internet searches as a measure of public attention. To measure the concept of public attention, Swearingen and Ripberger (2014) use Google Trends as an indicator examining the relative frequency with which the public searches for information on a political candidate as opposed to his or her opponent. They find, through a series of tests, that the measure has criterion validity as a measure of public attention to candidates. Finally, they find that this public attention measure is a statistically significant predictor of the winner of elections.

Until recently, public attention was primarily measured through "most important problem" or MIP polls or through media proxy measures. However, polls are expensive and so, especially on the state level, there are not enough polls conducted to inform us about levels and dynamics of public attention. Further, polls take time to construct and implement, meaning by the time citizens are polled their attention may have waned. There are issues related to timing, as well. For example, the poll may be taken in advance of an anticipated political event but not necessarily during or after the event. Also, some events cannot be anticipated in advance and so a comparison before the event cannot be planned for. Thus, we are often unable to observe the dynamics of public attention over time in relationship to political events. Finally, polls do not document behavior, only self-reports of behavior, which can lead to various biases such as social desirability. Scholars have also used media attention as a low-cost proxy for public attention (Ripberger, 2011). However, because of the conflation between two analytically distinct concepts, media attention and public attention, and because one may be causing the other (Soroka, 2002), alternative valid measures of public attention should at least be used to increase confidence in our current state of knowledge.

Like public opinion polls and media proxy measures, using individual internet searches as a measure of public attention has its advantages and drawbacks. Notably, although widely available, the internet is most used by the young, the more affluent, and the more educated. Also, Google does not release its algorithm nor does it reveal how it decides whether a search term has sufficient public attention to be measured (Ripberger, 2011). Further, the measure is comparative in nature and so the comparator is very important. In some ways, the relative attention of candidates in an election is an ideal way to use the measure because the comparison, usually of public attention given to the Republican candidate versus the Democrat is obvious. In spite of these shortcomings, however, there are enough advantages that we should further investigate this new measure. With literature credibly establishing the validity of using internet searches to forecast economic indicators, like automobile sales and unemployment claims (see Choi and Varian, 2012), to track disease outbreaks in real time (see Carneiro and Mylonakis, 2009), and to assess public attention to political candidates (Ripberger, 2011, and Swearingen and Ripberger, 2014), using the measure to study political issues and events is a logical next step, and represents a gap in the literature when looking at big data to assess public attention to policy matters. This paper contributes to the body of literature by demonstrating Google Trends is a valid measure of public attention to USSC cases.

Hypotheses

Criterion validity is the extent to which one measure estimates or predicts another measure (Eaves and Woods-Groves, 2007). If our Google Trends measure of public attention has criterion validity, then it should be highly correlated with the post-decision variable in Scott and Saunders' research given that public attention is highly responsive to elite actions (Newig, 2014; Ripberger, 2011).

Hypothesis 1: *The public attention measure and the pre/post variable are highly correlated.*

Next, our measure of public attention should be predictive of respondent awareness of USSC decisions. If the public is searching at higher rates for subject terms related to USSC decisions, then a higher volume of searches should, all else equal, result in greater public awareness of the decision.

Hypothesis 2: *As public attention to an issue addressed by the USSC increases, the likelihood of awareness of the USSC decision increases.*

It is important to note that hypothesis 2 needs to be interpreted in the aggregate. When the USSC makes a decision, the public responds by searching for information on the internet. As the volume of searches increases, public awareness of the decision increases.

Metbodology

To reiterate, we are replicating the model estimated by Scott and Saunders (2006) and using their polling data collected to assess awareness of three USSC decisions in 2005: *Van Orden v. Perry* (public display of the Ten Commandments), *Roper v. Simmons* (juvenile death penalty), and *Raich v. Gonzalez* (medical marijuana). We then compare our Google Trends variable of public attention to the cases with their lone case specific independent variable (a dichotomous measure of whether the interview was conducted before or after the decision) to see how much of that variable our public attention variable captures. This is the first part of the criterion validity test and our test of hypothesis one. Next, we include our variable in their model to assess its predictive value on public awareness of the case. This is the second part of the criterion validity test and our test of hypothesis two: assessing whether aggregate Google Trends produced measures of public attention can predict poll-administered responses concerning public awareness.

The first part of our method, then, is to summarize the main features of Scott and Saunders' (2006) approach. Their poll provides an excellent criterion testing opportunity for our measure of public attention because it measures public awareness of USSC decisions at various points in a ten-month time frame. Thus, their poll does not suffer from the timing issues that most polls do as we described above. They administered a four wave, repeated random digit dialing (RDD) cross-section survey with approximately 300 respondents in each wave. The waves were conducted before and after each decision was handed down by the USSC, which allows for the construction of a variable to test one of their key hypotheses: public awareness of a USSC decision will increase after the decision is announced. In addition, they added various attitudinal, behavioral, and demographic variables to estimate a probit model (see

issues that most polls do as we described above.   They administered a four wave, repeated random digit dialing (RDD) cross-section survey with approximately 300 respondents in each wave. The waves were conducted before and after each decision was handed down by the USSC, which allows for the construction of a variable to test one of their key hypotheses: public awareness of a USSC decision will increase after the decision is announced. In addition, they added various attitudinal, behavioral, and demographic variables to estimate a probit model (see table 1 for a full listing of variables and descriptive statistics).   The dependent variable was a dichotomous measure of whether or not the respondent was aware of a specific USSC case regarding the medical marijuana, the Ten Commandments, or the juvenile death penalty.

Operationalizing Public Attention Using Google Trends

One challenge we encountered is what terms to search for. Initially, we used the search terms "Ten Commandments court case," "medical marijuana court case," and "juvenile death penalty court case" for our respective cases; however, each of these terms had too little search volume to produce data. As a result, we dropped the words "court case" from the search terms. We did not search for the name of the court case as that is likely arcane knowledge for much of the public (this decision is consistent with findings from Gibson and Caldeira, 2009). When collecting data on the term "juvenile death penalty", however, there simply was not enough volume to collect weekly data about juvenile death penalty; we were only able to get monthly estimates of search volume for this case for our analysis. This fact alone tells us that public attention to the case is lower than the other two cases, which have enough search volume to produce weekly data.

Another challenge we encountered was what to compare our search terms against. Google Trends is a comparative measure. If we used our search term alone, it would only tell us about relative search volume of that one search over time. If we used the search terms for the three cases at once, then it could tell us whether one subject was being searched for more than another (see Reuning and Dietrich 2015), but it could not convey to what extent people are paying attention to each of the cases as opposed to other issues, events, or personalities that they could be paying attention to.

So we compared our search terms in each case to a top ten Google News search term of 2005 (the year in which the cases were decided) (Google, 2005). Public attention is, after all, a measure of aggregate attention paid to one issue as opposed to something else.   Thus, we are assessing how much attention people are paying to a given case topic versus a top search term for that year. For this study, we chose the search term that was constant throughout the year; all other search terms were too episodic to give a reliable comparison.

Our final challenge in constructing this variable was how to model our expectation of the retention of information. We expect that learning will be cumulative in nature; therefore, respondents who hear about a USSC case during the Court's ten-month research timeframe will probably remember it if someone polls them about it later.   To reflect this expectation, we accumulated the value of our Google Trends public attention variable from week to week. Our variable in the medical marijuana case ranges from 11 to 55, representing the summed value of

the Google trends score in that week and all previous weeks.   The scores for Ten Commandments case ranged from 40 to 203, and juvenile death penalty case from 57 to 238. By summing the Google Trends values (what we call "cumulative magnitude"), our variable in each USSC case constitutes public attention levels to the topics of the USSC cases during the week that the respondent was interviewed.   Interpretation, then, needs to be consistent with that level of analysis.   When cumulative internet searches on a topic relevant to a USSC case increase, then the likelihood of respondents being aware of that USSC case increases.

Results

The first component of the analysis is to compare the dichotomous independent variable that Scott and Saunders use (whether or not the interview was taken before or after the USSC decision was handed down) with our accumulated search measures.   Our aggregate Google Trends measure is highly correlated (0.95) with Scott and Saunders' poll-generated measure for each case, which supports our expectation that our measure should be highly correlated to have criterion validity.   We remove Scott and Saunders' pre-/post-decision measure entirely and include our public attention variable in the analysis to see how it predicts public awareness responses in the polls.

The figures for each original model (called "Scott and Saunders' Model" in all tables) and variable are listed in Tables 2, 3, and 4. Looking at the original figures we see that all three models were statistically significant at a p-value of 0.01, meaning there is a less than one percent chance of obtaining the same or higher Chi^2 values when none of the independent variables have an effect on the dependent variable. Across all three models, the Post-Decision, Days Watched News, and Days Read News variables are statistically significant predictors at a p-value of 0.01. We would expect that our Google Trends cumulative magnitude variable (substituted for Post-Decision), Days Watched News, and Days Read News to all be statistically significant with an overall statistically similar model in order for our Google Trends cumulative magnitude variable to be a valid measure of public awareness.

The figures for each of the Google Trends models (called "Google Trends Model" in all tables) are listed in Tables 2, 3, and 4. The medical marijuana and Ten Commandment models performed best overall and for our Google Trends variable. Consistent with our expectation, the variables Scott and Saunders' found to be statistically significant predictors of awareness are still statistically significant when our cumulative magnitude variable is substituted for their Post-Decision variable. Looking at the variables alone, the Google Trends cumulative magnitude variable performs just as well as the Post-Decision variable.

Due to the relatively low Google Trends values for the juvenile death penalty model, our cumulative magnitude variable was not statistically significant. This could be for several reasons; for example, it could be that the case itself was of little interest to the public vis-a-vis other topics of interest.   As a result, we only have monthly data estimates and our measures are not able to vary as often and so we may lose some of the predictive power of the variable. A second possible explanation is because people were searching on the death penalty rather than juvenile death penalty. In assessing the search term death penalty for 2005, we did see a spike in searches around the time of the juvenile death penalty case; however, we estimated a measure using the

search term "death penalty," inserted it into the Google Trends Model in place of "juvenile death penalty," and the variable was also not statistically significant.

Examining the models both visually and via a Likelihood-ratio Test, there is no statistically significant difference between them; additionally, the pre-/post-decision and Google Trends cumulative magnitude variables were highly correlated. This is an encouraging result in establishing criterion validity for our Google Trends public attention variable. The time and energy required to collect enough data for the pre-/post-decision is virtually eliminated when using the Google Trends cumulative magnitude variable while keeping the same statistical power of Scott and Saunders' original model.

Predicted Probabilities

To assess the impact of the two variables we examine the effect of a change in our independent variable of interest on the probability of the respondent being aware of the Ten Commandments case while holding the means of the other variables constant (see King, 2000).

First, we examine Scott and Saunders' Post-Decision variable, which is a dichotomous measure of whether the interview was conducted before or after the decision was handed down by the USSC. The change in predicted probability for the respondent being aware of the Ten Commandments case is 0.09 with probability of the value being one changing from 0.73[1] when the value of Post-Decision is zero to 0.82 when the value of Post-Decision is one. Because the measure Post-Decision variable is dichotomous, varying its value from 0 to 1 represents both a change from one standard deviation below the mean (M = 0.493, SE = 0.5) to one standard deviation above, and also a change from min to max values.

Next we repeated the procedure using our public attention measure. When varying our cumulative magnitude score from one standard deviation below the mean to one above, we see a the change in the probability of a respondent being aware of the Ten Commandments case increasing 0.06. When varying the measure from min to max, the change in probability is 0.085.

We repeat the same procedure for the medical marijuana case. With Scott and Saunders' variable, there is a change in predicted probability of 0.162. When varying the public attention variable from one standard deviation below the mean to one above, the change in predicted probability of the respondent being aware of the case changed 0.155. Varying the value of public attention from min to max resulted in a change in predicted probability of 0.21.

Finally, for the death penalty case, varying Scott and Saunders' Post-Decision variable from 0 to 1 changes the predicted probability of a respondent being aware of the case 0.524 (SE = 0.03), a difference of 0.128. Our own variable was not significant, for the reasons discussed above, and so we did not estimate the change in predicted probabilities.

Overall, the predicted probabilities are slightly lower using our public attention measure compared to using Scott and Saunders' poll-generated measure. These are encouraging results considering the low-cost, low-effort nature of gathering Google Trends data vis-à-vis conducting polls.

Conclusion

As a fundamental part of the policy process, understanding public attention and public awareness is crucial. To assess attention, the field has long relied upon polls or media proxy variables; however, few polls capture attention both before and after a political event, such as a USSC ruling. One potential method to assess public attention is through the help of Google Trends data. Available across a wide array of topics and able to filter by country, state, and city over the past ten years, Google Trends provides an easily accessible and cost effective tool to measure public attention.

In conducting our criterion validity test, we first examined the relationship of our variable of public with Scott and Saunders' measure of whether the interview was conducted before or after a given USSC decision. The two variables were correlated at 0.95; finding this, we re-estimated the model of public awareness, removing Scott and Saunders' variable and using our public attention variable. The two variables performed almost identically in predicting poll-generated estimates of awareness of USSC decisions. This leads to the question about what it is that is really being measured. Is it public attention or is it pre-post decision?

We know that public attention is responsive to elite-driven actions (Ripberger, 2011). Thus, it is reasonable to think of a pre-post-decision variable as capturing public attention or as a public attention variable as picking up the post-decision popular response to a USSC decision. Thus, the answer as to what we are measuring appears to be both.

One of the limitations of our measure is that it suffers when there is not enough search volume to detect weekly fluctuations. Additionally, our measure of public attention lacks the simplicity of Scott and Saunders' measure (dichotomous) to explain and understand. However, where our public attention measure succeeds where Scott and Saunders' measure does not is the lower expense of using Google Trends and ability to call up the data for a topic and time period of a researcher's choosing, both which traditional polling lacks.

In sum, this paper builds on the work that has been done testing the validity of internet searches as a measure of public attention, and further cements the impact big data can have in the discussion of politics, policies, and public attention. Most significantly, this research furthers the validity of internet searches as a measure of public attention beyond elections, as Swearingen and Ripberger (2014) and Ripberger (2011) have done. We show that creating a valid measure of public attention to political events is possible using Google Trends normalized measure of internet searches. We are also able to use the measure as a predictor of public awareness of USSC cases.

Table 1: Summary Statistics

Variable	M	SD	Min	Max
Political Knowledge	3.44	1.42	0	5
Post-Decision	0.49	0.50	0	1
USSC Feeling Thermometer	56.14	21.84	0	100
Days Read News	4.46	2.66	0	7
Days Watched News	4.58	2.48	0	7
Religious Attendance	2.07	1.86	0	5
Ideology	3.63	1.95	0	7
Partisanship	0.55	0.5	0	1
Education	3.04	0.91	0	4
Race (White)	0.85	0.36	0	1
Catholic	0.22	0.41	0	1
Evangelical	0.28	0.45	0	1
Medical Marijuana Cumulative Magnitude	31.81	15.97	11	55
Ten Commandments Cumulative Magnitude	110.92	57.07	40	203
Juvenile Death Penalty Cumulative Magnitude	143.20	61.61	57	238

Table 2: Public Attention to Medical Marijuana Case

	Scott and Saunders' Model	Google Trends Model
Variables	Beta (std. error)	Beta (std. error)
Post-Decision	0.2937** (0.0862)	N/A
Cumulative Magnitude	N/A	0.0018* (0.0008)
USSC Feeling Thermometer	0.0015 (0.002)	0.0014 (0.002)
Days Read News	0.0496** (0.017)	0.0501** (0.017)
Days Watched News	0.0514** (0.0176)	0.0487** (0.0172)
Religious Attendance	0.0877** (0.026)	0.0835** (0.0261)
Evangelical	-0.1148 (0.1095)	-0.1075 (0.1096)
Catholic	-0.2706* (0.1093)	-0.2494* (0.1094)
Ideology	-0.0288 (0.0241)	-0.0284 (0.0243)
Education	-0.0169 (0.0544)	-0.0179 (0.0545)
Gender	0.1926* (0.0898)	0.2004* (0.0902)
White	0.2188 (0.1185)	0.2157 (0.1192)
Political Knowledge	0.1710** (0.0344)	0.1722** (0.0345)
Constant	-0.7373** (0.2636)	-0.7801** (0.2727)
Number of Observations:	1145	1145
Log Likelihood:	-572.0180	-570.3731
Chi^2:	110.7300**	101.7700**
McFadden's pseudo R^2:	0.0882	0.0819

*p-value < 0.05   **p-value < 0.01

Table 3: Public Attention to Ten Commandments Case

	Scott and Saunders' Model	Google Trends Model
Variables	Beta (std. error)	Beta (std. error)
Post-Decision	0.4428** (0.0785)	N/A
Cumulative Magnitude	N/A	0.1303** (0.0025)
USSC Feeling Thermometer	-0.001 (0.0019)	-0.0009 (0.0019)
Days Read News	0.0494** (0.0157)	0.0497** (0.0158)
Days Watched News	0.0551** (0.0162)	0.0550** (0.1627)
Religious Attendance	-0.0321 (0.0235)	-0.0324 (0.0236)
Evangelical	-0.0043 (0.0993)	-0.0126 (0.0995)
Catholic	0.1151 (0.1028)	0.1121 (0.1033)
Ideology	0.0154 (0.0221)	0.0119 (0.0222)
Education	0.1104* (0.045)	0.1131* (0.0501)
Gender	-0.0190 (0.0824)	-0.0352 (0.0828)
White	-0.0197 (0.1147)	-0.0002 (0.1149)
Political Knowledge	0.0039 (0.0325)	0.0033 (0.0325)
Constant	-0.5868* (0.2437)	-0.7881** (0.2532)
Number of Observations:	1143	1143
Log Likelihood:	-705.8097	-701.0266
Chi^2:	77.4300**	73.7600**
McFadden's pseudo R^2:	0.0520	0.0500

*p-value < 0.05   **p-value < 0.01

Table 4: Public Attention to Juvenile Death Penalty Case

	Scott and Saunders' Model	Google Trends Model
Variables	Beta (std. error)	Beta (std. error)
Post-Decision	0.3262** (0.0880)	N/A
Cumulative Magnitude	N/A	-0.00002 (0.0006)
USSC Feeling Thermometer	-0.0009 (0.0018)	-0.0007 (0.0018)
Days Read News	0.0682** (0.0155)	0.0693** (0.0155)
Days Watched News	0.0516** (0.0159)	0.0551** (0.0158)
Religious Attendance	0.0104 (0.0228)	0.0058 (0.0230)
Evangelical	0.0570 (0.0964)	0.0495 (0.0966)
Catholic	-0.1877* (0.0990)	-0.1633 (0.0990)
Ideology	0.0046 (0.0213)	0.0112 (0.0213)
Education	-0.0499 (0.0486)	-0.0423 (0.0487)
Gender	0.0276 (0.0797)	-0.0116 (0.0798)
White	-0.1369 (0.1112)	-0.1531 (0.1115)
Political Knowledge	-0.0152 (0.0315)	-0.0137 (0.0315)
Constant	-0.4340 (0.2426)	-0.2601 (0.2501)
Number of Observations:	1148	1148
Log Likelihood:	-762.5252	-762.4172
Chi²:	59.2300**	46.8700**
McFadden's pseudo R²:	0.0374	0.0298

*p-value < 0.05   **p-value < 0.01

Table 5: Predicted Probabilities for Each Court Case

Post-Decision	0.09
Ten Commandments Public Attention	0.06
Post-Decision	0.162
Medical Marijuana Public Attention	0.155
Post-Decision	0.128
Juvenile Death Penalty Public Attention	-
*All probabilities have a standard error of 0.02, except Post-Decision in the Juvenile Death Penalty case which has a standard error of 0.03.	

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