

# Explaining Popular Trust in the Department of Homeland Security

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## ABSTRACT

Research reveals that levels of reported trust in government are at a relatively low level—among the lowest in the period studied. At the same time, reported approval for specific administrative agencies varies widely, with some agencies receiving little support and others a great deal. This raises an important question: what factors drive trust in specific agencies? This article investigates the question in relation to the Department of Homeland Security (DHS). We find that reported assessments of DHS are driven by political attitudes, policy salience, religiosity, and demographic characteristics, even when controlling for trust in government in general.

## INTRODUCTION

In a democratic society, it is essential that government maintain trust and approval from the public (e.g., [Dahl 1971](#); [Easton 1965](#); [Putnam 2001](#)). This is the case even for components of the government, like administrative agencies and the courts, that may not have direct electoral accountability. Questions of government approval, then, become important to research in public administration generally. This has led to a great deal of research into the factors related to trust in government, including a large literature on the impact of e-government on various evaluations of government.

While most of this literature has focused on factors related to government in general or specific branches of government, there is reason to believe that there are

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many differences between the evaluations of different specific administrative agencies. Polls conducted by the Pew Foundation have periodically asked respondents for assessments of specific administrative agencies (in addition to more traditional questions related to government in general, the president, Congress, etc.) including a recent iteration ([Pew Research Center 2010](#)). This survey revealed considerable variation in assessments of specific agencies. The Internal Revenue Service routinely comes in with low ratings of general approval. The Department of Education fell to become the lowest rated agency in this most recent survey. In all, this makes clear that respondents differentiated their assessments of specific agencies. Given this variability, we are interested in agency-specific models of trust and approval.

This article builds a model of approval for the Department of Homeland Security (DHS). In addition to the factors commonly accepted as important to trust in government in general, we propose some additional demographic variables that may explain trust in DHS and assess the impact of the salience of terrorism on trust in DHS. Understanding public approval of DHS is particularly important for organizations that operate under the constant threat where one mistake could have enormous consequences ([La Porte and Metlay 1996](#)). The findings here provide some insight into the extent to which respondents differentiate their assessments of agencies and the factors that play a substantively important, but historically neglected, role in explaining these trust assessments.

## **TRUST OF GOVERNMENT**

In recent decades, many argue there has been an overall trend of decreasing public trust in government and political institutions in the United States. This decline of trust has also been found in many advanced democracies ([Dalton 2004](#); [Dalton and Wattenberg 2000](#)), in some newly emerged democracies ([Catterberg and Moreno 2006](#)), and in various developing countries ([Cheema 2005](#)). In the United States, various studies of public opinion demonstrate that the long-term falling trend in the level of Americans' trust in government began in the mid- to late 1960s ([Alford 2001](#); [Bok 1997](#); [Hetherington 2005](#); [Jennings 1998](#)). However, polls suggest that, while the general trend is clearly downward, trust levels did rise following the terrorist attacks on September 11, 2001 ([Jones 2006](#)).

Many scholars in political science, sociology, and public opinion studies have examined different sources of public trust (e.g., [Blendon et al. 1997](#); [Caldeira and Gibson 1992](#); [Chanley 2002](#); [Chanley et al. 2000](#); [Craig 1993](#); [Erber and Lau 1990](#); [Feldman 1983](#); [Garment 1991](#); [Gibson et al. 2003](#); [Miller and Borrelli 1991](#); [Orren 1997](#); [Stoutenborough and Haider-Markel 2008](#); [Williams 1985](#)), various consequences of distrust ([Hetherington 1998, 1999, 2005](#)), and major benefits of a high level of trust among citizens for a democratic society ([Dahl 1971](#); [Easton 1965, 1975](#); [Keele 2007](#); [Putnam 1993, 2001](#)), public policy and public administration ([Hetherington 2005](#)), and even compliance with laws ([Levi 1997](#); [Scholz and Lubell 1998](#); [Scholz and Pinney 1995](#); [Tyler 1990](#); [Tyler and Degoey 1995](#)). These studies have greatly contributed to our understanding of citizens' trust/distrust in government. However, there are two key gaps in extant research.

First, there has been little attention to trust in specific administrative agencies. Regardless of the precise wording of the questions asked in various public surveys, most studies have focused on citizens' holistic/general evaluation of the entire political system or specific governmental branches. There is no doubt that macro-level holistic models of public trust are useful, particularly in examining the overall trend of public evaluation of a political regime (Bok 1997; Hetherington 2005), or in comparing citizens' assessments of the overall performance across different governmental levels (e.g., federal, state, and local governments; see Jennings 1998) or across different governmental branches (Jones 2006). However, the findings from this type of research provide few insights about the relationship between public citizens' trust and specific administrative agencies. Given the observed variation in approval for specific agencies, this is an important limitation of existing research.

Conceptually, citizens' generalized trust in government or governmental branches and citizens' trust in specific administrative agency are distinct notions of trust. A generalized low level of public trust in the entirety of the political system or federal government does not necessarily mean low trust or low confidence in all governmental branches. For instance, public opinion polls have consistently found that Americans express greater trust in the judicial branch than in the executive and legislative branches (e.g., Jones 2006; Lipset and Schneider 1983; Stoutenborough and Haider-Markel 2008). Likewise, a low level of the overall trust in the executive branch does not necessarily mean low public trust in all administrative agencies (Pew Research Center 1998, 2010). In reality, citizens understand that there are multiple components of the federal government, and these components perform different functions and touch their lives in different ways. Depending on one's specific situation and personal characteristics as well as the particular function, conduct, and performance of the respective components, individual citizens often find themselves with varying assessments of different components of the federal government.

In a recent study of the e-government–citizen trust relationship, Morgenson, VanAmburg, and Mithas (2011) highlighted the importance of differentiating between system- or branch-based general trust and citizens' particular trust in specific agencies. They measured specific trust in 55 distinct federal agencies or departments. However, as all the data of the specific trust in these agencies/departments were used in a pooled fashion, their study did not provide information on what factors influence individual citizens' trust in specific agencies.

The second gap in extant literature is that most studies focus on organizational/institutional determinants of public trust in government. This approach emphasizes that the performance and conduct of the institution/organization are the fundamental determinants of citizens' trust/distrust (Keele 2007). For instance, Jennings (1998) found that citizens' trust is positively associated with three institutional/organizational characteristics: government performance, citizen-government linkage (e.g., accessibility and transparency), and integrity of governmental officials. Other studies show similar findings that citizens tend to have higher trust/confidence when the government manages the economy well (e.g., Chanley et al. 2000; Citrin and Green 1986; Citrin and Luks 2001; Feldman 1983; Hetherington 1998; Keele 2007; Lawrence 1997; Miller and Borrelli 1991; Miller 1991; Williams 1985), controls crime (e.g., Chanley

et al. 2000; Mansbridge 1997; Pew Research Center 1998), and/or avoids scandal and displays high levels of honesty and integrity (e.g., Black and Black 1994; Blendon et al. 1997; Chanley et al. 2000; Garment 1991; Keele 2007; Lipset and Schneider 1983; Orren 1997).

The recent studies of e-government demonstrate that stronger citizen-government linkages (accessibility, transparency, and interactivity) provided by various forms and aspects of e-government also have positive effects on public trust and confidence (Morgeson et al. 2011; Tolbert and Mossberger 2006; Welch et al. 2005). In the end, Keele (2007, 242) is correct to note that the general trust in government literature's "findings are easily summarized by saying that trust is a reflection of government performance." Unfortunately, it is unclear to what extent this will help us to understand trust in specific agencies.

While extant research emphasizes the causes of trust from an institutional performance perspective, most studies tend to overlook the potential individual-specific influence of citizens' trust. One critical question starting to get more attention in the extensive literature of trust is whether individual trust levels and variations in these levels are linked to individual characteristics. This research is starting to show that citizens' ideological orientation (Rudolph and Evans 2005; Rudolph 2009) and party identifications (Gershtenson et al. 2006; Fiorina and Abrams 2008; Bafumi and Shapiro 2009) affect their trust in government.

Other personal dimensions that researchers see growing in importance include the religiosity of citizens. Recent research is finding that fundamentalist religiosity is associated with many political attitudes and policy choices (Berkman and Plutzer 2009; Bolzendahl and Brooks 2005; Brooks 2002; Campbell and Monson 2008; Houston et al. 2008; Sherkat 2011; Stokes and Ellison 2010). In addition, citizens' attention to national security issues (Baumgartner et al. 2008; Froese and Mencken 2009) and citizens with stronger connectedness to other social elements (Putnam 2001) are evidencing higher trust than those who are not as concerned or who are not closely connected to other people.

In what follows, we expand the discussion about the roots of public trust in government by conducting an agency-specific analysis emphasizing various individual-level sources of trust. More specifically, our objective is to examine individual bases of public trust in one specific administrative agency, the DHS.

## **THEORETICAL MODEL OF TRUST OF ADMINISTRATIVE AGENCIES**

Given the diverse literature focused on trust in government, it is difficult to build a single model to unite all of the disparate explanatory components. We will start building a model by looking at the types of variables that previous studies have included.

Previous models of trust in government have focused on generalized trust in government. The typical survey questions ask how often respondents trust "government in Washington DC" (e.g., Tolbert and Mossberger 2006) or a pooled series of assessments of a wide variety of agencies (e.g., Morgeson et al. 2011). Based on the general nature of these pools and question wording strategies, it is not unexpected that explanatory variables generally consist of demographic variables. These assessments are fixed for

each individual and may affect their general disposition towards trusting government agencies. However, these correlations have been inconsistent from analysis to analysis (Levi and Stoker 2000). Previous research has illustrated the impact of gender (e.g., Brewer and Sigelman 2002; Cook and Gronke 2005; Hetherington 1998; Keele 2005), age (e.g., Hetherington 1998; Keele 2005; Welch et al. 2005), race (e.g., Brewer and Sigelman 2002; Hetherington 1998; Keele 2005; Tolbert and Mossberger 2006), education (e.g., Brewer and Sigelman 2002; Cook and Gronke 2005; Hetherington 1998), and income (e.g., Hetherington 1998). As noted above, religiosity has been found to have an important influence on views of trust. In addition, previous research indicates that individuals with nonadult children tend to worry more than individuals without nonadult children (e.g., McLanahan and Adams 1989), which may influence one's trust in an institution that specializes in protection of the country. General demographic variables are included in just about every study, though the exact demographic components vary from model to model. These basic components suggest that trust is a product of demographic variables ( $\Lambda$ ).

$$\text{Trust} = f(\text{gender, age, race, income, no. of children, education, religiosity}) = f(\Lambda)$$

Two other variables, party identification and political ideology, have also been of central importance to studies of generalized trust in government (e.g., Brewer and Sigelman 2002; Keele 2005).<sup>1</sup> It seems obvious that one's trust in government (in a general sense or as specifically applied to a single organization) would be affected by one's political dispositions. In addition, Huddy and Feldman (2011) find that those who are more conservative and Republicans are more likely to support national security policies that address the threat of terrorism, suggesting that these characteristics ought to be important for evaluations of DHS. This calls for a second component for the trust model: party identification and political ideology ( $\Gamma$ ).

$$\text{Trust} = f(\Lambda + \text{Political Ideology, Party Identification}) = f(\Lambda + \Gamma)$$

Given that our interests are in the specific evaluations of DHS, we will also investigate whether respondents' attention to terrorism as a public policy problem affects their expected levels of trust in DHS ( $\Phi$ ). It may be that people who report systematically higher levels of attention to terrorism have different assessments of DHS. The attentive audiences are likely to know more about DHS activities and assessments of their activities. Those who perceive that the nation is at threat are more likely to support national security policy (Huddy and Feldman 2011). Indeed, Huddy and Feldman (2011, 455) conclude that "support for a strong government response to terrorism is most likely when members of a population perceive a high risk of future terrorism." These are also likely the people most knowledgeable about the policy area. Because DHS is the agency

1 The trust literature has often chosen to focus on one of these measures at the expense of the other (e.g., Tolbert and Mossberger 2006). These are two theoretically different indicators of an individual's attitudes and beliefs that are not collinear, and are commonly found in public opinion research. While the two are often related, Goren (2005) illustrates that the two are distinct and that party identification is more stable than ideology. Therefore, it is important to account for the differences between these measures by modeling them.

directly responsible for this governmental response, an individual's attention to terrorism ought to directly influence their trust in DHS. With this additional knowledge and the predispositions that made these audiences pay more attention to issues related to terrorism in the first place, one might expect their trust assessments to be different than respondents who reported lower levels of attention to terrorism.

$$\text{Trust} = f(\Lambda + \Gamma + \text{Attention to Terrorism}) = f(\Lambda + \Gamma + \Phi)$$

### **Key Hypotheses**

We will focus on a few key hypotheses. While controlling for key demographic variables, we will focus on the role of religiosity, political ideology, party identification, and attention to terrorism. We have elected to spotlight these variables because they have not been looked at together in explaining agency-specific trust issues. The previous discussion leads to the following hypotheses:

Hypothesis 1: Religious individuals will have higher levels of trust in DHS.

Hypothesis 2: Conservative individuals will have greater level of trust in DHS.

Hypothesis 3: Republicans will have greater levels of trust in DHS.

Hypothesis 4: The greater an individual's attention to terrorism, the greater the level of trust in DHS.

It is also possible that some individuals are generally more trusting than others. Accordingly, some individuals will be more predisposed to trusting government,<sup>2</sup> regardless of the specific institution (Caldeira and Gibson 1992; Stoutenborough and Haider-Markel 2008). The role of generalized trust in government is a more complex addition to some of the models. When asked to assess DHS, it is possible that general political trust drives respondent assessments. It may be that factors related to general political trust dominate the model of trust in DHS. To eliminate this possibility, we include a measure of general political trust to control for its direct effect on the specific assessments of DHS. We expect the effects of the previously discussed components (religiosity, general political attitudes, and policy salience) to remain even after controlling for the direct effect of generalized political trust. This leads to our final hypothesis.

Hypothesis 5: The greater an individual's general political trust, the greater the level of trust in DHS.

### **DATA AND METHODS**

Testing these hypotheses requires data from respondents across a broad range of demographic characteristics and use of complex statistical analysis to investigate

<sup>2</sup> One could also contrast generalized social trust with trust in government. We leave the contrast to future research and focus on political trust here given our inclusion of political ideology and partisanship in a model of trust in of a specific political institution.

nanced patterns within the data. This section details our survey-based data strategy, measurement approach, and data analysis strategy.

### **Survey Sample and Protocol**

The analysis uses the results of a national public opinion survey focused on issues related to terrorism and homeland security conducted from August through September 2009.<sup>3</sup> The telephone survey averaged about 35 minutes, and 924 interviews were completed.<sup>4</sup> All of the results reported below were calculated in STATA version 12 (Statacorp 2011).

### **Measurement**

A key issue is how one can measure trust. Psychometric research into trust has suggested that direct questions of trust engage two components: social value similarity and competence (Cvetkovich and Nakayachi 2007; Nakayachi and Cvetkovich 2010). While these two components are important, competence appears most appropriate when examining DHS. This is particularly true considering competence is crucially related to job performance—an incompetent DHS results in greater terrorist attacks, which will inevitably influence trust. In addition, a social value similarity approach may be inappropriate because the focus of DHS is on safety. This can result in a decrease in civil liberties, which is a trade-off the public appears willing to accept (Huddy and Feldman 2011). As such, congruence between social values and DHS actions may not be an appropriate indicator of trust for DHS. Therefore, we use the competence component of trust to test our propositions because it is the most clearly associated with agency performance.<sup>5</sup> The specific question wording is presented in Appendix B.

3 This public opinion survey was designed by the Institute for Science, Technology and Public Policy in collaboration with other scholars at Texas A&M University. It was implemented by the Public Policy Research Institute at Texas A&M University through Internet Computer-Assisted Telephone Interviewing System. Respondents were selected through a random-digit sampling of all telephone households in the United States. The telephone interviews and data collections started on August 6 and ended on September 21, 2009. The sample was provided by Survey Sampling International.

4 Following American Association for Public Opinion Research conventions and algorithms, the response rate was 5.4%, the cooperation rate was 16.8%, and the completion rate was 78.4%. The declining trend of response rates in recent polls has been carefully examined by survey scientists. Contrary to the conventional presumption that a lower response rate leads to poorer survey quality, recent empirical studies indicate there are little statistical differences between survey results with high response rate and low response rate. In a comprehensive study using data drawn from exit polls, Merkle and Edelman (2002) nonresponse found no relationship between response rate and survey accuracy. Keeter et al. (2006) found that results from surveys with lower responses rate were generally statistically indistinguishable from those with much higher response rates. In another study comparing 81 national surveys with response rates varying from 5% to 54%, Holbrook et al. (2007) found that random digit dialing telephone surveys with low response rates “do not notably reduce the quality of survey demographic estimates.”

5 We leave investigation into the relationship between social value similarity and trust in administrative agencies to future research in other, more appropriate, contexts.

The competence question measures responses along an 11-point scale. This number of categories and the skew present in the distribution make the data difficult to analyze. This large range is particularly troublesome given that there were relatively few respondents that identified their evaluation of DHS competence in the lower regions of the scale. This creates estimation concerns because there are few observations for many of the different subcategories, or bins. For instance, fewer than ten respondents reported a “1” on the 0–10 scale, which means that there were no observations for variables like income or education where there were many possible categories for a respondent. Too many empty bins create estimation concerns. Accordingly, we have rescaled the variable for analysis by collapsing the original scale from 0 to 4, as well as collapsing 5 with 6 and 9 with 10. Collapsing the data in this manner removes the concerns of having too many sparsely populated bins, and corrects for the skew without losing the intent of the respondents. Clearly, those indicating that their view of DHS competence was between 0 and 4 have little belief in competence, while those in the 5–6 range have a moderate view of competence. The two most common responses were 7 and 8, so we decided to leave them alone, while the two highest, 9 and 10, clearly indicate the belief that the respondent believed that the DHS was quite competent. This creates a five-point scale, 0–4, with an average of 2.69, and a standard deviation of 1.02. We believe this approach to rescaling the data corrects for empty bins and reflects the intent of the respondents.

The remainder of the measures are relatively straightforward.<sup>6</sup> The descriptive statistics for all variables are presented in [Table 1](#).<sup>7</sup>

### **Generalized Ordered Logit Models**

The five-point scale as a dependent variable presents some challenges for traditional regression analysis. Simple ordinary least squares regression would impose an assumption on the dependent variable that the categories were equally spaced and that fractional responses were possible. This was clearly not the case. We have instead opted to use ordered logit regression to account for the ordered but not continuous nature of the dependent variable ([McKelvey and Zavoina 1975](#)).

This model does require a parallel regression assumption ([Long 1997](#)). This assumption holds that the impact of any variable is constant across the entire range

6 For more information on the approach to measuring the independent variables, Appendix B includes coding and survey measurement information from the survey. Because of concerns about empty bins, we rescaled the attention variable by combining similar responses. Unlike the competence measure, there was not a large skew in this response; thus, not necessitating a more nuanced rescaling. We have adopted a simple measure of religiosity (attendance at a religious service within the last week) as a starting point given the dearth of existing studies to guide more specific hypotheses and measurement strategies.

7 There were significant missing values, particularly in the income variable. The typical solution, listwise deletion, can lead to biased results ([King et al. 2001](#); [Rubin 1987](#)). To avoid these biases, we have employed multiple imputation to generate predicted values for missing data points of independent variables resulting in five simulated datasets. [Table 2](#) reports the results based on these imputed data sets. We replicated the analysis without imputation to ensure that there were not remarkable differences. The differences between the imputed and nonimputed results were driven in all cases by the reduced sample size of the nonimputed data set, particularly when including the Income variable. This was clear because the differences were driven by the standard errors in proportion to missing observations.



**Table 1**  
Descriptive Statistics

Variable	$\bar{x}$	SD	Minimum	Maximum	No. missing
Competence	2.69	1.02	0	4	30
HS Policy Salience	2.9	1.06	0	4	4
Party(R)	0.291	0.454	0	1	52
Party(I)	0.405	0.491	0	1	52
Education	15	2.14	11	18	6
Religiosity	0.452	0.48	0	1	14
Conservative	0.378	0.485	0	1	44
Moderate	0.459	0.497	0	1	44
Gen. Gov't Trust	1.16	0.87	0	3	13
Age	55.2	15.3	19	93	27
Income	61	31.5	5	100	228
No. of Kids	0.542	1.03	0	9	8
Gender	0.52	0.5	0	1	0
Black	0.876	0.329	0	1	27

(N = 924).

Missing values imputed (except for Competence) for each analysis.

of the dependent variable. For example, the ordered logit model assumes that the impact of being a moderate is the same in differentiating 0 from higher levels of competence as it does from the maximum and lower values of trust. Whether this assumption holds is testable with a Brant test. We will report these tests as well as relax the assumption using generalized ordered logit (GOLOGIT) in situations where variables fail the Brant test (Williams 2006).<sup>8</sup> The GOLOGIT model operates in a manner similar to a local (loess) regression model wherein the impact of an explanatory variable may vary across the range of the dependent variable. In the case of GOLOGIT, the dependent variable is only observed indiscrete levels rather than continuously, thus making a local (loess) estimator inappropriate.

## RESULTS

The results from the various regression models are quite complex. The next section discusses the direct interpretation of the coefficients, hypothesis tests, and model fit. The subsequent section will present the substantive interpretation of effect sizes for key variables.

<sup>8</sup> One alternative to modeling a GOLOGIT is to recode data in a manner that would alleviate concerns from the parallel regression assumption. In models that are not presented here but that are available upon request, party identification and political ideology were coded as an ordered range. Because the Brant test identified both as violating the parallel regression assumption, we disaggregated both single measures into two dichotomous measures for each. Recoding the party identification variable into two dummy variables, there was still a violation of the Brant test for these variables. Because conservatives and Republicans are typically more likely to support efforts to confront terrorism (e.g., Huddy and Feldman 2011), we felt it was appropriate to respect the idea that the closer an individual is to these perspectives, the more likely they would be to have higher competence in DHS. Therefore, party identification is divided into Republican and Independent, while ideology is divided into conservative and moderate. This approach allowed for a more natural interpretation of an anticipated direct effect.

**Table 2**  
Regression Results

Variable	OLOGIT 1	OLOGIT 2	GOLOGIT
Religiosity	0.238 (1.92)	0.251 (2.01)	0.623 (2.90)
Party(R)	-0.197 (-1.03)	0.1747 (0.858)	0.155 (0.760)
Party(I)	-0.504 (-3.21)	-0.237 (-1.44)	-0.238 (-1.45)
Conservative	0.040 (0.182)	0.448 (1.93)	1.28 (3.70)
Moderate	0.235 (1.23)	0.356 (1.86)	0.836 (3.02)
HS Policy Salience	0.318 (5.23)	0.363 (5.85)	0.355 (5.73)
Gen. Gov't Trust	—	0.544 (5.66)	0.854 (5.66)
	89.59	122.6	140.8
McFadden's $R^2$	0.0315	0.0431	0.0528
Count $R^2$	0.295	0.313	unavailable

Missing values are imputed ( $m = 5$ ) for  $n = 894$ .  
 $z$ -statistics in parentheses (with Rubin's correction for imputation).  
 Controls included for: gender, age, education, no. of children, and income.

## Regression Results

Table 2 presents the coefficient estimates and model fit diagnostics for our three models.<sup>9</sup> The first model (OLOGIT 1) presents the initial test of hypotheses one through four. This model most closely resembles the specification strategy common in previous research into political trust. Hypothesis one does not find strong support in this initial model. The effect of religiosity is positive but does not meet the traditional standard of a  $z$ -score of 1.96 (corresponding to a  $p$ -value of .05). The only significant political attitude variable (partially supporting hypothesis three) is self-identified partisan independence. Independents have significantly lower assessments of the competence of DHS than Democratic Party identifiers. Interestingly, this variable is significant while Republican Party identifiers are not significantly different than the baseline category (Democratic Party identifiers). The strongest support comes for hypothesis four. Reported attention to homeland security is a strong predictor of competence assessments, where increased attention significantly increases expected assessment levels. These results provide a simple test, though not unlike many models of political trust, establishing the importance of including policy domain specific variables—particularly, attention to the policy areas—in models of assessments of a specific agency.

The overall model fit is difficult to assess with a categorical dependent variable. McFadden's  $R^2$  is commonly reported, but there are no clear guidelines as to what constitutes an acceptable model fit with this statistic. Here the value of approximately 0.03 represents a ratio of the unconstrained and the modeled likelihood ratios. This value tends to fall as the sample size increases, making comparisons to other models with different numbers of observations difficult. The count  $R^2$  has a more natural

<sup>9</sup> Table 2 only presents the results related to our core variables. The results for the control variables (listed at the bottom of the table) are presented in Appendix A.

interpretation. For each observation, the level of trust with the highest predicted probability from the model is compared to the observed value. The count  $R^2$  represents the percentage of correct predictions. The basic model correctly predicts the observed value 29.5% of the time. This compares favorably to the baseline model (including only a constant term) that predicts the correct outcome only 24% of the time (constituting an improvement of 23%).

It is possible that these results are driven by general trust assessments, with assessments of DHS being epiphenomenal. This would not explain the widely varied assessments of agencies reported elsewhere, but it is possible that differences in agencies are not systematically related to the factors outlined in hypotheses one through four. To test this possibility, we estimated a model that included generalized trust as an explanatory variable. As predicted in hypothesis five, generalized trust is a significant predictor of specific assessments of DHS. This is not surprising. What may be surprising is the persistence of other effects in the presence of the generalized trust control variable. Religiosity becomes significant, providing evidence for hypothesis one. Respondents who reported that they had attended a religious service in the last week have higher expected levels of reported competence of DHS. Reported attention to homeland security is still strongly significant as well. This is not surprising given the domain specific nature of this variable. The measure of generalized trust is an index of trust assessments of political institutions (Congress and the president) with strong partisan identification. Predictably, the partisan identification variables no longer have a significant direct effect. However, the filtering of the partisanship effect through generalized political trust has increased the significance of the ideology measures (of self-identified conservative and moderate ideology), though not quite to traditional levels. The OLOGIT 2 model offers evidence in support of hypotheses one, three (partially), four, and five.

The fit of the second ordered logit model is better with an improved McFadden's  $R^2$  and an improved count  $R^2$ . The magnitude of the improvement for McFadden's  $R^2$  is difficult to interpret directly, though there is an improvement. The count  $R^2$  has the directly interpretable meaning of correctly predicting 31.3% of the cases. This represents an improvement of 30% over the baseline model.

Brant tests following the OLOGIT 2 model revealed significant violations of the parallel regression assumption. For several variables (religiosity, moderate ideology, conservative ideology, and generalized political trust), the effect of the variable was significantly different at different levels of the dependent variable. This compels us to re-estimate the model with GOLOGIT to allow these variables to have different coefficients across levels of the dependent variable. Each of the variables that failed the Brant test were allowed to have varying coefficients. The GOLOGIT model results are reported, in part, in the third column of [Table 2](#). It is important to note that for the variables for which we allowed varying coefficients (religiosity, moderate ideology, conservative ideology, and generalized political trust), the coefficient reported on [Table 2](#) only represents the effect at the lowest level of the dependent variable (separating the lowest level from higher levels).

The baseline coefficient now only represents the effect at the lowest levels of the dependent variable (between competence ratings of 0 and 1). At these lowest levels

**Table 3**  
GOLOGIT Gamma Values

Variables	Religiosity	Moderate	Conservative	Trust
$\gamma(2)$	-0.741 (-2.35)	-0.500 (-2.18)	-0.887 (-3.14)	-0.492 (-3.10)
$\gamma(3)$	-0.392 (-1.80)	-0.492 (-1.84)	-0.889 (-2.73)	-0.361 (-2.31)
$\gamma(4)$	-0.407 (-1.64)	-0.741 (-2.35)	-1.18 (-3.06)	-0.279 (-1.619)

*z*-statistics in parentheses (with Rubin's correction for imputation).

of reported competence assessment, religiosity, conservative ideology, and moderate ideology all have a significant positive effect on expected competence assessments. The Brant test suggests that the effects of the variables may change at higher levels of competence assessment. Table 3 provides the  $\gamma$  values describing how these estimated coefficients change as one considers higher values of the dependent variable. In each case (though only marginally significant in the case of religiosity), the coefficient of the variables is smaller at higher levels of the dependent variable. In all of these cases, we see a *prophylactic effect*. Increases in each factor reduce the probability of observing the lowest level of competency assessment.

However, this effect is largely muted at higher levels of reported trust. As an example, the  $\gamma_2$  for religiosity means that the net effect of religiosity on distinguishing the probability of observing the two lowest levels of competence from the higher levels is .623–.741. The result is not statistically distinguishable from zero. What distinguishes this prophylactic effect from a traditional effect is that for each variable, the improvement in reported competence is only operating at preventing the lowest levels. There is not nearly as strong a result in promoting the highest levels (from the next lower level).

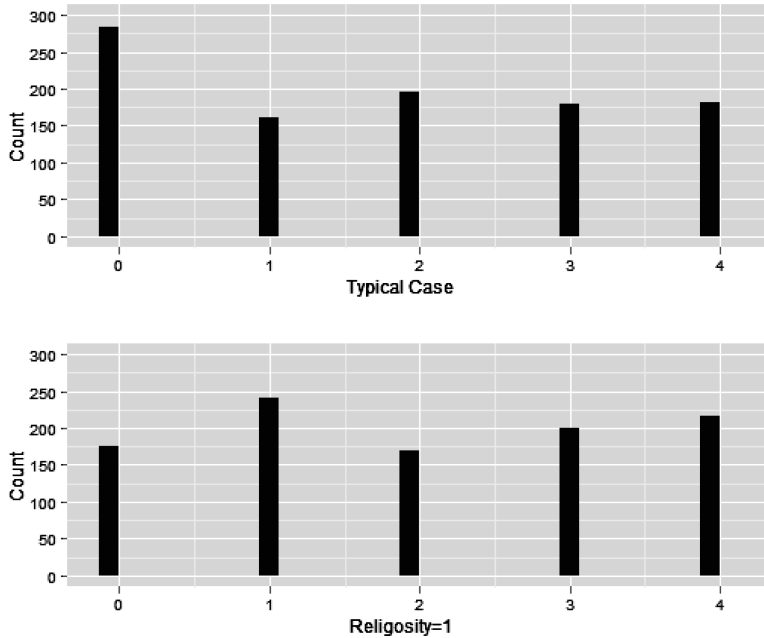
The effect of homeland security policy salience passes the Brant test and has an effect (and significance) similar to what we found in the previous models. Here again hypothesis two finds strong evidence along with the persistence of the effect of policy salience included as part of hypothesis five. In this fully specified model, four of the five hypotheses (again excepting the partisan identification measures that are so closely related to the measure of generalized political trust) receive support.

The fit of the GOLOGIT model is better with an improved McFadden's  $R^2$ . The improvement is not as dramatic as between the two ordered logit models but noticeable. The McFadden's  $R^2$  is still modest, suggesting that there is a great deal of unexplained variation in the assessed competence of the DHS. This is not uncommon in public opinion research but does suggest that more can be done to provide a more comprehensive model of trust in administrative agencies. In this case, we cannot calculate the count  $R^2$  because the GOLOGIT algorithm is inconsistent with the postestimation algorithm to assess count  $R^2$ .

### Simulation Results

While the direction and statistical significance allowed us to test our hypotheses, the data provide more information about the substantive impact of the key variables. While in a linear regression model the coefficient has a direct and simple interpretation, this is not the case in nonlinear models like ordered logit and GOLOGIT.

**Figure 1**  
Simulated Distribution of Competency for Typical Case and Religiosity



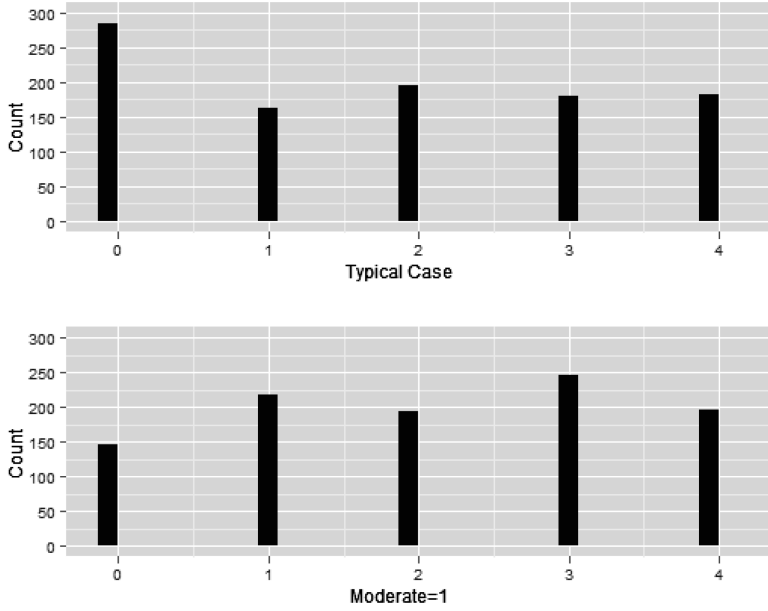
Instead, we provide illustrations of the expected distribution of competency assessments for key illustrative cases based on the results of the GOLOGIT model.<sup>10</sup>

Figure 1 compares the typical case to one where the respondent reports attending religious services in the last week. The expected value (mean) changes from 1.8 to 2.0. The figure illustrates that the changes are not as simple as a constant change across the values of the dependent variable. Instead, the changes are concentrated in the lower parts of the distribution with a remarkable change in the probability of the lowest level of competence (0). This figure illustrates the prophylactic effect discussed in interpreting the coefficients of the regression model.

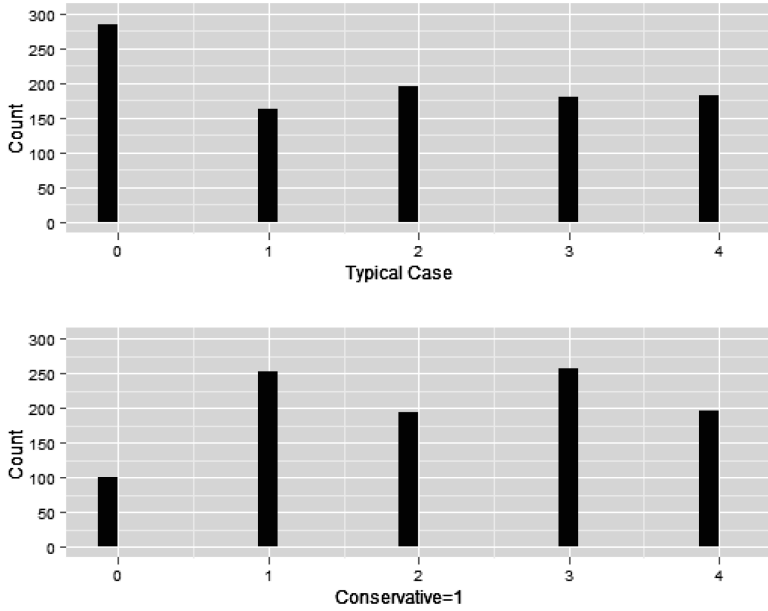
Figures 2 and 3 similarly illustrate the impact of the moderate and conservative ideology, respectively. Moderates have an expected value of 2.1 compared to the typical case of 1.8. Similarly, conservative respondents have an expected value of 2.2.

<sup>10</sup> We used pvalue to generated predicted probabilities for each possible value of competence given the median value of each variable, with the exception that the ideology baseline is “liberal” to allow for greater contrast of “moderates” and “conservatives.” This is the “typical” case. For dichotomous variables, we compare the “typical” case to the predicted values for a case with all variables at their median except for the variable named below the figure. For variables with more than two values, we illustrate the predicted probabilities for each value of the key variable with all other variables at their median values. We then use the predicted probability to determine the expected distribution of 1000 responses for each set of characteristics, choosing 1000 to avoid rounding errors. The expected distributions provide a clear visualization of the changes in the expected responses as we change each variable in turn. The visualizations are based on ggplot2 in R (Wickham 2009).

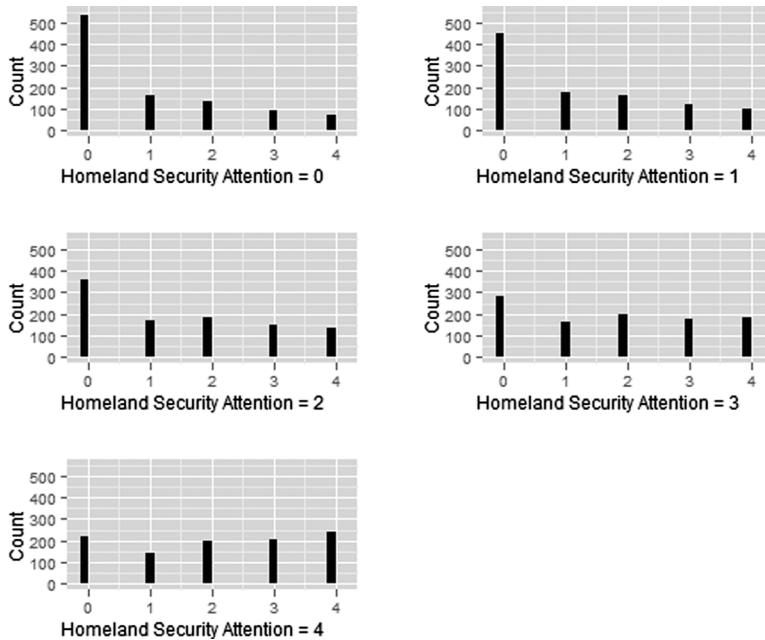
**Figure 2**  
Simulated Distribution of Competency for Typical Case and Moderate Ideology



**Figure 3**  
Simulated Distribution of Competency for Typical Case and Conservative Ideology



**Figure 4**  
 Simulated Distribution of Competency for Different Levels of Attention to Homeland Security



It is interesting that self-identified moderates and conservatives have larger competence assessments than the omitted category (liberals) in an era when a democratic president is in the White House. Future research should investigate whether this relationship holds up with regards to agencies more closely associated with liberal policies (e.g., Health and Human Services). In each of these cases we again see that the largest changes are in the lowest categories of competence assessments. Again the figures illustrate a prophylactic effect.

We focus finally on the impact of different levels of attention to issues of homeland security on competence assessment. Substantively, the expected values of competence assessment start at 1.0 for respondents reporting a low level of attention to homeland security and increase to 1.2, 1.5, 1.8, and 2.1 as we increase the level of attention. The GOLOGIT revealed that the impact of attention is uniform across levels of the dependent variable. Figure 4 illustrates the change in distribution, with reductions in the probability of low values and increases in the probability of high values as attention increases. The case of attention illustrates how a variable can affect competency assessment without the prophylactic pattern observed in the cases of religiosity and ideology.

## CONCLUSION

The previous section illustrated that individual assessments of DHS depend critically on individual characteristics. Various characteristics such as certain demographic

factors, political attitudes, and the personal salience of the policy area have substantively significant impacts on the expected levels as assessed competence—our measure of trust. This has a number of implications for the study of trust in administrative agencies.

First, trust in administrative agencies is not driven entirely by the behavior of the agency or macropolitical changes in political attitudes. There is a great deal of variation in the assessments of a given agency across the public. An important implication of this variation is that any attempt to improve the trust in an agency should be grounded in an awareness of the segments of society where there is a trust gap. In the example of the DHS, it is clear that higher levels of salience for homeland security significantly increase the assessed competence of DHS. An efficient strategy to increase trust in DHS might involve an effort to increase the salience of homeland security.

Second, the individual factors related to trust in DHS were different than those often included in related research. Within the field of public administration, measures of political attitudes are seldom included. The significant influence of these attitudes in our models suggests that this is an important omission. Within political science models, religiosity is seldom included but is significant here. This omission may again be important.

Third, we have focused on the evaluation of a specific agency rather than a general question of trust in government. The robustness of the findings when including a control for the respondent's general trust in government illustrates that there are factors specific to DHS that are not fully explained by generalized political trust. The results suggest that models of trust for DHS need to be specific to the context of homeland security. This suggests that a great deal more work lies ahead for building models of trust for specific administrative agencies. While research into generalized political trust is still important, the results here suggest that such research leaves a great deal of interesting variation ignored—variation by agencies.

Fourth, the complexity required in the statistical model revealed the limitations of the most common approach to models with ordered dependent variables. If we had stopped with the ordered logit model, we would have created sensible results. However, these results would have been partial—and partially misleading. Moving to GOLOGIT revealed the prophylactic effect of religiosity and political attitudes. These results suggest that greater attention should be paid to the seemingly innocuous parallel regression assumption.

Future research can go in two directions. First, it is clear that a deeper understanding of trust in specific agencies will require additional work on the role of policy domain factors, other individual characteristics, and the behavior of the agencies themselves. The level of variation explained in the models suggests that there is still a great deal of work to do in the area. The work here reveals the merit of such focused research but does not exhaust questions that we must address related to the evaluation of specific agencies. Second, we may start to look for patterns between agencies. While current research typically lumps all agencies together and suggests that trust is a shared characteristic. Greater understanding of the specific factors related to specific agencies may reveal clusters of similar agencies. Do individuals evaluate defense agencies similarly, even if they evaluate social welfare agencies differently? Is DHS a defense agency? Greater understanding of the specific agency models can facilitate the emergence of groupings of agencies.



**Appendix A**

**Control Variables for Regression Models**

Variable	OLOGIT 1	OLOGIT 2	GOLOGIT
Gender	0.481 (0.124)	0.460 (0.125)	0.482 (0.125)
Age	-0.008 (0.005)	-0.007 (0.005)	-0.007 (0.005)
Education	-0.099 (0.030)	-0.100 (0.031)	-0.104 (0.031)
No. of Children	0.127 (0.063)	0.125 (0.063)	0.124 (0.062)
Income	0.003 (0.002)	0.004 (0.002)	0.004 (0.002)
Cutpoint #1	-2.74 (0.604)	-1.41 (0.648)	0.550 (0.681)
Cutpoint #2	-1.34 (0.600)	0.023 (0.647)	0.273 (0.656)
Cutpoint #3	-0.623 (0.599)	0.756 (0.657)	-0.590 (0.658)
Cutpoint #4	0.495 (0.598)	1.90 (0.649)	-1.60 (0.688)

Missing values are imputed ( $m = 5$ ) for  $n = 894$ .

Standard errors in parentheses with Rubin's correction for imputation.

**Appendix B**

**Survey Question Wording and Coding**

<i>Variable</i>	<i>Question</i>	<i>Coding</i>
<i>Dependent Variable</i>		
DHS Competence	I am going to read a list of groups that make decisions that affect homeland security. Using a scale of 0 to 10, where 0 means not at all competent, and 10 means completely competent, how would you rate the competence of each group to make decisions about homeland security policy? US Department of Homeland Security	0-4 = 0, 5-6 = 1, 7 = 2, 8 = 3, 9-10 = 4
<i>Independent Variables</i>		
HS Policy Salience	On a scale from 0 to 10, with 0 meaning no attention and 10 meaning much attention, how much attention do you personally pay to issues of national security and terrorism?	0-1 = 0, 2-3 = 1, 4-6 = 2, 7-8 = 3, 9-10 = 4
Gen. Gov't Trust	(Index of two questions) Thinking about the way Barack Obama is doing his job as President; do you strongly approve, approve, disapprove or strongly disapprove? Thinking about the way Congress is doing its job; do you strongly approve, approve, disapprove or strongly disapprove?	Average approval based on the following: Strong Disapprove = 0, Disapprove = 1, Approve = 2, Strong Approve = 3
Race	From the following options, do you consider yourself to be: Black, or African-American; White; Asian; American Indian of Alaska Native; Native Hawaiian or other Pacific Islander; Other	White = 1, All others = 0
Female	As part of the survey, I am required to ask: are you male or female?	Female = 1, Male = 0
Age	How old are you? [in years]	Self-reported age
Education	What is the highest level of education you have completed?	Total years of education

*Continued*

**Appendix B** (continued)  
 Survey Question Wording and Coding

<i>Variable</i>	<i>Question</i>	<i>Coding</i>
Income	What was the estimated annual income for your household for 2008? Less than \$10,000, 10 to \$20,000, 21 to \$30,000, 31 to \$40,000, 41 to \$50,000, 51 to \$60,000, 61 to \$70,000, 71 to \$80,000, 81 to \$90,000, 91 to \$100,000, More than \$100,000	For imputation purposes, income was recoded taking the midpoint of each range (e.g., 10 to \$20,000 was recoded 15,000). After imputation, the values were truncated into the same the same ranges set at the midpoint of the original range (e.g., any value between 10,000 and 20,000 was recorded 15).
Party ID	Generally speaking, do you think of yourself as a Democrat, Republican or Independent? Democrat, Republican, Independent, Don't know	Republican = 1, All others = 0 Independent = 1, All others = 0
Political Ideology	Which of the following categories best describes your political views? Strongly Liberal, Liberal, Slightly Liberal, Middle of the Road, Slightly Conservative, Conservative, Strongly Conservative, Other(Specify)	Coded dichotomously as 1 as two variables: Conservative and Strongly Conservative = Conservative; Slightly Conservative, Middle of the Road and Slightly Liberal = Moderate
No. of Children	How many children under the age of 18 live in your household?	Self-reported # of children
Religiosity	Did you attend church, synagogue, mosque or any other type of religious service in the last 7 days? Yes, No	Yes = 1, No = 0

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