The Role of Familiarity in Democratic Representation: A Field Experiment on Constituent Attitudes toward Members of Congress*

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Abstract

It is well-known that most citizens are unfamiliar with their member of Congress, but the import of this fact for democratic representation is largely unknown. Powerful theories suggest both that familiarity breeds contempt and that constituents like their member more the more they know about them. Much of the evidence that would settle this theoretical conflict is lacking, however, because the very observations we need to assess the relationship between familiarity and attitudes are often missing, and non-randomly so. To resolve the long-standing debate over this question, we conducted a field experiment that gave constituents the chance to interact directly with their member of Congress. Relative to a control group, we find that respondents who were exposed to their member were both more likely to offer a substantive response on attitude items (as opposed to "don't know"), and were more likely to report a more positive attitude as a result of enhanced familiarity. This effect is especially pronounced among co-partisans, but even among opposite-partisans familiarity did not breed contempt. These findings demonstrate the importance of familiarity in legislative approval and that such familiarity can be enhanced through online interactions.

1 Introduction

While it is well-known that most citizens are unfamiliar with their sitting member of Congress (Delli Carpini and Keeter 1996; Visser et al. 2007, 128), the import of this well-known fact for democratic representation is largely unknown. Indeed, there are powerful theories to suggest both that constituents like their member more the more they know about them (Alvarez, 1997; Fenno, 1978), and that familiarity breeds contempt (Hibbing and Theiss-Morse 2002; see Mondak et al. 2007, 34). But much of the evidence that would help address this theoretical conflict is lacking, and in two different ways. First, respondents who are unfamiliar with their member will often skip or respond "Don't Know" (DK) on substantive questions measuring their attitudes toward the member. Hence the very observations we need to assess the relationship between familiarity and attitudes are often missing. Second, the constituents who have familiarity with their member are likely not representative of those who lack familiarity, and hence any observed relationship between familiarity and attitudes is likely to be confounded.

We help to fill these evidentiary gaps in two steps. First, we propose a novel measure of familiarity that addresses the missing data problem, and enables a direct test of the relationship between familiarity and attitudes. To construct this measure, we assert that constituent unfamiliarity with their elected officials is the main driver of DK nonresponses on attitude questions about them (Krosnick and Milburn, 1990). If this is the case, then willingness to respond, or a latent propensity to self-select into an attitude response, is itself a good measure of this familiarity.[1] Based on this link, we develop a structural model to measure latent selection and use this measurement as a proxy for familiarity, which in turn enables us to estimate the relationship between familiarity and attitudes.[2]

[1]Potentially bundled with this measure is a personality component that also prompts a DK response (see, e.g., Mondak, 1999, 2001). For example, some survey respondents may have an attitude stored in long term memory, but have a low need for cognition (Cacioppo et al., 1984) or low need to evaluate (Bizer et al., 2004) and so are less motivated to access the attitude. The results we report below are identical when we partial out personality traits (see section 7). For simplicity we focus on the more straightforward measure of the propensity to respond DK as our measure of familiarity.

[2]Standard selection models also enable a test of the correlation between the respondent's propensity to

Our second step addresses the problem of confounding by evaluating this model using data from a field experiment involving real member-constituent interactions. In the summer of 2006, we conducted a field experiment that gave random samples of constituents in 12 congressional districts a chance to interact with their current sitting member of Congress via an online deliberative town hall. As a result, the experiment directly exposed some constituents to the member, giving those who were unfamiliar with their representative an experience on which to base an attitude.[3] Other constituents who did not get the chance to interact with their member serve as a control group. This experiment not only provides direct evidence about changes in constituent attitudes once they are exposed to and hence become more familiar with their member, but it also gives us the means to estimate how familiarity affects their attitudes.

To estimate the causal effect of participation in the online town hall on constituents' propensity to report an attitude toward their sitting member of Congress, and the effect of familiarity on the direction of that attitude, we implement our measurement model within the generalized endogenous treatment (GET) framework for causal inference (Esterling et al., 2011a).[4] Here we examine the relationship between constituents' exposure to the online town hall, propensity to report an attitude toward their member of Congress, and

offer an attitude response and the attitude they likely would report if their opinion had not been filtered out (Berinsky 1999, 1214; Berinsky and Tucker 2006, 74). Our measurement approach improves on a selection model approach in that our measure of familiarity enters the outcome equation as a covariate, and so enables a direct test of the relationship between familiarity and attitudes.

[3]As we discuss at greater length in the conclusion, our test is of exposure to the representative him or herself, or the dyadic relationship that is envisioned within democratic accountability. Since members will virtually always present positive images of themselves (Fenno, 1978), our results do not speak to the question of exposure to other kinds of information, such as campaign messages, negative advertising, newspaper reports, and the like.

[4]The GET model is a generalization of principal stratification (Frangakis and Rubin, 1999, 2002), and is a Bayesian parametric approach to simultaneously account for noncompliance with the randomly assigned treatment and/or nonresponse on the outcome measures. GET is flexible and can accommodate a variety of functional forms including the structural measurement model we use here. In the current application, the familiarity process serves as a mediator between our causal intervention, exposure to the member, and the outcome attitude, the feeling thermometer score, and hence we rely on the sequential ignorability assumptions required to identify a model of causal mediation (Imai et al., 2011). We assert the conditional independence that is required for sequential ignorability since we condition both the selection (mediating) process and the outcome on the principal stratification or "compliance type" variable; see (Esterling et al., 2011b).

a feeling thermometer score. The feeling thermometer score is highly correlated with, and so summarizes, other attitude measures such as approval ratings, level of trust, and vote intention (Wilcox et al., 1989; Winter and Berinsky, 1999). The results we report in this paper are similar among all of these measures, since they are highly correlated with each other within our study, and so we focus on the feeling thermometer to simplify the exposition.

We find that 1) familiarity is positively related to feeling thermometer scores of members, particularly among co-partisans, indicating that enhancing familiarity tends to breed more positive attitudes; 2) that the online discussion dramatically enhances constituents' propensity to report an attitude on the feeling thermometer scale; 3) that those who respond DK on attitude items about their member were also the most likely to show up to the discussion, perhaps out of a greater motivation to learn about their member;[5] 4) that constituents participating in the online session increased their feeling thermometer ratings; and 5) that changes in thermometer scores in response to the session are almost entirely due to enhanced familiarity with the member.[6]

The results demonstrate the importance of familiarity in legislative approval, which is consistent with the observations described qualitatively in Fenno (1978), and that such familiarity can be generated via online interactions (Lazer et al., 2009, 2015).

2 Familiarity in Representation

The public opinion literature is divided in its expectations regarding the effect of familiarity on approval and related attitudes in democratic representation. Some authors assert that Americans who know Congress the best like it the least (Hibbing and Theiss-Morse 2002; see Mondak et al. 2007, 34), which would suggest that additional familiarity re-

[5]See Mondak (1999); the propensity to report DK is correlated with personality traits, such as low self-confidence, or possessing a more sophisticated awareness of what one does not know.

[6]This inference requires assuming sequential ignorability conditional on the model that we describe below (Imai et al., 2011).

garding the member should lead to cynicism, distrust and overall colder attitudes. In his landmark book *Homestyle*, however, Fenno (1978) demonstrates that many members of Congress believe that constituents will hold warmer attitudes toward them, such as higher trust, as constituents gain familiarity with their member. In a similar vein, others argue that citizens tend to have a version of the "fear of the unknown," in that citizens disvalue the uncertainty stemming from unfamiliarity, leading to less favorable attitudes (Alvarez, 1997; Fenno, 1978). Or, as a third alternative, in addition to any change in net valence, increasing familiarity might make respondents more ambivalent (Turgeon 2009, 354; Visser et al. 2007, 135). None of these lines of research have been able to settle the issue, however, because they have not grappled with the problems of missing data and confounding in attempting to identify the relationship between familiarity and attitudes.

More generally, nonresponse on attitude questions that is due to unfamiliarity can undermine the role public opinion plays in helping to maintain accountability in contemporary democracy (Grant and Rudolph 2004; Turgeon 2009, 354).[7] For purposes of democratic accountability, it is important for opinion research to neither under- nor over-report measured approval and other attitudes toward elected representatives. If there exists a correlation between (latent) attitudes and nonresponse on attitude items, failing to account for this form of nonresponse can bias summaries of measures of constituents' reported attitudes about their member (Krosnick and Milburn, 1990, 50).[8] And since we do not know the relationship between responding DK and the attitude itself, we cannot even determine the direction of these biases.

We are able to test the relationship between familiarity and attitudes formally given our experiment that randomly assigned constituents to interact with their members. The key to constructing this test is identifying a variable that serves as a good measure of familiarity. We argue that lack of familiarity is the primary driver of DK responses on

[7]This is especially an issue in surveys that provide a DK full or partial filter, as the presence of the filter increases the DK response rate (Krosnick, 2002).

[8]Failing to do so can also bias any structural parameters in models evaluating the relationship between covariates and these attitudes (Althaus, 2003; Brooks, 2004; Liao, 1995).

attitude items (see section 7), and hence items containing DK response categories can measure familiarity. To assert this, we must assume that DK responses on our items measuring attitudes are sincere: that respondents do not have incentives to guess when they do not have an attitude, nor to respond DK when they do have an attitude.

In some contexts this assertion regarding patterns of DK responses as a measure of familiarity may not be justified, and for two reasons. First, on culturally sensitive attitude questions, respondents might respond DK rather than report an attitude out of concerns over the social acceptability of the attitude (Berinsky 1999, 1210; Mondak 1999, 63). Social desirability should not, however, play much of a role in anonymously solicited attitude measures of elected officials in the U.S. In this context, reporting an attitude regarding an elected representative in a democracy, there is little reason to suppress reporting any attitude toward a member because of any perceived social undesirability in doing so. Unlike sensitive questions regarding attitudes on such issues as race (Berinsky, 1999) or out of concern for retribution (Berinsky and Tucker, 2006), there are few social norms governing whether one describes one's representative as a no good bum, a virtuous and tireless advocate, or anything in between. In addition, the survey instrument in this study was administered online so it lacks an interpersonal component that might magnify any residual social desirability effects.

Second, in other contexts respondents may feel the need to guess a response if they do not have an attitude about the member. This may happen, for example, on items that measure political knowledge where there are "right" and "wrong" answers, and where some respondents may recognize that to guessing the answer could improve their knowledge score (Mondak, 1999, 2001). Since there are no right or wrong answers on attitude items, however, incentives for guessing on attitude items should be minimal.[9]

In the present context, we assert that a primary reason for a DK response on our

[9]Here we must assume that respondents are sincere in that respondents with no attitude do not feel pressure to mimic respondents who do have an attitude, for example to guess at a response in order to appear politically sophisticated. We also must assume that respondents who do have a partial attitude fail to make the effort to retrieve that attitude; we explore this latter assumption below in section 7.

attitude items is a lack of familiarity with the member of Congress (Delli Carpini and Keeter 1996; Visser et al. 2007, 128). That is, in this context, it is reasonable to assume that a "Don't Know" response simply means "Don't Know" (Luskin and Bullock, 2011; Sturgis et al., 2008). For purposes of this study we take the propensity to provide attitude responses about the member as an indicator of familiarity and DK responses as indicating a lack of familiarity (Berinsky and Tucker 2006, 76; Krosnick and Milburn 1990; Krosnick 2002, 94; Turgeon 2009, 354).

To test for the relationship between increasing familiarity with a member and constituents' attitudes regarding that member, we created an opportunity for survey respondents to interact with their member of Congress via an online town hall meeting. This study was conducted as a field experiment, randomly assigning some respondents to interact with the member and not others.

3 Study design

The data come from a large field experiment. In the summer of 2006, we hosted a series of 19 online town hall meetings across 12 congressional districts. The 12 members of Congress were all running for reelection; 5 were Republicans, 7 Democrats; the districts were drawn from each region of the country. Within each congressional district in the sample, the online polling firm Knowledge Networks recruited a sample of constituents and randomized the constituents to one of three conditions.[10] The deliberative town hall condition would first administer a pretest survey and subsequently provide reading material on the topic of the session (U.S. immigration policy) prior to the session, invite the assigned constituents to attend the online town hall, and then administer a follow

[10]Knowledge Networks (KN) maintains a panel of respondents that is representative of the U.S. population (see http://www.knowledgenetworks.com/ganp/). To meet sample size requirements in each congressional district, KN subcontracted with two other vendors, SSI and GMI. In the models below we include fixed effects to account for any differences between these panels. Including SSI and GMI respondents enables us to generalize only to Internet-connected constituents in the study's congressional districts. See the disclosure appendix for more details.

up survey about one week after the town hall. The information only condition would administer a survey before the town hall, provide the reading material, and then survey after the town hall, but constituents assigned to this condition would not be invited to attend the town hall itself. In the true control (TC) condition, constituents would be asked to respond to the pretest and post-test surveys, but would receive neither reading material nor an invitation to attend the town hall.

The town halls involved moderated discussion between the member and the group of constituents. Each town hall had between 8 and 30 constituents. Constituents typed questions and comments into a textbox, which were in turn posted to a queue. Questions and comments appeared sequentially in a separate textbox visible to the member as well as all participants, and the member responded to the question orally. A moderator filtered questions for redundancy and to ensure that everyone had an opportunity to post a question or comment, but did not filter regarding the substance of the comments. Each session lasted 35 minutes. At the conclusion of the session, the member and her staff left the event and the constituents were given 25 additional minutes to discuss the session with each other via a chat room.[11]

4 Model and data

We assigned 2,072 constituents to the three experimental conditions. The disclosure appendix describes the survey administration, statistical model, and variables. In all, 374 attended a deliberative online town hall (DG); 498 were exposed to the information only (IO); and 1,200 serve as true controls (TC).

As with any field experiment based on an encouragement design, we encountered noncompliance with the assigned treatment (exposure to the town hall) and nonresponse

[11]The post-session chat was bundled as a part of the treatment; we cannot disentangle the effect of the session from that of the chat and so our "treatment" includes both elements for all participants. Including the post-session chat lends the study external validity beyond an ordinary survey in that it is common for constituents to discuss politics with others rather than engage in politics in isolation.

on the follow up survey. That is, some participants either failed to attend a session when invited, failed to respond to the follow up survey, or both.[12] The rates for assignment, compliance and response are detailed in the disclosure appendix. In order to distinguish assignment to the treatment conditions from actual exposure to the treatment, in the remainder of the paper DG, IO, TC will indicate exposure.

In order identify causal effects in the presence of noncompliance and nonresponse, we make use of the generalized endogenous treatment (GET) framework for causal inference, which is a generalization of the methods of instrumental variables and principal stratification (Angrist et al., 1996; Esterling et al., 2011a; Frangakis and Rubin, 1999, 2002). GET is a Bayesian parametric approach to measure each participants' "compliance type" based on behavior within the experiment, and the model conditions on compliance type in order to compare likely compliers who were exposed to the treatment to likely compliers who were not exposed to the treatment (and also the same for likely non-compliers) in a direct analogy to instrumental variables estimation (Angrist et al., 1996).

The statistical model is illustrated in Figure 1. In this diagram, observed variables are indicated with rectangles, latent variables with ovals, and the arrows show variables assigned to equations. As implemented in this study, the GET model has four main components:

- The feeling thermometer score that serves as the attitude outcome variable. This item did not have a DK option so nonresponses are set to missing
- An indicator for the treatment condition (DG or IO) the constituent was exposed to (with TC the omitted category)
- A latent familiarity variable that measures each subject's propensity to offer a response on a set of member attitude items rather than DK (nonresponses are set to missing for each item), and

[12] Here we refer to nonresponse on the survey itself, as opposed to responding DK on a specific attitude item.

- A latent compliance variable that measures each subject's propensity to comply with the experimental protocol, such as attending the deliberative town hall if invited (comply with the treatment) or responding to the follow up survey (if administered the follow up survey; see appendix). When a respondent is not eligible for a given task, the item that indicates complying with the task is set to missing. The compliance latent variable is a measure of the principal strata among participants (Frangakis and Rubin, 2002) and is necessary for causal identification within the GET framework given the presence of noncompliance and nonresponse (Esterling et al., 2011a).

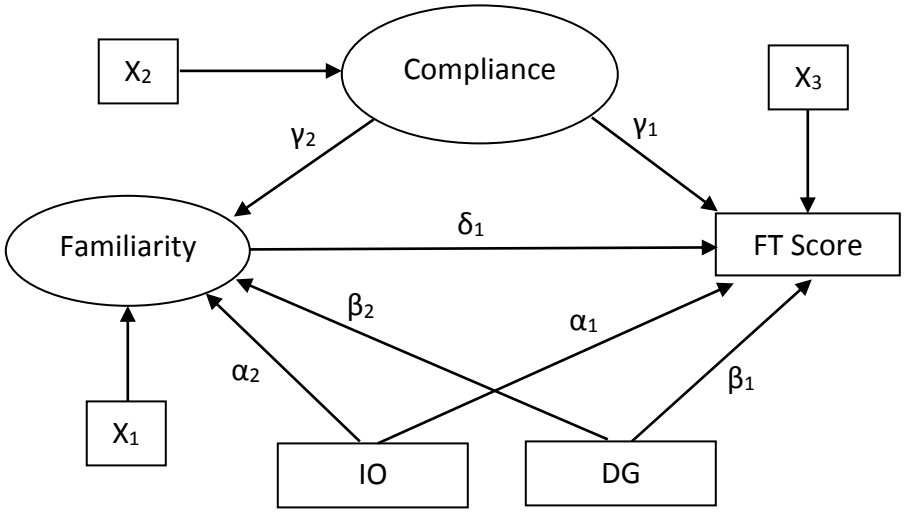

Figure 1: Statistical Model

We estimate this model for the full sample, as well as for the co-partisan and opposite-partisan subgroups. Section 7 describes two alternative methods for estimating the familiarity latent variable.

Note that the two latent variables, indicated as ovals in Figure 1, are measured variables, and are estimated in a measurement model based on a set of indicators for each that we describe below (we provide the results of the measurement models in the appendix). The model is a structural equation model in that all latent variables and structural parameters are estimated simultaneously. The response, compliance, and outcome equations

each contain a battery of control variables ($\mathbf{X}$) that we describe in section C.3 of the appendix.

4.1 Variables

The data we use to construct and model these four elements are as follows:

Outcome. For simplicity, we report the results from a single attitude measure, the feeling thermometer (FT) score, that serves as a summary of the constituent's attitude (Wilcox et al., 1989; Winter and Berinsky, 1999). The respondent was presented with a feeling thermometer slider, with scores scaled to range from 0 to 20, and the text "[MOC], your Member of Congress," where the member's name appeared in place of [MOC]. Higher scores indicate "warmer" attitudes toward the member. This feeling thermometer was presented among a battery of thermometer measures, and the order of the thermometers rotated randomly. Nonresponses on the outcome variable are set to missing and imputed dynamically as a probability distribution conditioned on the latent variables and covariates (Tanner and Wong, 1987).

Treatment indicator. We constructed indicators for the treatment condition the respondent was exposed to, the deliberative group (DG) or information only (IO); true control (TC) is the omitted category.

Familiarity scale indicators. We measure familiarity as the respondent's latent propensity to offer an attitudinal response (that is, the propensity to offer a response, not the response itself) by creating a scale[13] out of dichotomized indicators, with value zero if the respondent responded DK on an attitude item on the follow up survey, and one if the respondent reported an attitude. Nonresponses such as skips or incomplete surveys are set to missing and dynamically imputed. We construct such an indicator variable for each of the following attitude items: trust ("How much of the time do you think you can trust [MOC], your Member of Congress, to do what is right?"), approval ("Do you approve of

[13] As we describe in section 7, an alternative way to construct this scale is to partial out personality traits that also predict a DK response. The results are identical under this alternative specification.

the way that [MOC] his handling [MOCPRONOUN2] job as Congressperson?"), approve the member on immigration policy ("Do you approve or disapprove of the way [MOC], your Member of Congress, is handling the issue of immigration?"), and a knowledge question regarding how the member voted on important immigration legislation ("How about [MOC], your Member of Congress? Do you think [MOCPRONOUN] voted for or against making it a felony to assist illegal immigrants in entering or remaining in the U.S.?").[14] Each question offered the respondent a partial DK filter, which is useful for these analysis in that including a filter signals the acceptability of DK as a legitimate response (Krosnick, 2002); that is, the filter increases the rate of DKs and hence increases variability on our response indicator variables.

Compliance scale indicators. To implement the GET causal model (Esterling et al., 2011a), we condition on the respondent's propensity to attend the town hall if invited (comply with the treatment). We constructed this scale out of four indicator variables, each one indicating whether the respondent complied with an assigned experimental activity. That is, we had an indicator for whether she: participated in the town hall (if assigned to the deliberative town hall condition); responded to the follow up survey (if sent the follow up survey); responded to a survey administered to coincide with delivery of the IO reading materials (if assigned to the information only or deliberative town hall conditions); and responded to a supplemental survey administered in November of 2006 (if administered the November survey). In instances where a respondent was ineligible for an experimental activity (e.g., participating in the town hall, if not assigned to the deliberative town hall condition), the relevant indicator is set to missing and the missing value is imputed dynamically as a probability distribution conditioned on the latent variable (Tanner and Wong, 1987).

[14]For comparison, we also estimated a model using a separate set of attitude item from a post-election survey administered in November, 2006, and get very similar results. These items are: "Thinking about [MOC], in your opinion, how well do each of the following words describe [HIM/HER]:" with the prompts, "Arrogant," "Accessible," "Understands people like me," and also the knowledge item regarding the member's vote on immigration legislation noted in the text.

Covariates. We estimate the model of Figure 1 for the full sample, and also separately for subsamples defined by whether the constituent is the same party (co-partisan) or the opposite party (opposite-partisan) as the member.[15] We also include a battery of control variables in the outcome, familiarity and compliance equations that we describe in the appendix. Including the covariates can improve the precision of estimates but do not affect the magnitude of structural parameter estimates within a randomized experiment. These covariates were measured on the pretest survey or provided by our survey vendor.

5 Estimation

We estimate the structural parameters shown in Figure 1 (α_1, α_2, β_1, β_2, γ_1, γ_2, and δ_1), all ancillary parameters, the latent variables, and missing data parameters simultaneously using Bayesian MCMC methods (Spiegelhalter et al., 1996). For each model we draw repeatedly from a candidate posterior distribution until the posterior distribution of all parameters is stationary by the Gelman and Rubin (1992) diagnostic, and then we sample more than 10,000 draws from the stationary distribution in order to simulate a posterior distribution of the model parameters.

6 Results

We present the results of the model in Table 1. Since we model the feeling thermometer outcome variable as continuous, the model parameters can be interpreted directly as one would with OLS estimation. The feeling thermometer scores have a mean of 12.4 and a standard deviation of 4.2 (minimum of 0, maximum of 20), with higher scores indicating a "warmer" attitude toward the member. The two latent variables have roughly a unit

[15]Respondents are asked to report if they identify as Republican, Democrat, Independent, another party, or no party preference, and each of the final three options are followed up with whether the respondent considers herself closer to the Republican or Democratic party. We classify all leaners as having the corresponding party identification. The few remaining true independents are discarded for the subgroup analysis for co- and opposite partisans, but included in the full analysis.

standard deviation.

Table 1: Results

	Overall	Co-Partisans	Opposite-Partisans
Familiarity → FT (δ_1)	0.94*	1.47*	0.17
	(0.17)	(0.19)	(0.34)
DG → Familiarity (β_2)	1.65*	1.93*	1.36*
	(0.15)	(0.21)	(0.25)
DG → FT (β_1)	-0.73	-2.16*	0.88
	(0.48)	(0.60)	(0.87)
Total Effect DG ($\beta_2 \times \delta_1 + \beta_1$)	0.82*	0.66	1.13
	(0.35)	(0.39)	(0.65)
IO → Familiarity (α_2)	0.42*	0.43*	0.47*
	(0.11)	(0.14)	(0.19)
IO → FT (α_1)	-0.97*	-1.21*	0.19
	(0.31)	(0.34)	(0.58)
Total Effect IO ($\alpha_2 \times \delta_1 + \alpha_1$)	-0.58	-0.59	-0.11
	(0.29)	(0.32)	(0.54)
Compliance → FT (γ_1)	0.43	0.38	0.56
	(0.28)	(0.33)	(0.60)
Compliance → Familiarity (γ_2)	0.39*	0.42*	0.52*
	(0.11)	(0.15)	(0.20)

*$p \leq 0.05$ two-tailed test. FT = Feeling Thermometer; DG = Deliberative Group; IO = Information Only Group; TC = True Controls (omitted as baseline)

First consider the results in the first row (δ_1) row, which captures the relationship between familiarity (the latent propensity to offer a response on attitude items as opposed to a DK response) and the feeling thermometer score itself. This parameter is positive in the co-partisan sample but not significant in the opposite-partisan sample. This result shows that among co-partisans, increased familiarity toward a member is correlated with more positive or "warmer" attitudes. Since the latent variable has a unit scale, the parameter estimate suggests that a one standard deviation increase in the latent propensity to offer

a response on attitude items is associated with increased feeling thermometer ratings by about one and a half points, or about a third of a standard deviation. The same, however, is not true among opposite-partisans, where there is no apparent relationship between familiarity and attitude. That null finding, however, is itself notable, since familiarity does *not* breed contempt, even among constituents who oppose their member's party.

Now consider the results in the second (β_2) and fifth (α_2) rows. Recall that β_2 captures the effect of exposure to the DG "town hall" condition on familiarity (the propensity to respond on attitude items), and α_2 is the same for the IO condition. Note that in the comparison, the online town hall dramatically increases constituents' propensity to respond on member attitude items compared to the IO condition. This result is true for both co- and opposite-partisans. When combined with the δ_1 estimate, the implied indirect effect of enhancing familiarity from exposure to the DG condition among co-partisans is approximately 1.5 points on the feeling thermometer scale, or approximately two thirds of a standard deviation in the thermometer scale. The result is sensible among co-partisans, since it implies that co-partisans appreciate the member more, the more they find out about him or her. Perhaps more remarkably, increased familiarity with the member increases neither opposite-partisans' appreciation of, nor any antipathy toward, the member. This suggests that on balance, enhanced familiarity with a member enhances constituents' feelings toward the member, a finding consistent with Alvarez (1997) and Fenno (1978), and inconsistent with Hibbing and Theiss-Morse (2002) or an expectation of a null effect finding (Turgeon, 2009).

Exposure to the IO condition does have a small and significant effect on familiarity, reflected in the small but significant estimate for α_2, which perhaps indicates that exposure to the study materials enhances these participants' political interest or awareness, although to a lesser extent compared to full participation in the session (Esterling et al., 2011b). The results for β_1 and α_1, the direct effect of exposure to the DG and IO conditions, respectively, suggest that informed co-partisans appear to be more critical of

elected representatives, holding constant their willingness to report an attitude regarding the member. That this effect appears for both conditions suggests that this effect is not driven specifically by the content of the town hall or a reaction to what the member said in the town hall, since the same effect appears for the IO condition.

The total effect of the treatment(fourth row) combines the indirect effect of the treatment via enhancing familiarity and the direct effect. The total effect of the DG condition is to increase feeling thermometer ratings by about 0.8 points, or about 0.2 standard deviations. The total effect of the exposure therefore is substantively quite small, and the increase is due largely to an increase in familiarity.

Finally, the γ_1 row suggests that in the full sample, the kinds of constituents that are more likely to show up to a town hall when invited also are more likely to respond DK, holding exposure to the member and the other covariates constant. This result likely captures some personality trait of respondents (Mondak, 1999) such as a possible higher level of sophistication that might both lead one to participate in a deliberative session and also to recognize what one does not know. Conversely, the γ_2 row suggests there does not appear to be much of an association between compliance and responses on the feeling thermometer in either subsample, indicating that attitudes toward the member are largely unrelated to the propensity to participate in the session.

7 Alternative Specifications and Validity Test for Familiarity Submodel

Throughout we have posited that a "not-DK" responses on approval and other attitude items are facially valid measures of the familiarity that matters in this context (see Luskin and Bullock, 2011; Sturgis et al., 2008). But some researchers have argued that part of the tendency to reply DK can be driven by personality (Mondak, 1999, 2001).[16] For example,

[16]As we state above, since there are no "right" or "wrong" answers on attitude items, the incentives for respondents to guess or not to guess should be minimal, and hence responding DK on these items should not be related to respondents' preferences for risk.

someone with low need for cognition (NFC) (Cacioppo et al., 1984) and/or low need to evaluate (NE) (Bizer et al., 2004) might tend to reply DK because they are unwilling to make the effort to retrieve an evaluation, even if an evaluation resides in their long term memory. And while the low NFC/NE respondents might have an attitude lodged in long term memory they will tend to not make the effort to access it (Krosnick, 2002).

The potential existence of this personality component of our latent can threaten the validity of our measure of familiarity. In particular, it is possible that NFC/NE are correlated with the feeling thermometer ratings, and hence the relationship between our familiarity measure (which bundles personality traits) and the attitude outcomes (which might be correlated with these personality traits) could be spurious.

We address this concern in two ways. First, as we document in the appendix, we include a battery of control variables in the outcome equation, including measures for NFC/NE, in order to control for personality factors. Second, as we illustrate in figure 2, we re-estimated the model in a way that partials out personality traits from the measure of familiarity. Figure 2, panel A, represents a close up view of the familiarity measurement submodel that we use in the main analysis shown in Figure 1, in which the NFC/NE personality traits are not partialed out of the latent variable. In panel A, the four DK items measure familiarity, and NFC/NFE only serve as predictive covariates for familiarity to aid in imputing missing data, along with the other covariates in vector X_1. The model in panel B partials NFC/NE from the item-level equations, and hence net these personality traits out of the familiarity latent variable.

We re-estimated the model using the specification shown in panel B of figure 2, and the results remain virtually identical in every respect to the results we report above. There are two likely reasons that this re-specification yields the same results. First, the results we report above control for personality traits and hence removed any potential spurious component of the relationship. Second, it is possible that the substantive effect of low NFC/NE is similar to that of having high attitude retrieval costs. That is, as we state

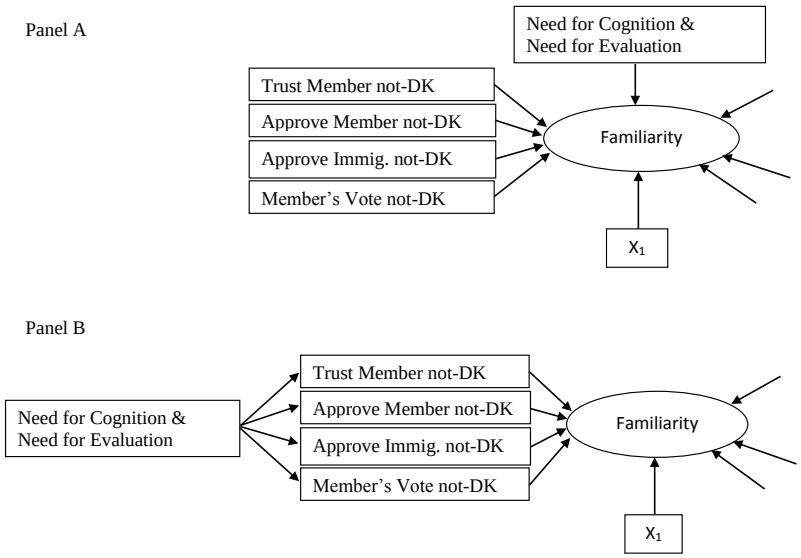

Figure 2: Close up of the familiarity latent variable submodel

This figure shows two alternative specifications for the familiarity submodel (omitting the rest of the model which is otherwise identical to that of Figure 1). Panel A represents the specification we use in the main analysis reported above. Panel B is a re-specification that partials out personality traits from the familiarity measure.

above, those with low familiarity with an attitude object often fail to access the attitude because the marginal cost of doing so is too high.[17] At the same time, those with low NFC/NE do not access the attitude because the marginal benefit is too low. In both cases, however, the respondent is not accessing the attitude and hence, at least at a conscious level, constituents in each condition functionally have the same low familiarity.[18]

8 Covariates of Familiarity

Our approach to measuring familiarity, as a propensity not to respond DK, is novel and so the correlates of this measure are worth reporting. As we show in both figures 1 and 2, in addition to the two treatment exposure indicators (DG and IO) and the compliance type

[17] Obviously if the constituent has no knowledge whatsoever of the member, these costs are infinite.

[18] Likewise, it is sensible that partialing out personality traits from the familiarity scale has no influence on the estimate of the treatment effect of exposure to the member in the DG group on familiarity, both because these personality traits are pretreatment covariates and hence will be identically distributed across the treatment groups, and because we condition on the personality traits in the familiarity equation.

latent variable, we also model the familiarity latent variable with a series of covariates (the $\mathbf{X_1}$ vector in figure 1). These covariates are described in the appendix. The result of this equation are of interest in and of themselves, and also can be thought of as a test of criterion validity in that variables such as interest and participation in politics should be correlated with the measure.

The estimated coefficients for these covariates from the familiarity equation are reported in Table 2. Holding constant compliance type and exposure to our interventions, the covariates that are significantly related to familiarity include participation in civic affairs, interest in news reporting, positive affect toward deliberative democracy (the "sunshine democracy" scale) (Neblo et al., 2010),[19] less trust in government, and need for evaluation.

Holding these covariates constant, the covariates measuring strength of party identification, level of education, employment, age, race, income, conflict avoidance and self-efficacy were not statistically related to familiarity. The effect of many of these variables, such as education level and strength of party identification, are likely mediated by the variables measuring interest in the news and political participation.

9 Discussion and Conclusion

Heretofore we have had not good way of settling a long-standing theoretical and empirical disagreement in political science regarding the relationship between familiarity with elected representatives and attitudes toward those representatives. We resolved this impasse by developing a robust method to test the relationship between familiarity and substantive opinions that overcomes the missing data and confounding problems that

[19]The sunshine democracy scale is the set of items derived from the "stealth democracy" scale of Hibbing and Theiss-Morse (2002), but reworded so that agreement indicated preference for deliberative and participatory democracy rather than with stealth democracy (Neblo et al., 2010). The sunshine and stealth scales are orthogonal to each other and so can enter the same regression equation. While the sunshine democracy scale is correlated with familiarity, the stealth democracy scale is not.

Table 2: Results

	Coefficient	SE
Opposite-Partisan	0.01	0.09
Income	-0.16	0.10
Education	0.02	0.10
Strong Party ID	0.10	0.09
Male	0.21*	0.10
White	0.07	0.12
Employed	0.07	0.10
Children	-0.05	0.11
Age 60+	0.19	0.13
KN Panelist	0.41*	0.14
Need for Cognition	0.17	0.10
Need for Evaluation	0.23*	0.10
Self-Efficacy	-0.04	0.10
Civil Society Participation	0.19*	0.09
Conflict Avoidant	-0.14	0.10
Sunshine Democracy Attitude	0.18*	0.09
Stealth Democracy Attitude	0.08	0.09
Trust in Government	-0.21*	0.11
High Political Knowledge	0.10	0.11
Interested in Immigration Policy News	0.33*	0.11

*$p \leq 0.05$. See appendix for a descriptions and summaries of the variables listed in this table. These results hold constant the two treatment variables (DG and IO) and compliance type (see Figure 1).

have limited the study of familiarity in representation to date.

In our experiment, we exposed a sample of constituents to a direct interaction with their member of Congress, and by drawing contrasts with control groups who were not exposed, we are able to identify the effect of increased familiarity on constituents' attitudes toward their member of Congress, as well as their propensity to offer an attitude response at all. We find that this enhanced familiarity dramatically increased constituents' willingness and ability to report an attitude, and at the same time led them to hold more positive attitudes toward their member – familiarity emphatically did *not* breed contempt. The effect of familiarity was strongest among co-partisans.

One important caveat for our results is that the extent to which we enhance familiarity in our study is through exposure to the member him- or herself. That is, the familiarity that we induce in the experiment is the kind of familiarity which one might observe within the constituent-legislator relationship, or the relationship that is envisioned within normative theories of democratic representation. Within this relationship, members will virtually always present positive images of themselves, a behavior that Fenno (1978) labels "presentation of self." Given the nature of our study design, our results do not speak to any possible effects of exposure to information available in the mass media, such as campaign messages, negative advertising, newspaper reports, or messages within social media. Our results instead demonstrate the effect of familiarity on approval attitudes that arises within democratic representation. In addition, given the increasing importance of digitally-mediated communication, the results demonstrate that familiarity within democratic representation can be generated via online interactions.

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