

**Need for Cognition and Need to Evaluate in the
1998 National Election Survey Pilot Study**

George Y. Bizer, Jon A. Krosnick, Richard E. Petty,
Derek D. Rucker, and S. Christian Wheeler

The Ohio State University

March 28, 2000

Social psychologists have identified two general dispositions of people that may be of interest to political scientists because they predict the extent to which people think about and evaluate information.

The first, “need for cognition,” represents the extent to which people engage in and enjoy a wide variety of effortful cognitive activities (Cacioppo & Petty, 1982). People high in this trait tend to think carefully and extensively about information they encounter and enjoy effortful cognitive endeavors, whereas people low in this trait tend to avoid such endeavors, thinking only superficially about information they encounter. The second, “need to evaluate,” represents the extent to which people spontaneously evaluate objects or experiences as either good or bad (Jarvis & Petty, 1996). People high in this trait have many evaluative thoughts and hold opinions toward a wide variety of objects, whereas people low in this trait engage in less evaluation and are less opinionated.

In this report, we will first provide more detailed definitions of need for cognition and need to evaluate, explain how they have been measured in psychological research, offer theoretical reasons and evidence regarding why these two constructs are different, and identify potential origins of each. Then, using data from the 1998 NES pilot study, we will demonstrate that these two constructs explain variance in important political reasoning strategies and behavior beyond -- and in some cases better than

-- traditional predictors. In short, we show that these personality constructs provide interesting new information to researchers interesting in understanding campaigns and elections.

Introducing the Constructs

Need for Cognition

Definition. The more than 100 studies in the psychological literature on need for cognition paint a consistent portrait of this variable (see Cacioppo, Petty, Feinstein, & Jarvis, 1996, for a comprehensive review). People high in need for cognition (HNCs) are generally more thoughtful than people low in need for cognition (LNCs). That is, HNCs exert more cognitive effort and persist longer on a wide variety of cognitive tasks than do LNCs. Thus, need for cognition can be considered a person's tendency to think and enjoy the process of thinking.

Measurement. In psychological research, need for cognition has been measured by self-report batteries in which respondents report their level of agreement or disagreement ("strongly agree," "agree," "uncertain," "disagree," and, "strongly disagree") with a series of statements, including, "I find satisfaction in deliberating hard and for long hours," "I usually end up deliberating about issues even when they do not affect me personally," and "I would prefer complex to simple problems." Although the measure originally developed by Cacioppo and Petty (1982) included 34 items, most researchers currently use the short form of the battery, which includes only eighteen (Cacioppo, Petty, & Kao, 1984). In order to deal with acquiescence response bias, nine of the statements express high levels of need for cognition, while the remaining nine statements express low levels of need for cognition.

All of the statements appear in Table 1, along with their loadings on the latent factor as determined by an exploratory factor analysis by Cacioppo and Petty (1982). The vast majority of the statements regard preferences (i.e., liking to think or preferring not to) rather than descriptions of actual

frequency of thinking. Thus, one might assert that this measure of need for cognition focuses on attitudes toward thinking, but in fact, it has been shown to be a remarkably effective predictor of the actual extent and depth of thinking people perform (Cacioppo et al., 1996). In keeping with the conceptualization of need for cognition as a stable disposition of individuals, test-retest consistency for this battery is extremely high (see Cacioppo et al., 1996).

Evidence on the effects of need for cognition. Although many lines of research have explored effects of need for cognition (see Cacioppo et al., 1996), one is especially relevant in the current context. This series of studies involves the extent to which people process information when making judgments. Research has clearly shown that people high in NC tend to be thoughtful in their assessments, basing their judgments on careful scrutiny of the substantive information to which they are exposed (Cacioppo et al., 1996). LNCs, on the other hand, are more likely to make quick and easy judgments based on a more cursory analysis of the information environment (e.g., forming judgments based on the attractiveness of the source of a persuasive message or the mere amount of information presented). In other words, whereas HNCs form their judgments based on a careful evaluation of the relevant information they receive, LNCs do so through a more superficial evaluation of relatively simple cues in the environment that allow a decision without much thinking (see Petty & Cacioppo, 1986, for a review). Thus, although both HNC and LNC people can be influenced by information presented by the news media or by another person face-to-face, this influence occurs through different mechanisms.

The fact that HNCs and LNCs are persuaded in two fundamentally different ways has several important ramifications. First, because their judgments are more thoughtful, the attitudes of HNCs tend to be stronger and thus more predictive of their behavior than are the attitudes of LNCs (see Petty, Haugtvedt, & Smith, 1995). Second, because the attitudes of HNCs are created more thoughtfully,

these attitudes tend to be more persistent over time (Haugtvedt & Petty, 1992), and resistant to counterpersuasive attempts (Haugtvedt & Petty, 1992).

Relation with demographics and other dispositions of people. Need for cognition is correlated with demographics and other dispositional attributes of individuals, but only modestly. For example, in meta-analyses using data from a variety of studies, Cacioppo et al. (1996) found that need for cognition was positively correlated with intelligence ($r=.17$, $p<.01$), and education ($r=.25$, $p<.001$), and negatively correlated with age ($r=-.17$, $p<.001$). Tolentino et al. (1990) found no significant correlation between need for cognition and family income.

Need for cognition is also modestly correlated with a variety of personality traits (see Cacioppo et al., 1996, for review), including need for closure ($r=-.26$, $p<.01$), personal need for structure ($r=-.16$, $p<.01$), and social desirability response bias ($r=.14$, $p<.01$). These correlations suggest that people who like to think also have unusually low needs for closure and structure. People high in need for cognition also exhibit only a very slight tendency to want to present themselves in socially admirable ways. Thus, need for cognition is sensibly correlated with other constructs, but is not so highly correlated as to be redundant.

Origins. Although no studies to date have explored potential origins or causes of a person's level of need for cognition, there are some salient possibilities. The theory of operant conditioning suggests that when a behavior is paired with a reward, the behavior is more likely to be manifest in the future, but when paired with a punishment, the behavior is less likely (Skinner, 1957). It is possible that for children, the act of thinking yields rewards. For example, some parents may be more likely to lavish praise on children when they spend extra effort to solve a puzzle or figure out the solution to a problem. Similarly, the process of thinking may tend to lead to success and satisfaction for some children but

failure and frustration for others. If thinking is often paired with such rewards, either external praise or internal satisfaction, children will presumably come to enjoy and engage in thinking; they will likely carry this orientation throughout their lives. On the other hand, if thinking is often paired with punishment or failure, enjoyment of and engagement in thinking will be diminished early in life and presumably carried throughout adulthood as such.

In addition to learning, need for cognition may also have a genetic basis. Studies of identical twins have documented the heritability of a wide variety of personality orientations (cf. Bouchard & Pedersen, 1999). An obvious possible genetic antecedent of need for cognition is individual differences in curiosity (cf. Digman, 1990).

Hypotheses regarding political cognition and behavior. Many political behavior patterns may vary depending upon the amount of thinking in which a person engages and likes to engage. As such, we would expect that HNCs would behave differently than LNCs.

One obvious context in which need for cognition might exert an effect is in the process of evaluating political candidates running for public office. In particular, many scholars have presumed that evaluating candidates based upon the positions they take on policy issues is normatively desirable, because it assures that elected representatives will implement policies favored by their constituents (e.g., Dahl, 1956; Pennock, 1979). Indeed, many analysts have gone so far as to assume that issue-based evaluation occurs, asking not whether it occurs but rather how it occurs instead (e.g., Enelow & Hinich, 1984). However, other scholars have also worried about the substantial cognitive demands that issue-based evaluation entails and have expressed skepticism about whether democratic politics are equipped with sufficient ability and motivation to execute such processes (see, e.g., Kinder & Sears, 1985).

This sort of logic suggests a possible regulatory role for need for cognition in the candidate

evaluation process. If issue-based evaluation is indeed cognitively intensive work, people high in need for cognition may be especially motivated to carry it out and therefore most likely to manifest evidence of what is called “issue voting.” In contrast, the cognitive effort required by issue voting may outstrip the motivations of LNCs, leaving them to evaluate candidates on other bases. One possible alternative is party identification, which is often viewed as a peripheral cue that can be easily used to yield candidate preferences.

Political campaigns are nothing if not overwhelming in terms of the amount of information they offer to voters to consider over a period of months before election day. People who enjoy thinking may well thrive on this information flow and may therefore find themselves pulled into thinking about the campaign and even behaviorally participating in it. But LNCs may find such thinking taxing and unpleasant, leading them to disengage from the campaign. We might therefore expect to see HNCs participating especially often in all forms of electoral activism, from attending closely to election-related information in the news media to working on behalf of candidates to turning out to vote on election day. We use the 1998 NES Pilot Study data to test all of these hypotheses.

Hypotheses regarding survey responding. Another set of hypotheses we test involves the impact of need for cognition on the process of survey responding. According to Krosnick’s (1991; Krosnick, Narayan, & Smith, 1996) theory of survey satisficing, respondents vary in their ability and motivation to perform the significant cognitive work required of them to answer survey questions optimally accurately. Doing so requires a great deal of work in carefully interpreting questions, searching memory exhaustively for relevant information, integrating that information in a balanced way to yield final judgments, and reporting those judgments accurately given the response options offered. Krosnick (1991) predicted that people high in need for cognition might be especially motivated to do

this sort of cognitive work when answering question after question, whereas people low in need for cognition are likely to become quickly fatigued by all this mental exercise. They may therefore shortcut the effort they expend (yielding less accurate reports laden with more random or systematic measurement error), express a wish to end the survey interview, and even terminate it mid-way through.

We were able to explore some of these possibilities with the 1998 NES Pilot Study data.

Need to Evaluate

Definition. People high in need to evaluate (HNEs) are more chronically engaged in evaluation of various aspects of their lives and environments. More so than low LNEs, HNEs spontaneously evaluate information they receive and experiences they have as good or bad, thus forming overall evaluations. Whereas LNEs are content simply to experience life, HNEs enjoy the process of assessing the advantages and disadvantages of all they observe and do so frequently.

Measurement. Need to evaluate has been measured by a self-report battery in which respondents report how well various statements describe themselves (“extremely characteristic,” “somewhat characteristic,” “uncertain,” “somewhat uncharacteristic,” and “extremely uncharacteristic”).

The statements include: “I enjoy strongly liking and disliking new things,” “I form opinions about everything,” and “I pay a lot of attention to whether things are good or bad.” Sixteen such statements compose the need to evaluate scale developed by Jarvis and Petty (1996). Ten of the statements express high levels of need to evaluate, whereas six statements express low levels of need to evaluate.

All of the statements appear in Table 2, along with the factor loadings estimated for them by Jarvis and Petty (1996) via exploratory factor analysis. The statements make two general classes of assertions, one regarding the number of opinions a person forms (e.g., “I have many more opinions than the average person”), and the other about the extremity or strength of opinions (e.g., “I prefer to avoid

taking extreme positions”). Also, whereas some assertions regard preferences (e.g., “I enjoy strongly liking and disliking new things”), others regard actions taken or states of the world (e.g., “I form opinions about everything”). In keeping with the notion that need to evaluate is a stable characteristic of individuals, test-retest correlations for this battery are extremely high (Jarvis & Petty, 1996).

Evidence on the effects of need to evaluate. Less research has examined effects of need to evaluate than has explored consequences of need for cognition, because work on the former construct has begun only very recently (see Petty & Jarvis, 1996). As one might expect given the construct’s definition, HNEs have been shown to express more evaluative thoughts, whether assessing a personally relevant attitude object or a remote one such as abstract art (Jarvis & Petty, 1996). HNEs also express their opinions more quickly than LNEs, presumably because HNEs access their attitudes more frequently (Petty & Jarvis, 1996). Furthermore, the attitudes of HNEs are spontaneously activated when they are confronted with the attitude object, whereas the attitudes of LNEs are not accessed spontaneously so readily (Hermans & Eelen, in press). When HNEs are asked to express an opinion, they are especially likely to have formed it already, so they simply need to access it from memory. But when LNEs are asked to express an opinion, they must construct it in a memory-based fashion, retrieving whatever relevant information they can find in memory and integrating that information to derive a judgment from it on the spot (Tormala & Petty, 1999).

Relation with other dispositions. Although the relation between need to evaluate and standard demographic variables has not been investigated, correlations between need to evaluate and various personality traits have been reported. For example, Jarvis and Petty (1996) found modest positive correlations of need to evaluate with desire for control ($r=.22$, $p<.05$) and affective intensity ($r=.17$, $p<.05$). Thus, need to evaluate does seem to be related with other relevant psychological variables, but

not so much as to be redundant.

Origins. No studies have yet investigated the causes of need to evaluate. However, as with need for cognition, operant conditioning may play a role. Some children may find that evaluating objects around them tends to lead to either external or internal rewards. For example, some young people may find that evaluating objects has helped them in a functional manner, such that they have avoided problems (thanks to negative evaluations) and acquired rewards (thanks to positive evaluations). Such repetitive pairing of satisfaction with evaluation may heighten a person's degree of need to evaluate. Hereditary factors may also be determinants of need to evaluate as well.

Hypotheses regarding political cognition and behavior. To the extent that a person enjoys evaluation and spontaneously builds evaluations while experiencing daily life, he or she should be especially likely to engage in certain cognitive activities and behaviors in the domain of politics. For example, because most forms of political participation involve expressing preferences (most often for political candidates or policy issue positions), HNEs may be especially likely to participate in campaigns by working on behalf of candidates and may be especially likely to turn out to vote. Furthermore, if HNEs enjoy forming evaluations, they may be especially motivated to seek out campaign information from with news media, which they can then use to form evaluations of political candidates. Thus, need to evaluate may have some consequences similar to those of need for cognition, but by different mechanisms and for different reasons.

However, need to evaluate should not necessarily have identical effects to those of need for cognition. Most obviously, the effects of need to evaluate on the process of candidate evaluation are likely to be different from the effects of need for cognition. Specifically, we suggested that HNCs may be especially motivated to do the hard cognitive work involved in issue voting, thereby increasing the

impact of issues on vote choice and perhaps decreasing the impact of heuristic cues (such as party identification).

In contrast, need to evaluate seems unlikely to motivate only issue-based evaluation and not other forms of evaluation. HNEs presumably live their lives having formed more opinions toward all objects, regardless of whether they are proposed public policies or political parties or the state of the national economy. Therefore, HNEs should find themselves well-equipped with many tools with which to evaluate a presidential candidate. Although this may increase the likelihood that a person will evaluate a candidate based upon his or her policy positions, HNEs may also manifest an increased likelihood of evaluating candidates based on their party identifications and lots of other considerations as well. Therefore, the many relevant criteria may explain more total variance in candidate preferences among HNEs than among LNEs.

Are NE and NC the Same Construct?

Given the clearly different conceptualizations of need for cognition and need to evaluate, as well as the different measurement procedures employed to assess these attributes, it might seem obvious that these are two distinct constructs. But the hypotheses we have offered above seem to suggest the two constructs are likely to have very similar effects. This therefore raises the question of whether the two constructs are indeed conceptually overlapping. However, theoretical and empirical evidence suggests that the underlying constructs of thinking and evaluating should not be considered as the same.

First, well-established theory and much empirical work demonstrates that people can evaluate information with much thought or with little thought (e.g., Petty & Cacioppo, 1986). Evaluation (i.e., attitude formation) can occur in a thoughtful manner or a non-thoughtful manner. That is, evaluations can be formed via carefully executed cognitive processes in some situations and via non-thoughtful,

superficial reasoning in other situations. This has been shown, for example, by evidence that attitudes are sometimes formed in response to careful scrutiny of the arguments offered by a persuasive message, whereas other times, attitudes are based on peripheral cues such as communicator attractiveness (Petty & Cacioppo, 1986). Thus, people high in need to evaluate can form their evaluations either thoughtfully (like a high-need-for-cognition individual) or superficially (like a low-need-for-cognition individual).

Similarly, people who do not like to evaluate (LNEs) can be generally either thoughtful or not thoughtful. That is, a LNE individual can devote a great deal of careful thought to information he or she acquires without forming good/bad evaluations of that information. Indeed, he or she may be especially interested in withholding judgment, because reaching a verdict would allow for the end of the thinking process. Therefore, people like this may prefer to avoid evaluation in order to enjoy more thinking. But, of course, LNEs can also be low in need for cognition, meaning that they prefer not to think or evaluate whenever such cognitive activities can be avoided. So in light of the fact that thinking can be applied or not to evaluative and non-evaluative dimensions, one can see how although evaluation and cognition can be related, there are circumstances in which the constructs will not be coincident.

In line with this logic is empirical evidence on the independence of the constructs. First, need for cognition and need to evaluate scales are only moderately positively correlated (i.e., $r = .35$; Jarvis & Petty, 1996). In addition, other measures sometimes relate with only one of the two constructs but not both (see Cacioppo et al., 1996; Jarvis & Petty, 1996). For example, need for closure ($r = -.26$, $p < .01$) and need for structure ($r = -.16$, $p < .01$) are significantly correlated with need for cognition (as we mentioned earlier) but not with need to evaluate ($r_s = -.06$, ns, and $.03$, ns, respectively). Furthermore, controlling for need for cognition does not eliminate apparent effects of need to evaluate, and vice-versa (Petty & Jarvis, 1996). If the constructs were redundant, this pattern of results would not be expected.

Together, this sort of theoretical reasoning and empirical evidence suggests that although the two scales tap related constructs, need for cognition and need to evaluate cannot be conceptualized as tapping one single construct in two different ways.

The Current Research

The remainder of this memo reports our findings on need for cognition and need to evaluate using data from the 1998 NES Pilot Study. We begin by discussing how these constructs were measured and how they are related to one another and to demographic variables. We then establish the validity of the NE measure by showing it correlates as expected with the frequency with which people say “don’t know” when asked to report their attitudes and with the extremity of their attitude reports. We then explore the effects of need for cognition and need to evaluate on the ingredients of political candidate evaluations, on various forms of political participation, on news-media usage, and on the likelihood of feeling emotions toward candidates during the course of election campaigns. Finally, we present evidence regarding the impact of NC and NE on respondents’ enjoyment of the survey process itself.

Measures

Need for Cognition

The original eighteen-item battery designed to measure need for cognition is so long partly because it is designed to both create and then minimize the impact of acquiescence response bias (see Krosnick & Fabrigar, forthcoming). Some people are inclined to agree with any proposition, regardless of its content. Therefore, batteries involving agree/disagree response scales must balance equal numbers of statements asserting high and low levels of the construct, so the tendency to agree with

anything will yield a moderate score on the dimension, rather than either a high or low score.

In designing the items to measure need for cognition in the 1998 NES Pilot Study, we sought to avoid the inefficiency of this approach. To do so, we followed the recommendation supported by past studies in this area: we avoided agree/disagree response scales and instead offered balanced rating scales asking explicitly about each judgment to be made. As shown by the asterisks in Table 1, we chose to rewrite in this format the two items that loaded most strongly on the latent construct in Cacioppo and Petty's (1982) factor analysis.

Specifically, the first of two items measuring need for cognition asked:

“Some people like to have responsibility for handling situations that require a lot of thinking, and other people don't like to have responsibility for situations like that. What about you? Do you like having responsibility for handling situations that require a lot of thinking, do you dislike it, or do you neither like nor dislike it?”

Respondents who reported “like” or “dislike” were then asked if they like or dislike it “a lot” or “somewhat.” People were assigned scores of 0 if they said “dislike a lot,” .25 if they said “dislike somewhat,” .50 if they said “neither like nor dislike,” .75 if they said “like somewhat,” and 1.0 if they said “like a lot.”

The second question measuring need for cognition asked:

“Some people prefer to solve simple problems instead of complex ones, whereas other people prefer to solve more complex problems. Which type of problem to you prefer to solve: simple or complex?”

People were given scores of 0 and 1 for the two respective answers.

To construct an index, respondents' scores for these two items were standardized; the

standardized scores were then averaged and recoded to range from 0 to 1. Thus, for each respondent, 1 indicated maximal need for cognition, and 0 indicated minimal need for cognition.

The two need for cognition questions were asked near the end of the 1998 NES Pilot Study interviews, and the order in which they were asked was rotated randomly across respondents. The reliability of this index was adequate, as measured by a Chronbach's alpha of .58. As shown in Figure 1, the distribution of need for cognition scores was slightly skewed, with a greater percentage of respondents being classified as “maximal” in need for cognition than would be found in a normal distribution.

Need to Evaluate

As with need for cognition, need to evaluate has been measured with a lengthy battery of items in order to overcome the psychometric drawbacks of using a single, generic response scale that is susceptible to distortion by a confirmatory bias in reasoning (which would lead people to overestimate the extent to which all statements describe them). We therefore wrote three items using varying response scales and avoiding this problem. In selecting the three items to rewrite, we chose to avoid items asking about strength of opinions and instead focused on the three highest-loading items that address the number of opinions respondents form.

The first of the three questions we wrote asked:

“Some people have opinions about almost everything; other people have opinions about just some things; and still other people have very few opinions. What about you? Would you say you have opinions about almost everything, about many things, about some things, or about very few things?”

Respondents were scored 0 if they said “about very few things,” .33 if they said “about some things,”

.66 if they said “about many things,” and 1.0 if they said “about almost everything.”

The second question asked:

“Compared to the average person, do you have fewer opinions about whether things are good or bad, about the same number of opinions, or more opinions?”

Respondents who said “fewer” or “more” were asked whether they had “a lot” or “somewhat” fewer or more opinions. Respondents were scored 0 if they said “a lot fewer,” .25 if they said “somewhat fewer,” .50 if they said “about the same,” .75 if they said “somewhat more,” and 1.0 if they said “a lot more.”

The third question asked:

“Some people say that it is important to have definite opinions about lots of things, while other people think that it is better to remain neutral on most issues. What about you? Do you think it is better to have definite opinions about lots of things or to remain neutral on most issues?”

Respondents who offered the first answer were scored 1; respondents who gave the second answer were coded 0.

Respondents’ three scores were standardized; the standardized scores were then averaged and recoded to range from 0 to 1. Thus, for each respondent, 1 indicated maximal need to evaluate, and 0 indicated minimal need to evaluate. The reliability of this index was adequate, as indicated by a Chronbach's alpha of .53. As shown in Figure 2, the measure yielded a relatively normal distribution.

In the 1998 NES Pilot Study, the order in which the three questions were asked was rotated randomly across respondents. And respondents were randomly assigned to be asked the need to evaluate questions either near the start of the interview or near the end of the interview. This is particularly interesting, because question context could conceivably influence the strategies that people

employ when answering the need to evaluate questions. Specifically, if asked at the start of an interview, respondents might properly interpret them as referring to their tendency to form all sorts of evaluations, across social contexts. But if the need to evaluate questions are asked after a long series of questions about politics, a respondent might be especially likely to use his or her tendency to form political evaluations as a basis for answering the questions about the tendency to form evaluations in general. If this is the case, any findings on apparent effects of need to evaluate might not be attributable to a general orientation, favorable or unfavorable, toward evaluating, but rather to a less-interest, politics-specific tendency.

We will report some evidence directly testing this proposition and providing reassurance about the proper interpretation of apparent effects of need to evaluate. But in the meantime, it is useful to note that there was no difference in mean level of need for cognition between the two groups of respondents who answered the need to evaluate questions early and late in the interview ($t=0.42$, ns).

The Relation Between NC and NE

Remarkably, NC and NE, as measured in the NES pilot study, were correlated with one another almost exactly as strongly ($r=.30$, $p<.001$) as they have been in past laboratory studies of college undergraduates using the full batteries to measure the constructs (e.g., $r=.35$, Jarvis & Petty, 1996). However, both of these correlations are attenuated by random measurement error, so we implemented structural equation modeling to estimate the true correlation between the constructs.

Specifically, we estimated the parameters of the model shown in Figure 3, which posits that the NC indicators reflect a latent NC construct and that the NE indicators reflect a latent NE construct. This model fit the observed data excellently ($\chi^2(4)=2.92$, ns; $\chi^2/df=0.57$, RMSEA= 0.0, GFI=.99; $N=1034$). The estimated true correlation between NC and NE was .47, certainly stronger than the

simpler correlation reported above, but also far from 1.0, which would be required for the two measures to be tapping the same latent construct. To test this latter possibility more formally, we re-estimated the parameters of the model in Figure 3, this time constraining the correlation between the latent constructs to be 1.0. This constraint significantly and dramatically reduced the fit of the model ($\Delta\chi^2(1)=175.5$, $p<0.0001$) and yielded parameters that clearly did not fit the data ($\chi^2(5)=178.42$, $p<0.0001$; $\chi^2/df=35.7$, RMSEA= 0.18, GFI=.93; N=1034; see Figure 4 for the parameter estimates). This clearly indicates that NC and NE are not the same construct measured in two different ways, though the two do overlap, sharing about 25% of their true variance.

To assess the impact of the question order manipulation involving the NE items, we compared the correlation between need to evaluate and need for cognition, computed separately for people who reported NE early and late in the interviews. These two correlations did not differ significantly from one another ($z=0.05$, ns), suggesting no order effect.

It is interesting to note that the validities of the items measuring need for cognition and need to evaluate mirror those obtained in past investigations. For example, the first indicator of need for cognition was more valid ($b=.82$, $p<.01$; see Figure 3) than the second indicator ($b=.59$, $p<.01$), which corresponds to the fact that the first of these had a higher factor loading in Cacioppo and Petty's (1982) investigation (see Table 1). Likewise, the first indicator of need to evaluate had a higher validity ($b=.66$, $p<.01$) than the second indicator ($b=.61$, $p<.01$), which in turn had a higher validity than the third indicator ($b=.52$, $p<.01$), mirroring Jarvis and Petty's (1996) finding (see Table 2). This provides some added reassurance about the validity of these data.

Analysis Strategy

In examining most dependent variables considered below, five OLS regressions were

conducted. In the first, age, education, gender, income, race, interest in politics, and political knowledge were used to predict the dependent variable. Each of these predictors and the dependent variable was coded to range from zero to one, with zero indicating the lowest possible level of a construct, and one indicating the highest possible level, with the exception of gender, which was coded “0” for males and “1” for females, and race, which was coded “0” for whites and “1” for all other races.

Next, need for cognition was added to these six predictors in a second regression. In the third analysis, need to evaluate replaced need for cognition. In the fourth analysis, both need for cognition and need to evaluate were included. Finally, the fifth regression included the six demographic variables, need for cognition, need to evaluate, and a term representing the interaction of need for cognition and need to evaluate. Whenever the interaction was not significant, the parameter estimates described in the text of this paper refer to those from the fourth analysis -- the regression including the demographic variables and both NE and NC, but without the interaction term. When the interaction was significant, we concentrate on the final equation’s results.

Demographics

We first examined whether need for cognition and need to evaluate are related to a variety of demographic variables to determine if further analyses should include such demographic variables as controls. As shown in the first two columns of Table 3, multivariate regressions showed that age ($b = -.27, p < .01$), gender ($b = -.06, p < .01$), political knowledge ($b = .08, p < .01$), education ($b = .24, p < .01$), and political interest ($b = .17, p < .01$) predicted need for cognition. Consistent with prior research, older people, females, and less educated people tended to manifest lower NC than younger people, males, and more educated people. Also, not surprisingly, people possessing more political knowledge also

manifested higher NC.

Higher need to evaluate was also associated with higher levels of formal education ($b=.06$, $p<.10$) and political interest ($b=.24$, $p<.01$). Further, older people tended to demonstrate lower levels of need to evaluate ($b=-.09$, $p<.05$). The sizable differences between the demographic correlates of NC and NE further reinforce the notion that these reflect two independent constructs.

It is useful to note that when estimated in a bivariate manner, additional reliable associations of various variables with NC and NE appear (see columns 3 and 4 of Table 3). Controlling for the other predictors in the regression thus caused these associations to disappear. Indeed, all variables showed at least one marginally significant association with either need for cognition or need to evaluate under this bivariate analysis.

To assess the impact of the question order manipulation of need to evaluate, we correlated need to evaluate with the seven demographic variables separately for people asked the NE items early and late in the interview. Six of these correlation coefficient pairs were not significantly different ($Z_{age}=0.23$, $Z_{gender}=0.00$, $Z_{knowledge}=0.02$, $Z_{interest}=0.47$, $Z_{education}=1.13$, $Z_{income}=0.64$; all $ps>.13$). The correlation between need to evaluate and race varied significantly ($Z_{diff}=1.88$, $p=.03$), being stronger when NE was measured early ($r=-.12$) than when it was measured late ($r=.01$). Of course, it is impossible to know which of these two correlations is more “accurate,” and the correlation being stronger early in the interview does not fit with the notion that late question placement caused correlations to become stronger. In general, then, this evidence is largely reassuring about minimal question order effects, while keeping us alert to investigate them further, which we shall.

Don't-Know Responses

An important test for validating the measure of NE is its association with “don't know”

responses to attitude questions. If the NE measure works as expected, then low NE individuals should have fewer attitudes and should therefore be more likely to volunteer “don’t know” responses to such questions. This has been shown in prior laboratory work on the need to evaluate (Jarvis & Petty, 1996; Petty & Jarvis, 1996), so we expected it to appear in the NES data as well. Furthermore, Krosnick (1991) proposed that “don’t know” responses are sometimes the result of survey satisficing: the decision by some respondents not to exert the cognitive effort required to report attitudes they do hold. So we would expect more “don’t know” responses from people low in NC as well.

To test these propositions, we began by identifying all the items in the 1998 NES Pilot Study that measured attitudes but did not explicitly offer a “don’t know” response option (so as to most effectively measure true attitude holding, rather than using items that offer “don’t know” responses and therefore encourage satisficing). There turned out to be remarkably few of these, addressing approval of the Governor’s job performance, support of limits on welfare, abortion, affirmative action in hiring practices, and affirmative action in college admissions. We then computed the number of “don’t know” responses each person volunteered when answering these questions. Fully 1044 respondents offered none, 135 people offered one, 22 people offered two, two people offered three, and no one said “don’t know” to all four items. Thus, the variable we computed was quite skewed.

As shown in the first column of Table 4, bivariate associations of “don’t know” responding with the demographic variables yielded three associations consistent with prior research (e.g., Krosnick & Milburn, 1990): more “don’t knows” from women ($b=.01$, $p<.05$), less politically knowledgeable people ($b=-.02$, $p<.01$), less educated people ($b=-.03$, $p<.01$), and less politically interested people ($b=-.03$, $p<.01$). Surprisingly, we did not see evidence here replicating past findings that showed more “don’t know” responses from older people ($b=.01$, ns), non-whites ($b=.00$, ns), and lower income

respondents ($b = -.01$, ns). Furthermore, the only predictors significantly associated with “don’t know” responses in the multivariate regression were education ($b = -.02$, $p < .01$ in columns 2 and 4 of Table 4) and political interest ($b < -.02$, $p < .01$), again failing to replicate some reliable multivariate relations documented in prior research (Krosnick & Milburn, 1990). All this suggests the 1998 pilot study measure of “don’t know” responding performed reasonably well but may not have been sufficiently broad to capture the general tendency to measure “don’t know” responding fully effectively.

Nonetheless, as shown in the final column of Table 4, we found a significant and sensible interaction between NC and NE in predicting “don’t know” responding. Such responses were significantly more common among people either low in NC or people low in NE than among people high in both of these constructs. This is reassuring about the validity of the measures of these latter constructs.

Attitude Extremity

If need to evaluate does indeed predict the extent to which people have opinions, we would expect that people high in need to evaluate to report more extreme attitudes than would people low in need to evaluate. People low in need to evaluate might select moderate or neutral responses to attitude questions in order to make it clear that they have no leaning one way the other while not having to say “don’t know.”

One might imagine that NC would predict attitude extremity as well, because thought about an attitude object has been shown to yield attitude polarization (e.g., Tesser, 1978). However, thinking does not always yield increased extremity, because the effect depends on the contents of the thoughts a person generates. Attitude polarization will occur if the thoughts one generates are primarily supportive of a single attitude judgment (either favorable or unfavorable). But if a person generates a mix of positive

and negative thoughts about an object, attitudes could become more moderate instead of more extreme (cf. Judd & Lusk, 1984). Therefore, there is no powerful basis for expecting NC to be associated with attitude extremity.

To assess attitude extremity, we used respondents' reports of their attitudes toward various people and social groups on 101-point "feeling thermometers." For each of the eight feeling thermometers administered in the 1998 survey, the extremity score we generated was the absolute value of the difference between the respondent's answer and the scale midpoint (i.e., 50). Thus, scores could range from zero (i.e., the respondent rated the attitude object at the midpoint) to 50 (i.e., the respondent reported the object at either endpoint). These extremity scores were averaged across objects and were then recoded to range from 0 to 1. As shown in column 5 of Table 5, people high in need to evaluate did indeed report more extreme attitudes ($b=.15, p<.01$); no such effect was found for need for cognition ($b=.01, ns$). This suggests that although thinking does not necessarily lead to more extreme attitudes, NE does, as expected.

The Ingredients of Candidate Preferences

Having established the validity of the NC and NE measures, we proceeded to test the notion that these dispositions might regulate the process by which people form candidate evaluations. Specifically, we expected high levels of NC to be associated with a greater tendency to use policy issues to form candidate preferences, and we expected high levels of NE to be associated with an increased tendency to use all attitudes to form candidate preferences.

Respondents were asked where they stood on four policy issues: health care, welfare reform, abortion, and affirmative action. Responses to these four items were coded to range from 0 to 1, with 0 indicating the most conservative response and 1 indicating the most liberal response. Respondents were

also asked to rate each of the two major-party candidates for governor on 101-point feeling thermometer scales. An overall candidate preference score was computed by subtracting the score for the Republican candidate from the score for the Democratic candidate. This difference score was then recoded to range from 0 to 1, with 0 indicating the strongest possible preference for the Republican candidate and 1 indicating the strongest possible preference for the Democratic candidate.

To identify consequential issues in the gubernatorial campaigns, we began by assessing which issues predicted candidate preferences for the sample as a whole. To do so, we conducted four OLS regressions, predicting candidate preference with age, race, gender, income, political knowledge, education, party identification (measured on the standard 7-point scale), and stances on each of four policy issues. Only the issues of welfare reform and abortion predicted variance in candidate preference not explained by the other variables ($b_s > .03$, $p_s < .05$; other $b_s < .03$, ns). In both cases, more liberal stands on the issue were associated with significantly greater preference for the democratic gubernatorial candidate. Therefore, stands on these two issues were averaged to yield a measure of issue stands for our main analyses.

To assess whether people low in need for cognition or need to evaluate were more likely to base their candidate evaluations on issues or party identification, we estimated the parameters of the equations shown in Table 6 via OLS. The equation in the first column tests the moderating effects of need for cognition and need to evaluate on the impact of issues and party identification. Of the four interesting interactions here, only one turned out to be statistically significant: the interaction between party identification and need to evaluate ($b = .11$, $p < .05$). The parameter estimates indicate that party identification did not have a significant impact on candidate preferences among people at the lowest point on the need to evaluate scale ($b = .00$, n.s.). But the effect of party identification was strong and

significant among people at the highest point on the need to evaluate continuum ($b=.11$, $p<.05$).

As we have in prior analyses, we next assessed whether the apparent moderating effect of need to evaluate would be sustained when controlling for political knowledge. To do so, we added to the regression equation two interactions: the interaction between knowledge and issue stances, and the interaction between knowledge and party identification (see column 2 of Table 6). Importantly, the moderating effect of need to evaluate was just as sizable and significant in this equation as it had been before controlling for knowledge ($b=.11$, $p<.05$).

Our final step here was to see whether need for cognition and need to evaluate might interact in moderating the impact of issues or party identification. To do so, we added two three-way interaction terms (and a requisite two-way interaction) to create the equation displayed in the last column of Table 6. As is apparent there, neither of the three-way interactions was significant. Thus, it appears that need to evaluate alone partly regulates the impact of party identification on candidate preferences. Specifically, participants high in need to evaluate tended to rely on party identification more than did participants low in need to evaluate. Because this result is not precisely in line with our expectations, it clearly deserves further study. And its existence and apparent robustness seems to offer justification for doing such investigation.

To assess whether the apparent moderating impact of need to evaluate differed depending upon whether NE was measured early or late in the survey, we estimated the regression equation in the second column of Table 6 twice, once for people who received each of the two question orders. And in fact, the (issue stance x need to evaluate) interaction did not differ significantly between the two groups ($z=1.41$, ns). Interestingly, there was one marginally significant difference between the two half-samples, involving the (issue stance x knowledge) interaction ($z=1.79$, $p=.08$). Issue stances had no

impact on candidate preferences among people asked the NE questions early (issue stance main effect: $b = -.12$, ns; issue stance x knowledge interaction: $b = .05$, ns). But among people asked the NE questions late, the interaction we saw for the full sample appeared (issue stance main effect: $b = -.09$, ns; issue stance x knowledge interaction: $b = .38$, $p < .01$): issue stances affected candidate preferences among people high in political knowledge but not among people low in knowledge. Because the measurement of issue stances and knowledge was identical in the two half-samples, it is strange that this difference should appear, but it appears to be robust and may reflect other differences.

Political Behavior

Political Participation

Next, we turned to testing the hypotheses that people high in need to evaluate and need for cognition may be more likely to engage in various forms of political activities.

Electoral activism. We began by focusing on electoral activism. Respondents were asked to what extent they engaged in four types of political endeavors: (1) encouraging others to vote, (2) attending a political rally, (3) wearing a political button, and (4) working for a political candidate. After coding each to range from 0 to 1, these four variables were averaged to yield an activity index. As shown in Table 7, need for cognition and need to evaluate interacted in predicting electoral activism ($b = .43$, $p < .05$), suggesting that activism was greatest among people high in both NC and NE. The magnitude of this effect is strikingly strong in comparison to the notably weaker effects of political knowledge, education (which remarkably has a marginally significant negative effect on activism), and income, which are well-established predictors of such activism (Rosenstone & Hansen, 1993).

To assess the degree to which these results hinge on question placement, we estimated these regression equations separately for respondents who were asked the NE questions early and late in their

interviews. Fascinating results emerged from this analysis, suggesting that question order may have had some impact. When NE was measured early, the independent effects of NC and NE both appeared ($b=.21$, $p<.01$, and $b=.24$, $p<.01$, in column 4 of Table 8), as did the interaction between them ($b=.47$, $p<.10$, in column 5 of Table 9). But when NE was measured late in the interview, the apparent effects of NC disappeared (see Table 9). Thus, late question placement does appear to have strengthened the apparent effect of NE, thus eliminating the apparent effect of NC. Because early measurement is probably purer and less politics-specific, we are inclined to place greater faith in the results in Table 8, which indicate reliable effects of both NC and NE on electoral activism.

Turnout. Next, we explored the impact of these variables on predicted turnout in the 1998 gubernatorial elections. As shown in Table 10, people higher in need to evaluate said they were more likely to vote ($b=.10$, $p<.01$), consistent with the notion that having a candidate preference inspires the desire to express that preference. However, a surprising effect of need for cognition appeared: when accounting for need to evaluate, high need for cognition was associated with a lower perceived likelihood of voting ($b=-.10$, $p<.05$).

As shown in Tables 11 and 12, when analyzing people who answered the NE questions early and late in the interviews separately, the effects of NC and NE remain in the same direction and of the same size but are marginally significant or non-significant. Thus, it appears that though the trends remain between both subsets of respondents, the weakened statistical power from this reduced sample size was enough to weaken the significance of the effects.

News Media Usage

If people who like to think and evaluate are more attracted to information about political campaigns, these individuals may be especially likely to seek out such information provided by the news

media. To test this hypothesis, we standardized and averaged answers to three questions (“Did you read about the campaign in any newspaper?” “How much attention did you pay to newspaper articles about the campaign for Governor of [state]?” and “How much attention did you pay to news on local news shows about the campaign for Governor?”) to yield an index of media use to gain information about the gubernatorial campaign. As shown in Table 13, people high in need to evaluate were indeed more likely to have used the media to follow the political campaign ($b=.06$, $p<.01$), though people high in need for cognition were not ($b=.03$, ns).

Mediation by Opinion-Holding or Extremity?

We previously suggested that need to evaluate might inspire political behavior because HNE individuals hold more opinions and hold more extreme opinions, which might motivate them to express those preferences through visible and consequential actions. To test this possibility, we conducted the regressions shown in Tables 7, 10, and 13 again, this time controlling for the number of “don’t know” responses made by respondents to the five attitude questions used earlier, and for the average extremity of respondents’ ratings of people and groups on the feeling thermometers.

As expected, controlling for the demographics, more “don’t know” responses were associated with significantly less electoral activism ($b=-.43$, $p<.05$) and less news media use to learn about campaigns ($b=-.14$, $p<.09$), though not significantly less intention to vote ($b=-.12$, ns). Surprisingly, extremity was not associated with electoral activism ($b=.06$, ns), turnout ($b=.05$, ns), or news media use to learn about campaigns ($b=-.04$, ns). But most importantly, controlling for “don’t knows” and for extremity did not reduce the magnitudes of the effects of need for cognition and need to evaluate on these three forms of political behavior. This is surprising, because it suggests our hypotheses about mediation were not correct. But this finding does suggest that the roles of NC and NE cannot be

documented simply by using “don’t knows” and extremity as proxy measures for the personality dispositions.

Emotion

If people high in need for cognition and need to evaluate are especially likely to follow information about campaign, they may be especially likely to manifest emotional responses to such information as well. In the 1998 NES pilot study, respondents were asked if the gubernatorial candidates made/make them feel proud, afraid, hopeful, and angry using three different question wordings. The wording most suitable for testing our hypothesis asked:

“Has [candidate] ever made you feel [emotion]?” People who said “yes” were then asked,

“How often have you felt this way?”

Responses for each emotion were scored to range from zero to one, with one indicating maximal frequency and zero indicating minimal frequency, and were averaged to yield an overall index of emotional response frequency. As shown in Table 14, such responses were marginally significantly more common among people higher in need to evaluate ($b=.05$, $p<.10$), though not among people higher in need for cognition ($b=.03$, ns).

Interestingly, these relations were not apparent when emotional reactions were assessed via two other question wordings. For example, some respondents were asked:

“Thinking about [candidate], do you feel [emotion]?” If respondents responded “yes,” this

question was followed up with, “would you say very [emotion] or somewhat [emotion]?”

Responses to these questions were again coded to range from 0 to 1, with 1 meaning maximum emotional extent. Because this question wording induces all respondents to think about the candidates, and because NE is typically uncorrelated with general emotional reactivity (see Jarvis & Petty, 1996), it

is not surprising that NC and NE are not related to the strength of emotional reactions the candidates evoked during the NES interviews (see Table 15).

The remaining respondents were asked about their emotional reactions using yet another wording:

“Has [candidate], because of the kind of person he is or because of something he has done ever made you feel [emotion]?” This question was then followed up with, “How often has he made you feel this way?”

On the surface, this question wording might seem to parallel the first wording we analyzed above. But this latter wording includes an additional phrase that, while adding no needed clarification and not changing the question’s meaning, adds to the cognitive burden imposed by interpreting the longer question and may therefore compromise the quality of responses offered to it. Indeed, as shown in Table 16, no significant relations between emotional reactions and need for cognition or need to evaluate were found.

This suggests that the wording of the emotions questions does in fact alter observed relations. We are inclined to doubt the effectiveness of the last question wording (because of its unnecessarily enhanced cognitive burden) and favor the simpler wording for assessing the same construct. However, we are not inclined to view our results as showing that the simpler retrospective question is somehow superior to the currently focused alternative we considered second. Frequency of feeling an emotion in the past is a different construct from intensity of feeling an emotion in the present, and both constructs are likely to be useful in understanding the impact of campaigns generally and the impact of emotions on candidate evaluations and voting in particular.

Enjoyment of the Survey Process

Upon completion of an interview, interviewers indicated which (if any) of thirteen descriptors characterized the respondent's reaction to the interview. Four statements indicated general negativity (e.g., "Negative - too complicated"); one indicated the extent to which the respondent seemed to enjoy the interview (which we reverse scored); three indicated embarrassment (e.g., "Respondent expressed doubt, apologies, or embarrassment of lack of knowledge or own suitability for the interview"), and two indicated frustration (e.g., "Respondent became angry at interview content"). These items were combined to form an overall "survey displeasure" index to then use to test the hypothesis that respondents higher in need for cognition and higher in need to evaluate would enjoy taking part in the survey more.

As shown in Table 17, a significant interaction between need for cognition and need to evaluate appeared in predicting survey displeasure ($b=.11$, $p<.10$). Being high in either NC or NE led to less survey displeasure. But people high in both NC and NE did not manifest even less survey displeasure than people high in only one construct but not the other. Thus, being low in both NC and NE was necessary to reduce enjoyment of the survey process.

Interviewers were also asked whether the respondent expressed the desire to stop the interview before it was completed or made comments indicating that they regretted agreeing to take part in the interview. We refer to this construct as "desire to terminate." A mere 20 people of the 1203 interviewed for this study expressed such a desire: 1.7%. Clearly, this was a behavioral sign of severe displeasure with the process. One might imagine this distribution was much too skewed to reveal any effects. But in fact, prediction did occur.

As shown in column 5 of Table 18, an interaction between NC and NE appeared predicting

desire to terminate ($b = -.10$, $p < .05$). Being high in need to evaluate and low in need for cognition led to more desire to terminate the interview. Among people high in need for cognition, need to evaluate had no effect on desire to terminate.

This may be explained by the significant interaction between need for cognition and need to evaluate, as shown in the last column of Table 17. Among people low in need for cognition, higher need to evaluate was associated with a greater desire to terminate ($b = .10$, $p < .05$). Presumably, people low in need for cognition were not especially inclined to like the survey experience, and those of them who were higher in need to evaluate were more likely to evaluate the quality of the survey experience and notice that it was unpleasant (while LNC/LNEs just went with the flow of the experience, not stopping to evaluate it and note it was unpleasant). But among people high in need for cognition, need to evaluate had no effect on the desire to terminate @@needs to be changed? ($b = .09 - .10 = -.01$), because these individuals all presumably enjoyed the experience, and noting that would not alter a person's likelihood of expressing a desire to terminate (which *a priori* was extremely low). This again alerts us to the potential that survey data quality may vary depending upon NC and NE.

Summary and Implications

Need for cognition and need to evaluate are two constructs that social psychologists use to understand differences in the extent to which people think and evaluate. Because political reasoning and behavior may vary as the result of dispositions to think and evaluate (just as many other sorts of reasoning and behavior do), these variables may be of interest to political scientists as well. Indeed, need for cognition and need to evaluate each yielded many interesting findings in the 1998 NES pilot study.

High need for cognition was associated with more electoral activism, more news media

exposure to follow the campaign, and more emotional reactions to candidates during the campaign. These three associations are all evidence of greater involvement, both cognitively and behaviorally, in the campaign. In addition, people low in need for cognition were less likely to enjoy the survey process and may therefore have said “don’t know” more often when asked attitude questions as a reflection of survey satisficing. These two latter findings suggest that survey analysts should be careful about the general quality of data provided by LNC respondents.

High need to evaluate was independently associated with various indicators of political involvement, including electoral activism, voter turnout, news media exposure, and emotional reactions to the candidates. In addition, it appears that candidate preferences were based more on party affiliation among HNE individuals than among LNE individuals, perhaps because the former individuals were more likely to have real party affiliations before the NES interviews began. And finally, lower need to evaluate individuals were less likely to enjoy the survey interview process and were apparently more likely to notice their displeasure and express it via a desire to end the interview.

The analyses we have reported here certainly do not tell the whole story on the roles of need for cognition and need to evaluate in politics. There are a few more interesting analyses to do with the 1998 NES Pilot Study data, and we plan to do them soon. But the findings we reported here raise a range of interesting questions that cannot be pursued with the data from the Pilot Study, because of its limited questionnaire content. We therefore see promise in including measures of NC and NE in the 2000 NES.

Making Measurement More Efficient

Doing so would involve only a small handful of items, but the results appearing in Figure 3 suggest a strategy for making this handful even smaller. The confirmatory factor analysis we conducted

suggested that the third indicator of NE was less reliable than the other two indicators. Therefore, it might be possible to drop it and not to significantly compromise the quality of measurement of that construct. We are currently in the process of redoing all the analyses reported in this memo using only the first two indicators of NE to see if our findings are significantly weakened. If not, it would seem prudent to consider dropping the third indicator if the other two can be included in the 2000 NES. It is interesting to note that the comparable item was also least reliable in Jarvis and Petty's (1996) original factor analysis (see Table 2), which reinforces the notion that it is a bit less effective.

Would it be possible to go even a step further, dropping additional indicators of NC and NE and measuring these constructs using only one question each? According to the results in Figure 3, there is substantial unreliability in the individual indicators, so going with one alone would most likely compromise measurement quality substantially. But if the Board has an interest in this possibility, we can certainly redo the analyses in this memo using only a single indicator each to assess the impact of improving efficiency in this way.

Coda

The study of personality is nothing new in political science and public opinion, as evidenced by such landmark books as Laswell's (1930) Psychopathology and Politics, Greenstein's (1969) Personality and Politics, Adorno, Frenkel-Brunswick, Levinson, and Sanford's (1950) The Authoritarian Personality, Smith, Bruner, and White's (1956) Opinions and Personality, and Sniderman's (1975) Personality and Democratic Politics. Even the use of personality to understand the dynamics of voting and elections is nothing new, as illustrated by the final empirical chapter in The American Voter (Campbell, Converse, Miller, & Stokes, 1960), which demonstrated how "sense of personal effectiveness" affected voter turnout. But personality has hardly been in the spotlight in recent

investigations of elections.

In this memo, we have reported evidence suggesting there may still be promise of innovation and value in this enterprise: understanding how ordinary citizens approach the world of politics using the more general dispositions that they bring from outside that world and that govern all of their thinking and action, political and non-political alike. Rather than focusing on psychopathology or personality disorders, as the older work did, we have focused instead on dispositions with a more contemporary, cognitive flavor: regarding information processing styles and proclivities. And we have seen that they do indeed afford empirical leverage in understanding electoral behavior. Thus, resurrection of the “old” personality approach to politics may well be in order more generally.

References

- Adorno, T. W., Frenkel-Brunswick, E., Levinson, D. J., & Sanford, R. N. (1950). The authoritarian personality. New York: Harper and Row.
- Bouchard, T. J., Jr., & Pedersen, N. (1999). Twins reared apart: nature's double experiment. In M. L. LaBuda & E. L. Grigorenko (Eds.), On the way to individuality: Current methodological issues in behavioral genetics (pp. 71-93). Commack, NY: Nova Science Publishers, Inc.
- Brewer, M. B., & Campbell, D. T. (1970). Testing a single-factor model as an alternative to the misuse of partial correlations in hypothesis-testing research. Sociometry, 33, 1-11.
- Cacioppo, J. T., & Petty, R. E. (1982). The need for cognition. Journal of Personality and Social Psychology, 42, 116-131.
- Cacioppo, J. T., Petty, R. E., Feinstein, J. A., & Jarvis, W. B. (1996). Dispositional differences in cognitive motivation: The life and times of individuals varying in need for cognition. Psychological Bulletin, 119, 197-253.
- Cacioppo, J. T., Petty, R. E., & Kao, C. (1984). The efficient assessment of need for cognition. Journal of Personality Assessment, 48, 306-307.
- Campbell, A., Converse, P. E., Miller, W. E., & Stokes, D. E. (1960). The American Voter. Chicago: University of Chicago Press.
- Dahl, R. A. (1956). A preface to democratic theory. Chicago: University of Chicago Press.
- Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. In M. R. Rosenzweig & L. W. Porter (Eds.), Annual review of psychology, Vol. 41 (pp. 417-440). Palo Alto, CA: Annual Reviews.

- Enelow, J. M., & Hinich, M. (1984). The spatial theory of voting: An introduction. Cambridge, England: Cambridge University Press.
- Greenstein, F. I. (1969). Personality and politics. Princeton, NJ: Princeton University Press.
- Haugtvedt, C. P., & Petty, R. E. (1992). Personality and persuasion: Need for cognition moderates the persistence and resistance of attitude changes. Journal of Personality and Social Psychology, 68, 308-319.
- Hermans, D., & Eelen, P. (in press). A time analysis of the affective priming effect. Cognition and Emotion.
- Jarvis, W. B., & Petty, R. E. (1996). The need to evaluate. Journal of Personality and Social Psychology, 70, 172-194.
- Judd, C. M., & Lusk, C. M. (1984). Knowledge structures and evaluative judgments: Effects of structural variables on judgmental extremity. Journal of Personality and Social Psychology, 46, 1193-1207.
- Kinder, D. R., & Sears, D. O. (1985). Public opinion and political action. In G. Lindzey & E. Aronson (Eds.), Handbook of social psychology. New York: Random House.
- Krosnick, J. A. (1991). Response strategies for coping with the cognitive demands of attitude measures in surveys. Applied Cognitive Psychology, 5, 213-236.
- Krosnick, J. A., & Fabrigar, L. R. (forthcoming). Designing great questionnaires: Insights from psychology. New York: Oxford University Press.
- Krosnick, J. A., & Milburn, M. A. (1990). Psychological determinants of political opinionation. Social Cognition, 8, 49-72.
- Krosnick, J. A., Narayan, S., & Smith, W. R. (1996). Satisficing in surveys: Initial evidence. New

Directions for Evaluation, 70, 29-44.

Lasswell, H. D. (1930). Psychopathology and politics. Chicago: University of Chicago Press.

Pennock, J. R. (1979). Democratic political theory. Princeton, NJ: Princeton University Press.

Petty, R. E., & Cacioppo, J. T. (1986). Communication and persuasion: Central and peripheral routes to attitude change. New York: Springer-Verlag.

Petty, R. E., Haugtvedt, C. P., & Smith, S. M. (1995). Elaboration as a determinant of attitude strength: Creating attitudes that are persistent, resistant, and predictive of behavior. In R. E. & J. A. Krosnick (Eds.), Attitude strength: Antecedents and consequences (pp. 93-130). Mahwah, NJ: Lawrence Erlbaum Associates.

Petty, R. E., & Jarvis, B. G. (1996) An individual differences perspective on assessing cognitive processes. In N. Schwarz & S. Sudman (Eds.), Answering questions: Methodology for determining cognitive and communicative processes in survey research (pp. 221-257). San Francisco: Jossey-Bass.

Rosenstone, S. J., & Hansen, J. M. (1993). Mobilization, participation, and democracy in America. New York: Macmillan.

Skinner, B. F. (1957). Verbal behavior. New York: Macmillan.

Smith, M. B., Bruner, J. S., & White, R. W. (1956). Opinions and personality. New York: Wiley.

Sniderman, P. M. (1975). Personality and democratic politics. Berkeley, CA: University of California Press.

Tesser, A. (1978). Self generated attitude change. Advances in Experimental Social Psychology, 2, 289-338.

Tolentino, E., Curry, L., & Leak, G. (1990). Further validation of the short form of the Need for

Cognition Scale. Psychological Reports, 66, 321-322.

Tormala, Z. L., & Petty, R. E. (1999, May). On-line versus memory-based processes in attitude formation: The role of need to evaluate. Presented at the annual meeting of the Midwestern Psychological Association, Chicago, IL.

Table 1

Need for Cognition Items and Factor Loadings from Cacioppo & Petty (1982)

Item wording	Factor Loading
1. *I would prefer complex to simple problems.	.81
2. *I like to have the responsibility of handling a situation that requires a lot of thinking	.77
3. Thinking is not my idea of fun. (R)	.72
4. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities. (R)	.70
5. I try to anticipate and avoid situations where there is likely a chance I will have to think in depth about something. (R)	.69
6. I find satisfaction in deliberating hard and for long hours.	.69
7. I only think as hard as I have to. (R)	.68
8. I prefer to think about small, daily projects to long-term ones. (R)	.67
9. I like tasks that require little thought once I've learned them. (R)	.65
10. The idea of relying on thought to make my way to the top appeals to me.	.65
11. I really enjoy a task that involves coming up with new solutions to problems.	.62
12. Learning new ways to think doesn't excite me very much. (R)	.62
13. I prefer my life to be filled with puzzles that I must solve.	.61
14. The notion of thinking abstractly is appealing to me.	.58
15. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.	.58
16. I feel relief rather than satisfaction after completing a task that required a lot of mental effort. (R)	.57
17. It's enough for me that something gets the job done; I don't care how or why it works. (R)	.55
18. I usually end up deliberating about issues even when they do not affect me personally.	.53

Note. (R) indicates reverse-scored items; * indicates items used for basis of the questions in the current study.

Table 2

Need to Evaluate Items and Factor Loadings from Jarvis & Petty (1996)

Item wording	Factor Loading
1. It is very important to me to hold strong opinions.	.75
2. I like to have strong opinions even when I am not personally involved.	.71
3. I would rather have a strong opinion than no opinion at all.	.69
4. *I form opinions about everything.	.61
5. *I have many more opinions than the average person.	.61
6. I enjoy strongly liking and disliking new things.	.59
7. *I often prefer to remain neutral about complex issues. (R)	.55
8. I only form strong opinions when I have to. (R)	.54
9. It bothers me to remain neutral.	.52
19. I pay a lot of attention to whether things are good or bad.	.49
11. I want to know exactly what is good and bad about everything.	.48
12. I am pretty much indifferent to many important issues. (R)	.47
13. I prefer to avoid taking extreme positions. (R)	.47
14. There are many things for which I do not have a preference. (R)	.42
15. I like to decide that things are really good or really bad.	.42
16. If something does not affect me, I do not usually determine if it is good or bad. (R)	.39

Note. (R) indicates reverse-scored items; * indicates items used for basis of the questions in the current study.

Table 3

Demographic Variables Predicting Need for Cognition and Need to Evaluate

Predictor	Multivariate Regressions		Bivariate Associations	
	NCog	NEval	NCog	NEval
Age	-.27** (.05)	-.09* (.04)	-.12** (1160)	.04 (1065)
Race	.01 (.02)	-.02 (.02)	-.01 (1160)	-.06 ⁺ (1065)
Gender	-.06** (.02)	-.01 (.02)	-.18** (1160)	-.12** (1065)
Income	.02 (.03)	.01 (.02)	.16** (1060)	.12** (975)
Education	.24** (.04)	.06 ⁺ (.03)	.29** (1157)	.15** (1062)
Political Knowledge	.08* (.03)	.03 (.03)	.23** (1160)	.21** (1065)
Political Interest	.17** (.03)	.24** (.03)	.24** (1160)	.34** (1065)
R ²	.14	.06	- -	- -
N	1058	976	- -	- -

** $p < .01$; * $p < .05$; ⁺ $p < .10$

Note. The two multivariate regression columns display unstandardized regression coefficients with standard errors in parentheses. The two bivariate association columns display correlation coefficients with numbers of cases in parentheses.

Table 4

Need for Cognition and Need to Evaluate Predicting Don't-Know Responding

Predictor	Bivariate Associations		Multivariate Regressions			
Age	.01 (.01)	.02* (.01)	.02 (.01)	.02 (.01)	.01 (.01)	.00 (.01)
Race	.00 (.01)	-.00 (.01)	-.00 (.01)	-.00 (.01)	-.00 (.01)	-.00 (.01)
Gender	.01* (.01)	.00 (.01)	.00 (.01)	.00 (.01)	.00 (.01)	.00 (.01)
Income	-.01 (.01)	.00 (.01)	.00 (.01)	.00 (.01)	.00 (.01)	-.00 (.01)
Education	-.03** (.01)	-.02* (.01)	-.02 (.01)	-.02* (.01)	-.02* (.01)	-.02 (.01)
Political Knowledge	-.02** (.01)	-.01 (.01)	-.00 (.01)	-.00 (.01)	.00 (.01)	.00 (.01)
Political Interest	-.03** (.01)	-.02** (.01)	-.03** (.01)	-.02* (.01)	-.03** (.01)	-.03** (.01)
Need for Cognition			-.00 (.01)		.00 (.01)	-.04* (.02)
Need to Evaluate				-.01 (.01)	-.01 (.01)	-.07** (.03)
NeedCog × NeedEval						.08* (.03)
R ²		.03	.03	.03	.03	.02
N		1093	1058	976	950	950

** $p < .01$; * $p < .05$; + $p < .10$

Note: Cell entries are unstandardized regression coefficients with standard errors in parentheses.

Table 5

Need for Cognition and Need to Evaluate Predicting Attitude Extremity

Predictor					
Age	-.00 (.04)	-.01 (.04)	.00 (.04)	-.00 (.04)	-.00 (.04)
Race	.00 (.02)	.01 (.02)	.02 (.02)	.02 (.02)	.01 (.02)
Gender	.02 (.01)	.02 (.01)	.02 (.01)	.02 (.01)	.02 (.01)
Income	-.03 (.02)	-.03 (.02)	-.02 (.02)	-.03 (.02)	-.03 (.02)
Education	-.00 (.03)	-.00 (.03)	-.01 (.03)	-.00 (.03)	.00 (.03)
Political Knowledge	.05* (.02)	.05* (.02)	.06** (.03)	.06** (.03)	.06* (.03)
Political Interest	.06* (.02)	.05* (.02)	.03 (.03)	.03 (.03)	.03 (.03)
Need for Cognition		.03 (.02)		.01 (.03)	-.02 (.06)
Need to Evaluate			.16** (.03)	.15** (.03)	.11 (.07)
NeedCog × NeedEval					.06 (.09)
R ²	.02	.02	.06	.06	.06
N	1090	1055	974	948	948

** $p < .01$; * $p < .05$; + $p < .10$

Note: Cell entries are unstandardized regression coefficients with standard errors in parentheses.

Table 6
Testing Moderation of Issue Stance on Candidate Preferences by Need for Cognition and Need to Evaluate

Predictor			
Age	-.01 (.03)	-.00 (.03)	-.01 (.02)
Race	.01 (.01)	.01 (.01)	.01 (.01)
Gender	.01 (.01)	.00 (.01)	.01 (.01)
Income	.00 (.02)	.00 (.02)	.00 (.01)
Education	.01 (.02)	.01 (.02)	.02 (.02)
Political Knowledge	.01 (.02)	-.02 (.04)	.01 (.02)
Emotion	.71** (.03)	.71** (.03)	.71** (.03)
Political Interest	.03* (.02)	.03* (.02)	.03* (.02)
Issue Stance	.01 (.06)	-.02 (.07)	-.06 (.11)
Party Identification	-.00 (.04)	.01 (.04)	-.01 (.08)
Political Ideology	.06** (.02)	.05* (.02)	.06** (.02)
Need for Cognition	-.00 (.04)	-.01 (.04)	-.07 (.09)
Need to Evaluate	.08* (.05)	.09* (.05)	.00 (.11)
Issue Stance x NCog	.06 (.07)	-.01 (.07)	.22 (.17)
Issue Stance x NEval	.10 (.09)	.12 (.09)	.09 (.20)
Issue Stance x Knowledge		.12 (.07)	
Party ID x NCog	.00 (.04)	.01 (.04)	.01 (.11)
Party ID x NEval	.11* (.05)	.11* (.05)	.10 (.13)
Party ID x Knowledge		.03 (.04)	
NCog x NEval			.12 (.15)
Issue Stance x NCog x NEval			.28 (.27)
Party ID x NCog x Neval			.03 (.17)
R ²		.62	.63
N		657	657

** p<.01; * p<.05; † p<.10

Note: Cell entries are unstandardized regression coefficients with standard errors in parentheses.

Table 7

Need for Cognition and Need to Evaluate Predicting Electoral Activism among All Respondents

<u>Predictor</u>					
Age	-.04 (.08)	.02 (.08)	.00 (.08)	.05 (.09)	.04 (.09)
Race	.03 (.03)	.03 (.03)	.03 (.04)	.03 (.04)	.03 (.04)
Gender	-.07* (.03)	-.06* (.03)	-.06* (.03)	-.06+ (.03)	-.06+ (.03)
Income	-.05 (.04)	-.06 (.04)	-.04 (.04)	-.07 (.05)	-.07 (.04)
Education	-.07 (.06)	-.10 (.06)	-.10 (.06)	-.12+ (.07)	-.11+ (.07)
Political Knowledge	.04 (.05)	.02 (.05)	.05 (.06)	.04 (.06)	.05 (.06)
Political Interest	.40** (.05)	.38** (.05)	.34** (.05)	.32** (.06)	.33** (.06)
Need for Cognition		.16** (.05)		.14* (.06)	-.09 (.12)
Need to Evaluate			.29** (.06)	.26** (.07)	-.04 (.16)
NeedCog × NeedEval					.43* (.20)
R ²	.09	.10	.11	.12	.13
N	1093	1058	976	950	950

** p<.01; * p<.05; + p<.10

Note: Cell entries are unstandardized regression coefficients with standard errors in parentheses.

Table 8

Need for Cognition and Need to Evaluate Predicting Electoral Activism Among Only Respondents who Reported Need to Evaluate Early

<hr/> <u>Predictor</u> <hr/>					
Age	-.05 (.11)	.03 (.11)	.02 (.12)	.07 (.12)	.06 (.12)
Race	.07 (.05)	.09 ⁺ (.05)	.09 ⁺ (.05)	.09 ⁺ (.05)	.09 ⁺ (.05)
Gender	-.09* (.04)	-.08 ⁺ (.04)	-.10* (.05)	-.08 ⁺ (.05)	-.08 ⁺ (.05)
Income	-.06 (.06)	-.07 (.06)	-.07 (.06)	-.08 (.06)	-.09 (.06)
Education	-.08 (.08)	-.11 (.08)	-.08 (.09)	-.09 (.09)	-.09 (.09)
Political Knowledge	-.03 (.08)	-.05 (.08)	-.04 (.08)	-.05 (.08)	-.03 (.08)
Political Interest	.42** (.07)	.38** (.08)	.35** (.08)	.32** (.08)	.32** (.08)
Need for Cognition		.21** (.07)		.21** (.08)	-.05 (.18)
Need to Evaluate			.29** (.09)	.24** (.09)	-.09 (.22)
NeedCog × NeedEval					.47 ⁺ (.28)
<hr/>					
R ²	.09	.10	.11	.13	.13
N	527	513	467	459	459
<hr/>					

** $p < .01$; * $p < .05$; + $p < .10$

Note: Cell entries are unstandardized regression coefficients with standard errors in parentheses.

Table 9

Need for Cognition and Need to Evaluate Predicting Electoral Activism Among Only Respondents who Reported Need to Evaluate Late

<hr/>					
<u>Predictor</u>					
<hr/>					
Age	-.02 (.11)	.03 (.11)	-.01 (.12)	.04 (.12)	.04 (.12)
Race	-.04 (.05)	-.02 (.05)	-.01 (.05)	-.02 (.05)	-.02 (.05)
Gender	-.05 (.04)	-.06 (.04)	-.03 (.05)	-.04 (.05)	-.04 (.05)
Income	-.03 (.06)	-.06 (.06)	-.03 (.06)	-.06 (.06)	-.06 (.06)
Education	-.07 (.08)	-.09 (.09)	-.13 (.08)	-.13 (.09)	-.13 (.09)
Political Knowledge	-.09 (.07)	.07 (.07)	.11 (.08)	.11 (.08)	.11 (.08)
Political Interest	.40** (.07)	.38** (.07)	.34** (.08)	.32** (.08)	.32** (.08)
Need for Cognition		.13 ⁺ (.07)		.08 (.08)	-.09 (.17)
Need to Evaluate			.29** (.09)	.29** (.10)	.05 (.23)
NeedCog × NeedEval					.33 (.29)
<hr/>					
R ²	.10	.11	.12	.13	.13
N	565	544	467	490	490
<hr/>					

** $p < .01$; * $p < .05$; ⁺ $p < .10$

Note: Cell entries are unstandardized regression coefficients with standard errors in parentheses.

Table 10

Need for Cognition and Need to Evaluate Predicting Turnout Among All Respondents

Predictor					
Age	.17** (.05)	.16** (.05)	.17** (.05)	.16** (.05)	.16** (.05)
Race	.01 (.02)	.01 (.02)	.02 (.02)	.02 (.02)	.02 (.02)
Gender	.04* (.02)	.04* (.02)	.03 [†] (.02)	.04 (.02)	.04 (.02)
Income	.03 (.03)	.03 (.03)	.03 (.03)	.02 (.03)	.02 (.03)
Education	.06 [†] (.04)	.08* (.04)	.05 (.04)	.08* (.04)	.08* (.04)
Political Knowledge	.06* (.03)	.16* (.03)	.07* (.03)	.07* (.03)	.07* (.03)
Political Interest	.24* (.03)	.26** (.03)	.21** (.03)	.23** (.03)	.23** (.03)
Need for Cognition		-.03 (.03)		-.07* (.03)	-.14 [†] (.07)
Need to Evaluate			.08* (.04)	.10** (.04)	.02 (.09)
NeedCog × NeedEval					.12 (.12)
R ²	.14	.15	.14	.15	.15
N	1080	1046	970	944	944

** $p < .01$; * $p < .05$; [†] $p < .10$

Note: Cell entries are unstandardized regression coefficients with standard errors in parentheses.

Table 11

Need for Cognition and Need to Evaluate Predicting Turnout Only Among Respondents
who Reported Need to Evaluate Early

<hr/> <u>Predictor</u> <hr/>					
Age	.21** (.07)	.19** (.07)	.23** (.07)	.20** (.07)	.19** (.07)
Race	.01 (.02)	.01 (.03)	.03 (.03)	.03 (.03)	.03 (.03)
Gender	-.00 (.03)	.01 (.03)	-.01 (.03)	-.01 (.03)	-.01 (.03)
Income	.03 (.04)	.03 (.04)	.03 (.04)	.03 (.04)	.03 (.04)
Education	.04 (.05)	.05 (.06)	.03 (.06)	.06 (.06)	.06 (.06)
Political Knowledge	.07 (.05)	.07 (.05)	.09* (.05)	.10* (.05)	.10* (.05)
Political Interest	.20** (.04)	.21** (.05)	.15** (.05)	.17** (.05)	.17** (.05)
Need for Cognition		-.02 (.04)		-.07 (.05)	-.20 ⁺ (.11)
Need to Evaluate			.10 ⁺ (.05)	.10 ⁺ (.05)	-.06 (.13)
NeedCog × NeedEval					.24 (.17)
<hr/>					
R ²	.13	.13	.14	.14	.15
N	522	509	465	457	457
<hr/>					

** $p < .01$; * $p < .05$; + $p < .10$

Note: Cell entries are unstandardized regression coefficients with standard errors in parentheses.

Table 12

Need for Cognition and Need to Evaluate Predicting Turnout Only Among Respondents
who Reported Need to Evaluate Late

Predictor					
Age	.12 ⁺	.13 [*]	.11 ⁺	.12 ⁺	.12 ⁺
	(.06)	(.07)	(.07)	(.07)	(.07)
Race	.07	.00	.02	.01	.01
	(.03)	(.03)	(.03)	(.03)	(.03)
Gender	.07 ^{**}	.07 ^{**}	.07 ^{**}	.08 ^{**}	.08 ^{**}
	(.03)	(.03)	(.03)	(.03)	(.03)
Income	.02	.01	.02	.01	.01
	(.04)	(.04)	(.04)	(.04)	(.04)
Education	.08	.12 [*]	.07	.11 [*]	.11 [*]
	(.05)	(.05)	(.05)	(.05)	(.05)
Political Knowledge	.06	.06	.04	.05	.05
	(.04)	(.04)	(.04)	(.04)	(.04)
Political Interest	.28 ^{**}	.30 ^{**}	.27 ^{**}	.29 ^{**}	.28 ^{**}
	(.04)	(.04)	(.04)	(.04)	(.04)
Need for Cognition		-.05		-.08 ⁺	-.09
		(.04)		(.05)	(.10)
Need to Evaluate			.07	.09 ⁺	.09
			(.05)	(.05)	(.13)
NeedCog × NeedEval					.03
					(.17)
R ²	.16	.18	.16	.18	.18
N	557	536	504	486	486

** p<.01; * p<.05; + p<.10

Note: Cell entries are unstandardized regression coefficients with standard errors in parentheses.

Table 13

Need for Cognition and Need to Evaluate Predicting Extent to Which Respondents Use the Media to Learn about the Gubernatorial Campaign

Predictor					
Age	.25** (.03)	.25** (.03)	.26** (.04)	.24** (.04)	.24** (.04)
Race	.01 (.01)	.01 (.01)	.01 (.02)	.02 (.02)	.02 (.02)
Gender	-.00 (.01)	.00 (.01)	-.00 (.01)	-.00 (.01)	-.00 (.01)
Income	-.02 (.02)	-.01 (.02)	-.02 (.02)	-.01 (.02)	-.02 (.02)
Education	.00 (.03)	-.00 (.03)	-.01 (.03)	-.00 (.03)	-.00 (.03)
Political Knowledge	.00 (.02)	-.01 (.02)	.00 (.02)	-.01 (.02)	-.01 (.02)
Political Interest	.28** (.02)	.28** (.02)	.27** (.02)	.28** (.02)	.28** (.02)
Need for Cognition		.03 (.02)		.01 (.02)	.04 (.05)
Need to Evaluate			.06* (.03)	.04 (.03)	.08 (.07)
NeedCog × NeedEval					-.05 (.09)
R ²	.25	.25	.26	.26	.26
N	1053	1020	941	916	916

** $p < .01$; * $p < .05$; + $p < .10$

Note: Cell entries are unstandardized regression coefficients with standard errors in parentheses.

Table 14

Need for Cognition and Need to Evaluate Predicting Frequency of Emotional Reactions to Candidates, Simple Past-Tense Question Wording: "Has [Candidate] Ever Made You Feel [Emotion]?"

Predictor					
Age	.01 (.04)	.02 (.04)	.02 (.04)	.03 (.04)	.03 (.04)
Race	-.00 (.02)	-.00 (.02)	-.01 (.02)	-.01 (.02)	-.01 (.02)
Gender	.01 (.01)	.01 (.01)	.02 (.01)	.02 (.01)	.02 (.01)
Income	-.00 (.02)	-.00 (.02)	-.01 (.02)	-.01 (.02)	-.01 (.02)
Education	-.06* (.03)	-.06* (.03)	-.06* (.03)	-.06* (.03)	-.06* (.03)
Political Knowledge	-.08** (.02)	-.08** (.02)	-.09** (.02)	-.08** (.02)	-.08** (.02)
Political Interest	.17** (.02)	.17** (.02)	.17** (.02)	.17** (.03)	.17** (.03)
Need for Cognition		.03 (.02)		.02 (.03)	.01 (.05)
Need to Evaluate			.05 ⁺ (.03)	.05 ⁺ (.03)	.04 (.07)
NeedCog × NeedEval					.01 (.09)
R ²	.16	.16	.17	.18	.18
N	383	376	353	348	348

** $p < .01$; * $p < .05$; + $p < .10$

Note: Cell entries are unstandardized regression coefficients with standard errors in parentheses.

Table 15

Need for Cognition and Need to Evaluate Predicting Extent of Current Emotional Reactions to Candidates, Simple Present-Tense Question Wording: "Thinking of [Candidate], Do You Feel [Emotion]?"

<hr/>					
Predictor	<hr/>				
Age	.04 (.03)	.04 (.03)	.05 (.04)	.05 (.04)	.05 (.04)
Race	.01 (.02)	.01 (.02)	.01 (.02)	.01 (.02)	.01 (.02)
Gender	.01 (.01)	.01 (.01)	.01 (.02)	.01 (.02)	.01 (.02)
Income	-.03 ⁺ (.02)	-.03 (.02)	-.03 (.02)	-.02 (.02)	-.03 (.02)
Education	-.01 (.03)	-.03 (.03)	-.03 (.03)	-.04 (.03)	-.04 (.03)
Political Knowledge	-.02 (.02)	-.02 (.02)	-.00 (.03)	-.01 (.03)	-.01 (.03)
Political Interest	.05* (.02)	.05* (.03)	.04 ⁺ (.03)	.04 ⁺ (.03)	.04 ⁺ (.04)
Need for Cognition		.01 (.02)		.01 (.03)	-.00 (.06)
Need to Evaluate			.05 (.03)	.00 (.03)	-.01 (.08)
NeedCog × NeedEval					.01 (.10)
<hr/>					
R ²	.04	.04	.04	.04	.05
N	377	360	326	315	315
<hr/>					

** $p < .01$; * $p < .05$; + $p < .10$

Note: Cell entries are unstandardized regression coefficients with standard errors in parentheses.

Table 16

Need for Cognition and Need to Evaluate Predicting Frequency of Emotional Reactions to Candidates, Complex Question Wording

<hr/>					
Predictor	<hr/>				
Age	.03 (.04)	.02 (.04)	.07 ⁺ (.04)	.05 (.04)	.05 (.04)
Race	.02 (.02)	.02 (.02)	.03 (.02)	.03 (.02)	.03 (.02)
Gender	-.01 (.01)	-.01 (.01)	-.02 (.02)	-.02 (.02)	.02 (.02)
Income	-.05* (.02)	-.05* (.02)	-.05* (.02)	-.05* (.02)	-.05* (.02)
Education	-.02 (.03)	-.01 (.03)	-.02 (.03)	-.00 (.03)	-.00 (.03)
Political Knowledge	.03 (.02)	-.00 (.02)	.00 (.03)	-.00 (.03)	-.00 (.03)
Political Interest	.10** (.02)	.11** (.03)	.09** (.03)	.10** (.03)	.10** (.03)
Need for Cognition		-.02 (.02)		-.02 (.03)	-.03 (.06)
Need to Evaluate			.02 (.03)	.01 (.03)	.04 (.07)
NeedCog × NeedEval					.01 (.09)
<hr/>					
R ²	.10	.10	.12	.12	.12
N	327	316	292	282	282
<hr/>					

** p<.01; * p<.05; + p<.10

Note: Cell entries are unstandardized regression coefficients with standard errors in parentheses.

Table 17

Need for Cognition and Need to Evaluate Predicting Survey Displeasure

Predictor					
Age	.04 ⁺ (.02)	.04 (.02)	.04 (.02)	.03 (.03)	.03 (.02)
Race	-.01 (.01)	-.01 (.01)	.00 (.01)	.00 (.01)	.00 (.01)
Gender	.03** (.01)	.02* (.01)	.02* (.01)	.02 ⁺ (.01)	.02 ⁺ (.01)
Income	-.02 ⁺ (.01)	-.02 ⁺ (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)
Education	-.03 ⁺ (.02)	-.02 (.02)	-.03 (.02)	-.02 (.02)	-.02 (.02)
Political Knowledge	-.03* (.02)	-.03 ⁺ (.02)	-.02 (.02)	-.02 (.02)	-.02 (.02)
Political Interest	-.08** (.02)	-.07** (.02)	-.07** (.02)	-.07** (.02)	-.07** (.02)
Need for Cognition		-.05** (.02)		-.06** (.02)	-.12** (.04)
Need to Evaluate			-.02 (.02)	.00 (.02)	-.07 ⁺ (.05)
NeedCog × NeedEval					.11 ⁺ (.06)
R ²	.08	.10	.08	.09	.10
N	1093	1058	976	950	950

** p<.01; * p<.05; + p<.10

Note: Cell entries are unstandardized regression coefficients with standard errors in parentheses.

Table 18

Need for Cognition and Need to Evaluate Predicting Desire to Terminate the Interview

Predictor					
Age	.03 (.02)	.03 (.02)	.00 (.02)	-.00 (.02)	-.00 (.02)
Race	.03** (.01)	.03** (.01)	.02* (.01)	.02* (.01)	.02* (.01)
Gender	-.01 (.01)	-.01 (.01)	.00 (.01)	-.00 (.01)	-.00 (.01)
Income	.01 (.01)	.01 (.01)	.01 (.01)	.02 (.01)	.02 (.01)
Education	-.03 ⁺ (.02)	-.03 (.02)	-.03 ⁺ (.02)	-.02 (.02)	-.02 (.02)
Political Knowledge	-.01 (.01)	-.00 (.01)	-.00 (.01)	-.00 (.01)	-.01 (.01)
Political Interest	-.03 ⁺ (.01)	-.02 (.01)	-.02 (.01)	-.02 (.01)	-.02 (.01)
Need for Cognition		-.03 ⁺ (.02)		-.03* (.01)	.02 (.03)
Need to Evaluate			.02 (.02)	.03* (.02)	.10** (.04)
NeedCog × NeedEval					-.10* (.05)
R ²	.02	.02	.01	.02	.02
N	1093	1058	976	950	950

** $p < .01$; * $p < .05$; + $p < .10$

Note: Cell entries are unstandardized regression coefficients with standard errors in parentheses.

Figure 1

Distribution of Need for Cognition

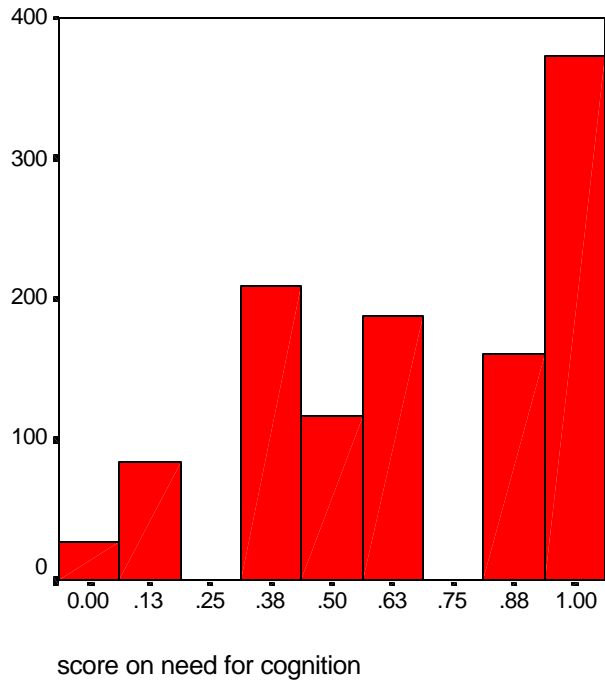


Figure 2

Distribution of Need to Evaluate

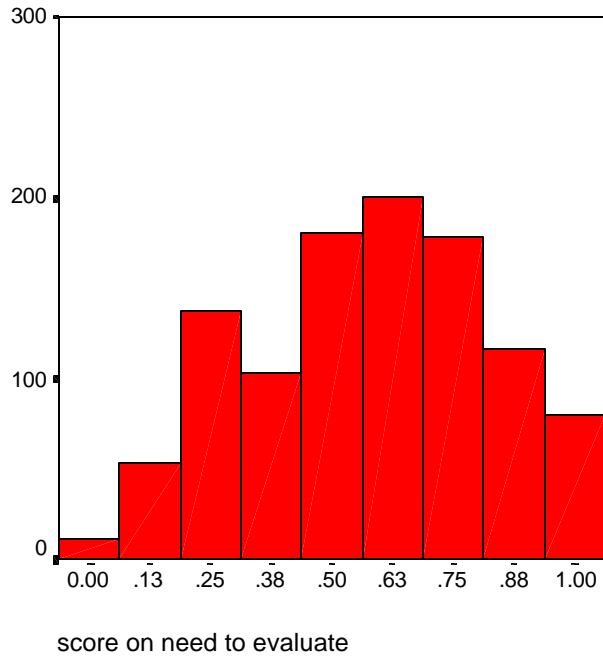


Figure 3

Latent Variable Model Estimating the Correlation between Need for Cognition and Need to Evaluate

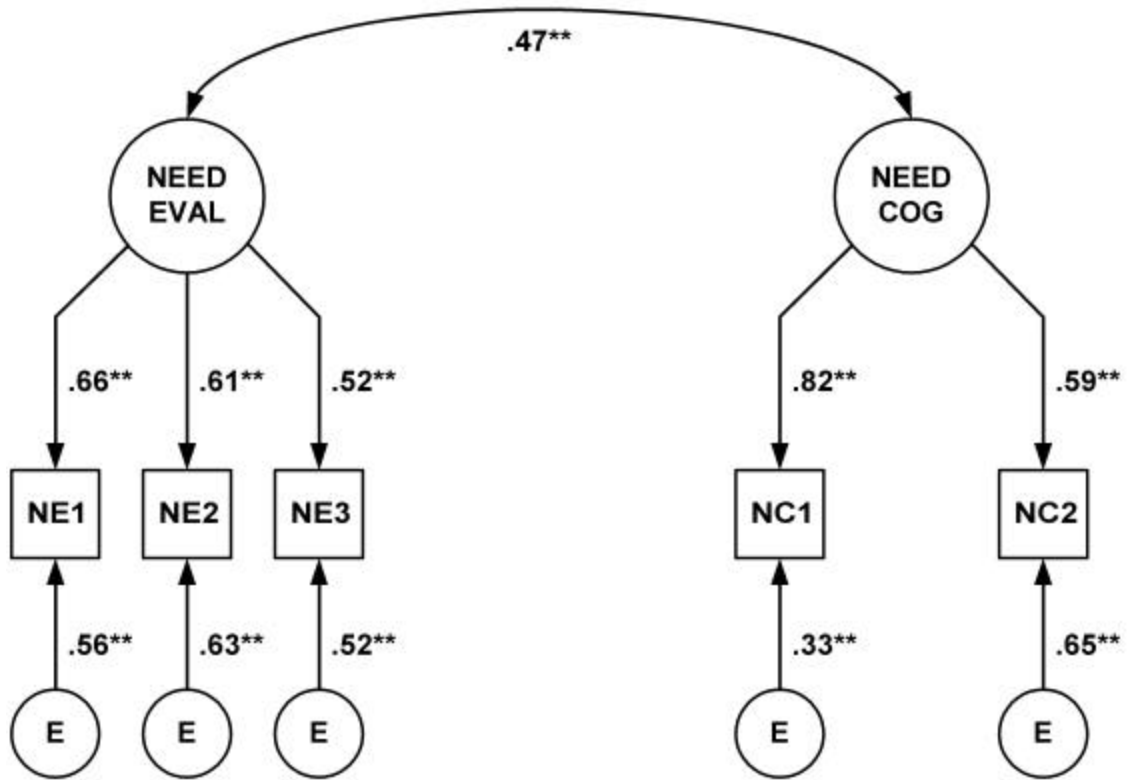


Figure 4

Latent Variable Model Constraining the Correlation between Need for Cognition and Need to Evaluate to be Perfect

