Stony Brook University

Contextual Influences on Political Cognition

A Dissertation Presented

by

April Ann Johnson

to

The Graduate School

in Partial Fulfillment of the

Requirements

for the Degree of

Doctor of Philosophy

in

Political Science

Stony Brook University

August 2014

Stony Brook University

The Graduate School

April Ann Johnson

We, the dissertation committee for the above candidate for the

Doctor of Philosophy degree, hereby recommend

acceptance of this dissertation.

Charles S. Taber – Dissertation Advisor
Professor, Department of Political Science

Matthew J. Lebo - Chairperson of Defense
Associate Professor, Department of Political Science

Howard Lavine
Arleen C. Carlson Professor of Political Science and Psychology
University of Minnesota

Jane Green
Professor, Political Science
University of Manchester

This dissertation is accepted by the Graduate School

Charles Taber
Dean of the Graduate School

Abstract of the Dissertation

Contextual Influences on Political Cognition

by

April Ann Johnson

Doctor of Philosophy

in

Political Science

Stony Brook University

2014

This dissertation argues that electoral supply, as measured by the effective number of parties across U.S. Congressional districts, shapes the way in which individuals conceptualize and think about politics at a fundamental, cognitive level. Via socialization processes and repeated exposure over time, individuals nested within dissimilar supply environments learn to interact with political stimuli in ways which systematically differ. In contexts with traditionally less electoral supply, or a fewer number of viable parties, individuals become accustom to characterizing partisan dynamics in dichotomous, black and white terms. Alternatively, in contexts with more electoral supply individuals learn to view partisan dynamics as more nuanced or multifaceted, given an increase in the number of electoral options within similar ideological space. To test this I employ several of Barsalou's (1985) measures of graded structure. In this dissertation, graded structure captures the ways in which individuals structure and organize party-related concepts within long-term memory. I then explore how individual differences in graded structure predict variation in political categorization, information seeking and information processing. Finally, I connect measures of graded structure to downstream effects on political attitudes and behaviors. Among the American electorate there exists considerable discrepancies in political interest, efficacy, partisan attachment, participation, and voter turnout. By explicating the relationship between electoral supply and political cognition at the individual level, my dissertation sheds light on the psychological mechanisms driving these outcomes.

To Joshua M. Johnson, who believed in me, if not the brain.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

Acknowledgements

This dissertation would not be possible without the continued love and support of Vickie Strickland, Drexal Strickland, and Cinda Strickland. Thank you for celebrating my highs and providing encouragement during my lows. I would also like to thank my wonderful family and friends in Florida and Georgia who, despite being hundreds of miles away, always believed in my ability to succeed.

I would like to sincerely thank my dissertation committee: Chuck Taber, Matt Lebo, Jane Green, and Howie Lavine. In particular, I am grateful to Chuck Taber and Matt Lebo for challenging me throughout the dissertation proposal process and for allowing me bother them nearly every week with refinements. Additionally, I am incredibly appreciative of the friendships I have forged with other graduate students during my time at Stony Brook University. I am grateful to Ben Newman for his encouragement, insight, and antics. Thank you to my cohort, Joshua Johnson, Nicholas Seltzer, Julie Wronski, and David Martin, for being a part of my past, present, and future.

All errors and omissions in the following pages are my own.

Chapter 1
What Shapes Political Cognition?

1.1 Thinking About Thinking

"It was merely a question of learning to think as they thought." - *George Orwell, 1984*

Imagine two political parties. Think about their issue positions, as well as their affiliated groups. What sorts of traits or characteristics do these two parties possess? Are they polar opposites or do some of their traits and preferences overlap? What emotions does each one elicit from you? Now reflect on the process through which you amassed such knowledge. Why did those particular examples come to mind? Presumably, your prior experiences with party politics, rather than some sort of innate biological predisposition, has guided this thought exercise. If individuals are indeed born *tabula rasa*, as philosopher John Locke would argue, we should expect that 'nurture', rather than 'nature', plays a predominant role in crafting our knowledge of the political world. To a developmental psychologist, nurture largely relates to the child-rearing practices of one's primary caretaker, with the general idea being that early childhood experiences set up or condition an individual's lifelong temperament and pattern of interpersonal attachment. Nature, in contrast, refers to those attributes which have been imparted on an individual through genetic or hereditary means. Nature is inescapable, nurture is learned.

A political scientist might identify nurture as an assortment of factors (e.g., family, school, mass media) which serve to socialize and accustom individuals to their surrounding political context. Sunday morning news programs or break room discussions with co-workers serve as agents of socialization, acclimating us to the political environment in which we live. In

this case, nurture allows us to construct a general understanding of the political system, it guides us in identifying and differentiating between political parties, it helps us make sense of electoral rules and our own partisan loyalties. Assuming that political parties are indeed social constructions and do not emanate from biological predispositions, nurture is responsible for *every* single thought you conjured up in the preceding exercise.

Let us forgo the term 'nurture' for now and use the synonymous, and perhaps more palatable term, 'experience'. Experience or exposure to a given stimuli is the foundation of learning. As it relates to politics, to driving, to interpersonal relationships, or to most any other circumstance, learning sets up a pattern of predictable behaviors. For example, any sports fan recognizes the standard protocol before the singing of the national anthem: stand up from your seat, remove your hat (if necessary), and remain quiet (one may also choose to place his or her hand over their heart). To an individual who is unfamiliar with this custom, this mass display may signal some sort of ritualistic worship activity (and sports fans indeed may follow certain teams with a cult-like zeal). In a stadium filled with 100,000 rowdy fans, how is it that the overwhelming majority of individuals are aware of this routine, know when to commence it and when to terminate it? This knowledge has almost assuredly been acquired through years of watching or participating in sporting events. Again, nurture or experience serves to shape our expectations in situations both familiar and novel. To provide a political example, ask any stranger (a child even) with minimal knowledge of the American party structure who will be the two front-runners in the next Presidential election. He or she might only speculate as to the names of each candidate, but (barring some sort of widespread social unrest) this stranger will almost certainly predict that one candidate will be from the Democratic Party and the other from

the Republican Party. One's prior experience should indicate that this is simply the way national party politics operate in the aggregate American context.

Political socialization is about learning, and learning is about repeated exposure or experience. There is little question that political socialization influences our expectations about future political outcomes. Should we expect to see negative campaign advertisements within the next election cycle? Yes, if negative ads have served as the status quo for years and even decades prior. What is unclear, and in fact has yet to be asked directly by the political science community, is whether socialization or familiarity with one's political context has any *enduring* influence on individual political cognition.

Cognition can generally be summed up as how information is acquired, stored and used. Political cognition, therefore, refers to the acquisition of political information, how that information is represented or organized in memory, and how that information relates to impression formation and decision making (van Dijk 2002). The idea that one's political context influences the way in which they think about politics may have been well-exemplified in the previous thought exercise. Despite the simplicity of this argument, however, there are many aspects to the theory which need clarification or refinement. What contextual factors are important? That is, what contextual stimuli are most essential for shaping political cognition? How does one's political context actually work to organize their mental representations about political stimuli? Which cognitive properties are affected by the political context and which are not? Strap in, because the subsequent chapters aim to tackle these tough questions both theoretically and empirically.

1.1.1 Motivation for Study

In moving forward we must also look back, to return to the simple inquiry which launched this entire project. The driving force behind this dissertation comes from the comparative electoral systems literature, which investigates the relationship between electoral context and party systems. Although here I only focus on the American political context, the comparative electoral systems literature has proved critical in shaping my theoretical approach to this project. One well-known contributor to this field was Maurice Duverger, who famously stated that the "simple majority single-ballot system favors the two-party system" (1954, pp. 217). That is to say, when the electoral composition of a country or district is such that the winner must obtain a majority of the votes, it structures the party system so that only two parties are truly capable of competing against one another. Third parties are dissuaded from electoral competition or become folded into one of the larger two parties via mechanical and psychological forms of elimination (see Riker 1982). Rather than looking to electoral structure as the primary determinant of party systems, other scholars in this area have argued that social cleavages (Grumm 1958; Lipset and Rokkan 1967), institutional rules (Sartori 1968; Rae 1971; Lijphart 1990), or both (Amorim Neto and Cox 1997) have over time shaped and sustained party systems in a number of countries. In reading this body of work an interesting idea occurred to me. What if I reversed this line of research by viewing party systems or the number of parties as the *independent*, rather than the dependent variable? While much of the comparative electoral systems research examines what factors influence how many parties emerge and those factors which allow them to persist over time, I ask: What influence might the number of parties have on the minds and behaviors of the electorate?

1.2 Skinner Would Disapprove

It is perhaps a little unnerving to know that after settling in to your seat on an airplane, arranging your eye mask and earplugs, and cozying up for a two or three hour catnap, your flight's every move is being recorded. An airplane's "black box" contains data from both the cockpit voice recorder (what is said by the pilot and co-pilot) and the flight data recorder (e.g., aircraft speed, altitude, vertical acceleration, rudder-petal position) (Bonsor and Chandler 2001). Data from both of these devices is stored on a digital memory board, with enough space to accommodate two hours of audio from the cockpit voice recorder and 25 hours of data from the flight data recorder (2001). As new data is recorded, old data is replaced.

While airplane crashes are few and far between these days, it is vital to know what information gets coded by an airplane's "black box", how that data is stored by the physical memory system, at what point material is overwritten, and the process by which data can be retrieved. In the wake of an airplane crash, the outcome is plainly obvious and often tragic. What public officials and families of the passengers often want to know is how such a thing could happen. What events led up to this outcome? This is where data from the airplane's "black box" becomes invaluable, not just in explaining the current tragedy but in serving as a precaution for all future flights. In this respect, the general public not only cares about the ultimate outcomes of events (e.g., airplane crash, electoral victory, stomachache) but about their root causes (e.g., pilot error, voter fraud, four day old potato salad). That is to say, most individuals care about unpacking the "black box" or identifying causal mechanisms (Imai, Keele, Tingley, Yamamoto 2011).

I use the real-life example of an airplane's "black box" because it so eloquently maps on to the same term used by cognitive psychologists to explain internal or mental processes. Prior to

the cognitive revolution (see Gardner 1985) behaviorism dominated the field of psychology with its parsimonious (too parsimonious, I argue) stimulus-response model of behavior. The epistemological basis of this approach came from reflex physiology (Staddon 1973). Unlike reflexes, however, behaviorist B.F. Skinner sought to identify those behaviors for which a specific eliciting stimuli could be identified. He championed this form of behaviorism by showing that a response can be modified by its consequence, a desirable/undesirable behavior can be encouraged/discouraged by consistently presenting a reinforcing/punishing stimuli immediately after the behavior. What Skinner did not show, and in fact what he and other behaviorists did not deem important in the cause-effect relationship, were the internal states one experiences in between the presentation of a stimulus and one's behavioral output. When a mother scolds her child after he or she has tracked mud through the living room, that scolding serves to subsequently depresses that behavior in the child (especially over repeated trials). Behaviorists are indifferent to how the child perceives the mother's tone or whether the child experiences shame or a loss of self-esteem due to the scolding. These are intangible, internal states that cannot be observed. Behaviorists like Skinner are generally unconcerned with individual sensation, perception, memory recall, problem-solving, and other processes we might file under the term 'cognition'.

I am not a behaviorist, nor do I ascribe to the straightforward stimulus-response model of behavior. Political behavior is complicated and is the result of a long line of psychological processes. The prominent "funnel of causality" metaphor often used by political scientists to explain voting (Campbell et al. 1960, pp. 24-37) contains a slew of factors, both proximate and distal, which are in some way or another influential for individual vote choice. In all reality, it is because human behavior is so dense that social scientists are still employed in this day and age.

In decades and even centuries past we have only broken the surface of the nuances of behavior and the even more complicated configuration of root causes. For this very reason explicating the black box, or digging into the relationship between political cognition and political behavior, is a worthwhile and insightful venture.

Also worthwhile, though undoubtedly tricky, is to incorporate contextual influences into this research. Contextual influences are potentially problematic in that they allow for malleability among identified cause-effect relationships. Yet, if social scientists are truly invested in modeling human behavior as it occurs in the real world, we must acknowledge that individuals are nested within an environment or context, always and at all times. Think back to the stimulus-response example of a mother scolding her child for muddying up the living room and the child subsequently changing his or her behavior. What if that learned response was only capable of being produced *some* of the time, under certain conditions? Despite repeated trials discouraging this behavior, one can imagine that a child who lives solely with his or her mother may learn this response quicker and may be more likely to display this behavior given that she is the 'be-all and end-all' in terms of household authority. In contrast (and all other things being equal), it might take longer to shape the behavior of a child living with both mother and father given two authority figures within the household, each with their own distinct approaches to discipline (particularly if the father is a mud tracker himself!). While the stimulus and the respondent may in fact be identical in each of these scenarios, it is the presence of external factors which alters the response (and should theoretically alter the experience of the stimulus to begin with). In the chapters to come I explain contextual effects in more detail, noting how they shape one's behavioral outputs by first modifying cognitive processes.

1.3 Connecting Disciplines

One of the most ambitious and utterly challenging aspects of this project is to connect multiple, seemingly disparate literatures together as one. Extant research tells us that political institutions matter for shaping behavior, both at the elite and electoral levels. Electoral rules, such as plurality vs. proportional representation systems, are not only a part of the institutional structure in themselves, but also shape other institutional arrangements (à la Duverger). For instance, proportional representation systems generally tend towards more redistributive policies than majoritarian systems (Cusack, Iversen, and Soskice 2007). And because of their decentralized nature, proportional representation systems tend to facilitate less incentive among interest groups to lobby politicians, as compared to majoritarian systems which provide for more effective and focused lobbying of politicians (Naoi and Krauss 2007).

With regard to electoral behavior, institutional arrangements have been shown to influence voter turnout, political participation, and satisfaction with democracy. Hosp (2004) reveals that electoral rules which allow for direct democracy, rather than representative democracy, tend to promote greater political participation. Similarly Jackman (1987) shows that institutional rules, rather than culture, are more influential in shaping turnout. He notes that Australia and New Zealand have relatively the same political culture and history, yet Australia's mandatory voting laws usually result in larger turnout (1987). Drummond (2006) also suggests that electoral rules matter for voting behavior because they influence the degree to which voters are able to express sincere versus strategic voting. According to his work, turnout should increase in permissive electoral systems because voters are able to express their sincere preferences, rather than making a choice between alternatives or simply abstaining (2006). What is more, research has also found that countries with candidate-centered elections tend to have

greater levels of democratic satisfaction and a greater sense of electoral fairness than countries with party-centered elections (Farrell and McAllister 2004).

We also know that context matters in shaping behavior. Besides the hypothetical, muddy boots example given in the previous section, research has shown that individuals look to contextual factors to guide their behavior in a variety of settings. In terms of online shopping, websites which provide product testimonials, hyperlinks with more detailed product information, and a shopping cart to keep track of desired merchandise tend to see more traffic than websites without such services (Park and Kim 2003). These contextual aspects alter online shopping behavior *outside of* or *exogenous to* one's internal motive(s) to purchase the goods. Organizational research, too, has confirmed the importance of contextual factors in shaping individual relationships between co-workers and accountability to management (Trevino and Victor 1992). Interesting work by Bonneau and Hall (2003) shows that a state's political context, specifically partisan composition and the number of lawyers in the state, has a significant bearing on state supreme court elections holding constant challenger quality, candidate characteristics, and institutional factors across states. Yet perhaps some of the clearest and most persuasive research on contextual effects in politics comes from the literature on ethnic group conflict. While I devote more time to this body of literature in the next chapter, suffice it to say here that changes in the ethnic composition of one's immediate environment have strong implications for individual evaluations of government and policy preferences (Cain, Citrin, and Wong 2000).

What has yet to be studied is how context, particularly political context, molds cognitive thought, which then impacts behavior. Thus far, political scientists have had little difficulty recognizing that institutional rules and electoral systems shape political behavior. Yet, little attention has been given to integrating these findings with research on political information

processing. It stands to reason that if institutional rules (which produce stable political contexts) are capable of influencing political participation and voter turnout in predictable ways, then institutional factors should also have some bearing on how one perceives and thinks about the political world. That is to say, contextual elements must travel *through* individual cognition in order to ultimately influence behavior[1]. Among researchers this causal path seems to be understood, though rarely made explicit. Hosp (2004), for instance, notes that "political institutions shape the way of processing information and determine to a large amount the cost and benefits of political information" (pg. 7), however he does not test this claim specifically. Drummond's work (2006), perhaps comes closest to addressing a link between institutions and cognitive orientations. While Drummond admits that the question of how electoral systems influence cognition is understudied (2006), his methods ultimately only allow him analyze political behavior (which he takes as evidence of certain cognitive processes).

It seems obvious that cognitive processes naturally precede behavior. Political contexts shape the organization of political information because, as Stein (1997) contends, institutions are 'structuration principles' which are governed by routines. For instance, holding general elections every four years, typically with two large party-nominated candidates, creates a 'script' (1997) for thinking about the American political system. In the words of Schank and Abelson, "New information is understood in terms of old information." (1977, pp. 223). Thus, electoral rules constrain an individual's concept of politics and encourages him or her to conceptualize the political climate in terms of what has come before. The precise cognitive mechanisms which

[1] This is especially true if we consider that political behavior, unlike reflexes which form a direct stimulus-response relationship, is much more intricate. Just think how many cognitive steps are necessary to place a vote. One must identify each candidates, differentiate between their policy preferences (or other traits which the voter finds important), map those preferences onto one's own ideals, and ultimately decide 1) that a vote should be cast and 2) that candidate X should receive this vote.

create this 'script' and maintain its lasting influence are discussed theoretically in Chapter 2 and empirically in Chapter 3.

1.3.1 Party Systems and Electoral Supply

The observant reader will note that much of the previous literature on institutions, electoral rules and party systems has been drawn from the comparative context. Indeed, the motivation for this study, as stated earlier, came from the comparative electoral systems literature. Yet survey data for all four studies of this project comes solely from individuals within the United States. Given that my overall argument hinges upon political contexts (plural), does an American-only sample provide a problem? That is to say, can we observe party systems (again, plural) within the United States? At the national level, probably not. The two-party political system of the U.S. is well-documented and seemingly unvarying within general elections (Kayden and Mahe 1985).

Yet there is a way in which I can observe variation within only one country, and this variation comes in the form of Congressional districts. Depending on which district(s) you yourself are familiar with, it may perhaps come as a surprise to find out that there does exist quite a bit of variation across U.S. Congressional districts in terms of the number of parties receiving some percentage of the vote share. Alabama's District 1, for example, continually sees one candidate receive an overwhelming majority of the vote share election after election. In 2012 this candidate was Jo Bonner, who won a whopping 98% of the overall vote share. In contrast, Louisiana's District 2 tends to see votes spread out across a number of candidates, year after

year[2]. In 2012 for instance, District 2 saw a non-trivial (more than 2%) amount of the overall vote share go to five separate candidates.

Concerns as to whether or not the United States case produces enough variance to examine party systems are real, though not entirely unworkable. Throughout my analyses I attempt to exploit district-level variation in the number of effective parties, ultimately linking this contextual variable to discrepancies in individual cognition and information processing. While calculating the effective number of parties at the district level does help my case for using only American subjects, to call such variation a party system should not sit well with comparativists. According to Ware (1996), the term party system encompasses four characteristics, of which the number of parties in the system is only one[3]. Because it is incorrect, and perhaps misleading, to refer to the number of parties in Congressional districts as party systems, I instead use the term *electoral supply* from here on out. Electoral supply represents the number of available options one has within their political context. Supply structures individual choice, therefore it is a more appropriate term for explicating the relationships I am interested in within this dissertation.

Nevertheless, it should be noted that while I try to connect local or district-level partisan contextual dynamics to individual difference in political cognition, the national partisan context may take precedence in shaping the organization of party-related information. To illustrate, the literature on partisan polarization (Hetherington 2001; Hetherington and Weiler 2009) seems to imply that a collective consciousness of sorts exists among members of the electorate at the

[2] This almost assuredly has to do with the fact that Louisiana does not hold Congressional primaries. Nevertheless, this should not detract from my argument given that I am not necessarily interested (at least in this dissertation) in the state-level electoral rules which encourage or discourage the formation of parties. I am primarily interested in how the existence of those parties then shapes political cognition.

[3] The extent to which parties penetrate society, the ideologies of the parties, and party's stances towards the regime are the other three (Ware 1996).

national level. That is to say, despite the fact that one's own Congressional district may provide numerous electoral options (e.g., Green Party, Libertarian Party, Tea Party) the overall bipolar nature of the American political system may dominate one's way of thinking about and interacting with politics. This idea is not only prominent in scholarly literature but in mainstream news media as well, especially for those newspapers or television news programs which are targeted towards a national audience. In this sense, we might expect that any local or district-level partisan effects may be washed out by the dynamics of national party politics. While this is a serious concern, it should be noted that the national partisan context is to some degree 'controlled for' by analyzing only those individuals residing in the United States. Still, holding constant national context in this way does not necessarily negate its influence on political cognition above and beyond that of local contextual dynamics. Throughout the analyses we simply must keep in mind that the effect of one's local, district-level context on political cognition and information processing may be dampened by the 'noise' of national-level politics.

1.4 Prisoners of Our Own Minds

At the Pan American Day address in 1939, Franklin Delano Roosevelt remarked "Men are not prisoners of fate, but only prisoners of their own minds". This quote is uplifting, it puts free will back into the hands of everyday individuals and suggests a sort of 'mind over matter' mentality to approaching life's struggles. In contrast, some readers will view the arguments made in this dissertation as the complete antithesis to Roosevelt's sentiment. Beyond claiming that electoral contexts shape the way in which individuals think about politics, I argue (in the next chapter) that these patterns of thought are stable or enduring throughout one's life, primarily due to reinforcement over time. In all, I make the case that individuals' cognitive habits are

constrained by their early political experiences. As with most habits, I expect early political socialization to become stronger or even more ingrained in political cognition over time. Meaning, a 75 year old woman who has lived her entire life in a town where the Republican Congressional candidate has run unopposed should be the first to expect that an unopposed Republican candidate will run again next election.

If the arguments I make are supported empirically, does that imply that we are forever prisoners of our early political socialization? Yes and no. Although I argue that the structure of one's political environment imparts an enduring influence on the way in which they approach, consider, and respond to politics, this is not to say that the minds of all contextually similar members contain the same configuration of political information. Certainly variation exists in the degree to which individuals are attentive to, and therefore knowledgeable of, politics (Zaller 1992). It is also expected that a slew of other factors, such as age, strength of partisanship, and socioeconomic status, will have differential effects on cognitive thought even when individuals are nested within the same political environments. One can imagine, for instance, that a strong partisan may be more 'locked in' to their cognitive thought patterns than someone who holds less passionate beliefs. It might also be the case that individual differences in personality account for variation in cognitive thought processes to a greater extent than contextual effects (Soubelet and Salthouse 2011; Ackerman 2013). Going back to the "funnel of causality" (Campbell et al. 1960), one could theorize that stable, contextual influences serve as the distal catalysts of political cognition while more ephemeral or proximate factors (such as age, income) serve to modify this cognitive foundation. In the forthcoming chapters I not only control for or hold constant demographic and personality disparities between individuals, I interact these factors

with contextual variables in order to reveal a more realistic (and complex) story of human thought and behavior.

1.5 Overview of Chapters

To argue that an individual's political context influences the way in which they think about politics is quite a broad claim. Testing this claim proves to be an even bigger challenge. Within the next chapter I will lay the theoretical groundwork as to why context matters in terms of shaping political attitudes and behaviors. Here I clarify why, out of all contextual features, electoral supply matters and how it alters political cognition at a fundamental, neural level. Chapter 2 also discusses the theoretical impact that electoral supply should have on downstream attitudes and behaviors, such as partisan attachment and engagement with the political system, via structural changes in political cognition. Chapter 3 then puts my theory to the test by implementing several of Barsalou's (1985) measures of graded structure within a national (non-representative) U.S. sample. Graded structure, as it is fashioned within this project, provides us with a sense of how party-related concepts are organized in long-term memory. Electoral supply across Congressional districts is then used to predict individual-level variation in graded structure. Chapter 3 provides the rationale, methodology, and results from two such studies.

After finding initial evidence that electoral supply does in fact systematically relate to political cognition, the following two chapters examine whether district-level electoral supply has any impact on political perceptions, information processing and information search. Specifically, I implement two national (non-representative) U.S. samples, one which measures partisan categorization (Chapter 4) and one which measures depth of information search (Chapter 5). Across both studies I test the idea that one's political context (as measured by

district-level electoral supply) is able to predict variation in individual cognitive functioning. Chapter 6 aims to link all of the preceding findings together in order to demonstrate that political context not only shapes cognition, but also individual partisan attachments, the strength of those attachments, one's propensity to vote, and who one chooses to vote for. Within the concluding chapter, Chapter 7, I summarize the results of this study, discuss the theoretical and empirical implications of my findings, and highlight avenues which may prove fruitful for future research in this area.

Chapter 2
Theory of Electoral Supply

2.1 Contextual Effects

"We are our choices" - *Jean-Paul Sartre, Being and Nothingness*

In 2004, Kay, Wheeler, Bargh, and Ross published fascinating results from an experiment on material priming. Individuals were sat in a room filled with either business materials (e.g., executive style pen, briefcase, leather portfolio) or neutral materials (e.g., backpack, cardboard box, wooden pencil) and were then asked to play an ultimatum game. Results showed that participants surrounded by business materials were significantly less likely than those surrounded by neutral materials to offer money to their counterparts in the game. Indeed, throughout all five of their studies, Kay et al. provide the same pattern of results: business primes make people less cooperative and more competitive (2004). The results were (and still are) fascinating because they provide evidence that contextual influences, whether consciously perceived or not, have the ability to influence attitudes and behavior. This, of course, is well-known to marketing strategists and advertisers who for decades have recognized the power of both conscious and non-conscious[4] contextual placement. Food staples, such as milk, meat, and fruits, are purposefully set on the outer edge of all grocery stores while non-essentials, like gum or candy, are placed in the checkout line, priming one to engage in an impulse buy.

[4] See Vance Packard's *The Hidden Persuaders* for a good summary of subliminal advertising and other ways marketing executives shape consumer preferences.

To say that contextual cues or influences matter for shaping behavior is a bit vague. What aspects of context matter? According to Johns (2006), there are different levels of context. Omnibus context refers to everything around us, to the entirety of surrounding variables. We might conceptualize omnibus context as the who, what, when, where, why, and how of that which encompasses us (2006). Discrete context, on the other hand, refers to a specific contextual variable responsible for shaping attitudes or behaviors. Discrete contexts are necessarily nested within omnibus context (2006). Geographically we might think of discrete contexts as being the country, state, city, neighborhood, and street in which we live. Although not discussed in this project, discrete contexts can also reflect social networks or those interpersonal relationships in which one is nested (see Wasserman and Faust 1994).

One discrete context that has received much attention is local ethnic composition. Most of the literature in this field identifies changing ethnic or racial contexts as the catalyst for alterations in political attitudes and behaviors. States which see a rise in the foreign-born population tend to adopt more restrictive employment regulations (Newman, Johnston, Strickland, and Citrin 2012). Additionally, local increases in the Hispanic population tend to negatively impact individual attitudes towards immigration and approval of government officials among whites (Newman 2013; Newman and Johnson 2012). The logic underscoring much of these findings is that ethnic solidarity is disrupted or fragmented by an influx of outsiders (Huckfeldt 1986) and individuals, particularly those who serve to benefit from the status quo, feel threatened by increasing cultural change (Newman, Hartman, and Taber 2012).

Clearly, researchers have had little trouble in claiming that environmental factors hold implications for political behavior. Researchers have also expressed confidence in results showing context matters for shaping political cognition (I highlight these findings in sections 2.3

and 2.4). What has not been made clear is a definitive causal pathway between political context, cognitive thought, and political behavior. This is what I hope to accomplish in this dissertation. But for now, it is important to understand which aspects of political context matter for shaping cognitive thought. With individuals nested within so many discrete contexts, how do we know which contextual influences matter? Within the next section I make the case that political parties are the primary contextual factor responsible for crafting the way in which we think about and interact with the political world.

2.2 The Role of Parties

The American Founding Fathers were skeptical and in some cases completely opposed to the formation of political parties. James Madison's *Federalist #10* argues that parties are divisive factions. Yet Madison also recognized that parties are endogenous institutions and that their formation is inevitable in terms of collective decision making. Madison advocated for two ways in which societies might cure the 'mischief' caused by factions: the first is to remove their root causes (which cannot be done in practice) and the second is to control their effects (via diverse interests expressed through a representative democracy) (Aldrich 1995). Thomas Jefferson, on the other hand, was not as optimistic. Jefferson remarked that an "addiction to parties is the last degradation of a free and moral agent" (Aldrich 1995, pp. 93). Despite these sentiments, both Jefferson and Madison learned to embrace party politics and went on to electoral success under the Democratic-Republican Party.

Early skepticism towards political parties has by and large been replaced by appreciation (at least among political scientists). No scholar has recognized the fundamental role that political parties play perhaps more than E.E. Schattschneider, who argued that "democracy is unthinkable

save in terms of parties" (1942, pp. 1). But what actually constitutes a political party and what activities do they engage in? Downs (1957) defined a political party as a "team of men seeking to control the governing apparatus by gaining office in a duly constituted election" (pg. 25). Politics is always goal oriented and, according to Downs, political actors are rational in the way they seek to achieve these goals. Parties seek to win office and to do so party organization is structured similar to that of a market-based business (Schlesinger 1984)[5]. Like any other business, parties are concerned with effectively marketing and selling their product to consumers. Parties aim to promote their own candidates and issue stances to voters and, importantly, seek to maintain those loyalties over time such that voters become 'repeat customers'. Parties who are unsuccessful in doing so will face electoral loss and may be wiped out entirely in due time. A current example might include the Tea Party movement, which gained traction among the American public around the 2008 Presidential Election. Since then, however, the Tea Party has appeared ineffective in marketing and selling their cause, as disagreement with the party among the general public rose from 14% in 2010 to 32% in 2013 (Pew Research Center 2013).

A key role of political parties is to solve collective action problems and collective policy making problems once legislators have been elected (see Aldrich 1995 for more detail). Yet even before legislators even step foot on Capitol Hill, parties help to organize the interests of ambitious office-seekers (Schlesinger 1984) by offering a reputation and a structure upon which ambitious politicians attach themselves (Aldrich 1995). That is to say, by associating oneself with a party label or "brand name", politicians are able to achieve electoral victory (1995). Thus, lifelong politicians and fresh-faced challengers alike are incentivized to affiliate with a party.

[5] Still, the organizational structure of parties is not completely analogous to that of a business because parties provide collective, rather than private, goods and compensate their participants indirectly (Schlesinger 1984).

Even in today's candidate-centered elections it is hard to imagine an unaffiliated candidate being able to effectively 'market' her platform and personal characteristics without the aid of a well-recognized party brand.

By coming together as teams (Downs 1957) or coalitions (Schwartz 1986), political parties not only solve collective action problems among legislators but among the electorate as well. The party 'brand name' extends benefits to the mass public in the sense that it acts as a heuristic for voting (Merolla, Stephenson and Zechmeister 2005). Party brand names represent aggregated preferences (Aldrich 1995), which are helpful for voters because they reduce candidate uncertainty. As the work of Downs (1957) and Riker and Ordeshook (1968) have so clearly shown, the cost of voting must always be factored in to the reward one stands to gain. Costs of voting can be tangible matters like gas spent driving to one's designated polling place or costs can represent the mental energy one spends differentiating between party platforms. Thus, the heuristic value of party labels reduces the cost of voting by providing a (relatively) stable and coherent system of classification.

Parties are the glue which binds together all of political life. They structure political debates, provide clarity on what individual candidates stand for, and ultimately act as a lens through which politics is viewed (Dalton and Weldon 2007; Lewis-Beck et al. 2008). Individuals align themselves with the party that best represents their own ideological or economic preferences in hopes that these preferences will be expressed or represented within government. Social identity theorists argue that this alignment or attachment with a particular political party is so strong that it becomes part of an individual's self-concept, it shapes the very way in which they define themselves (Tajfel and Turner 1979). Politics is a complicated web of actors,

incentives, and ideological positions. In more ways than one, political parties provide the solution to effective governance.

2.2.1 Political Socialization

Clearly, parties are imperative to the American political system. But what is it about parties that make them the *primary* contextual factor responsible for shaping political thought? The short answer is that political socialization establishes an unwavering pattern in which individuals learn to equate politics with parties. When we think about politics in our day to day lives we tend to think in terms of those broad organizations (i.e., parties) which structure our political choices. Much of the extant literature on socialization has focused on the mid-teens through mid-twenties as a fertile time for political attentiveness and the formation of partisan identification (Niemi and Hepburn 1995). Indeed, the 'impressionable years' hypothesis (Sears 1975) relies on this logic in asserting that events which take place during adolescence and young adulthood (e.g., wars, recessions, going off to college) shape lifelong political affiliations. Yet political socialization is a misleading term in the sense that it does not simply occur during the early stages of life but happens continually over time. As Niemi and Hepburn (1995) put it, "Just as political learning does not begin at eighteen, it does not end there either." (pp. 4-5). Socialization is an ever-present force and to argue that early childhood experiences fully determine later thinking and behavior is a "gross oversimplification" (1995; pp. 11). In terms of magnitude, individuals may in fact experience the most change in their political views during these 'impressionable years', but they do not simply shut off from the political world once these views and beliefs have been acquired. Political attitudes may crystalize over time but voters are always capable of updating their preferences (Fiorina 1981).

Nevertheless, most of what we know about political socialization (a body of literature which bloomed in the 1950s and seemed to die by the 1970s) comes from examining early childhood experiences. Long before one is able to place a vote, individuals are introduced to political stimuli such as candidates, parties, campaigns, elections, and policies. According to Hess and Torney (1967), American elementary school children (ages 5-11) are capable of displaying party knowledge by accurately labeling the current President as either a Democrat or Republican. Although children of this age often do not understand what a Republican or a Democrat stands for in terms of their platforms or ideological preferences, they are able to differentiate among these party labels based on their candidates (1967). Parental figures, in particular, play a vital role in transmitting political attitudes to their children (Jennings and Niemi 1968; Tedin 1974; Lewis-Beck et al. 2008).

From childhood onward, repeated interaction with family members, friends, educational systems (Ehman 1980), religious organizations (Jelen and Wilcox 1998), and mass media (Adoni 1979) saturate and develop one's understanding of politics. As individuals remain within their specific partisan environment, repeated and prolonged exposure to the aforementioned agents of political socialization should generate increasingly greater degrees of 'psychological entrenchment'. Research has indeed confirmed that within advanced democracies partisan attachment tends to increase with age (Dalton and Weldon 2007), presumably because an individual's repeated experience with his or her partisan context reinforces early predispositions. Yet increasing strength of partisan attachment over the lifespan is just one manifestation of psychological entrenchment. I argue that repeated socialization towards a specific party environment alters the fundamental organization of long-term memory, thus permanently shaping cognitive thought patterns.

Provided that party labels are the main gateway through which individuals become engaged with politics (Hess and Torney 1967), one's mental representations of political stimuli and understanding about the political world should largely reflect the partisan context in which they have been (and continue to be) socialized. To relate this to a non-political example, one can imagine that the available shapes and quantity of Lego bricks within a given Lego set constrains what objects a child (or adult) may build. A finite set of structures or outcomes are available given certain pieces. In much the same way, the number of political parties within a particular context limits the available options, or electoral supply, voters have in selecting a representative. Political parties are contextual attributes which signal to voters the amount and clarity of their electoral choices (Anderson and Dalton 2009). Thus, we might think of district-level variation in electoral supply as an experimental treatment of sorts, and variation in political cognition as the treatment effect.

2.3 The Associative Network

While the Lego example is helpful, identifying the underlying structure of long-term memory should provide a more well-defined understanding of how political parties (i.e., electoral supply) actually shape political thought. According to Collins and Loftus (1975), long-term memory contains a network of concepts called nodes. Nodes can be thought of as cognitive units (Anderson 1996) which contain our representation of a given stimuli in memory. Depending on the individual, one might possess thousands of nodes in long-term memory. For example, most adults would possess a node for coffee, a node for dancing, a node for anger and so on (this is not to say that all of those nodes are exactly alike across individuals, I will discuss individual variation shortly).

One might picture the configuration of nodes within an individual's mind as stars or planets in the galaxy, with some of these objects placed closer or future apart from one another. Spatial proximity of one node to another does not indicate how related these objects are in long-term memory[6]. What does link nodes together is their connectedness. Nodes are organized associatively, meaning that their structure is based on how semantically *related* one node is to another. Nodes which are strongly linked will be recalled more easily than nodes which are not as strongly linked. For instance, what comes to mind when you think about peanut butter? Most individuals familiar with American food culture would say jelly (banana is also an acceptable answer, especially for those raised in the South). In terms of the associative network, we would expect that a node containing the concept 'peanut butter' and a node containing the concept 'jelly' would be closely linked (associatively, not spatially) in long-term memory, given the popularity of this sandwich combination. On the other hand, most individuals would not think of avocados immediately following peanut butter. A node containing the concept of 'avocado' would not be as well connected with peanut butter and thus, we might expect the associative link between these two nodes to be weaker.

The associative network of memory is the structure upon which spreading activation takes place (Collins and Loftus 1975). At any given point in time some nodes are active and some lie dormant (Anderson 1996). Spreading activation asserts that when one node is activated, other nodes which share an association are activated as well. The more shared association nodes have with one another (as in the case of peanut butter and jelly) the more likely they are to become activated in tandem. Spreading activation occurs automatically and without conscious

[6] The associative network of long-term memory is a theoretical concept. There is in fact no way to 'see' how nodes are organized in memory. Implicit measures provide inferences as to this structure but are not definitively able to map all nodes.

guidance (Bargh 1999; Lodge and Taber 2005). This is why a certain song heard on the radio may automatically call to mind a former girlfriend or why a particular brand of cologne may automatically make you think of your father.

At this point the reader may now request clarification regarding the seemingly circular logic of this theory. To say that the associative link between two nodes is weak when those two concepts are weakly related is entirely uninformative. The crux of the associative network model of long-term memory, and of spreading activation, is that one's experiences throughout their life serve to contour the connections between nodes. In essence, repeated pairings of concepts shape their degree of association or connectedness within long-term memory (see Hebb 1949, who explores how neurological connections influence learning). *Repeated* is the operative term here. Returning to the peanut butter and jelly example, the first time one is exposed to these ingredients the connection between nodes might be relatively weak. After several years or even decades, however, of eating, making, and simply hearing about peanut butter and jelly sandwiches the associative link between the these two concepts has become strengthened.

Though the idea had been around much earlier, empirical research on implicit attitudes took off in the 1990s (see Fazio and Olson 2003). Implicit attitude measures make use of the associative structure of long-term memory and the theoretically uncontrollable spread of activation to highlight automatic preferences or prejudice towards certain stimuli. Note that, from a theoretical perspective, responses to both implicit and explicit measures rely on the associative network to explain information recall. Yet it has been argued that implicit measures are better at getting around the bias that exists in explicit survey questions. Social desirability bias, for example, is prevalent in explicit measures of prejudice and discrimination. No one wants to admit to being a racist. For this reason, this body of literature has found implicit measures of

prejudice to be very useful. Payne (2001), for instance, finds that non-black participants were able to identify a gun, rather than a garden tool, more quickly after being subliminally primed with a black, rather than a white, face. These discrepancies in reaction time highlight individual differences in the associative structure of long-term memory and potential stereotypes one might harbor[7]. In Payne's work, the concept of 'black' and 'gun' were closely linked for most participants, thus implying that repeated exposure to racial stereotypes molded a strong associative link between these two nodes in long-term memory.

2.4 Reinforcement and Habituation

The strengthening of two concepts through repeated pairings is the bedrock of both classical and operant conditioning. Habituation and sensitization are two possible outcomes of such conditioning. Habituation occurs when a given stimulus no long elicits the initial reaction it once did. In layman's terms, habituation is when an individual gets used to a particular stimulus. For example, you might be caught off guard (especially if you are a female) the first time your new roommate parades around the house in his boxer shorts. After months of this behavior, however, you will probably not give your scantily clad roommate a second look. Sensitization, on the other hand, can be thought of as a gradually increasing response to a given stimulus. It did not bother you much when your roommate first began to talk with his mouth full of food. Yet now this unsavory habit has become unbearable, your sensitization to this stimulus now elicits a strong reaction.

[7] The term 'might' is used here because, as Devine (1989) suggests, the association between two concepts could simply reflect familiarity with certain cultural stereotypes, though not personal endorsement of them. For the purpose of this dissertation it is unimportant whether the cognitive organization of party-related information is imparted through social or cultural stereotypes or whether this information reflects personally held beliefs. What is important is that individual differences in patterns of thought exist and can be linked to electoral supply.

Habituation allows individuals to become used to or familiar with certain stimuli over time[8]. Thus, habituation is ultimately about the plasticity of human learning (Groves and Thompson 1970). Within this dissertation I use the term 'habituation' not necessarily to reference decreasing response over time (though I do examine interactive effects of age and length of residence on political cognition), but primarily to highlight the fact that individuals become accustom to environmental factors and internalize and manifest this learning within their beliefs and attitudes. Habituation, therefore, is the process through which electoral supply should structure the associative network (i.e., the architecture) of long-term memory. It has been established that parties are the main avenue through which citizens come to learn about and engage with politics (Hess and Torney 1967). Parties not only structure political knowledge at an early age but serve as reinforcing agents of that knowledge over time. So, how exactly does reinforcement occur? Is it as simple as repeated exposure or pairings, as behaviorists would argue? The answer is yes, though a detailed explanation of the neural basis for reinforcement should prove insightful.

Does your grandmother complete a crossword puzzle every day in order to "keep her mind sharp"? If so, she is banking on synaptic plasticity. Synaptic plasticity is the general idea that the functionality of synapses (i.e., neural structures which allow the transmission of chemical or electrical information) can be boosted/depressed through use/disuse. Synaptic performance is not static (see Abbott and Nelson 2000). Synaptic plasticity, or the very understanding that neural functioning can be altered via routine use, is key to long-term potentiation (LTP). Building off of synaptic plasticity, LTP is a stable, relatively long lasting

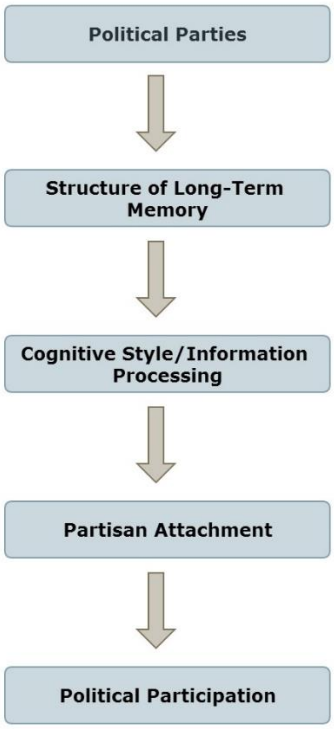
[8] As an aside, chronic drug users are more likely to overdose after 'getting clean' thanks to habituation. As drug users build up a tolerance over time the body learns to counteract the presence of the drug, to bring him or her towards a baseline state. Even after non-use for months or years, the body remains habituated to the effects of the drug. Thus, even the smallest amount of heroin to a former heroin addict may prove lethal.

increase in the connective strength between two cells due to simultaneous and repeated activation over time (Teyler and DiScenna 1987; Bliss and Collingridge 1993; Malenka and Nicoll 1999). Originally found within the hippocampus, researchers now know that LTP occurs within all excitatory pathways of the brain (Bliss and Collingridge 1993), making it a universal property of human functioning. Co-activation of cells increases the probability that LTP will take place (Teyler and DiScenna 1987) by creating a quicker, more well-defined neural pathway between these two units. LTP should sound familiar, as it is essentially the neurological basis for which to validate Collins and Loftus' associative network of long-term memory (1975). In fact, LTP is the prominent model among neuroscience researchers for explaining changes in learning and memory (Malenka and Nicoll 1999).

2.4.1 Bringing it All Together

It is now that I have fully explained the multiple components that go into my theory. Now, to bring them all together in four steps. Within this dissertation I 1) argue that parties are vital to the American political climate because individuals have been socialized as such. 2) I hold that repeated exposure to a particular partisan context, given that it is relatively stable, habituates individuals to think in these terms. 3) Not only do partisan contexts habituate citizens to think about politics in a certain way, I argue that repeated exposure actually alters the architecture of long-term memory via the LTP process. 4) I further reason that because of such basal, cognitive changes, individual changes in information processing, partisan attachment, and political engagement should follow. Figure 2.1 summarizes this theoretical sequence.

Figure 2.1 Theoretical Model Flow



2.5 Information Processing and Cognitive Style

The study of political cognition refers to "the acquisition, uses, and structures of mental representations about political situations, events, actors and groups" (van Dijk 2002, pg. 206). Given that the associative structure of long-term memory is contingent upon one's electoral context and prior political experiences, we should expect certain 'downstream' effects to emerge from this structure. One of those effects should manifest within information processing, or the amount of cognitive effort individuals put forth in evaluating information and making decisions (Chaiken 1980). Repeated involvement with a dichotomous electoral environment, one in which there are always two and only two opposing candidates, should manufacture the tendency to

perceive of and evaluate politics[9] as bipolar in nature. Over time this way of approaching the political world becomes a habitual or chronic cognitive style. For example, an individual nested within a dichotomized partisan environment learns that Party A is for increased environmental regulation. Without any other information this individual "knows" that Party B is against increased environmental regulation. This judgment is the reflection of partisan schemas or stereotypes which, in and of themselves, serve to structure information processing and decision making (Lodge and Hamill 1986; Rahn 1993). In some respects, partisan schemas are what we have been discussing all along, as they might be conceptualized as the informational output of associative network structure[10].

We might contrast this example with Kansas' Second Congressional District. This district consistently sees party competition from three or more political parties, with Libertarians and Reform candidates securing a non-trivial amount of the vote share in each election. I would classify this district as a multi-party or multidimensional partisan context with greater levels of electoral supply. Given that it is rational for parties to differentiate themselves from one another (Lowry and Shipan 200), we should expect parties within Kansas' District 2 to occupy a wider space on the traditional left-right ideological spectrum than parties in dichotomous electoral contexts (e.g., New York's District 9). Dow's research (2001) on comparative spatial analysis indeed finds that party systems which include a greater number of parties tend to see those parties 'spread out' along the ideological spectrum. These differences in partisan environments

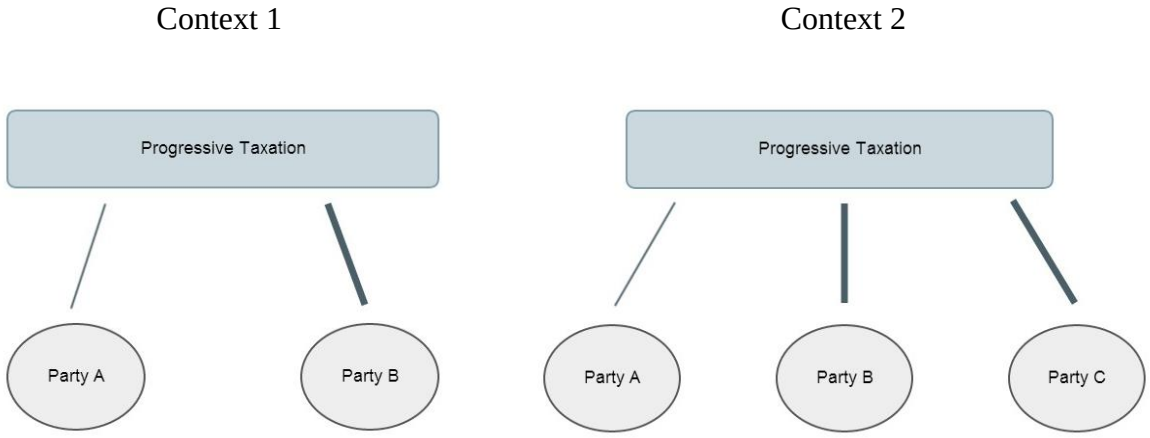
[9] One might also speculate that this type of environment, where every object and every decision is viewed as 'black or white', may also influence non-political attitudes and behaviors as well. Romantic relationships and moral judgments, for instance, may be dichotomized into certain categories. Although it is out of the scope of this dissertation to analyze such 'bleed over' into other forms cognitions, the applicability of this theory to non-political stimuli is fascinating to consider.

[10] We also know that political sophisticates tend to be partisan schematics (Lodge and Hamill 1986), meaning they are more likely than political novices to think in terms of political stereotypes. This finding fits nicely with my theory, as I expect the level of 'psychological entrenchment' from repeated contextual influences to be most constraining for those invested in and knowledgeable of politics.

should translate (via restructuring of the associative network) to marked and observable differences in individual information processing. Indeed, psychological research has shown that the characteristics of one's group can induce systematic biases in information processing (Kerschreiter, Schulz-Hardt, Mojzisch, and Frey 2008).

What types of systematic differences in information processing should we expect across electoral contexts? For one, the strength of associative links between parties and their issue stances should vary depending on the level of electoral supply. Figure 2.2 presents a rather parsimonious depiction of the degree of association between parties and their support for progressive taxation policies. Bolded lines represent stronger associative links whereas thin lines represent weaker associative links. Hence, we see in the figure below that party support for progressive taxation is well-defend in Context 1, which features only two competing parties, and more diffuse in Context 2, which features three competing parties.

Figure 2.2. Associative Strength and Electoral Supply



In a multi-party district associative links to two or more parties should be activated automatically (Bargh 1999) when one considers certain policies. I do not contend that nodes related to both

Party B and Party C are activated to the same degree. However, individuals within contexts of greater electoral supply should tend to view parties' support or opposition to progressive taxation policies (and all other issues for that matter) as more differentiated or nuanced, given that a greater number of parties occupy the same ideological policy space (Best and McDonald 2009). In other words, multi-party environments necessitate *degrees* of party support or opposition for a given policy. In contrast, contexts with only two competing parties should facilitate a clearer association between issue positions. In this sense, information processing should vary across electoral environments simply because some contexts consistently provide a more complicated configuration of electoral issues and gradations of party support or opposition for voters to consider.

Let me step back a moment and remind the reader that it is the *number* of parties within a Congressional district that serves to structure cognition. Local partisan dynamics, such as how competitive parties are with one another or the degree to which they support or oppose an issue, are simply the outcome of how many parties there are. To recall the work of Anderson and Dalton (2009), parties signal to voters the *amount* of electoral choice. This amount matters to the associative network of long-term memory, and to political cognition more broadly, because it organizes the level of activation between nodes. One might imagine that an individual's repeated interactions with a multitude of political parties would produce a 'fan effect' in terms of cognitive activation. If a greater number of nodes are associated with a certain party (as should be in the case of multi-party districts, where issues and traits overlap) activation regarding that party will be more diffuse. Fewer associated nodes, in contrast, should dampen the fan effect and should elicit stronger activation. In this respect, it is the amount of parties that produces the amount of associated nodes.

Another way in which contextual effects should affect information processing is through partisan ambivalence. Partisan ambivalence has been shown to result in delayed crystallization of attitudes, decreased attitudinal consistency, and delayed voting decisions (Lavine 2004). Ambivalent partisans have also been shown to engage in more systematic processing (Rudolph and Popp 2007) and tend to rely less on party identification when evaluating and selecting political candidates than do univalent partisans (Basinger and Lavine 2005). As such, we should expect that contexts which possess lesser amounts of electoral supply will elicit univalent partisanship among its constituents. In simplified party environments, like New York's Ninth Congressional District, citizens should be able to process information systematically or with less conscious effort because partisan categories are so clearly demarcated. In contrast, multidimensional partisan contexts like Kansas' Second Congressional district, which possesses greater amounts of electoral supply, should prompt more ambivalent attitudes among its voters, given that parties do not necessarily reflect clear, ideologically separate preferences (recall that more electoral supply equates to more issue/trait overlap).

2.6 Attachment and Behavior

If partisan contexts structure the foundational, cognitive architecture of the mind, as I've argued, one should also expect that partisan environments are responsible for shaping one's psychological attachment to a given party (or parties) and one's engagement with the political system. Huckfeldt (1986) finds that context is certainly key for predicting party identification, even more so than individual-level characteristics. Anecdotally as well, we observe variation in party identification across electoral contexts. For instance, what is it about Massachusetts and Alaska which compels the majority (approximately 53%) of their residents to register as

independents or those with no party preference (Gauthier 2013)? Compared to much higher levels of party identification in other states, we should indeed be suspicious that contextual influences, at some discrete level (Johns 2006), are motivating partisan attachments (or lack thereof). Within the analysis portion of this dissertation I examine whether there is in fact a systematic relationship between electoral supply and partisan identification.

What evidence can we turn to that suggests contextual dynamics may be responsible for shaping political behavior? According to Huckfeldt, "political behavior must be understood in terms of the actor's relationship to the environment, and the environmental factors that impinge on individual choice." (1986, pp.1). Again, the notion of political parties as providers of choice (Anderson and Dalton 2009) is echoed. As with party identification, there appear to be contextual constraints on voter turnout as well. In both 2012 and 2008, Minnesota had the highest amount of voter turnout (76.1%) while states such as West Virginia (46.8%), Oklahoma (49.6%), and Texas (50.1%) had some of the lowest turnout (Sullivan 2013). Might there be considerable and enduring contextual dynamics which contributed to these aggregate outcomes?

Readers critical of the theorized relationship between political cognition/behavior and partisan contexts might point to the fact that the statistics I have just cited come from state-level analyses. In this case, one could argue that electoral rules, rather than localized levels of electoral supply (i.e., parties), are ultimately responsible for these patterns. I do not argue against this view. In fact, I believe electoral rules to be highly influential in structuring choice. Throughout this dissertation, however, I make the case that parties are the *primary* way in which individuals have been socialized and reinforced to make sense of the political world. In this respect, we might think of electoral rules and party structures as two discrete contexts within an overarching, omnibus context (Johns 2006). In any case, there is in fact extant research which supports the

idea that contextual influences affect political behavior at the district level. Washington (2006) for instance shows that district-level turnout (among whites and blacks) is boosted by nearly two percentage points when a black Democratic candidate is on the ballot. Context is a motivator of behavior.

In the coming empirical chapters, I explore the predictive power of district-level electoral supply on a variety of political attitudes and behaviors (e.g., strength of party affiliation, vote choice, strategic voting, probability of future turnout). In all, I expect to find that structural changes in the associative network of long-term memory, as measured by graded structure, are predictive of individual variation in partisan attachment and political engagement.

Chapter 3
The Architecture of Long-Term Memory

3.1 The Persistence of Memory

"The question is not what you look at, but what you see." – *Henry David Thoreau*

The "soft" watches in Salvador Dalí's famous 1931 painting 'The Persistence of Memory' are undoubtedly unlike any watch you or I have ever seen in physical form. Nevertheless, few individuals would struggle to identify these distorted objects as time pieces. As a Surrealist artist, Dalí sought "to fuse reality with the experiences of the unconscious mind," and he delighted in challenging the perceptions and definitions of even the most mundane objects (Barber 2014, pp.1). Like Dalí's melted watches, human perception is malleable. This is exemplified in the common wisdom that "one man's trash is another man's treasure" or that "beauty is in the eye of the beholder". Not only is perception malleable, *reality* is malleable as well. For example, a plastic milk crate may serve as a receptacle for carrying items, as a step stool, or as a piece of furniture (primarily for college students). Plastic milk crates can objectively be classified as belonging to a variety of functional categories.

This general idea is familiar to mathematicians, who refer to such overlapping categories as "fuzzy sets". In classical set theory, object membership falls within a binary, or 'crisp' choice set (Zadeh 1998). A non-mathematical example might be the case of ethnicity. Classical set theorists would identify several ethnic sets (e.g., Irish, Vietnamese, Portuguese) which are unambiguous in their membership classification, meaning there is one definitive category in which an individual's ethnic heritage can be classified and all category members must share the

same characteristics. Fuzzy set theory, however, permits *gradations* of category membership. Thus, fuzzy set theorists would view ethnicity along a continuum and would allow category members to share different traits. A fuzzy theorist should have no qualms in classifying two separate individuals as Vietnamese, despite the fact that one's ethnic composition may be 1/8 Vietnamese and the other's composition 2/3 Vietnamese.

Almost every category, whether abstract like ethnicity or tangible like furniture, possesses a continuum of category representativeness. Cognitive psychologists identify this seemingly innate human propensity as graded structure. While it might be helpful to think of graded structure as a measure of how concepts are structured within long-term memory, Barsalou (1987) and others (Laukka, Audibert, and Aubergé 2012) remain agnostic on this issue. To these authors, graded structure is solely a behavioral measure which captures how individuals order exemplars into categories (Barsalou 1987). There are, however, some researchers (see Joiner 2007) who explicitly make the connection between measures of graded structure and cognitive organization. Throughout this dissertation, I argue that graded structure is in fact an indicator of the architecture of long-term memory. Graded structure relies on the theoretical assumptions of the associative network model (refer to Chapter 2). Absent fMRI technology, the graded structure survey measures collected in Studies 1 and 2 should provide an insightful glimpse into individual differences in party-related cognitive structure.

There are four different measures of graded structure implemented in this project: *typicality, instantiation, feature applicability, and central tendency*. Typicality refers to an exemplar's family resemblance or its average similarity to other category members and its average dissimilarity to category non-members (Barsalou 1985). Given that this measure involves an evaluation of category averages, determining typicality must involve a summing of

prior evidence about the category and its members (Medin and Schwanenflugel 1981). Typicality is measured by asking individuals how typical of a category (e.g., birds) a given exemplar (e.g., ostrich) is. Similarly, central tendency refers to any kind of fundamental grouping information about a category's exemplars (e.g., modal values on certain characteristic dimensions, probable properties possessed, etc.) (Barsalou 1985). Central tendency is generally assessed by asking individuals to rate how similar or dissimilar two exemplars are with regard to a given category. For example, how similar are forks and paperclips in terms eating utensils?

Instantiation refers to one's familiarity with a category and its members. Frequency of instantiation is an individual's subjective estimate of how often they have experienced a given exemplar as being a member of a category (1985). For instance, a measure of instantiation may ask how often sour cream occurs as a member of the category 'liquids'. One can imagine that there are certainly gradations of category membership for this question, as we may all have experience with the initial liquid that sits on top of on an otherwise solid product. Feature applicability rounds out the four measures implemented here. Feature applicability asks individuals to rate how well a given exemplar applies to a broader category (de Deyne et al. 2008). In this sense, feature applicability and typicality are simply separate ways of asking the same question, given that they both assess family resemblance[11].

[11] One could argue that assessing how 'typical' or well an exemplar 'applies' to a category means different things to different people. In fact, Duffy and Crawford (2008) have argued that cognitive complexity underlies the ability to form mental categories in the first place. While I attempt to control for such individual differences by including personality/cognitive measures (need for cognition, intolerance of ambiguity) I ultimately cannot control what 'typical' is interpreted to mean for every individual respondent. Therefore, individual variation in the interpretation of the question, ever-present in survey research, goes into the error term.

3.2 Expectations

The primary purpose of both Study1 and Study 2 is to measure individual differences in graded structure and to systematically connect those differences to electoral supply. For both studies the following expectations should hold:

Hypothesis 1a: When characterizing and differentiating between parties, individuals in Congressional districts with low levels of electoral supply will exhibit fewer gradations (i.e., will possess less graded structure) than will individuals in Congressional districts with high levels of electoral supply.

Hypothesis 1b: Individuals in low electoral supply districts will be quicker at characterizing and differentiating between parties than will individuals in high electoral supply districts.

The theoretical effect of electoral supply on political cognition, as described in Chapter 2, emphasizes that habitual reinforcement with one's partisan context restructures cognitive pathways such that context fundamentally changes the way in which one organizes and recalls party-related information. I expect that this restructuring will be evident when evaluating party-related information as well. Individuals who reside in Congressional districts where a multitude of parties are continually in competition with one another election after election should become accustom to this political climate and should be able to anticipate future political scenarios based on prior experiences. The same is true for those residing in districts with fewer parties election after election.

As Dr. Phil McGraw is fond of saying "The best predictor of future behavior is past behavior." Yeh and Barsalou (2006) echo this notion in claiming that "conceptual knowledge evolves out of episodic memories" (pg. 358). Continually anticipating an abundance of parties within one's Congressional district should cloud an individual's perception of party traits and platforms. It should condition these individuals to perceive parties as more multidimensional, and hence, they should express a wider range of party knowledge (or more graded structure) than those in low electoral supply districts. In contrast, those in simplified party environments, with few parties in competition, should have more sharpened party perceptions. Individuals in high electoral supply districts are also expected to take longer in providing their evaluation of the parties, given that they simply have more party-related considerations to sort through in memory. Yeh and Barsalou (2006) contend that the meaningfulness of a given stimuli enhances its encoding. In this respect, I might expect that people who are highly interested in or knowledgeable of politics should be most constrained by their electoral context (in terms of partisan perceptions), though I make no formal hypotheses regarding this relationship.

3.3 Operationalizing Electoral Supply

Throughout this dissertation, electoral supply is operationalized as the average effective number of parties in each Congressional district in the last two general election years (i.e., 2008 and 2012). This type of conceptualization is in line with Kittilson and Anderson (2009), who define electoral supply in terms of the number of effective parties, party differentiation, and stability of choices[12]. Because Kittilson and Anderson's analysis is at the country-level,

[12] The term 'electoral supply' is also used widely in the literature on comparative party systems (see Montero 1998). While this term can include other dynamics (as Kittilson and Anderson show) it is almost always used to reference the effective number of parties.

recognizing and accounting for the latter two variables is critical in their models. Here, party differentiation (i.e., polarization) and stability of choices (i.e., age of the parties) are not formally operationalized in my measure of electoral supply, as I expect the age of the parties and polarization between them not to shift in any meaningful or volatile manner across the U.S. districts.

Effective number of parties (ENP) is calculated using the standard formula from Laakso and Taagepera (1979), where n equals the number of parties with at least some percentage of the vote share and p_i^2 equals the square of each party's proportion of the vote share:

$$ENP = \frac{1}{\sum_{i=1}^{n} P_i^2}$$

Data used to calculate ENP come from the Federal Election Commission's official U.S. House results (www.fec.gov). This formula is applied to each Congressional district for 2008 and 2012. The values of ENP for 2008 and 2012 are then averaged to create an overall ENP which reflects the level of electoral supply within that district. I limit the operationalization of electoral supply to the last two general election years in order to avoid concerns regarding redistricting[13]. Within the results sections, ENP is analyzed as both a continuous variable and a dummy variable, where an ENP of 0-1.99 equals 0 and an ENP of 2 or more equals 1. Dichotomizing ENP may show whether there is in fact a 'tipping point' at which two or more effective parties within a district affect how one stores and processes party-related information.

[13] While I was not able to calculate district-level ENP further back in time I do suspect that ENP is relatively stable over time. Across all 447 Congressional districts examined in this dissertation, the average deviation in ENP from 2008 to 2012 in each district was 0.233 with a standard deviation of 0.259.

One should note that while Laakso and Taagepera's operationalization of ENP is a well-known measure in the comparative political systems literature it is not without criticism (Dumont and Caulier 2003), as there are numerous ways in which to identify electoral systems and to capture the proportionality of political parties (see Gallagher 1991). As it relates to this dissertation, one potential point of concern is the substantive meaning of ENP, given that multiple electoral environments can produce the same ENP value. For example, in 2008 ENP was calculated as 1.89 for both California's District 1 and California's District 40. The electoral composition in each of these districts, however, looked very different. In District 1 Democrats earned 68% of the total vote share, Republicans earned 23% of the vote share, and the Green Party won 9% of the vote share. In contrast, Democrats in District 40 won 37% of the vote share and Republicans earned 63% of the vote share. Here no third party provided additional electoral choice and yet ENP equated to the same value across both of these districts.

Because Laakso and Taagepera's formula down weights smaller proportions of votes, it seems that what matters most for ENP calculation is the percentage of votes the winning party obtains. Thus, this measure may best serve to indicate the lopsidedness of local party politics rather than the amount of electoral choice. Still, in districts where multiple parties receive some proportion of the vote share Laakso and Taagepera's calculation can be informative. Particularly in those districts like California's 46 Congressional District (ENP = 2.17), which sees more than 2% of the vote share go towards both the Green Party and Libertarian Party, this measures appears to accurately capture what I want it to (i.e., choice). These types of multi-partisan environments tend to have an ENP value of 2 or greater. For this reason, dichotomizing the spectrum of ENP values may in fact help to reduce some of the noise associated with this particular formula.

3.4 Study 1- Assessing Graded Structure, Part 1

3.4.1 Data

Participants for this study were recruited using Amazon's MechanicalTurk, a crowdsourcing website in which users from all over the United States self-select into research studies[14]. In May 2013, 1,009 participants completed this study and were compensated $0.75/each for their time and effort. Thirty-nine participants were excluded from final analysis due to failing a manipulation check and another forty-seven participants were excluded for failing to provide their Congressional district. Of the remaining sample (n = 923), 47% of participants were male, 80% indicated white or Caucasian as their race, and approximately 54% fell into age brackets between 18-34 years of age. Fifty-three percent of the sample reported a Democratic Party affiliation or leaning, roughly 58% of participants earned an annual income of $39,999 or less, and the modal individual in this sample had obtained a Bachelor's degree. A full breakdown of descriptive statistics from Study 1 can be found in Appendix D.

3.4.2 Survey Procedures

In order to familiarize participants with the graded structure task, every individual first completed six, non-political practice trials. Following the practice trials, each participant completed 50 typicality trials, 20 frequency of instantiation trials, and 50 feature applicability trials. Questions within each block of trials were not randomized by participant[15]. Instead, the experimenter randomized trials such that questions related to traits, groups, political figures, and issues were interspersed throughout each block. Although participants saw questions in each block

[14] For more information on the validity, generalizability, and quality of data collected via Mechanical Turk, see Paolacci, Chandler, and Ipeirotis (2010), Buhrmester, Kwang, and Gosling (2011), and Rand (2012).
[15] Randomization is not compatible with the timing function in Qualtrics. In deciding which aspect is more important for this study, I chose to implement measures of reaction times.

in the same order, blocks of questions were themselves randomized. For example, while one participant might experience typicality, feature applicability, and instantiation trials in that order, another participant might experience those same blocks in a different order. In addition, participants were randomly assigned to either version 1 or version 2 of the study. Whereas the first typicality question of version 1 asks 'How typical of *Republicans* is the trait 'assertive'?', the first typicality question of version 2 asks 'How typical of *Democrats* it the trait 'assertive'?'. This procedure serves to counterbalance exemplars with parties, which is important given that an exemplar may possess a positive or negative connotation.

After the graded structure trials, participants completed four personality batteries (need for cognition, need for closure, tolerance of ambiguity, and openness to experience), questions related to political efficacy and perceptions of government, and a measure of partisan ambivalence. Finally, participants responded to six, open-ended political sophistication measures and provided standard demographic information, including their Congressional district. Reaction time measures were recorded for all practice and graded structure trials.

3.4.3 Measures of Graded Structure

As mentioned, three measures of graded structure were implemented within this study: typicality, frequency of instantiation, and feature applicability. Typicality and feature applicability measures aim to gauge how well an exemplar relates to a given political party. Barsalou (1985) refers to this as 'goodness-of-example'. Within cognitive psychology, graded structure is demonstrated by measuring the standard deviation of participants' responses across all trials. Higher deviations indicate that the individual perceives more *gradations* of category representativeness, or simply, that they possess more graded structure.

An exemplar is a stimuli, either tangible (e.g., Chris Christie) or conceptual (e.g., egalitarian), which typifies a broader category (e.g., Republican Party). Throughout this dissertation participants are exposed to an array of exemplars, including traits, issues, groups, and political figures (refer to Appendix A for a list of exemplars used within all four studies). In terms of valence, I include exemplars which may be perceived as either positive or negative, though counterbalancing exemplars with parties should eradicate bias in the experimental design. Note that within this dissertation an exemplar carries no normative implications, other than the ones a participant may hold. That is to say, I am not at all interested in whether an individual is 'correct' in identifying Hispanics as often occurring members of the Democratic Party. This is, in fact, a judgment of the individual participant, not an agreed upon truth. Because the response format across each of these four measures is quite different, I analyze the relationship between electoral supply and all four graded structure measures separately.

Response scales for the 50 typicality questions presented in this study ranged from 1-Extremely atypical to 7-Extremely typical. Likewise, response scales for the 50 feature applicability questions ranged from 1-Completely inapplicable to 7-Completely applicable. Thus, key measures of interest in this study are the standard deviations across all typicality trials and across all feature applicability trials for each participant. Within the both the typicality and feature applicability trials I also break down graded structure measures according to whether the question referenced the Democratic Party (25 trials) or the Republican Party (25 trials). Whereas many of the categories in cognitive psychology do not conjure strong emotions (e.g., furniture, birds), the same cannot be said for political parties. I therefore suspect that higher levels of graded structure (i.e., higher standard deviations) might be driven by extreme attitudes or affect towards the parties. To account for this I create an extremity measure, which identifies the percentage of times an

individual selected the extreme response category (1 or 7). I calculate this variable across all 50 typicality trials, across those typicality trials related to the Republican Party (25) and those typicality trials related to the Democratic Party (25). The same extremity measures are calculated for the feature applicability trials as well.

As the name suggests, frequency of instantiation is a measure of graded structure which taps how frequently an exemplar occurs within the broader category. Participants in Study 1 are asked how often a specific group occurs as a member of a particular political party. Response scales for the 20 instantiation questions ranged from 1-Very rarely to 7-Very often. Again, the standard deviation across these trials is calculated, as is the standard deviation of trials related to the Democratic Party (10 trials) and the Republican Party (10 trials). Higher standard deviations indicate more graded structure. As with the typicality and feature applicability trials, I also account for extremity by calculating the total percentage of extreme responses (1 or 7) for all 20 trials, for Republican Party trials, and for Democratic Party trials.

Also relevant for analysis is a participants' graded structure across questions related to group-based exemplars, issue-based exemplars, trait-based exemplars, and political figure-based exemplars. For example, I calculate the standard deviation and extremity score of all trials which ask participants to classify certain traits (see Appendix A for a list of those traits) as belonging to a given party. I do the same for issue-based, group-based, and political figure-based exemplars. I then explore the degree to which electoral supply predicts these variables. While I do not have any specific hypotheses related to this set of analyses, it could be interesting to show that those in low electoral supply districts tend to be more extreme in evaluating issues than those in high electoral supply districts, that those same individuals tend to possess less graded structure when it comes to trait-based exemplars, and so on.

3.4.4 Control Variables

Demographic controls in this study include educational attainment, individual income, age, age squared[16], gender, and race. Because the overwhelming majority (81%) of participants self-identified as white or Caucasian, race was dichotomized such that 1 equals white/Caucasian and 0 equals else. Political controls include self-reported interest in politics, trust in government, party identification, strength of party identification, and political knowledge (see Appendix C). In addition to indicating which Congressional district they currently live in, participants also provided the length of time (in years) that they have resided in this district. This is a critical measure because, as my theory suggests, the longer an individual has been nested within a particular electoral environment the more likely they are to grow accustom (cognitively and behaviorally) to the patterns of electoral supply of this context. With this in mind, I not only look for a main effect of electoral supply on graded structure (using length of residence as a control variable) but I also test for potential interactive effects of electoral supply and length of residence on graded structure.

Three personality traits were thought to relate to cognitive functioning and thus were included as control variables in all subsequent analyses. Need for cognitive closure[17], or simply need for closure, is a cognitive style which involves 'seizing and freezing'. Individuals who score high on this measure tend to seize or lock on to information that presents a definitive answer, then freeze or cling to such information in their future assessments (Webster and Kruglanski 1994; Jost, Kruglanski, Glaser and Sulloway, 2003). Similarly, individuals who score high on intolerance of ambiguity measures tend to perceive ambiguous situations or stimuli as psychologically threatening (Budner 1962). Those who are intolerant of ambiguity tend to perceive more rigid

[16] Age squared was included to control for non-linear effects of age on graded structure (see Donovan, Tolbert, and Smith 2009).

[17] 'Need for' scales should reflect stable personality traits, given an enduring pattern, tendency, or motivation towards a particular cognitive style.

categories and, as such, tend to hold dichotomous conceptualizations of the social world (Frenkel-Brunswik 1948). Need for cognition is the third dispositional factor accounted for in this study. Individuals high in need for cognition tend to scrutinize information more than individuals low in need for cognition (Cacioppo, Petty and Morris 1983). These individuals genuinely enjoy deliberation and are motivated to think deeply about the world around them (Cacioppo and Petty 1982). Refer to Appendix C for personality scale measures.

3.4.5 Model Specification

The aforementioned control variables, along with ENP (my key independent variable), were included for all models predicting graded structure. As such, the analyses were specified as follows:

$$\text{Graded Structure}_i = \beta_0 + \beta_1 \text{ENP}_i + \beta_2 \text{Race}_i + \beta_3 \text{Age}_i + \beta_4 \text{Age}^2_i + \beta_5 \text{Income}_i + \beta_6 \text{Education}_i + \beta_7 \text{Gender}_i + \beta_8 \text{Knowledge}_i + \beta_9 \text{Interest}_i + \beta_{10} \text{NeedforCognition}_i + \beta_{11} \text{NeedforClosure}_i + \beta_{12} \text{IntoleranceofAmbiguity}_i + \beta_{13} \text{TrustGovernment}_i + \beta_{14} \text{PID}_i + \beta_{15} \text{PIDStrength}_i + \beta_{16} \text{LengthReside}_i + e_i$$

Specifying my models in this way is appropriate, given my theory. The crux of my argument is that graded structure should be influenced by one's immediate partisan context. District-level effective number of parties is a sufficient way of operationalizing partisan context, specifically by quantifying the amount of political choice or options one is provided with. My theory also asserts that the more *invested* an individual is with his or her partisan environment the more likely their cognitive thought patterns are to be constrained by the contextual dynamics around them. Thus, including strength of party identification, political interest, and length of residence in my models is key. I can control for these variables in order to observe a main effect of

ENP on graded structure and I can also examine the independent effects of these variables on graded structure. As graded structure is essentially a cognitive measure it is also important to control for individual differences in cognitive functioning, which I have done by including need for cognition, need for cognitive closure, and intolerance of ambiguity measures.

When assessing the impact of electoral supply (or ENP) on reaction time measures, race, income, gender, and trust in government were dropped as control variables as there is no theoretical reason why reaction times should vary according to these individual differences. One control variable, whether or not the participant is a native English speaker, was added to the model here, as unfamiliarity with the English language should result in longer reaction times. Therefore the model specification for reaction time measures is as follows:

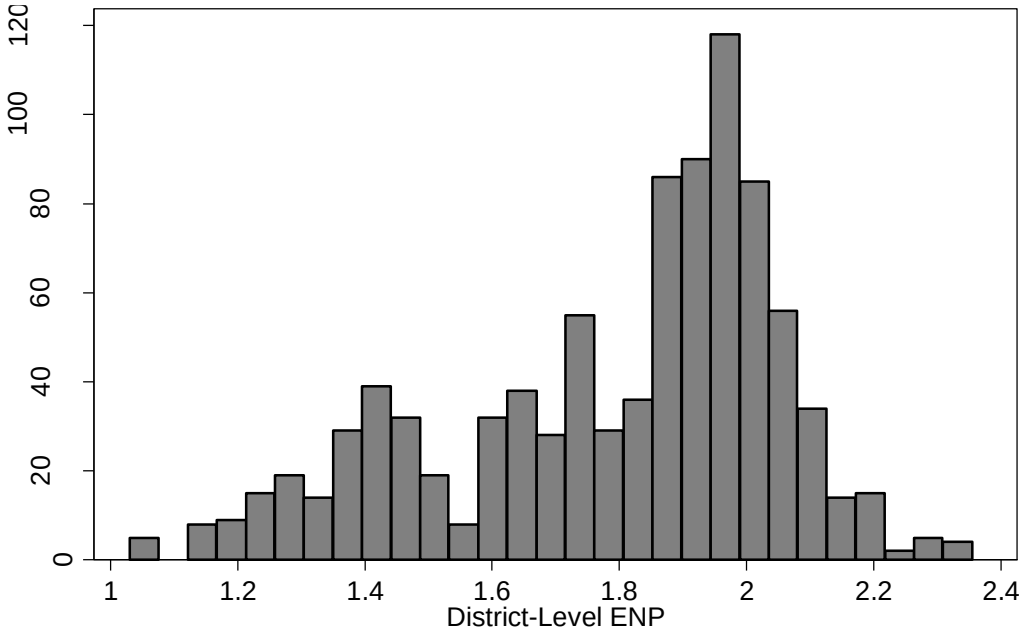
$$\text{Reaction Time}_i = \beta_0 + \beta_1 \text{ENP}_i + \beta_2 \text{Age}_i + \beta_3 \text{Age}^2_i + \beta_4 \text{Education}_i + \beta_5 \text{Knowledge}_i + \beta_6 \text{Interest}_i + \beta_7 \text{NeedforCognition}_i + \beta_8 \text{NeedforClosure}_i + \beta_9 \text{IntoleranceofAmbiguity}_i + \beta_{10} \text{PID}_i + \beta_{11} \text{PIDStrength}_i + \beta_{12} \text{LengthReside}_i + \beta_{13} \text{English}_i + e_i$$

3.5 Study 1 Results

One of the primary concerns of conducting such a study within the American context is whether there exists enough district-level variation in the effective number of parties (ENP) to warrant adequate empirical analysis. Figure 3.1 below shows that, while those values which cluster around 2 make up the bulk of the distribution, there is indeed a decent range of ENP across Congressional districts. Interestingly, we see that there are districts in which a one-party system is essentially in place. Alabama's District 1, where Representative Jo Bonner consistently wins about 98% of the vote, is a good example. On the other end of the distribution are high electoral supply districts, like Nevada's District 3. In 2012, Nevada's third Congressional district saw a tight race between Democrats and Republicans, as well as a significant amount of the vote

share (nearly 7%) going towards independent party candidates. Next, I examine whether this variation in ENP maps on to differences in political cognition.

Figure 3.1 Distribution of Electoral Supply, Study 1



There are three measures of graded structure within Study 1: typicality, feature applicability, and instantiation. Each of those measures are broken down further by whether the question asked respondents to categorize an exemplar as belonging to the Republican or Democratic Party. Dependent variables include the standard deviation of an individual's responses across all questions as well as the percent of total responses for which extreme answers were selected. I parse out these dependent variables for Republican Party questions, for Democratic Party questions, and for all questions summed together.

Six different measures of typicality serve as the dependent variables within Table 3.1. Across all models ENP fails to predict individual variation in graded structure[18]. Nevertheless, we can explore demographic and political variables which predict typicality measures. Within nearly every model education, interest in politics, strength of party identification, and political knowledge are important predictors. Individuals who have obtained a higher level of education tend to exhibit fewer deviations across all of their responses and are less likely to select extreme responses. Interestingly enough, the opposite pattern holds for political sophisticates and those passionate about politics (both in terms of political interest and strength of party affiliation).

Individuals high in the need for cognitive closure tended to possess large amounts of variation in party-related knowledge, though this may be a consequence of selecting extreme responses. Indeed, we observe that individuals high in the need for closure (and shockingly, those high in the need for cognition) were more likely to classify party information in extreme terms (B= 0.116, p<.01). Intolerance of ambiguity served as a significant predictor of typicality primarily when the question concerned the Democratic Party. Here we see that individuals who are more intolerant tend to express more extremity in categorizing exemplars as being typical/atypical of Democrats (B= 0.236, p<.01). These results make sense given prior research linking intolerance and Republican Party identification. Sure enough, there is a modest, positive correlation (r= 0.19) in this study between Republican identification and intolerance of ambiguity.

[18] The results shown within Studies 1 and 2 use the dichotomized version of ENP. Analyses were also run using raw ENP scores as the key independent variable. In all models this continuous ENP variable showed no significance (even at p<.10) in predicting any of my dependent variables of interest. An example of these results can be observed in Appendix H. Thus, the decision was made to highlight only results using the dichotomized ENP variable.

The results within Table 3.1 also indicate that those who are more trustful of government tend to be less extreme in their responses (B= -0.110, p<.000) and possess fewer amounts of graded structure (B= -0.228, p<.000). This relationship appears valid when one considers that less trust in government most likely equates to more skepticism about politics in general (or vice versa). In contrast, individuals who trust government seem to be more even-handed in their perceptions or classification of party-related exemplars. In four of the six models, individuals who identify as Republican are statistically less likely to select extreme responses and are overall less likely to possess large amounts of graded structure. Republicans do, however, express more extremity when evaluating the Democratic Party (not significant), suggesting that the extremity measure does capture affect. Additionally, and counter to my expectations, length of residence and age have no statistical relationship with measures of typicality.

The second set of graded structure variables analyzed were those related to instantiation. Here we see that ENP does not predict individual deviations across responses, though it does predict overall extremity (B= -0.014, p<.05) and extremity on questions regarding the Democratic Party (B= -0.041, p<.05). In both cases, individuals who reside in districts with lower levels of electoral supply are more likely to classify party-related exemplars into extreme categories. This is precisely what Hypothesis 1a would suggest. As with the typicality measures, we observe mainly the same relationships between graded structure and political knowledge (positive), education (negative), trust in government (negative), and need for closure (positive).

There are, however, some interesting discrepancies between the typicality results from Table 3.1 and those within Table 3.2. For one, race (white) is a significant predictor of extremity (B= -0.015, p<.05), meaning individuals who identified as white selected less extreme responses

than individuals who identified as non-white[19]. Age, which did not emerge as a significant predictor for typicality measures, was positively and significant related to instantiation in one of the models. Older individuals tended to express more varied responses, but only in relation to Democrats (B= 0.448, p<.05). We also observe that need for cognition, while significant across all typicality models, only predicts standard deviations on questions about the Democratic Party in Table 3.2.

[19] While whites made up 80% of the overall sample, blacks (8%), Asians (4%), and Hispanics (3%) composed most of the non-white category.

Table 3.1 Typicality Results, Study 1

Variable	Deviation *B (S.E.)*	Extremity *B (S.E.)*	Deviation, Republican *B (S.E.)*	Extremity, Republican *B (S.E.)*	Deviation, Democrat *B (S.E.)*	Extremity, Democrat *B (S.E.)*
ENP	0.004 (0.029)	0.001 (0.045)	-0.001 (0.032)	0.002 (0.015)	0.014 (0.031)	-0.001 (0.014)
White	-0.007 (0.031)	-0.013 (0.014)	0.003 (0.034)	-0.011 (0.016)	-0.008 (0.034)	-0.015 (0.015)
Age	0.206 (0.157)	0.022 (0.073)	0.302 (0.173)	0.047 (0.082)	0.113 (0.171)	-0.003 (0.077)
Age^2	-0.143 (0.206)	0.012 (0.095)	-0.288 (0.227)	-0.050 (0.108)	0.026 (0.224)	0.074 (0.100)
Income	0.019 (0.043)	0.025 (0.020)	0.023 (0.048)	0.027 (0.023)	0.005 (0.047)	0.027 (0.021)
Education	***-0.174 (0.063)***	***-0.120 (0.029)***	***-0.221 (0.069)***	***-0.142 (0.033)***	-0.120 (0.069)	***-0.098 (0.031)***
Male	-0.040 (0.024)	-0.014 (0.011)	-0.037 (0.027)	-0.016 (0.013)	-0.047 (0.026)	-0.012 (0.012)
Knowledge	***0.208 (0.051)***	***0.059 (0.023)***	***0.240 (0.056)***	***0.071 (0.027)***	***0.191 (0.055)***	0.047 (0.025)
Political Interest	***0.280 (0.052)***	***0.095 (0.024)***	***0.296 (0.057)***	***0.109 (0.027)***	***0.258 (0.056)***	***0.081 (0.025)***
Need for Cognition	***0.111 (0.040)***	***0.048 (0.019)***	***0.090 (0.044)***	***0.041 (0.021)***	***0.133 (0.044)***	***0.054 (0.020)***
Need for Closure	***0.256 (0.085)***	***0.116 (0.040)***	***0.296 (0.094)***	***0.158 (0.045)***	***0.194 (0.093)***	0.073 (0.042)
Intolerance	0.249 (0.141)	***0.144 (0.065)***	0.037 (0.155)	0.053 (0.074)	***0.440 (0.153)***	***0.236 (0.069)***
Trust in Government	***-0.228 (0.064)***	***-0.110 (0.030)***	***-0.301 (0.070)***	***-0.140 (0.033)***	-0.119 (0.070)	***-0.081 (0.031)***
Republican PID	***-0.080 (0.032)***	***-0.032 (0.015)***	***-0.165 (0.035)***	***-0.065 (0.017)***	-0.035 (0.035)	0.001 (0.016)
Party ID Strength	***0.281 (0.037)***	***0.139 (0.017)***	***0.254 (0.040)***	***0.134 (0.019)***	***0.299 (0.040)***	***0.144 (0.018)***
Length Reside	0.016 (0.028)	0.012 (0.013)	0.019 (0.031)	0.013 (0.015)	0.006 (0.031)	0.010 (0.014)
Constant	***1.228 (0.097)***	0.014 (0.045)	***1.383 (0.107)***	0.066 (0.051)	1.063 (0.106)	-0.037 (0.047)
N	873	873	873	873	873	873

Note: ENP variable is dichotomized such that Congressional districts with 0-1.99 effective parties equal 0 and Congressional districts with 2+ effective parties equal 1. Items bolded and italicized are significant at or below $p<.05$.

Table 3.2 Instantiation Results, Study 1

Variable	Deviation *B (S.E.)*	Extremity *B (S.E.)*	Deviation, Republican *B (S.E.)*	Extremity, Republican *B (S.E.)*	Deviation, Democrat *B (S.E.)*	Extremity, Democrat *B (S.E.)*
ENP	-0.054 (0.039)	***-0.015 (0.006)***	-0.049 (0.046)	-0.033 (0.018)	-0.049 (0.041)	***-0.041 (0.017)***
White	-0.012 (0.042)	***-0.014 (0.006)***	0.016 (0.050)	-0.022 (0.019)	-0.025 (0.044)	-0.046 (0.018)
Age	-0.343 (0.213)	-0.025 (0.033)	-0.326 (0.251)	-0.058 (0.097)	***0.448 (0.226)***	-0.069 (0.091)
Age^2	0.136 (0.279)	0.001 (0.043)	0.050 (0.329)	-0.021 (0.126)	0.419 (0.295)	0.025 (0.120)
Income	-0.078 (0.059)	0.001 (0.009)	-0.076 (0.069)	0.002 (0.027)	-0.017 (0.062)	0.001 (0.025)
Education	-0.134 (0.086)	***-0.036 (0.013)***	-0.138 (0.101)	***-0.117 (0.039)***	***-0.191 (0.091)***	-0.062 (0.037)
Male	0.012 (0.033)	-0.005 (0.005)	0.013 (0.039)	-0.012 (0.015)	0.015 (0.035)	-0.012 (0.014)
Knowledge	***0.221 (0.069)***	***0.026 (0.011)***	***0.207 (0.081)***	0.047 (0.031)	0.046 (0.073)	***0.083 (0.029)***
Political Interest	***0.170 (0.070)***	0.013 (0.011)	0.122 (0.083)	0.030 (0.032)	0.144 (0.074)	0.033 (0.030)
Need for Cognition	0.063 (0.054)	0.007 (0.008)	0.049 (0.064)	0.012 (0.025)	***0.136 (0.058)***	0.025 (0.023)
Need for Closure	***0.409 (0.116)***	***0.074 (0.018)***	***0.425 (0.136)***	***0.162 (0.052)***	***0.281 (0.123)***	***0.210 (0.050)***
Intolerance	0.258 (0.191)	0.011 (0.030)	-0.018 (0.225)	-0.013 (0.086)	***0.768 (0.202)***	0.070 (0.082)
Trust in Government	***-0.261 (0.087)***	***-0.034 (0.013)***	***-0.234 (0.102)***	***-0.098 (0.039)***	***-0.279 (0.092)***	***-0.074 (0.037)***
Republican PID	***-0.170 (0.043)***	***-0.013 (0.007)***	***-0.224 (0.051)***	***-0.082 (0.020)***	***0.101 (0.046)***	0.016 (0.019)
Party ID Strength	0.077 (0.050)	***0.020 (0.008)***	0.078 (0.059)	***0.059 (0.023)***	0.013 (0.053)	0.041 (0.021)
Length Reside	0.062 (0.039)	0.009 (0.006)	0.058 (0.045)	0.021 (0.017)	0.042 (0.041)	0.026 (0.017)
Constant	***1.319 (0.132)***	***0.058 (0.020)***	***1.572 (0.156)***	***0.236 (0.060)***	***0.784 (0.140)***	0.052 (0.057)
N	873	873	873	873	873	873

Note: ENP variable is dichotomized such that Congressional districts with 0-1.99 effective parties equal 0 and Congressional districts with 2+ effective parties equal 1. Items bolded and italicized are significant at or below $p<.05$.

Another interesting result to highlight from Table 3.2 is that strength of party identification (as well as political interest), by and large, falls out of significance in most of these models. Whereas the coefficient of party ID strength was sizable ($p<.000$) across all six graded structure models in Table 3.1, here we observe that strength of party identification is only significant in predicting overall extremity ($B= 0.020$, $p<.01$) and extremity towards Republican Party ($B= 0.059$, $p<.01$). Likewise, a sign change occurs for party identification in the last two models of the table. It is no coincidence that in these two models, Republicans are more extreme in evaluating those exemplars related to Democrats and show larger standard deviations across all of these questions. In contrast, Republicans are less extreme and express less divergence when evaluating their own party.

With regard to feature applicability measures (Table 3.3), the results largely resemble those for typicality (Table 3.1). The effective number of parties in a Congressional district is not a significant predictor of graded structure. Also not significant is age, length of residence, and income. Still, we see some of the same patterns emerging. Those who appear more invested in politics, both in terms of interest, knowledge, and party affiliation, tend to express more graded structure (i.e., deviations across questions). Again, however, this relationship seems to be confounded by extremity. Knowledgeable, interested, and strong partisans tend to hold more dichotomized views of Republicans and Democrats.

One notable result from Table 3.3 is that gender is a significant predictor of graded structure in two of the six models. Males, more so than females, tend to hold less differentiated views of parties. Males were less likely to express deviations in their overall responses ($B= -0.065$, $p<.05$) and were less likely to express deviations in their responses to Republican-oriented

Table 3.3 Feature Applicability Results, Study 1

Variable	Deviation *B (S.E.)*	Extremity *B (S.E.)*	Deviation, Republican *B (S.E.)*	Extremity, Republican *B (S.E.)*	Deviation, Democrat *B (S.E.)*	Extremity, Democrat *B (S.E.)*
ENP	-0.022 (0.033)	-0.009 (0.015)	-0.014 (0.038)	-0.008 (0.018)	-0.024 (0.036)	-0.010 (0.015)
White	0.007 (0.036)	-0.006 (0.016)	0.014 (0.041)	0.004 (0.019)	0.011 (0.039)	-0.017 (0.016)
Age	0.154 (0.182)	0.005 (0.080)	0.134 (0.210)	0.006 (0.097)	0.153 (0.199)	0.004 (0.083)
Age^2	-0.023 (0.238)	-0.022 (0.105)	-0.252 (0.275)	-0.035 (0.127)	-0.204 (0.260)	-0.009 (0.109)
Income	-0.017 (0.050)	0.017 (0.022)	-0.050 (0.058)	-0.001 (0.027)	0.020 (0.055)	0.034 (0.023)
Education	***-0.231 (0.073)***	***-0.106 (0.032)***	***-0.224 (0.084)***	***-0.102 (0.039)***	***-0.222 (0.080)***	***-0.109 (0.033)***
Male	***-0.065 (0.028)***	-0.012 (0.012)	***-0.087 (0.032)***	-0.023 (0.015)	-0.047 (0.031)	0.000 (0.127)
Knowledge	***0.223 (0.059)***	***0.051 (0.026)***	***0.305 (0.068)***	***0.087 (0.031)***	***0.140 (0.064)***	0.016 (0.027)
Political Interest	***0.254 (0.060)***	***0.089 (0.026)***	***0.236 (0.069)***	***0.080 (0.031)***	***0.261 (0.065)***	***0.098 (0.027)***
Need for Cognition	***0.169 (0.046)***	***0.068 (0.020)***	***0.133 (0.054)***	***0.054 (0.025)***	***0.199 (0.051)***	***0.082 (0.021)***
Need for Closure	***0.362 (0.099)***	***0.159 (0.043)***	***0.387 (0.114)***	***0.193 (0.052)***	***0.330 (0.108)***	***0.125 (0.045)***
Intolerance	0.207 (0.163)	0.135 (0.072)	-0.083 (0.188)	-0.011 (0.087)	***0.534 (0.178)***	***0.282 (0.074)***
Trust in Government	***-0.295 (0.074)***	***-0.176 (0.033)***	***-0.283 (0.086)***	***-0.181 (0.039)***	***-0.243 (0.081)***	***-0.172 (0.034)***
Republican PID	***-0.116 (0.037)***	***-0.038 (0.016)***	***-0.305 (0.043)***	***-0.133 (0.020)***	***0.087 (0.040)***	***0.057 (0.017)***
Party ID Strength	***0.289 (0.042)***	***0.127 (0.019)***	***0.279 (0.049)***	***0.132 (0.023)***	***0.317 (0.046)***	***0.121 (0.019)***
Length Reside	0.020 (0.033)	0.004 (0.014)	0.016 (0.038)	0.006 (0.017)	0.025 (0.036)	0.003 (0.015)
Constant	***1.205 (0.112)***	-0.006 (0.049)	***1.451 (0.130)***	0.096 (0.060)	***0.889 (0.123)***	***-0.107 (0.051)***
N	873	873	873	873	873	873

Note: ENP variable is dichotomized such that Congressional districts with 0-1.99 effective parties equal 0 and Congressional districts with 2+ effective parties equal 1. Items bolded and italicized are significant at or below $p<.05$.

questions (*B*= -0.087, p<.01). The fact that some demographic variables are significant predictors of typicality while others are significant predictors of feature applicability is thought-provoking, given that the same exemplars are used in both sets of questions. It seems likely that question wording is driving these results. For some, determining how typical a trait is to a given political party might seem synonymous with determining how applicable it is. Instead, the results presented here indicate that such a small, semantic difference can in fact generate two separate ways of thinking about and differentiating between parties.

In the next set of analyses (Figures 3.2 and 3.3), I focus my attention on interactive effects. As noted previously, there is reason to believe that the longer an individual resides within his or her contextual environment, the more they should be constrained by those contextual factors. This too applies to age and political sophistication, as one might expect that those who are more invested in political life or those who have interacted with politics year after year will become more constrained by their political environment. There were, however, no interactive effects of ENP with political knowledge, length of residence, or age. This is true for all three graded structure variables.

Nevertheless, I did find interactive effects between ENP and strength of party identification. Figure 3.2 shows the marginal effect of ENP on overall extremity for the typicality measure at varying levels of party identification strength. Confidence intervals are set to 90%. At low levels of party strength, the average effect of ENP decreases extreme response selection among study participants. At high levels of party strength, ENP serves to increase extremity (*B*= 0.069, *SD*= .038, p<.10). The same is true for extreme responses on feature applicability measures (*B*= 0.071, *SD*= .042, p<.10) (Figure 3.3). Thus, we observe that political context, as well as individual demographic characteristics, are important for determining political cognition.

Figure 3.2 Marginal Effect of ENP on Typicality Extremity

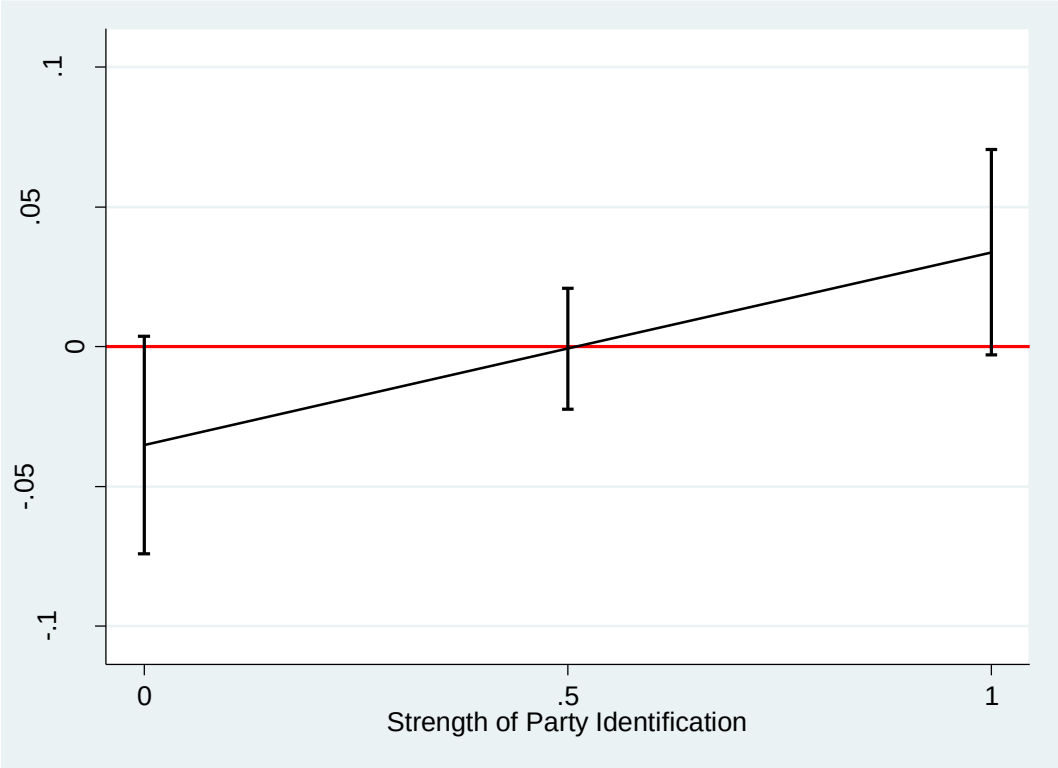
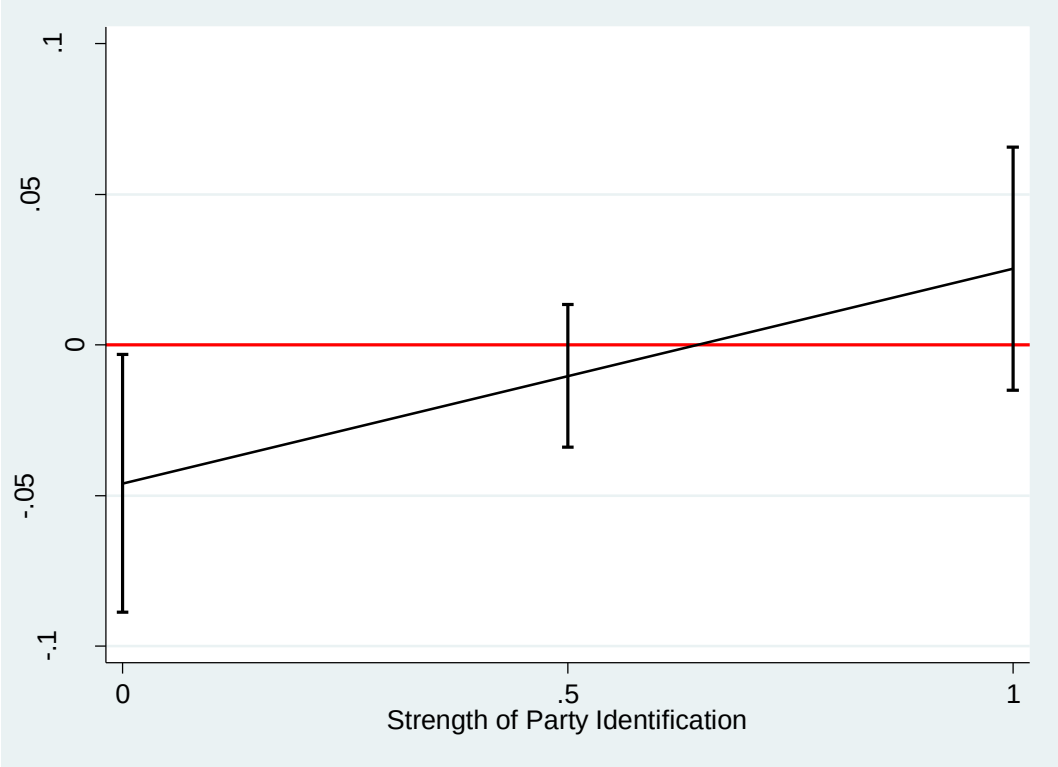


Figure 3.3 Marginal Effect of ENP on Feature Applicability Extremity



Across all three graded structure measures (typicality, feature applicability, and instantiation), participants were asked to classify exemplars related to issue positions, traits, group affiliations, and political figures (see Appendix A). Table 3.4 presents the standard deviation across all questions related to those types of exemplars. Again, I find no significant effects for ENP. In other words, individuals residing in low electoral supply districts and individuals residing in high electoral supply districts express no systematic difference in the way they classify trait-related information, issue-related information, group-related information, or information regarding political figures. It is true, however, that older adults tend to express more graded structure when it comes to political figures. Males (B= -0.083, p<.01) and those who are more educated (B= -0.282, p<.000) tend to possess less graded structure when evaluating party traits but not groups, figures, or issues.

The final set of analyses conducted within this study relate to Hypothesis 1b, which emphasizes reaction time measures. Analyzing how quickly individuals characterize party-related information is informative for understanding the organization of long-term memory. Table 3.5 presents the effect of ENP on graded structure reaction times across all three measures of graded structure. The dependent variable Typicality represents the time participants took across all 50 typicality questions[20]. The same goes for Instantiation and Feature Applicability. Sadly, there appears to be no main effect of ENP on reaction time measures. We do see that older individuals had higher (i.e., longer) reaction time scores and that more educated individuals were faster in making assessments on feature applicability questions. Curiously, personality measures such as need for cognition and need for cognitive closure were not significant predictors of

[20] As is standard, reaction times were normalized by subtracting an individual's reaction time on all six practice trials from their reaction time on all experimental trials. Response times falling outside of three standard deviations from the sample average were not included in analysis.

reaction times across all models. Political interest and knowledge of politics were also not able to shed light on which types of individuals tend to be quicker or slower in evaluating party-related information. In Section 3.8 I discuss potential reasons as to why this might be the case.

Table 3.4 Results by Exemplar Type, Study 1

Variable	Deviation, Traits *B (S.E.)*	Deviation, Issues *B (S.E.)*	Deviation, Groups *B (S.E.)*	Deviation, Figures *B (S.E.)*
ENP	-0.001 (0.039)	-0.018 (0.037)	-0.054 (0.039)	0.001 (0.035)
White	0.009 (0.037)	0.036 (0.040)	-0.012 (0.042)	-0.033 (0.038)
Age	0.088 (0.186)	0.104 (0.205)	-0.343 (0.213)	***0.520 (0.192)***
Age^2	-0.169 (0.243)	-0.174 (0.268)	0.136 (0.279)	-0.289 (0.251)
Income	0.020 (0.051)	-0.060 (0.056)	-0.078 (0.059)	0.006 (0.053)
Education	***-0.282 (0.075)***	-0.124 (0.082)	-0.134 (0.086)	-0.085 (0.077)
Male	***-0.083 (0.029)***	-0.031 (0.031)	0.012 (0.033)	-0.005 (0.030)
Knowledge	0.077 (0.060)	***0.403 (0.066)***	***0.221 (0.069)***	***0.343 (0.062)***
Political Interest	***0.230 (0.061)***	***0.281 (0.067)***	***0.170 (0.070)***	***0.396 (0.063)***
Need for Cognition	***0.190 (0.047)***	***0.123 (0.052)***	0.063 (0.054)	0.047 (0.049)
Need for Closure	***0.337 (0.101)***	***0.424 (0.111)***	***0.409 (0.116)***	0.179 (0.104)
Intolerance	***0.398 (0.166)***	-0.035 (0.183)	0.258 (0.191)	0.082 (0.172)
Trust in Government	***-0.357 (0.076)***	***-0.267 (0.083)***	***-0.261 (0.087)***	-0.077 (0.078)
Republican PID	***-0.152 (0.038)***	-0.014 (0.042)	***-0.170 (0.043)***	-0.021 (0.039)
Party ID Strength	***0.311 (0.043)***	***0.249 (0.048)***	0.077 (0.050)	***0.253 (0.045)***
Length Reside	0.004 (0.034)	0.016 (0.037)	0.062 (0.039)	0.036 (0.035)
Constant	***1.150 (0.115)***	***1.300 (0.127)***	***1.319 (0.132)***	***1.194 (0.119)***
N	873	873	873	873

Note: ENP variable is dichotomized such that Congressional districts with 0-1.99 effective parties equal 0 and Congressional districts with 2+ effective parties equal 1. Items bolded and italicized are significant at or below $p<.05$.

Table 3.5 Reaction Time Results, Study 1

Variable	Typicality *B (S.E.)*	Instantiation *B (S.E.)*	Feature Applicability *B (S.E.)*
ENP	-13.379 (10.939)	-1.123 (4.219)	-10.418 (8.873)
Age	***170.768 (58.943)***	-3.189 (22.796)	***93.267 (47.600)***
Age^2	-97.646 (77.408)	24.995 (30.048)	12.921 (62.698)
Education	-22.831 (23.724)	2.673 (9.189)	***-56.186 (19.233)***
Knowledge	-4.217 (19.212)	-7.883 (7.462)	2.644 (15.538)
Political Interest	-8.397 (19.737)	5.539 (7.623)	-0.463 (15.982)
Need for Cognition	24.856 (15.301)	6.346 (5.902)	2.651 (12.439)
Need for Closure	11.835 (32.810)	19.910 (12.701)	29.723 (26.720)
Intolerance	33.369 (53.961)	-11.800 (20.717)	22.517 (43.409)
Republican PID	2.454 (11.906)	7.321 (4.591)	12.353 (9.637)
Party ID Strength	4.037 (13.991)	1.643 (5.373)	17.102 (11.287)
Length Reside	-10.335 (10.944)	0.303 (4.208)	-0.156 (8.807)
English	-16.801 (37.070)	15.400 (14.412)	33.975 (30.083)
Constant	***191.292 (52.537)***	10.568 (20.384)	***132.476 (42.865)***
N	855	864	857

Note: ENP variable is dichotomized such that Congressional districts with 0-1.99 effective parties equal 0 and Congressional districts with 2+ effective parties equal 1. Items bolded and italicized are significant at or below p<.05.

3.6 Study 2- Assessing Graded Structure, Part 2

3.6.1 Data

As with Study 1, participants in Study 2 were also recruited using Amazon's MechanicalTurk. In November 2013, 727 participants completed this study and were compensated $0.75/each for their time and effort. Thirty-nine participants were excluded from final analysis due to failing a manipulation check and another fifty-three participants were excluded for failing to provide their Congressional district. Of the remaining sample (n = 635), 47% of participants were male, 83% indicated white or Caucasian as their race, and approximately 54% fell into age brackets between 18-34 years of age. Fifty-one percent of the sample reported a Democratic Party affiliation or leaning, roughly 57% of participants earned an annual income of $39,999 or less, and the modal individual in this sample had obtained a Bachelor's degree. Descriptive statistics from participants in Study 2 are almost identical to those participants in Study 1. A full breakdown of descriptive statistics from Study 2 can be found in Appendix E.

3.6.2 Survey Procedures

The procedure for Study 2 was indistinguishable from Study 1 except that participants completed measures of central tendency, instead of instantiation. Again, in order to familiarize participants with the graded structure task, every individual first completed six, non-political practice trials. Following the practice trials, each participant completed 50 typicality trials, 20 central tendency trials, and 50 feature applicability trials. Questions within each block of trials

were not randomized by participant[21]. Instead, the experimenter randomized trials such that questions related to traits, groups, political figures, and issues were interspersed throughout each block. Although participants saw questions in each block in the same order, blocks of questions were themselves randomized (see section 3.4.2 for more). Like Study 1, participants were randomly assigned to either version 1 or version 2 of the study. Whereas the first typicality question of version 1 asks 'How typical of *Republicans* is the trait 'assertive'?', the first typicality question of version 2 asks 'How typical of *Democrats* it the trait 'assertive'?'. As in Study 1, this procedure serves to counterbalance exemplars with parties. The careful reader will note that 50 typicality trials and 50 feature applicability trials are included in both Study 1 and Study 2. The purpose in doing so is to replicate findings from each study, thus allowing my results to generalize across samples.

After the graded structure trials, participants completed the same four personality batteries as in Study 1 (need for cognition, need for closure, tolerance of ambiguity, and openness to experience), questions related to political efficacy and perceptions of government, and a measure of partisan ambivalence. Finally, participants responded to six, open-ended political sophistication measures and provided standard demographic information, including their Congressional district.

3.6.3 Measures of Graded Structure

The four measures of interest in this study are typicality, central tendency, and feature applicability. Measures of typicality and feature applicability are calculated here just as they were in Study 1. The exemplars utilized in this study are drawn from the same bank as those within Study 1. Refer to section 3.4.3 for more information on exemplars and the calculation of

[21] Randomization is not compatible with the timing function in Qualtrics. In deciding which aspect is more important for this study, I chose to implement measures of reaction times.

typicality and feature applicability variables. Central tendency refers to how alike an exemplar is in relation to other category members. In the cognitive psychology literature central tendency is often thought of in terms of family resemblance (Barsalou 1985). In Study 2 I measure central tendency by asking participants how similar certain political figures are to one another. Exemplars may in fact be co-partisans or may belong to opposing parties. Response options for the 20 central tendency trials range from 1-Extremely dissimilar to 7-Extremely similar[22]. Graded structure was calculated as the standard deviation of all 20 central tendency trials. Again, I created an extremity measure (the percentage of extreme response options selected) in order to gauge whether graded structure was simply a function of extreme views or feelings towards the political figure-based exemplars.

3.6.4 Control Variables

Demographic controls in Study 2 are the same as Study 1 and include educational attainment, individual income, age, age squared, gender, and race. Again, the majority (83%) of participants self-identified as white or Caucasian, race was dichotomized such that 1 equals white/Caucasian and 0 equals else. Political controls include self-reported interest in politics, trust in government, party identification, strength of party identification, and political knowledge (see Appendix C). In addition to indicating which Congressional district they currently live in, participants also provided the length of time (in years) that they have resided in this district. Length of residence is used both as a control variable and an interactive variable in subsequent analyses. As with Study 1, three personality measures were included to control for individual

[22] Respondents also had an eighth option in which they could indicate that they did not know one or both of the political figures listed. This response option was not important for my analyses. Instead, it sought to remove response bias by allowing respondents to indicate unfamiliarity, rather than force a guess.

differences in cognitive functioning. These include need for closure, need for cognition, and intolerance of ambiguity. Refer to section 3.4.4 for more information about these personality traits and to Appendix C for scale measures.

3.6.5 Model Specification

The model specification for all graded structure analyses in Study 2 remain the same as those within Study 1. Specifically, the models in Study 2 were specified as follows:

$$\text{Graded Structure}_i = \beta_0 + \beta_1 \text{ENP}_i + \beta_2 \text{Race}_i + \beta_3 \text{Age}_i + \beta_4 \text{Age}^2_i + \beta_5 \text{Income}_i + \beta_6 \text{Education}_i + \beta_7 \text{Gender}_i + \beta_8 \text{Knowledge}_i + \beta_9 \text{Interest}_i + \beta_{10} \text{NeedforCognition}_i + \beta_{11} \text{NeedforClosure}_i + \beta_{12} \text{IntoleranceofAmbiguity}_i + \beta_{13} \text{TrustGovernment}_i + \beta_{14} \text{PID}_i + \beta_{15} \text{PIDStrength}_i + \beta_{16} \text{LengthReside}_i + e_i$$

Again it is important to note that specifying my models in this way is appropriate, given my theory. The crux of my argument is that graded structure should be influenced by one's immediate partisan context. District-level effective number of parties is a sufficient way of operationalizing partisan context, specifically by quantifying the amount of political choice or options one is provided with. My theory also asserts that the more *invested* an individual is with his or her partisan environment the more likely their cognitive thought patterns are to be constrained by the contextual dynamics around them. Thus, including strength of party identification, political interest, and length of residence in my models is key. I can control for these variables in order to observe a main effect of ENP on graded structure and I can also examine the independent effects of these variables on graded structure. As graded structure is essentially a cognitive measure it is also important to control for individual differences in cognitive functioning, which I have done by including need for cognition, need for cognitive closure, and intolerance of ambiguity measures.

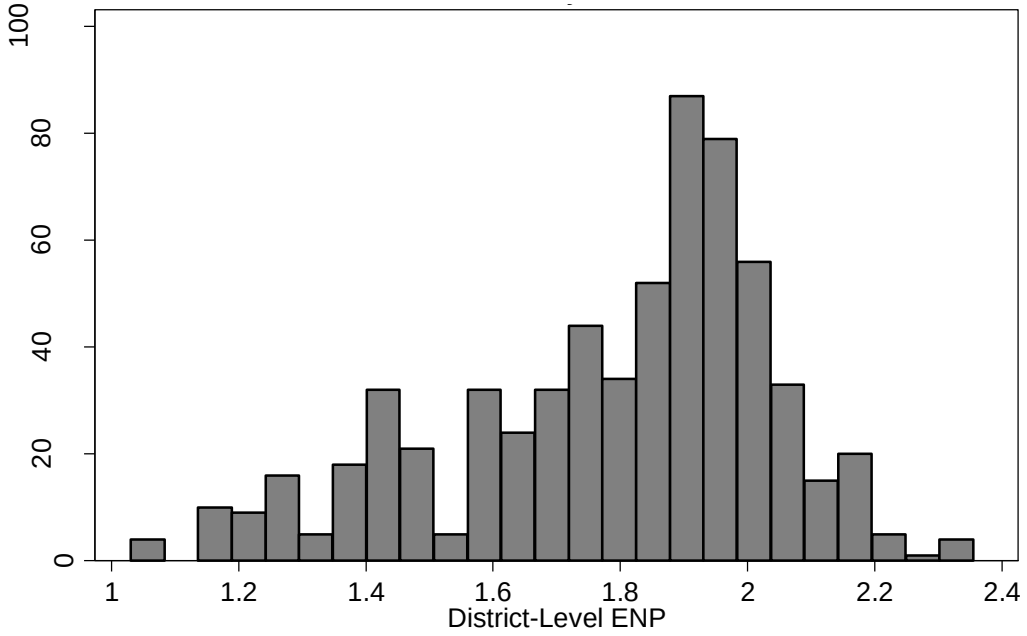
When modeling the impact of electoral supply (or ENP) on reaction time measures, race, income, gender, and trust in government were dropped as control variables as there is no theoretical reason why reaction times should vary according to these individual differences. As with Study 1, a variable capturing whether or not the participant is a native English speaker was added to the reaction time models in Study 2. Therefore the model specification for reaction time measures is as follows:

$$\text{Reaction Time}_i = \beta_0 + \beta_1 \text{ENP}_i + \beta_2 \text{Age}_i + \beta_3 \text{Age}^2_i + \beta_4 \text{Education}_i + \beta_5 \text{Knowledge}_i + \beta_6 \text{Interest}_i + \beta_7 \text{NeedforCognition}_i + \beta_8 \text{NeedforClosure}_i + \beta_9 \text{IntoleranceofAmbiguity}_i + \beta_{10} \text{PID}_i + \beta_{11} \text{PIDStrength}_i + \beta_{12} \text{LengthReside}_i + \beta_{13} \text{English}_i + e_i$$

3.7 Study 2 Results

As with the previous study, I first plotted the distribution of ENP simply to assure that the range of values makes it suitable as an independent variable. Again we see that Study 2 participants reside in diverse Congressional districts, all with varying levels of ENP. Values of ENP in Study 2 range from 1.03 to 2.355, with a mean value of 1.788 (*SD* = 0.256.).

Figure 3.4 Distribution of Electoral Supply, Study 2



Aside from the inclusion of central tendency measures and the exclusion of instantiation measures, Study 2 is essentially a replication of Study 1. As such, Table 3.6 presents the same six typicality models found within Table 3.1. There are striking differences in Study 2, however, in that ENP is positive and statistically significant across all typicality measures. Whether evaluating Republicans or Democrats, individuals who reside in higher electoral supply districts tend to possess greater amounts of graded structure (in the form of more deviations across responses). These deviations appear to be the product of extreme evaluations, as a significant relationship is found between those residing in high electoral supply districts and the selection of extreme response options (e.g., extremely typical, extremely atypical). As with the previous study, political interest and party identification strength are positive and significant predictors of graded structure across the board.

Electoral supply is predictive of two feature applicability measures, as well (Table 3.7). Higher levels of ENP equate to more extreme structuring of party-related information, overall

(*B*= 0.042, p<.05) and as it applies to questions about the Democratic Party (*B*= 0.048, p<.05). In models prior, I have suggested that extreme response selection may confound the traditional measure of graded structure (which relies on standard deviations across questions). This does not appear to be the case in Table 3.7, as we observe significance for extremity measures but not for deviation measures. This is redeeming to my empirical pursuits in the sense that extremity does not always confound the standard deviation across graded structure measures.

Measures of central tendency were also included in Study 2, however no statistically significant relationship was found between these measures and electoral supply (analyses not shown). Individuals who reside in high electoral supply districts were not more extreme (*B*= -0.003, p=.878) or differentiated (*B*= -0.045, p<.439) than those in low electoral supply districts in terms of party-related evaluations.

Table 3.6 Typicality Results, Study 2

Variable	Deviation *B (S.E.)*	Extremity *B (S.E.)*	Deviation, Republican *B (S.E.)*	Extremity, Republican *B (S.E.)*	Deviation, Democrat *B (S.E.)*	Extremity, Democrat *B (S.E.)*
ENP	***0.097 (0.040)***	***0.052 (0.019)***	***0.101 (0.043)***	***0.056 (0.020)***	***0.106 (0.043)***	***0.048 (0.020)***
White	-0.043 (0.043)	-0.037 (0.020)	-0.064 (0.046)	***-0.044 (0.022)***	-0.016 (0.046)	-0.029 (0.021)
Age	0.282 (0.213)	0.112 (0.099)	0.440 (0.227)	0.201 (0107)	0.101 (0.228)	0.023 (0.104)
Age^2	-0.204 (0.264)	-0.086 (0.122)	-0.440 (0.283)	-0.218 (0.133)	0.077 (0.284)	0.046 (0.129)
Income	-0.056 (0.060)	-0.045 (0.028)	-0.085 (0.064)	-0.054 (0.030)	-0.040 (0.064)	-0.036 (0.029)
Education	-0.038 (0.031)	-0.010 (0.014)	-0.009 (0.033)	0.006 (0.015)	***-0.078 (0.035)***	-0.026 (0.015)
Male	-0.062 (0.032)	-0.016 (0.015)	-0.049 (0.035)	-0.013 (0.016)	***-0.078 (0.035)***	-0.019 (0.016)
Knowledge	0.047 (0.066)	-0.058 (0.031)	0.045 (0.070)	***-0.074 (0.033)***	0.062 (0.071)	-0.042 (0.032)
Political Interest	***0.276 (0.066)***	***0.128 (0.031)***	***0.274 (0.070)***	***0.121 (0.033)***	***0.272 (0.071)***	***0.135 (0.032)***
Need for Cognition	0.037 (0.053)	0.032 (0.025)	0.025 (0.057)	0.031 (0.027)	0.049 (0.057)	0.033 (0.026)
Need for Closure	***0.262 (0.111)***	0.063 (0.052)	***0.290 (0.119)***	0.077 (0.056)	0.231 (0.119)	0.050 (0.054)
Intolerance	-0.022 (0.185)	0.154 (0.086)	-0.296 (0.198)	0.026 (0.093)	0.225 (0.198)	***0.282 (0.090)***
Trust in Government	***-0.408 (0.083)***	***-0.211 (0.038)***	***-0.416 (0.088)***	***-0.223 (0.042)***	***-0.036 (0.089)***	***-0.200 (0.040)***
Republican PID	-0.050 (0.043)	-0.030 (0.020)	***-0.137 (0.046)***	***-0.062 (0.022)***	0.008 (0.046)	0.001 (0.021)
Party ID Strength	***0.267 (0.050)***	***0.155 (0.023)***	***0.197 (0.053)***	***0.133 (0.025)***	***0.341 (0.053)***	***0.177 (0.024)***
Length Reside	0.014 (0.038)	0.009 (0.017)	0.015 (0.040)	0.015 (0.019)	0.015 (0.040)	0.002 (0.018)
Constant	***1.490 (0.133)***	0.081 (0.062)	***1.694 (0.142)***	***0.171 (0.067)***	***1.262 (0.142)***	-0.009 (0.065)
N	610	610	610	610	610	610

Note: ENP variable is dichotomized such that Congressional districts with 0-1.99 effective parties equal 0 and Congressional districts with 2+ effective parties equal 1. Items bolded and italicized are significant at or below $p<.05$.

Table 3.7 Feature Applicability Results, Study 2

Variable	Deviation *B (S.E.)*	Extremity *B (S.E.)*	Deviation, Republican *B (S.E.)*	Extremity, Republican *B (S.E.)*	Deviation, Democrat *B (S.E.)*	Extremity, Democrat *B (S.E.)*
ENP	0.076 (0.046)	***0.042 (0.021)***	0.067 (0.052)	0.036 (0.025)	0.083 (0.049)	***0.048 (0.022)***
White	-0.081 (0.049)	-0.029 (0.022)	***-0.113 (0.056)***	-0.047 (0.026)	-0.040 (0.052)	-0.010 (0.023)
Age	0.239 (0.241)	0.043 (0.109)	0.215 (0.276)	0.022 (0.129)	0.240 (0.257)	0.064 (0.114)
Age^2	-0.298 (0.299)	-0.057 (0.136)	-0.350 (0.344)	-0.066 (0.161)	-0.252 (0.320)	-0.047 (0.142)
Income	-0.075 (0.068)	-0.032 (0.031)	-0.120 (0.078)	-0.044 (0.036)	-0.032 (0.072)	-0.021 (0.032)
Education	-0.059 (0.035)	-0.027 (0.016)	-0.062 (0.040)	-0.031 (0.019)	-0.056 (0.040)	-0.023 (0.016)
Male	-0.067 (0.037)	-0.028 (0.017)	-0.071 (0.042)	-0.029 (0.020)	-0.074 (0.039)	-0.026 (0.017)
Knowledge	0.030 (0.075)	***-0.070 (0.034)***	0.064 (0.086)	-0.058 (0.040)	-0.002 (0.080)	***-0.083 (0.035)***
Political Interest	***0.033 (0.074)***	***0.143 (0.034)***	***0.346 (0.086)***	***0.174 (0.040)***	***0.281 (0.080)***	***0.113 (0.035)***
Need for Cognition	0.012 (0.060)	0.045 (0.027)	-0.025 (0.069)	0.016 (0.032)	0.059 (0.064)	***0.074 (0.029)***
Need for Closure	***0.318 (0.126)***	0.052 (0.057)	***0.351 (0.144)***	0.066 (0.067)	0.235 (0.134)	0.038 (0.060)
Intolerance	-0.211 (0.209)	0.136 (0.095)	***-0.654 (0.240)***	-0.085 (0.112)	0.285 (0.224)	***0.356 (0.099)***
Trust in Government	***-0.567 (0.094)***	***-0.253 (0.043)***	***-0.572 (0.108)***	***-0.281 (0.050)***	***-0.524 (0.100)***	***-0.226 (0.045)***
Republican PID	-0.076 (0.049)	-0.027 (0.022)	***-0.298 (0.056)***	***-0.136 (0.026)***	***0.157 (0.052)***	***0.082 (0.023)***
Party ID Strength	***0.035 (0.056)***	***0.188 (0.026)***	***0.281 (0.065)***	***0.166 (0.030)***	***0.450 (0.060)***	***0.210 (0.027)***
Length Reside	-0.045 (0.043)	-0.023 (0.019)	-0.057 (0.049)	-0.031 (0.023)	-0.035 (0.045)	-0.015 (0.020)
Constant	***1.634 (0.151)***	0.098 (0.068)	***2.064 (0.173)***	***0.318 (0.081)***	***1.177 (0.161)***	-0.122 (0.072)
N	610	610	610	610	610	610

Note: ENP variable is dichotomized such that Congressional districts with 0-1.99 effective parties equal 0 and Congressional districts with 2+ effective parties equal 1. Items bolded and italicized are significant at or below $p<.05$.

As with Study 1, I was interested in potential interactive effects between ENP, political knowledge, age, strength of party identification, and length of residence. The figures below highlight the only two statistically signficant interactive relationships across all of these variables. Figure 3.5 shows that the average maginal effect of ENP on the standard deviation of all central tendency questions varies across levels of political knowledge. At 95% confidence intervals, ENP has a more varied effect on individuals low in politcal knowledge. Specifically, for those less politically sophisticated ENP generally increases the deviations or overlap one sees between parties. In contrast, the average effect of ENP dampens the perception of deviations for political sophisticates (B= -0.437, SD= 0.209, $p<.05$). The same pattern is presented in Figure 3.6 and with regard to deviations across feature applicability questions (B= -0.338, SD= 0.166, $p<.05$). Contextual influences do in fact modify political cognition, contingent upon personal or demographic characteristics.

Figure 3.5 Marginal Effect of ENP on Central Tendency Deviation

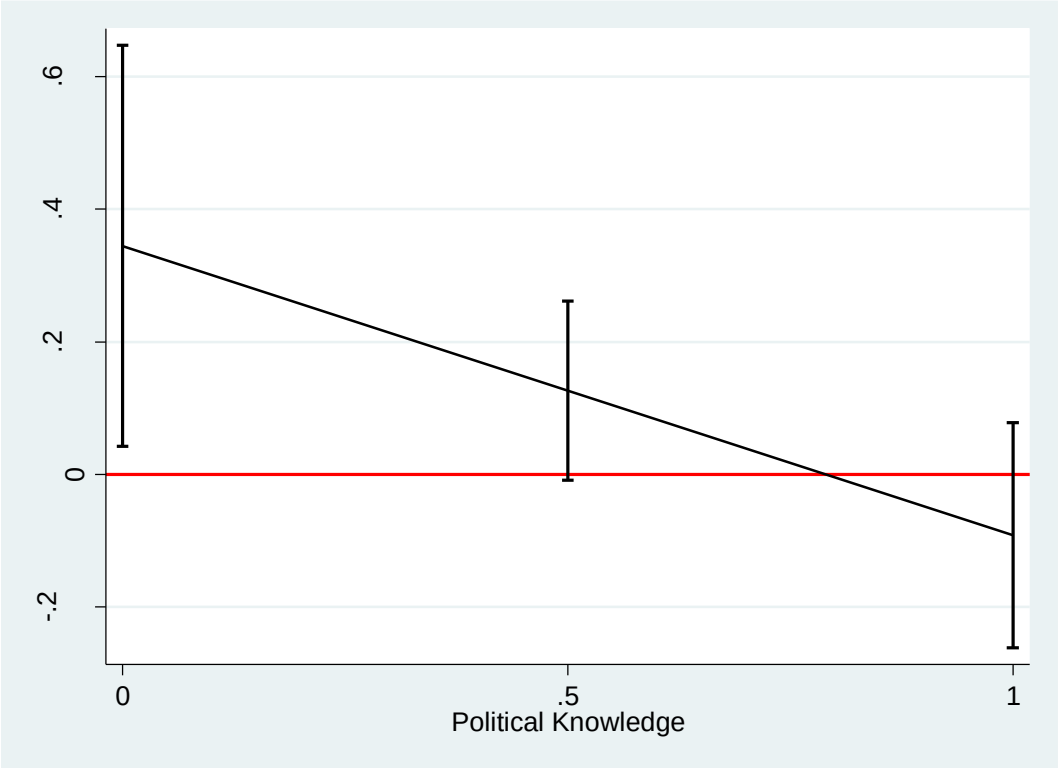


Figure 3.6 Marginal Effect of ENP on Feature Applicability Deviation

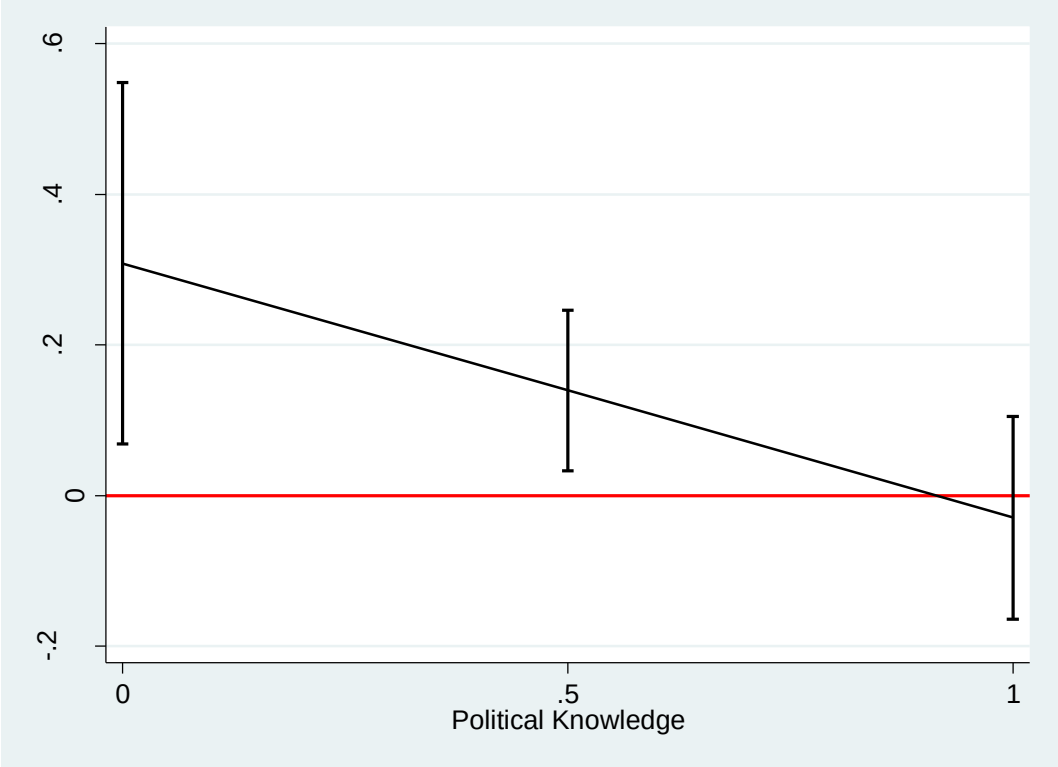


Table 3.8 Results by Exemplar Type, Study 2

Variable	Deviation, Traits *B (S.E.)*	Deviation, Issues *B (S.E.)*	Deviation, Figures *B (S.E.)*
ENP	***0.103 (0.047)***	0.044 (0.051)	***0.100 (0.049)***
White	-0.083 (0.050)	-0.035 (0.054)	-0.049 (0.052)
Age	0.344 (0.246)	-0.035 (0.266)	0.361 (0.259)
Age^2	-0.374 (0.306)	-0.024 (0.331)	-0.174 (0.323)
Income	-0.063 (0.069)	-0.067 (0.075)	-0.075 (0.073)
Education	-0.052 (0.035)	-0.062 (0.038)	-0.032 (0.037)
Male	***-0.084 (0.037)***	-0.053(0.041)	***-0.032 (0.039)***
Knowledge	***-0.177 (0.076)***	***0.227 (0.083)***	***0.366 (0.080)***
Political Interest	***0.275 (0.076)***	***0.410 (0.082)***	0.366 (0.080)
Need for Cognition	0.034 (0.061)	0.017 (0.066)	-0.021 (0.226)
Need for Closure	***0.314 (0.129)***	***0.293 (0.139)***	0.197 (0.135)
Intolerance	0.017 (0.214)	***-0.538 (0.232)***	-0.021 (0.226)
Trust in Government	***-0.560 (0.096)***	***-0.526 (0.104)***	***-0.238 (0.101)***
Republican PID	-0.076 (0.050)	0.002 (0.054)	***-0.104 (0.053)***
Party ID Strength	***0.375 (0.058)***	***0.320 (0.062)***	***0.168 (0.061)***
Length Reside	-0.023 (0.044)	-0.051 (0.047)	0.044 (0.046)
Constant	***1.486 (0.154)***	***1.825 (0.167)***	***1.364 (0.162)***
N	610	610	610

Note: ENP variable is dichotomized such that Congressional districts with 0-1.99 effective parties equal 0 and Congressional districts with 2+ effective parties equal 1. Items bolded and italicized are significant at or below p<.05.

Breaking down standard deviations by exemplar type (Table 3.8), allows us to observe whether electoral supply (or other factors) influences the evaluation and storage of party-related information more specifically. Unlike Study 1, which found no significant effect of ENP on these variables, we see a positive relationship emerge in Study 2. Note that the instantiation measure was the only set of questions in which group-related exemplars were used. Because central tendency, rather than instantiation, was included in Study 2 deviations related to group-based

exemplars are not provided in Table 3.8. Individuals who reside in high ENP districts tend to express more deviations across trait-related questions (B= 0.103, p<.05) and across questions regarding political figures (B= 0.100, p<.05). Political knowledge is a significant predictor of all three graded structure models yet curiously, the direction of this relationship changes for trait-based exemplars. When it comes to evaluating issues and political figures, sophisicates tend to express greater deviations. However, on questions which ask participants to evaluate the traits of the parties, sophisticates tend to perceive less variation. These results would suggest that highly knowledgable individuals see clear differences between Democrats and Republicans in terms of their issue positions (e.g., pro-education spending) and elite members (e.g., Hillary Clinton), but do not see clear differences in their traits (e.g., hard-working).

To conclude the analyses of Study 2, and of this chapter, I analyze whether ENP is a significant predictor of reaction times across all three measures of graded structure. As with the results from Study 1 (Table 3.5), I find no statistical relationship between electoral context and reaction times. This is true for reaction times on typicality questions (B= -9.321, p=.586), feature applicability questions (B= -18.633, p=.186), and central tendency questions (B= 8.340, p=.355). While there does seem to be some (mixed) support for Hypothesis 1a (higher levels of ENP equate to more graded structure) across these two studies, Hypothesis 1b (higher levels of ENP equate to longer or more delayed reaction times) is wholly unsupported.

Table 3.9 Reaction Time Results, Study 2

Variable	Typicality *B (S.E.)*	Central Tendency *B (S.E.)*	Feature Applicability *B (S.E.)*
ENP	-9.321 (17.122)	8.340 (9.002)	-18.633 (14.081)
Age	103.142 (89.194)	-1.673 (46.893)	73.304 (73.353)
Age^2	27.805 (111.530)	40.033 (58.635)	19.889 (91.721)
Education	-14.720 (12.855)	-9.284 (6.758)	-10.681 (10.572)
Knowledge	-26.044 (27.475)	19.040 (14.445)	-5.230 (22.596)
Political Interest	22.294 (27.696)	14.068 (14.561)	11.451 (22.777)
Need for Cognition	23.049 (22.155)	-3.478 (11.648)	-4.957 (18.220)
Need for Closure	61.980 (46.907)	14.103 (24.661)	***95.319 (38.576)***
Intolerance	-5.040 (78.055)	-51.883 (41.036)	-100.609 (64.192)
Republican PID	-18.155 (17.739)	7.252 (9.326)	-6.596 (14.589)
Party ID Strength	***-58.724 (21.057)***	***-22.188 (11.071)***	-9.963 (17.317)
Length Reside	4.572 (15.945)	0.128 (8.383)	-3.767 (13.113)
English	***-143.051 (55.553)***	-1.357 (29.206)	-17.601 (45.686)
Constant	***328.751 (76.607)***	68.652 (40.275)	***223.711 (63.002)***
N	609	609	609

Note: ENP variable is dichotomized such that Congressional districts with 0-1.99 effective parties equal 0 and Congressional districts with 2+ effective parties equal 1. Items bolded and italicized are significant at or below p<.05.

3.8 Discussion

Across Studies 1 and 2 we find mixed results. For most graded structure measures in Study 1 one observes no statistically significant link to ENP. In other words, there is no empirical reason, given these results, to believe that an individual from a low electoral supply context, like Alabama's District 1, and an individual from a high electoral supply context, like Nevada's District 3, differentiate between party-related exemplars in a vastly dissimilar manner. Results from Study 2 are strikingly different. Here we do see that ENP does in fact systematically predict graded structure across both typicality measures and feature applicability

measures. How do we reconcile the fact that feature applicability and typicality results did not replicate across studies? Although the sample size in Study 1 (n= 873) is larger than the sample size in Study 2 (n= 610), there is no reason to think that the representativeness of those within Study 1 is any different than those within Study 2. Participants resided in varied Congressional districts, some of which are represented within both data sets. This brings up an unsettling aspect of the study. It is entirely possible that some of the same Mechanical Turk workers who took Study 1 also completed Study 2[23]. Given that these two studies are almost identical, participants who completed both may jeopardize internal validity by exhibiting testing effects. Because data are de-individuated or anonymized, it is impossible to confirm these suspicions.

My analysis of reaction time measures was disappointing. In no model was ENP anywhere close to statistical significance. Age and personality were also not significant, which is curious given that these two variables generally do a good job of explaining variance on measures of response times. Hence, there is reason to suspect that reaction time measures in Studies 1 and 2 are not accurate or are tainted by some unobserved force. In all likelihood, reaction time measures are confounded by the online format of the study. Conducting an online study precludes the experimenter from controlling for or policing outside distractions.

A general pattern found throughout both studies is that individuals possessing higher levels of education tend to show more amounts of graded structure and tend to be less extreme in their evaluations. In contrast, individuals who are more interested and knowledgeable of politics tend to show lesser amounts of graded structure and more extremity. What do we make of these diverging results, given that political sophisticates also tend to be highly educated? Substantively, and in real-world terms, this relationship makes sense in that those who are highly

[23] Experimenters may block participants from taking the same study twice but has no control on participant overlap within separate studies.

educated know much about politics and are better trained in critical thinking. Training, however, does not equate to acting. That is to say, people who are more educated may objectively recognize the benefits of an open mind, but hold prejudices of their own. This is one of the key tenets of motivated reasoning (Taber and Lodge 2006), that individuals possessing more knowledge are simply more skilled at preserving their biases.

Overall, the results from Studies 1 and 2 do not paint a coherent picture. Or perhaps it is the paintbrush that is flawed, meaning that the operationalization of graded structure was not sufficiently able to map on to contextual effects. In the next chapter I investigate the empirical relationship between electoral supply and partisan categorization. Approaching political cognition from another angle should give us some leverage, and clarity, on the interplay between partisan context, individual demographics, and political cognition.

Chapter 4
Everything in its Right Place

4.1 Partisan Categorization

"There is nothing either good or bad, but thinking makes it so." - *William Shakespeare, Hamlet*

The Academy Awards or Oscars is a yearly ceremony which honors writers, actors, directors, and other individuals influential in crafting some of the year's best films. Yet if it is celebrity style or fashion that interests you, you likely look forward to this event not necessarily for the recognition of achievement but for the cultural tradition which has become the 'best and worst dressed list'. Subsequent to the Academy Awards, media outlets such as *People* magazine and *Entertainment Tonight* compile a (somewhat subjective) list of the most stunning and most appalling outfits of the event. Why is this tradition so amusing and why does it remain popular year after year? While gossip is evolutionarily beneficial (Haidt 2006), and perhaps an innate human characteristic, so too is categorization (Harnad 2005; Branan 2010). Consider how wholly unsatisfying it would be for an entertainment magazine to recap that every celebrity at the awards ceremony looked beautiful and no faux pas, whether fashion or otherwise, were made. We crave distinctions so much that in situations where they do not seem to exist (e.g., an awards ceremony in which everyone is talented and well-off) it is necessary to fabricate additional social categories.

Categories are 'kinds', and to categorize is to differentiate similar kinds from dissimilar kinds (Harnad 2005). The act of categorization seems an innately human propensity, perhaps because of the advantages it affords. There are two main reasons why categorization proves

beneficial: cognitive economy and perceived world structure (Rosch 1978). In terms of cognitive economy, categorization allows an individual to gain and synthesize information about their environment while conserving finite, cognitive resources (1978). Yet even with the preservation of resources, the social and physical world around us is incredibly complex and non-uniform (1978). Categorization streamlines that information which we have amassed, making concepts and events appear much more straightforward.

As Harnad notes, "categorization is intimately tied to learning" (2005, pp. 22). When it comes to categorization, the criteria used to evaluate and determine category belongingness is perhaps more interesting than the ultimate categorization decision. Hence, measures of categorization are incredibly relevant to this project because they provide insight into how one structures party-related information in memory. In this sense, I use categorization measures to complement graded structure measures. The categorization task used in this study is meant to measure how individuals store, sort, and assess party-related information. Participants in this study are asked to place a number of exemplars into (or between) partisan categories. Exemplars used in this study are the same as those within Study 1 and Study 2 and contain information about groups, issues, and traits (refer to Appendix A). Political figures were not used as exemplars in this study, as they might prove too easy to classify.

4.2 Expectations

The purpose of this study is to examine how individuals sort party-related information and the speed by which they do so. In line with the hypotheses from Studies 1 and 2, my expectations are as follows:

Hypothesis 3a: Individuals in low electoral supply districts will be less likely to place exemplars into overlapping political categories than will individuals in high electoral supply districts.

Hypothesis 3b: Individuals in low electoral supply districts will be faster at classifying exemplars into partisan categories than will individuals in high electoral supply districts.

My theory argues that continual interaction with one's partisan context restructures cognitive pathways such that context fundamentally changes the way in which one organizes and recalls party-related information. While the measures of graded structure from Studies 1 and 2 are able to provide some insight into this relationship, categorization measures should act as a supplement, providing a fuller picture of how electoral supply affects the associative network. Parties, especially those within multi-party districts, seek to distinguish themselves from one another (Lowry and Shipan 2002) and therefore 'take up' a wider amount of the ideological spectrum than parties in dichotomous electoral contexts (see Chapter 2). That is to say, given that the same ideological spectrum exists in both low and high electoral supply environments, districts will naturally see more party overlap as electoral environments become increasingly crowded with parties. A far right party might overlap in terms of issue positions with another far right party simply because ideological space is limited[24]. Individuals within various types of party environments internalize these contextual properties. Thus, individuals who reside in Congressional districts with greater electoral supply (i.e., a greater number of parties) are expected to perceive more overlap between parties' issues stances and characteristics. Individuals who reside in Congressional districts with fewer parties should perceive less overlap

[24] See Dow (2001), whose comparative research indeed confirms that party positions tend to spread out on the ideological spectrum as more parties are introduced within a given system.

between parties[25]. The cognitive perception of party overlap should equate to real overlap in terms of the categorization task. Individuals nested within multi-party environments are also expected to take longer in categorizing party-related information, given that they have more data and a wider ideological spectrum to consider. As with Studies 1 and 2, I expect that people who are highly interested in or knowledgeable of politics should be most constrained by their electoral context. This means that non-overlapping categorization should be most evident among political sophisticates in low electoral supply districts and that overlapping categorization should be most evident among political sophisticates in high electoral supply districts.

4.3 Study 3- Partisan Categorization

4.3.1 Data

Participants for Study 3 were again drawn from Amazon's crowdsourcing website, Mechanical Turk. In December 2013, 450 participants completed this study and were compensated $0.75/each for their time and effort. Twenty-seven participants were excluded from final analysis due to failing a manipulation check and another thirty-eight participants were excluded for failing to provide their Congressional district. Of the remaining sample (n = 385), 52% of participants were male, 80% indicated white or Caucasian as their race, and approximately 62% were between the ages of 18-39. Fifty-one percent of the sample reported a Democratic Party affiliation or leaning, 60% of participants earned an annual income of $39,999

[25] Note that this logic is counter to Downs' median voter theorem, which claims that parties within a majoritarian system will move towards the center of the ideological spectrum to maximize votes. While Downs' argument is persuasive in terms of rational party behavior, I question the extent to which it occurs today given that roll call voting of party members has become increasingly polarized and that much of the electorate now sees important differences between the two major parties (see Hetherington 2001). The latter is particularly relevant, given that this dissertation is concerned with *perceptions* of parties, not necessarily party behavior.

or less, and the modal individual in this sample had obtained a Bachelor's degree. Refer to Appendix F for full descriptives from Study 3.

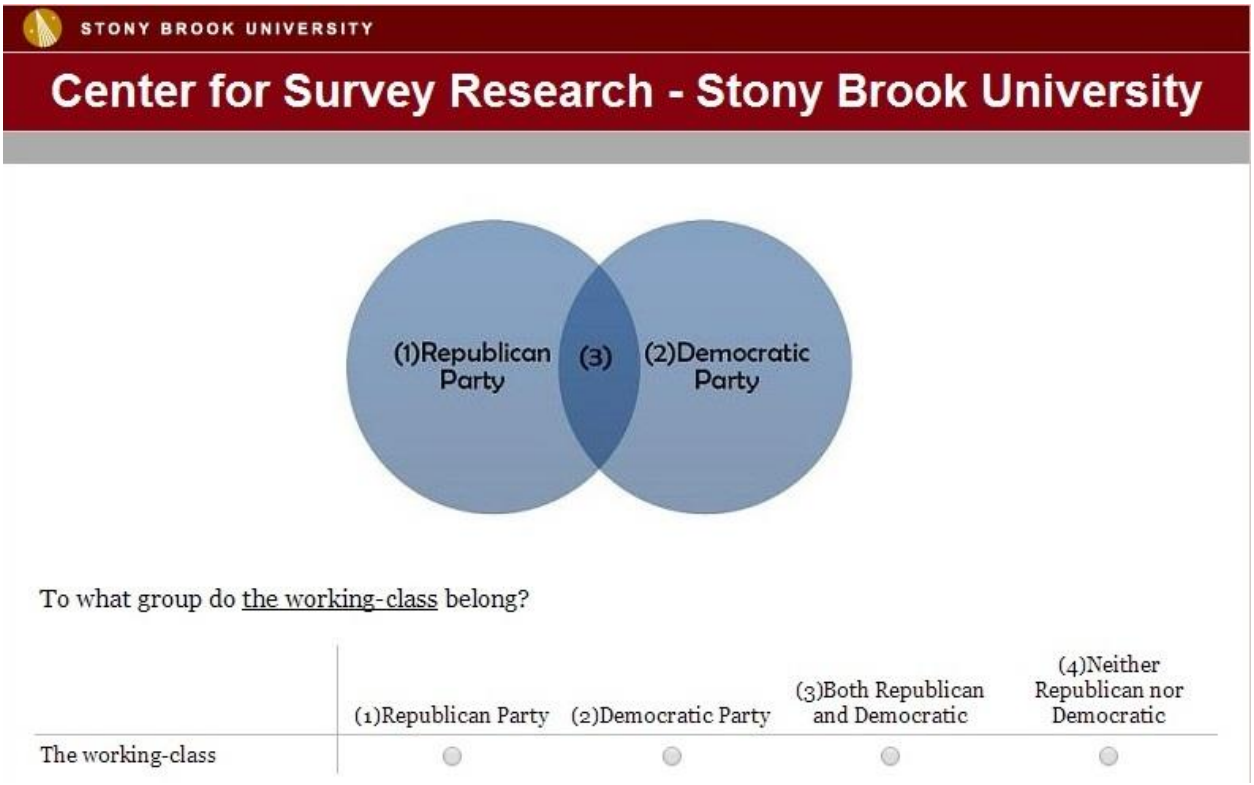
4.3.2 Survey Procedures

Participants in Study 3 first encountered twelve non-political practice trials in order to acquaint them with the categorization task. In the first six practice trials, participants faced a two-category categorization task in which they were asked to sort various food items into one of two categories (fruit or vegetable). Participants were also able to indicate whether the food item belonged to both or none of the two categories. The next six practice trials featured a three-category choice, where participants classify a food item as a fruit, vegetable, or dairy product. Once again, participants were free to indicate that the item belongs to none of the categories, some combination of two, or all three. Time spent completing the two-category and three-category practice trials was recorded and used to normalize reaction times on the experimental trials.

Participants were then randomly assigned to one of two versions of the study. The sole difference between versions is that in version 1 the Republican Party always serves as the first category and the Democratic Party serves as the second category. In version 2 this ordering is flipped. This is true for both the two-category and three-category block of categorization tasks. Counterbalancing in this way should alleviate potential concerns that a participant's choice might be a function of the response order, rather than their own evaluation. Again, and in order to preserve reaction time measures, questions within each block of trials were not randomized by participant. Instead, the experimenter randomized trials such that questions related to traits,

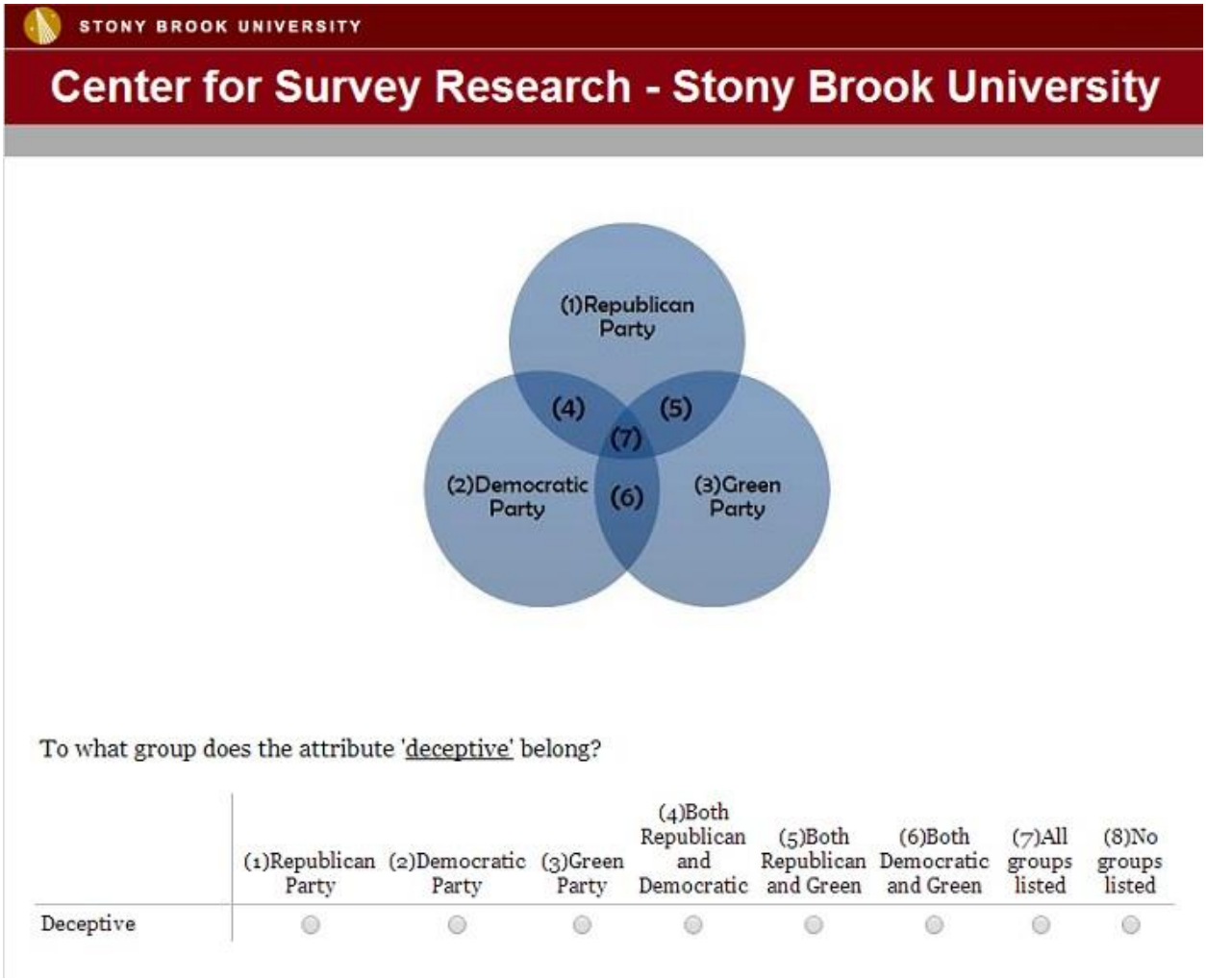
groups, political figures, and issues were interspersed throughout each block. Below is a screenshot of the two-category categorization task as it appeared to participants.

Figure 4.1 Two Party Categorization Task



Following 50 two-category trials, participants completed 50 three-category trials. Below is a screenshot of the three-category categorization task as it appeared to participants. Following all 100 categorization trials, participants completed four personality batteries (need for cognition, need for closure, tolerance of ambiguity, and openness to experience), questions related to political efficacy and perceptions of government, and a measure of partisan ambivalence. Finally, participants responded to six, open-ended political sophistication measures and provided standard demographic information, including their Congressional district.

Figure 4.2 Three Party Categorization Task



4.3.3 Measures of Partisan Categorization

Key measures for Study 3 are willingness to categorize, categorization strength, and degree of overlap between party categories. Willingness to categorize refers to whether participants perceive differences between parties and are able to place those differences accordingly. The inverse of willingness, I measure participant's reluctance to categorize party-related characteristics by the number of times they select 'Neither Republican nor Democratic' for two-party categorization trials and the number of times they select 'No Groups Listed' for

three-party categorization trials. How quickly a participant is able to attribute a quality or characteristic to a given party or parties is indicative of categorization strength. This logic rests on the associative network of long-term memory. Categorization strength in this study is measured by the total time (in seconds) participants took to complete each set of categorization trials (e.g., all 50 two-category trials and all 50 three-category trials), as well as the overall time it took them to complete both tasks. This summed reaction time is logged (to account for outliers) and is subtracted by the log of all twelve categorization practice trials in order to normalize response times by individual.

As shown in the screenshots above, participants were able to place attributes, issues, and groups within multiple categories. In the two-category trials participants had the option to place exemplars between both the Republican and Democratic Parties. In the three-category trials participants faced a number of combinations. Participants could identify exemplars as belonging to both the Republican and Democratic Parties, to both the Democratic and Green Parties, to all three parties, and so on. The number of trials in which participants identified some overlap between parties is an important indicator of how sharp or well-defined an individual perceives party boundaries to be. Within the analyses I explore district-level electoral supply as a predictor of categorization overlap.

4.3.4 Control Variables

Demographic controls in Study 3 include educational attainment, individual income, age, age squared, gender, and race. Again, the majority (80%) of participants self-identified as white or Caucasian, race was dichotomized such that 1 equals white/Caucasian and 0 equals else. Political controls include self-reported interest in politics, trust in government, party identification, strength

of party identification, and political knowledge (see Appendix C). In addition to indicating which Congressional district they currently live in, participants also provided the length of time (in years) that they have resided in this district. Length of residence is used both as a control variable and an interactive variable in subsequent analyses. As with Studies 1 and 2, three personality measures were included to control for individual differences in cognitive functioning. These include need for closure, need for cognition, and intolerance of ambiguity. Refer to section 3.4.4 for more information about these personality traits and to Appendix C for scale measures.

4.3.5 Model Specification

ENP and the aforementioned control variables were included in this chapter as predictors of categorization. The measures of categorization implemented here are a count of how many times participants classified exemplars into one category over other categories. Thus negative binomial regressions were the primary analyses conducted in this chapter. Nevertheless, the model specification here is essentially the same as it was in Study 1 and Study 2. In particular, the analyses were specified as follows:

$$\text{Categorization}_i = \beta_0 + \beta_1\text{ENP}_i + \beta_2\text{Race}_i + \beta_3\text{Age}_i + \beta_4\text{Age}^2_i + \beta_5\text{Income}_i + \beta_6\text{Education}_i + \beta_7\text{Gender}_i + \beta_8\text{Knowledge}_i + \beta_9\text{Interest}_i + \beta_{10}\text{NeedforCognition}_i + \beta_{11}\text{NeedforClosure}_i + \beta_{12}\text{IntoleranceofAmbiguity}_i + \beta_{13}\text{TrustGovernment}_i + \beta_{14}\text{PID}_i + \beta_{15}\text{PIDStrength}_i + \beta_{16}\text{LengthReside}_i + e_i$$

Specifying my models in this way is appropriate, given my theory. My theory argues that categorization is one way in which we can measure the influence of contextual dynamics on individual cognition. I have continued to make the case that district-level effective number of parties is a sufficient way of operationalizing partisan context, specifically because it quantifies the

amount of political choice or options one is provided with. My theory also asserts that the more *invested* an individual is with his or her partisan environment the more likely their cognitive thought patterns are to be constrained by the contextual dynamics around them. Thus, including strength of party identification, political interest, and length of residence in my models is key. I can control for these variables in order to observe a main effect of ENP on categorization and I can also examine the independent effects of these variables on categorization. Because it is thought that categorization is essentially a cognitive measure it is also important to control for individual differences in cognitive functioning, which I have done by including need for cognition, need for cognitive closure, and intolerance of ambiguity measures.

When assessing the impact of electoral supply (or ENP) on reaction times within the categorization task, race, income, gender, and trust in government were dropped as control variables as there is no theoretical reason why reaction times should vary according to these individual differences. One control variable, whether or not the participant is a native English speaker, was added to the model here, as unfamiliarity with the English language should result in longer reaction times. Therefore the model specification for reaction time measures is as follows:

$$\text{Reaction Time}_i = \beta_0 + \beta_1 \text{ENP}_i + \beta_2 \text{Age}_i + \beta_3 \text{Age}^2_i + \beta_4 \text{Education}_i + \beta_5 \text{Knowledge}_i + \beta_6 \text{Interest}_i + \beta_7 \text{NeedforCognition}_i + \beta_8 \text{NeedforClosure}_i + \beta_9 \text{IntoleranceofAmbiguity}_i + \beta_{10} \text{PID}_i + \beta_{11} \text{PIDStrength}_i + \beta_{12} \text{LengthReside}_i + \beta_{13} \text{English}_i + e_i$$

4.4 Study 3 Results

As with the previous two studies, my first step is to map the distribution of ENP across all study participants. Within Study 3 there is just as much variation in ENP as there was previously, though fewer overall participants (n= 386). Values of ENP range from 1.03 to 2.355

(Figure 4.3), with a mean of 1.787 and standard deviation of 0.264. The modal category is 1.96, which represents Congressional districts such as Indiana's District 4 or Florida's District 16. These districts may see some (3% of the vote share or less) support for third parties but generally they involve elections in which the winning party earns nearly 2/3 of the total vote share.

Figure 4.3 Distribution of Electoral Supply, Study 3

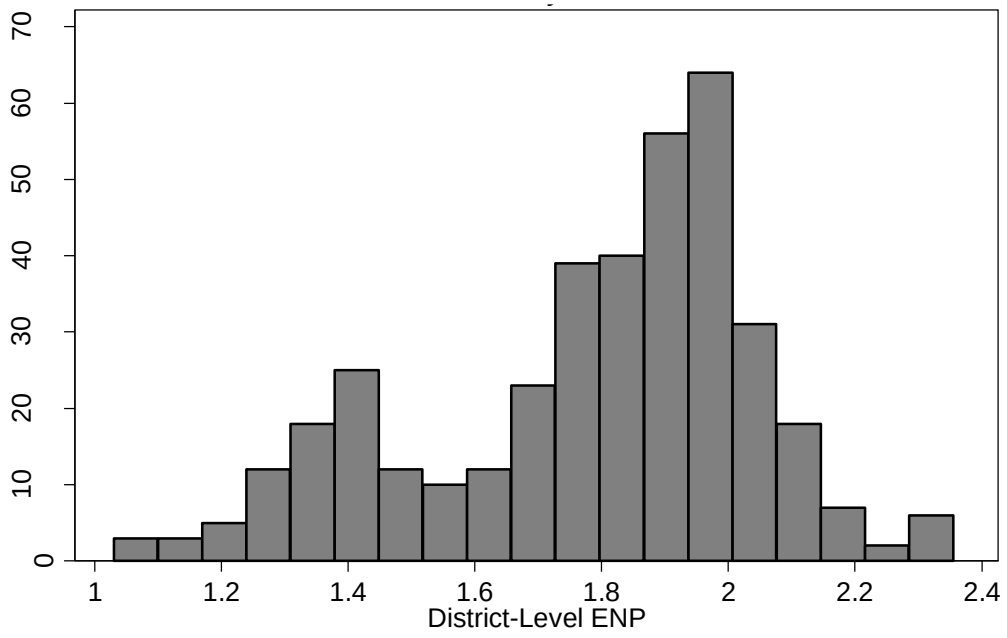


Table 4.1 presents the results of four separate negative binomial regressions[26]. The dependent variables are a (separate) count of the number of times participants categorized an exemplar as belonging to the Republican Party, the Democratic Party, both parties, or neither party. Within the table it is clear that electoral context has no significant relationship with categorization[27], at least when participants are given only two partisan options. Instead, political

[26] One of the assumptions of a Poisson regression is that the mean is equal to the variance. Negative binomial regression, on the other hand, is preferred when this assumption does not hold (i.e., in which the data is overdisbursed).

[27] As with Studies 1 and 2, the results shown here use the dichotomized version of ENP. Analyses using raw, continuous ENP scores showed no significance (even at p<.10) in predicting any dependent variable in this chapter.

knowledge and need for cognitive closure seem to exert the most consistent influence on individual categorization. When it comes to classifying exemplars as belonging to the Democratic or Republican Parties, those high in political knowledge and high in the need for closure are more likely to place exemplars into one of these two, well-defined categories. Those high in the need for closure (B= -0.437, p<.05) and those who are more politically knowledgeable (B= -0.398, p<.001) tend not to place exemplars within both categories. That is to say, these individuals gravitate towards classifying exemplars into either Democratic or Republican categories and tend not to perceive party overlap.

Perhaps not surprisingly, survey respondents who are less trustful of the government tended to place exemplars into neither partisan category (B= -0.604, p<.01). These individuals, I would suspect, are highly cynical towards party politics and likely hold the mentality that 'all politicians are the same'. This, mixed with the fact that some exemplars are positive in terms of their affect or tone (e.g., caring, loyal), should prompt distrustful individuals to select the 'neither' category more frequently. Republicans were significantly less likely to identify exemplars as belonging to the Democratic Party (B= -0.155, p<.05), perhaps because some of the exemplars were positive in nature. It appears that positivity towards one's in-party and negativity towards the out-party influences categorization, though an understanding of what exemplars were most associated with Republicans and Democrats would need further analysis. Party identification strength is also important to note within this table. Those who hold strong attachments to their party were substantially less likely to categorize exemplars as belonging to neither partisan category (B= -0.535, p<.000). Strong partisans, it would appear, have dichotomized views of the two major U.S. parties, hence differentiating between their traits, issue positions, and so on is an easier undertaking.

The previous results reflect responses within a two-party categorization task, where individuals were asked to classify exemplars as belonging to the Republican Party or Democratic Party (or both or neither). In the next task all participants faced a three-party categorization task, in which an individual could classify exemplars into Republican, Democratic, or Green Party categories. Participants were also allowed to classify exemplars as belonging to a combination of the parties (e.g., Democrat and Green Party), as belonging to all of the parties, or as belonging to none of the parties. Hence, even if individuals are not familiar with Green Party politics, the three-category task should prove useful in exposing how they weigh options and make evaluations within a three party environment. Tables 4.2 and 4.3 present the results of this three-party categorization task.

The dependent variables within Table 4.2 are count measures of how many times a respondent categorized an exemplar into one of four, independent categories. Independent in this case means there is no overlap in categorization (those results are presented in Table 4.3). Electoral supply does not bear any significance on whether individuals classify exemplars as belonging to the Republican Party, Democratic Party, or to no party at all. Electoral supply is, however, a positive and significant predictor of Green Party categorization (B= 0.380, p<.05). Individuals who reside in districts with a greater amount of electoral supply tend to place exemplars into the Green Party category more so than individuals who reside in low electoral supply districts. I would argue that individuals in low ENP districts are likely not familiar with Green Party politics (given that they live in a district with essentially two or fewer parties, both of which are unlikely to feature the Green Party). As a result, these people should be less attuned to the characteristics of the Green Party and less likely to categorize exemplars within this category. On the other hand, individuals from multi-party districts are perhaps more likely to

have encountered Green Party politics and might better understand what they stand for, their affiliated groups, and other defining characteristics, resulting in increased categorization for this particular party.

Other results of interest within Table 4.2 regard party identification strength and need for closure. Whereas knowledge was a significant predictor of categorization in the two-party task, it fails to reach statistical significance when individuals are confronted with three-party dynamics. Instead, we see that stronger partisans consistently place more exemplars in the Democratic and Republican categories and fewer exemplars in the Green or the 'neither' categories. Strong partisans like to categorize, but only with regard to the two major parties. Likewise, those who are more politically interested choose not to opt out of classifying exemplars (B= -0.469, p<.01). Curiously, females, more so than males, tend to categorize exemplars as belonging to the Democratic Party (B= -0.254, p<.05). This may in fact be an artifact of the data, given that almost 59% females in this study identified as Democrats, compared with only 44% of males who identified as Democrats.

Table 4.1 Two Party Categorization Results

Variable	Republican Only *B (S.E.)*	Democrat Only *B (S.E.)*	Both *B (S.E.)*	Neither *B (S.E.)*
ENP	0.405 (0.658)	0.071 (0.062)	-0.040 (0.073)	-0.082 (0.106)
White	-0.043 (0.682)	-0.016 (0.065)	0.023 (0.077)	0.104 (0.110)
Age	-0.101 (0.359)	-0.026 (0.340)	0.565 (0397)	-0.201 (0.560)
Age^2	-0.438 (0.443)	-0.484 (0.416)	0.061 (0.473)	0.352 (0.685)
Income	0.073 (0.098)	0.083 (0.094)	0.007 (0.108)	-0.193 (0.157)
Education	0.080 (0.055)	0.069 (0.052)	***-0.260 (0.087)***	0.003 (0.096)
Male	-0.070 (0.056)	-0.024 (0.053)	0.099 (0.061)	-0.070 (0.090)
Knowledge	***0.216 (0.107)***	***0.352 (0.102)***	***-0.398 (0.114)***	0.063 (0.167)
Political Interest	0.141 (0.105)	0.038 (0.099)	-0.060 (0.122)	-0.192 (0.168)
Need for Cognition	0.038 (0.092)	0.030 (0.088)	-0.029 (0.100)	-0.083 (0.146)
Need for Closure	***0.363 (0.176)***	***0.362 (0.166)***	***-0.437 (0.202)***	-0.193 (0.286)
Intolerance	-0.282 (0.304)	-0.380 (0.289)	0.267 (0.336)	0.296 (0.488)
Trust in Government	0.054 (0.135)	0.110 (0.128)	0.122 (0.150)	***-0.604 (0.202)***
Republican PID	-0.014 (0.074)	***-0.155 (0.072)***	0.125 (0.081)	0.036 (0.123)
Party ID Strength	0.124 (0.080)	***0.197 (0.076)***	-0.046 (0.087)	***-0.535 (0.127)***
Length Reside	0.026 (0.065)	0.052 (0.061)	-0.032 (0.070)	-0.039 (0.103)
Constant	***2.041 (0.215)***	***2.132 (0.203)***	***3.175 (0.234)***	***2.680 (0.343)***
Alpha	0.151 (0.020)	0.142 (0.018)	0.232 (0.023)	0.453 (0.047)
N	352	352	352	352

Note: ENP variable is dichotomized such that Congressional districts with 0-1.99 effective parties equal 0 and Congressional districts with 2+ effective parties equal 1. Items bolded and italicized are significant at or below $p<.05$.

Table 4.2 Three Party Categorization Results, No Overlap Models

Variable	Republican Only *B (S.E.)*	Democrat Only *B (S.E.)*	Green Only *B (S.E.)*	No Category *B (S.E.)*
ENP	-0.000 (0.097)	-0.027 (0.120)	***0.380 (0.174)***	-0.124 (0.101)
White	-0.137 (0.100)	-0.186 (0.125)	0.061 (0.180)	0.032 (0.104)
Age	0.231 (0.530)	0.373 (0.669)	-0.033 (0.913)	0.429 (0.534)
Age^2	-0.794 (0.654)	-0.595 (0.821)	-0.538 (1.106)	0.023 (0.651)
Income	0.021 (0.145)	0.229 (0.182)	-0.376 (0.267)	0.197 (0.148)
Education	0.128 (0.092)	0.089 (0.105)	0.191 (0.209)	-0.151 (0.113)
Male	-0.011 (0.081)	***-0.254 (0.102)***	0.076 (0.146)	-0.023 (0.085)
Knowledge	0.300 (0.161)	0.179 (0.201)	-0.270 (0.284)	-0.073 (0.160)
Political Interest	0.253 (0.152)	0.119 (0.180)	-0.087 (0.287)	***-0.469 (0.160)***
Need for Cognition	0.041 (0.134)	0.167 (0.166)	0.257 (0.255)	0.233 (0.138)
Need for Closure	***0.664 (0.259)***	0.459 (0.311)	***-1.050 (0.447)***	0.121 (0.277)
Intolerance	-0.573 (0.446)	1.001 (0541)	-0.546 (0.773)	0.084 (0.463)
Trust in Government	-0.237 (0.201)	-0.049 (0.244)	0.266 (0.360)	-0.200 (0.196)
Republican PID	-0.167 (0.111)	0.168 (0.136)	-0.006 (0.202)	-0.141 (0.115)
Party ID Strength	***0.261 (0.119)***	***0.536 (0.145)***	***-0.418 (0.206)***	***-0.310 (0.124)***
Length Reside	0.032 (0.100)	0.174 (0.118)	0.122 (0.174)	-0.061 (0.097)
Constant	***1.500 (0.315)***	0.690 (0.389)	***1.366 (0.541)***	***1.901 (0.330)***
Alpha	0.375 (0.043)	0.645 (0.065)	1.177 (0.145)	0.376 (0.043)
N	352	352	352	352

Note: ENP variable is dichotomized such that Congressional districts with 0-1.99 effective parties equal 0 and Congressional districts with 2+ effective parties equal 1. Items bolded and italicized are significant at or below $p<.05$.

The results within Table 4.3 should prove insightful for documenting individual differences in the perception of partisan overlap (or lack thereof). Indeed, we see that ENP is positive and significant in predicting the number of times respondents categorized an exemplar as belonging to *both* the Democratic and Green parties (B= 0.282, p<.05). This is precisely what Hypothesis 3a suggests. Individuals residing in high electoral supply district were more likely than individuals residing in low electoral supply districts to perceive overlap in exemplar belongingness (though this relationship was only statistically significant in one model).

Keep in mind that the aim of this task was not to categorize exemplars 'correctly'. Thus, it is not necessarily interesting that certain individuals saw overlap between the specific parties, but it is interesting what variables predict the perception of this overlap. In the case of Republican/Green Party overlap the sole predictor was trust in government. Those who possess higher levels of trust tended to select this category more often (B= 2.068, p<.01). Those who are highly knowledgeable of politics tended not to classify exemplars as belonging to both the Democratic and Republican parties (B= -0.719, p<.05).

On the other hand, political sophistication predicts categorization overlap between the Democratic and Green parties (B= 0.494, p<.05). I suspect that for political sophisticates, partisan knowledge regarding Democrats and Republicans, the two major parties in American politics, has been conditioned to be highly segregated. In contrast, political sophisticates appear to believe that the Green and Democratic parties are not incompatible with one another in terms of their issue positions, traits, and group affiliations. It is unclear as to why males, rather than females, tend to engage in more categorization between the Democratic and Green parties (B= 0.285, p<.05). This may relate back to gender differences in party affiliation, as nearly 1/3 of all male respondents in this study (n =60) identified as independent. Perhaps some of these males

are Green Party members themselves and therefore find it easier to categorize traits related to this party.

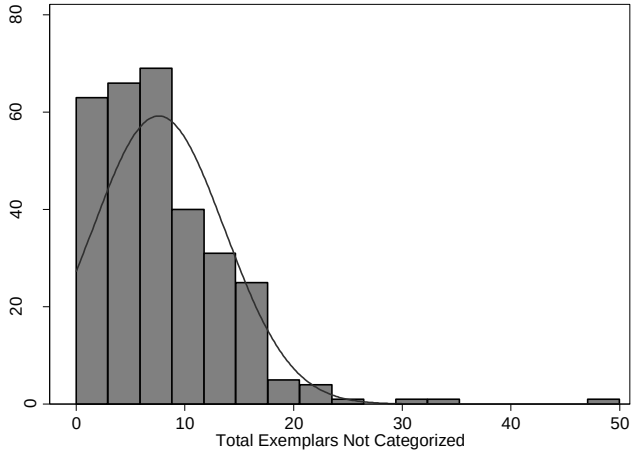
Table 4.3 Three Party Categorization Results, Overlap Models

Variable	Rep/Dem *B (S.E.)*	Rep/Green *B (S.E.)*	Dem/Green *B (S.E.)*	All Categories *B (S.E.)*
ENP	0.069 (0.187)	0.203 (0.316)	***0.282 (0.134)***	-0.157 (0.101)
White	***-0.522 (0.205)***	-0.387 (0.329)	0.260 (0.145)	***0.258 (0.103)***
Age	0.555 (1.096)	-3.098 (1.698)	-0.857 (0.705)	0.468 (0.531)
Age^2	-0.077 (1.294)	2.313 (2.077)	0.642 (0.853)	-0.286 (0.638)
Income	-0.277 (0.298)	-0.778 (0.509)	-0.388 (0.203)	0.066 (0.145)
Education	0.079 (0.155)	-0.221 (0.361)	0.080 (0.132)	-0.137 (0.075)
Male	0.252 (0.168)	-0.040 (0.256)	***0.285 (0.113)***	-0.034 (0.084)
Knowledge	***-0.719 (0.289)***	-0.675 (0.483)	***0.494 (0.213)***	0.047 (0.161)
Political Interest	0.023 (0.310)	0.488 (0.532)	0.343 (0.237)	-0.132 (0.166)
Need for Cognition	-0.098 (0.280)	-0.662 (0.450)	-0.106 (0.191)	-0.119 (0.138)
Need for Closure	-0.267 (0.500)	-0.519 (0.791)	0.166 (0.373)	-0.393 (0.280)
Intolerance	-0.053 (0.995)	-0.199 (1.472)	***-1.878 (0.638)***	0.160 (0.460)
Trust in Government	0.228 (0.376)	***2.068 (0.661)***	0.083 (0.275)	0.048 (0.206)
Republican PID	0.049 (0.220)	-0.132 (0.338)	0.108 (0.157)	0.037 (0.112)
Party ID Strength	-0.405 (0.228)	-0.362 (0.381)	-0.294 (0.164)	0.026 (0.118)
Length Reside	0.011 (0.186)	0.069 (0.307)	0.010 (0.132)	-0.118 (0.097)
Constant	***2.266 (0.637)***	1.624 (1.046)	***1.500 (0.432)***	***3.064 (0.318)***
Alpha	1.654 (0.162)	3.073 (0.530)	0.773 (0.086)	0.481 (0.044)
N	352	352	352	352

Note: ENP variable is dichotomized such that Congressional districts with 0-1.99 effective parties equal 0 and Congressional districts with 2+ effective parties equal 1. Items bolded and italicized are significant at or below $p<.05$.

Figure 4.4 Number of Exemplars Not Categorized
Two Category Task

Low ENP



High ENP

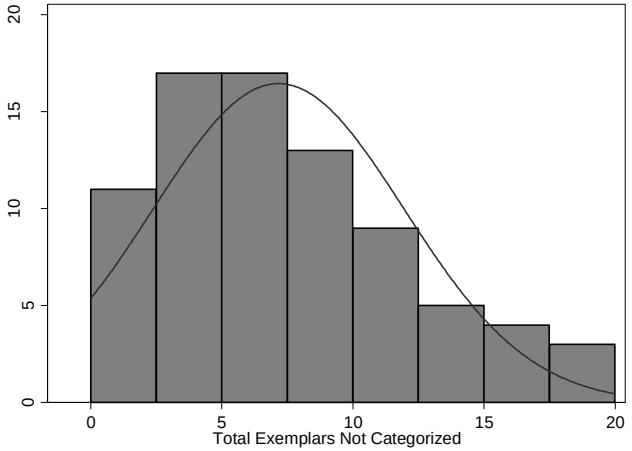
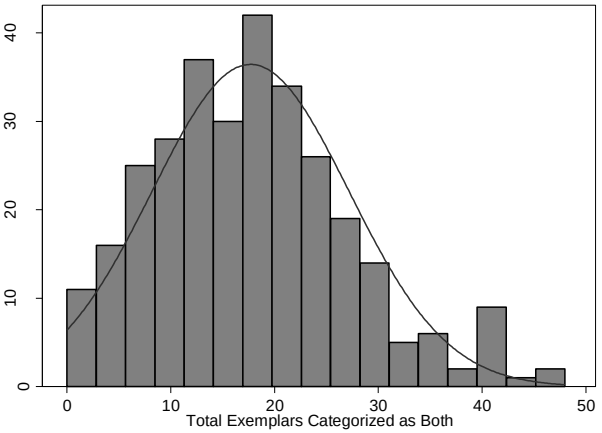


Figure 4.5 Number of Exemplars Categorized as Both
Two Category Task

Low ENP



High ENP

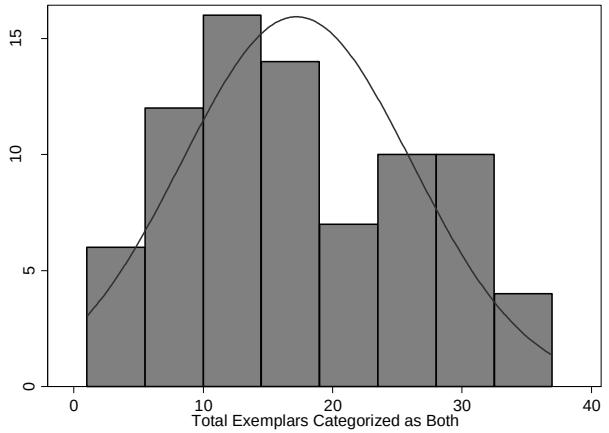
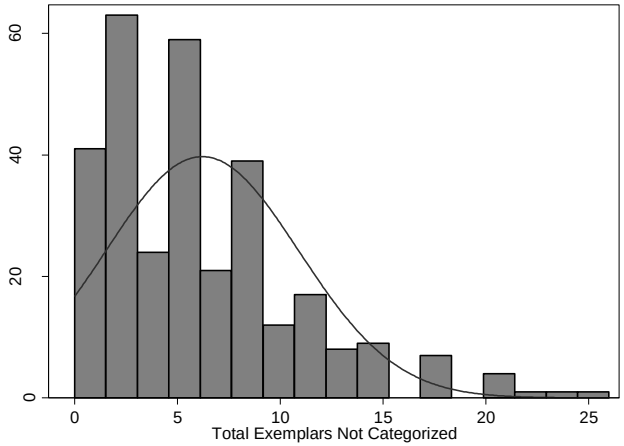


Figure 4.6 Number of Exemplars Not Categorized
Three Category Task

Low ENP



High ENP

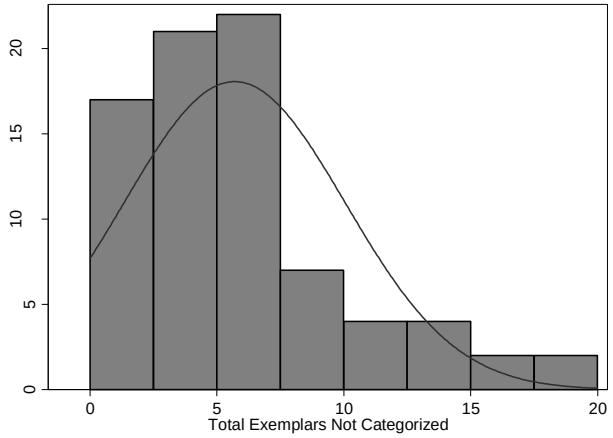
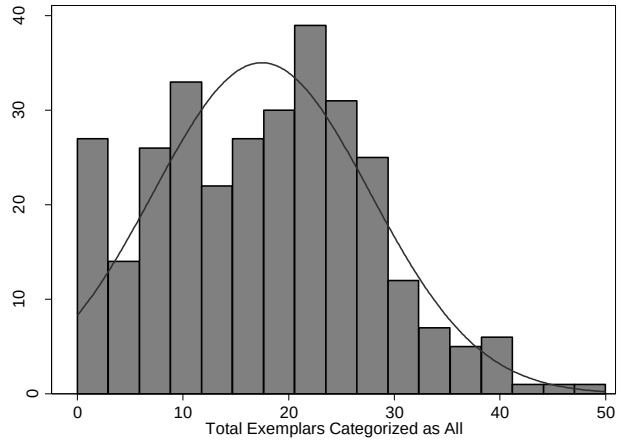
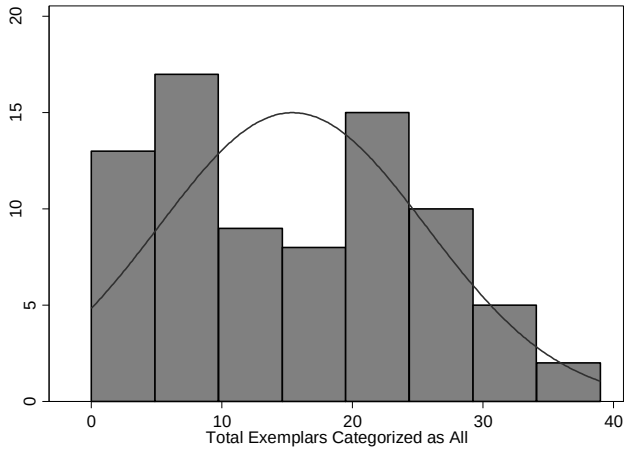


Figure 4.7 Number of Exemplars Categorized as All
Three Category Task

Low ENP



High ENP



Although ENP was not a statistically significant predictor of partisan categorization in most models, we may be able to understand the relationship between electoral context and categorization using simple descriptive statistics. Figure 4.4 plots the number of exemplars which were not categorized (i.e., participants who selected the 'neither' category) in the two-party categorization task. Here we see (given the right skew of the data) that individuals residing in low electoral supply districts do seem to place more exemplars into the 'neither' category. Across all 50 two-party categorization trials, 31% of respondents in low electoral supply districts classified an exemplar as belonging to 'no category' 10 or more times. In contrast, 27% of respondents in high electoral supply district classified an exemplar as belonging to 'no category' 10 or more times. Figure 4.5 plots the distribution of 'both category' responses, meaning when a respondent selected that the exemplar related to both the Democratic and Republican parties. Here, individuals in the high electoral supply context tended to classify a fewer total number of exemplars as belonging to both parties. We see the same distributions within the three-party categorization task as well (Figures 4.6 and 4.7). While these results do not tell us anything about the causal relationship between ENP and categorization, these distributional plots are informative in the sense that small differences do appear to exist across contexts.

The final set of analyses within this chapter relate to reaction time measures. Recall that there are three reaction time measures in this study: responses to all 50 two-category trials, responses to all 50 three-category trials, and responses to all 100 trials combined. These values are summed, logged, and normalized by subtracting the logged reaction time of twelve practice questions. In this way, each individual's response times are recalibrated to his or her own baseline. ENP is a negative and significant predictor of categorization time within the two-party trials (B= -29.746, p<.01) and across all of the two-party and three-party trials combined

(*B*= -56.516, p<.05) (analyses not shown). A one unit increase in ENP decreases (or makes quicker) overall categorization times by 56.5 seconds. There is no statistical relationship between ENP and time spent on the three-party categorization task (*B*= -18.084, p= 0.165). These findings are in contrast to Hypothesis 3b, which argues that individuals in high electoral supply districts should take *longer* in sorting through partisan information, simply because they have more of it to consider. Instead, we observe that those within low electoral supply districts actually take longer in categorizing exemplars into partisan categories, even during the more simplistic two-party task.

4.5 Study 3 Discussion

The present study aimed to clarify the confusing and often conflicting pattern of results found in Study 1 and Study 2.What I have presented in this chapter is of some help, though a strong and consistent link between ENP and political cognition has yet to be established. ENP was significant for predicting Green Party categorization and categorization in which participants saw overlap between the Democratic and Green parties. Given that the direction of both of these relationships was positive, it may be the case that those within multi-party districts are simply more familiar with the Green Party. In fact, the existence of a local Green Party candidate (or candidates) may contribute to a Congressional district being classified as a high electoral supply district in the first place.

In contrast to reaction time measures within the previous studies, I do find support that electoral contexts are responsible for variation in categorization time. The fact that individuals in low electoral supply districts were no different in categorizing than individuals in high electoral supply districts is interesting. One might assume that those within high electoral supply districts,

by virtue of their operationalization, should be familiar with navigating a multi-party space. While it is encouraging to observe a significant relationship between ENP and reaction times, I remain skeptical of these results given that they are signed in the opposing direction that I have predicted and given that I have already addressed the problems of online data collection.

One finding which I am baffled by is that those who possess higher levels of trust in government tended to categorize exemplars into the Republican/Green Party overlap category more often than those with lower levels of trust. While I have made it clear that I am not concerned with whether categorization was 'correct', it is interesting to consider what characteristics individuals saw as belonging to both of those parties. Of the total sample, 26% placed the attribute 'liberal' into the Republican/Green Party overlap category, 22% placed the attribute 'progressive' into this category, and 25% placed 'environmentalists' into this category. Again, it is not up to me to judge whether these characterizations are correct, but it does seem erroneous to categorize the Republican Party as a whole as being 'liberal'. What is more disconcerting, of the 26% of people who selected this attribute as belonging partly to the Republican Party, a full 1/3 of those individuals fell into the *highest* category of political sophistication.

Although the findings mentioned above are of concern, especially for the internal validity of my study, evidence suggesting that partisan context is influential in how voters perceive, interpret, and evaluate political information appears to be mounting. To supplement the existing results, I conduct one final survey of political cognition (Chapter 5) which aims to establish an empirical connection between ENP and information seeking behavior.

Chapter 5
Information Search

5.1 Information Search

"Memory is the basis of every journey." – *Stephen King, Dreamcatcher*

The flow of my overall theory emphasizes that information processing and search behavior stem from continual reinforcement with one's electoral context. In other words, foundational changes in the organization of concepts within long-term memory will have subsequent effects on information seeking, information processing, and ultimately political behavior (see Figure 2.1 in Chapter 2). The previous three studies have sought to map the architecture of party-related knowledge. This study adds to what we have gathered so far in that it shines a light on more 'outcome oriented' behavior, particularly that of information seeking.

The present study makes use of an online data collection tool, known as the Dynamic Process Tracing Environment (DPTE) (Redlawsk and Lau 2009). DPTE is a useful tool for those interested in political communication and political engagement because it provides an unstructured environment which allows individuals to freely interact with political information. Capturing the details of individual navigation strategies (Ford et al. 2002) allows researchers to generalize how those same individuals may react with political stimuli in real, everyday situations.

Extant literature has highlighted the role of motivation and memory structure on patterns of information search (Huang and Price 2001). Specifically, Huang and Price find an association between the type of information search individuals conduct and the way in which memory recall

is clustered (2001). Nabi (2003) also finds evidence that information accessibility (to a given topic) is weaker for those possessing less developed schemas (on that topic). Information seeking and deliberation are constrained by cognitive capabilities, one of which is the associative structure of long-term memory. This idea is largely unquestioned among cognitive psychologists. But can we take this relationship a step further by adding that contextual influences, which shape cognitive associations in the first place, should predict information seeking as well? The present study aims to do just that.

5.2 Expectations

In line with the hypotheses of Study 1, Study 2, and Study 3, I generally expect low electoral supply districts to continually reinforce dichotomized thought patterns. Thinking about partisan dynamics in simplistic, black and white terms should have implications for the way in which approach and collect information. Hence, the expectations of this study are as follows:

Hypothesis 4a: When evaluating political stimuli, individuals in low electoral supply districts will engage in less information seeking than will individuals in high electoral supply districts. Less information seeking in this study equates to selecting and considering fewer pieces of information.

Hypothesis 4b: For those pieces of information viewed, individuals in low electoral supply districts will engage in more shallow information processing than will individuals in high electoral supply districts. Specifically, those in low electoral supply districts should read through the selected pieces of information more quickly than individuals in high electoral supply districts.

Individuals within low electoral supply districts have become conditioned to a rather simplistic party environment. In such an environment navigating through the issue positions, traits, and group affiliations of candidates or parties is rather easy. Recall the example presented in Chapter 2 where an individual in a low electoral supply district learns that Party A is for increased environmental regulation. Without any other information this individual "knows" that Party B is against increased environmental regulation. This adversarial nature of two-party politics creates sharply defined partisan schemas. In contrast, it is easy to imagine that as the number of parties within a district grows (as in the case of high electoral supply districts), the distinctions between parties become increasingly blurred. As previous literature has noted, partisan schemas are largely responsible for structuring information processing and decision making (Lodge and Hamill 1986; Rahn 1993). We should therefore expect that the partisan schemas of those residing in low electoral supply districts require less critical thinking to differentiate and make decisions, given fewer electoral options. The opposite should hold for the partisan schemas of individuals in high electoral supply districts. As a result, I expect to find systematic relationships between electoral context and information seeking behavior.

5.3 Study 4- Information Search

5.3.1 Data

In January 2014, 681 participants were recruited for this study through Amazon's Mechanical Turk website. Participants who completed the study were compensated $0.75/each for their time and effort. The first portion of this study was conducted in Qualtrics and the second portion was conducted in the Dynamic Process Tracing Environment (DPTE) (see Redlawsk and Lau 2009). Of those 681 participants recruited, 216 did not properly follow instructions to move

from Qualtrics to DPTE or had technical issues with the DPTE site[28]. Of the 465 participants who completed both portions of the study, fourteen were excluded from final analysis due to failing a manipulation check and another twenty-two participants were excluded for failing to provide their Congressional district. Of the remaining sample (n = 429), 46% of participants were male, 86% indicated white or Caucasian as their race, and approximately 63% were between the ages of 18-39. Fifty-one percent of the sample reported a Democratic Party affiliation or leaning, 54% of participants earned an annual income of $39,999 or less, and the modal individual in this sample had obtained a Bachelor's degree. A full breakdown of descriptive statistics from Study 4 can be found in Appendix G.

5.3.2 Survey Procedures

Mechanical Turk workers were first directed to the Qualtrics survey page. Here they completed personality questionnaires, measures of political efficacy, trust in government, partisan ambivalence, political sophistication, and demographic information. This information was gathered before, rather than after, the information board task for several reasons. First, it is more practical to embed a survey link to the DPTE site from the Qualtrics site, which contained questionnaire items, than vice versa. Although DPTE does permit researchers to create questionnaires within its system, Qualtrics offers the option to force responses, meaning participants must answer each question before moving on. Questionnaires within the DPTE system do not allow forced response and thus key variables might be left out had I collected personality, ambivalence, and demographic information within DPTE.

[28] DPTE is a graphically intense platform. As such, some individuals who attempted to complete the study using slow internet connections or who attempted to complete the study using their smartphone (yes, this happens!) were not able to do so.

After participants completed personality and demographic questions they were asked to enter a unique ten-digit code into the last page of the Qualtrics study and then to enter this code again into the first page of the DPTE experiment. This allowed me to connect individual demographics to data collected within the information board. Once in DPTE, participants were familiarized with the system and the information search task by interacting with a non-political practice trial, followed by five questions related to the practice stimuli. In this practice trial participants could choose to read a number of scrolling facts related to two brands of toothpaste. Instructions for the practice trial specified that each box contains one piece of information and that information boxes scroll on the screen in random order. Participants were then asked to evaluate these toothpaste brands based on the information they had gathered.

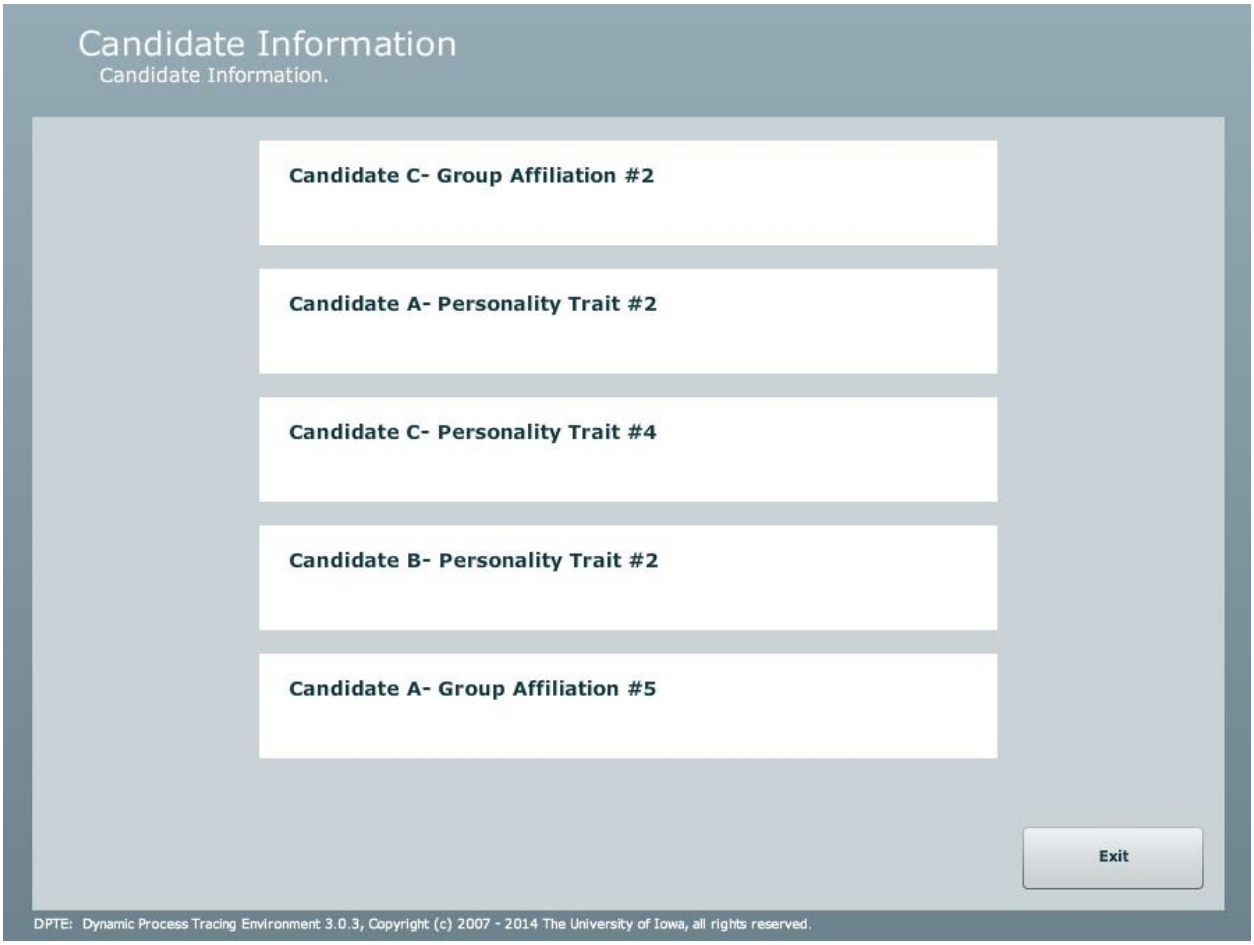
In the practice trial, all participants were exposed to an information board featuring two brands of toothpaste. In the experimental trial, however, participants were randomly assigned to interact with a two candidate information board or a three candidate information board. In the two candidate condition participants (n=227) saw information related to Candidate A and Candidate B. In the three candidate condition participants (n=202) saw information related to Candidate A, Candidate B, and Candidate C[29]. Scrolling in random order within the two candidate condition were five pieces of information about Candidate A's traits, five pieces of information about Candidate A's issue stances, five pieces of information about Candidate A's group affiliations, five pieces of information about Candidate B's traits, five pieces of information about Candidate B's issue stances, and five pieces of information about Candidate B's group affiliations. Thus, participants in the two candidate condition were potentially exposed

[29] Rather than giving candidates fictional names they were simply referred to as A, B and C. It was thought that providing fictional names might encourage participants to conjure up traits based on those names, rather than the information which was provided by the experimenter.

to a total of 30 pieces of information (15 related to each candidate). It should be noted that each piece of information was contained in a separate information box. Participants in the three candidate condition were exposed to these same 30 pieces of information about Candidate A and Candidate B. Yet in the three candidate condition participants also saw five pieces of information about Candidate C's traits, five pieces of information about Candidate C's issue stances, and five pieces of information about Candidate C's group affiliations. In this condition participants were potentially exposed to a total of 45 piece of information. All pieces of information presented in the information board can be found within Appendix B.

Instructions for the experimental trial again reiterated that each box contains one piece of information and that information boxes scroll on the screen in random order. Participants were instructed that at the end of the task they will be asked to evaluate several aspects of each candidate based on the information they have gathered. Participants were told that they may exit the information board when they feel they have gathered *sufficient* information about each candidate. Thus, it was made clear to participants that their own, free-form information search will directly relate to questions in the next portion of the study. It was also made explicit (i.e., bold, underlined, large font) within the instructions that there is no time limit to gathering information, nor a limit to the number of items a participant may choose to read. Below is a screenshot of the three party information board as it appeared to participants (items are scrolling in random order).

Figure 5.1 Dynamic Process Tracing Task



Following their interaction with the information board, participants in the two candidate condition were asked to evaluate various aspects of Candidate A and Candidate B, including a judgment of their party affiliation and ideological leaning. Participants in the three candidate condition were asked to do the same with Candidates A, B, and C.

5.3.3 Measures of Information Search and Information Processing

The unbounded format of the DPTE system provides great insight into how individuals approach and consider party-related information. Although this data provides a wealth of

information, I focus here on depth of processing and search behavior, including the number and types of information boxes an individual opts to access. A crucial element of this study is the time one spends within the information flow portion of the experiment before choosing to exit to the evaluation portion. This temporal measure should provide some indication of how intensely participants engaged with the information gathering task. It also signals the point at which a participant felt they had collected enough information to comfortably evaluate the candidates. Other key measures in Study 4 include the total number of information boxes a participant opened, how many of those opened boxes related to each candidate, and many boxes were opened with regard to traits, issues, or group affiliations. The total number of information boxes opened should, again, provide a measure of depth of processing. The types of boxes selected (e.g., more traits than issue stances) shed light on what pieces of information an individual participant deems important in evaluating a candidate.

5.3.4 Control Variables

Demographic controls in Study 4 include educational attainment, individual income, age, age squared, gender, and race. Because the majority (86%) of participants self-identified as white or Caucasian, race was dichotomized such that 1 equals white/Caucasian and 0 equals else. Political controls include self-reported interest in politics, trust in government, party identification, strength of party identification, and political knowledge (see Appendix C). In addition to indicating which Congressional district they currently live in, participants also provided the length of time (in years) that they have resided in this district. Length of residence is used both as a control variable and an interactive variable in subsequent analyses. As with all prior studies, three personality measures were included to control for individual differences in cognitive functioning. These

include need for closure, need for cognition, and intolerance of ambiguity. Refer to section 3.4.4 for more information about these personality traits and to Appendix C for scale measures.

5.3.5 Model Specification

The aforementioned control variables, along with ENP (my key independent variable), were included for all models predicting information search behavior and depth of processing. These measures include the number and types of information boxes participants elected to open. As such, the analyses were specified as follows:

$$\text{Search Behavior}_i = \beta_0 + \beta_1 \text{ENP}_i + \beta_2 \text{Race}_i + \beta_3 \text{Age}_i + \beta_4 \text{Age}^2_i + \beta_5 \text{Income}_i + \beta_6 \text{Education}_i + \beta_7 \text{Gender}_i + \beta_8 \text{Knowledge}_i + \beta_9 \text{Interest}_i + \beta_{10} \text{NeedforCognition}_i + \beta_{11} \text{NeedforClosure}_i + \beta_{12} \text{IntoleranceofAmbiguity}_i + \beta_{13} \text{TrustGovernment}_i + \beta_{14} \text{PID}_i + \beta_{15} \text{PIDStrength}_i + \beta_{16} \text{LengthReside}_i + e_i$$

Specifying my models in this way is appropriate, given my theory. The crux of my argument is that the organization of party-related concepts in long-term memory should be influenced by one's immediate partisan context. Flowing from this argument is the expectation that such basal changes in cognition should have an influence on information processing and decision-making behavior. I specify effective number of parties at the district level as my primary variable of interest given that it quantifies the amount of choice individuals are presented with in the context around them. My theory also asserts that the more *invested* an individual is with his or her partisan environment the more likely their cognitive thought patterns are to be constrained by the contextual dynamics around them. Thus, including strength of party identification, political interest, and length of residence in my models is key. I can control for these variables in order to observe a main effect of ENP on information search and I can also examine the independent effects

of these variables on information search. As with Studies 1-3, I control for individual differences in cognitive functioning by including need for cognition, need for cognitive closure, and intolerance of ambiguity measures.

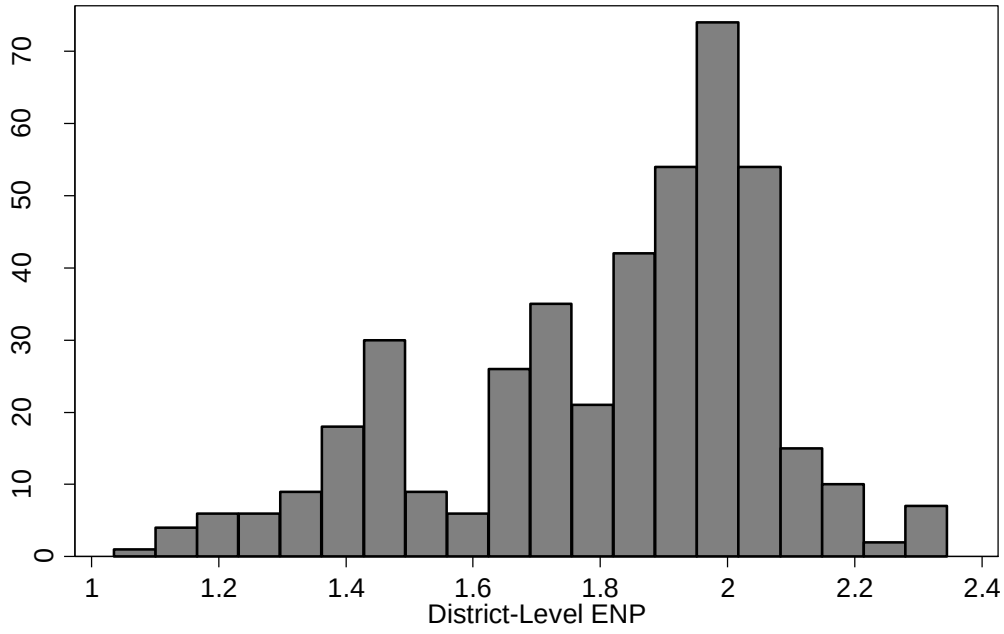
I also analyze the effect of electoral supply (or ENP) on time spent in the dynamic process tracing environment. These analyses are analogous to reaction time measures conducted in the previous chapters. As such, race, income, gender, and trust in government are again dropped as control variables as there is no theoretical reason why time measures should vary according to these individual differences. One control variable, whether or not the participant is a native English speaker, was added to the model here, as unfamiliarity with the English language should result in more time spent in the task. Therefore the model specification for time spent in DPTE is as follows:

$$\text{Time in DPTE}_i = \beta_0 + \beta_1 \text{ENP}_i + \beta_2 \text{Age}_i + \beta_3 \text{Age}^2_i + \beta_4 \text{Education}_i + \beta_5 \text{Knowledge}_i + \beta_6 \text{Interest}_i + \beta_7 \text{NeedforCognition}_i + \beta_8 \text{NeedforClosure}_i + \beta_9 \text{IntoleranceofAmbiguity}_i + \beta_{10} \text{PID}_i + \beta_{11} \text{PIDStrength}_i + \beta_{12} \text{LengthReside}_i + \beta_{13} \text{English}_i + e_i$$

5.4 Study 4 Results

Although the sample size for Study 4 was not as large as those in Study 1 or Study 2, we observe in Figure 5.2 that the distribution of ENP in the present study remains almost identical. Concerns over whether U.S. Congressional districts will provide enough variation in ENP are unfounded, given a wide range of ENP values in the table below.

Figure 5.2 Distribution of Electoral Supply, Study 4



The first dependent variable in Table 5.1 is the total amount of time (logged) participants stayed within the information board task. Said another way, this is the amount of time participants took to collect information before they opted out of the task, presumably feeling that they had gained enough information to sufficiently answer the following questions. The other two dependent variables in this table are the total number of information boxes opened/read and the total number of information boxes that were opened more than once. These data are aggregated across both conditions (two party vs. three party information board). Because these two variables are count measures a negative binomial regression was used to analyze the data.

Throughout all three models ENP had no predictive power on my dependent variables of interest. Across the board, however, age, gender, and need for cognition were statistically significant predictors of information seeking. Females, more so than males, tended to take longer within the information board task (B= -0.261, p<.01) and tended to open more information boxes, both overall (B= -0.223, p=.05) and repeatedly (B= -0.284, p=.05). As one might expect,

individuals high in the need for cognition took longer within the DPTE environment and opened more information boxes than those low in the need for cognition. The same pattern of results was true of older individuals.

Interestingly, party identification strength and political sophistication were not significant variables within any of the three models. This is striking because one might assume that strong partisans, as well as political sophisticates, have well-developed partisan schemas. Once these individuals uncover a few pieces of information we might expect them to be confident in their evaluations, thus rendering the additional information collection unnecessary. This result may, however, be the product of motivated skepticism (Taber and Lodge 2006). Motivated skepticism would actually urge these types of individuals to spend more time and to become more engaged with the task as they counter argue piece of information in their minds.

In the previous two studies, length of residence was never a significant predictor of graded structure or categorization. Here I find that length of residence predicts how many information boxes were opened by participants (B= -0.207, $p<.05$) and how many of those information boxes were opened repeatedly (B= -0.368, $p<.05$). Individuals who have resided within their Congressional district for a longer amount of time are *less* likely than those who have lived in their district for a shorter amount of time to open many information boxes. There was no interactive effect of length of residence and ENP, which perhaps suggests that one's decision to remain put within their Congressional district is more influential for shaping categorization patterns than the characteristics of the district itself (at least in terms of ENP). While education had no relationship with the number of boxes participants opened, it did relate to how long individuals spent in the DPTE environment before opting out. Those who possess higher levels of education tended to spend less time within the scrolling information board

environment (*B*= -0.431, p<.05). Knowledge is positive and marginally significant (*B*= 0.347, p=.054) in predicting the amount of time participants took searching within the information board task.

Table 5.1 informs us as to the overall patterns of information search among individuals in low versus high electoral supply districts. But what types of information were sought out? Table 5.2 presents the results of six separate negative binomial regressions. The first three variables represent the number of times a participant opened information boxes related to a candidate's traits, to a candidate's issues, and to a candidate's affiliated groups (recall that boxes were labeled so participants knew which types of information they were selecting). The other three variables are a count of the number of information boxes that participants opened regarding Candidate A, Candidate B, and Candidate C. Unfortunately, ENP was not a significant predictor of all six of these variables. Those who reside in low electoral supply districts are no more/less likely than those in high electoral supply districts to seek out information regarding a candidates issues, traits, or groups[30].

All is not lost, however, as the results within this table do provide some thought-provoking insight into which types of people deem which types of information important in differentiating and decision making between candidates. Across nearly all models females tend to seek out more information than males (this corresponds to what was found in Table 5.1). Older individuals are more likely to seek out group-related information about the candidates (*B*= 1.506, p=.011) but did not tend to open more trait-related or issue-related information boxes.

[30] This is also true when the models in Table 5.2 and Table 5.1 are parsed out by condition (two-candidate vs. three-candidate task). That is to say, ENP has no significant effect on how many information boxes were opened or the types of information that were selected in either the information board task with two candidates or the information board with three candidates.

Older individuals also tended to open more boxes concerning Candidate B, rather than Candidate A (or Candidate C if they were assigned to the three-candidate condition). The substantive implications of these findings, however, are not entirely clear. While I would expect strength of party affiliation to emerge as an important predictor across all models, the results within Table 5.2 show that it is only marginally significant (*B*= 0.259, p=.058) for the number of group-related information boxes opened.

Within Table 5.2 we see that those who are more politically sophisticated tend to seek out information on candidate issue positions much more than those who are political unsophisticated (*B*= 0.444, p=.027). This finding has some face validity to it, as we might expect political sophisticates to be more adept in thinking about candidates in terms of their support or opposition for certain policies. Those who are more knowledgeable of politics also tended to select information regarding Candidate A over the other two candidates, though again it is not entirely clear what we can make of this substantively. Those individuals who are higher in the need for cognition were more likely to open information boxes regarding Candidate A and Candidate B. This finding seems to reflect a main overall (and positive) effect of need for cognition on the total number of information boxes opened (Table 5.1). Interestingly, however, need for cognition is not a significant predictor of the number of information boxes opened with regard to Candidate C (*B*= 0.389, p=.110). It stands to reason that those high in the need for cognition within the three candidate task should be curious and motivated to deliberate about political make up of Candidate C. Empirically, however, this was not the case.

Finally, within Table 5.2 length of residence stands out as having a significant effect on the number of trait-related, group-related, and Candidate C related information boxes selected by study participants. Those who have resided within their current Congressional district for a

longer amount of time are *less* likely to seek out trait-related (B= -0.272, p<.05) and group-related (B= -0.220, p<.05) information about the candidates. These individuals are also *less* likely than individuals who have lived in their Congressional district for a shorter amount of time to seek out information regarding Candidate C. Implications of this finding are considered within the discussion section of this chapter.

Table 5.1 Information Search

Variable	Total Time *B (S.E.)*	Opened *B (S.E.)*	Repeats *B (S.E.)*
ENP	0.111 (0.093)	-0.081 (0.097)	-0.169 (0.146)
White	-0.109 (0.119)	0.121 (0.128)	0.181 (0.197)
Age	***1.404 (0.535)***	***1.239 (0.568)***	***2.616 (0.861)***
Age^2	-0.497 (0.682)	-1.072 (0.730)	***-2.419 (1.106)***
Income	-0.190 (0.139)	-0.132 (0.147)	-0.136 (0.223)
Education	***-0.431 (0.216)***	-0.283 (0.235)	-0.421 (0.358)
Male	***-0.261 (0.082)***	***-0.223 (0.089)***	***-0.284 (0.135)***
Knowledge	0.347 (0.179)	0.356 (0.193)	0.463 (0.292)
Political Interest	0.158 (0.165)	-0.044 (0.184)	-0.184 (0.278)
Need for Cognition	***0.278 (0.141)***	***0.179 (0.154)***	***0.572 (0.239)***
Need for Closure	0.474 (0.300)	0.179 (0.342)	0.009 (0.549)
Intolerance	-0.833 (0.473)	-0.281 (0.533)	0.198 (0.852)
Trust in Government	0.301 (0.235)	-0.065 (0.254)	-0.051 (0.385)
Republican PID	-0.051 (0.105)	-0.113 (0.112)	-0.291 (0.170)
Party ID Strength	0.165 (0.126)	0.146 (0.134)	0.196 (0.204)
Length Reside	-0.104 (0.096)	***-0.207 (0.104)***	***-0.368 (0.162)***
Constant	***4.186 (0.331)***	***2.794 (0.352)***	***1.502 (0.550)***
Alpha	--	0.621 (0.047)	1.346 (0.105)
N	394	399	399

Note: ENP variable is dichotomized such that Congressional districts with 0-1.99 effective parties equal 0 and Congressional districts with 2+ effective parties equal 1. Items bolded and italicized are significant at or below $p<.05$.

Table 5.2 Types of Information Opened

Variable	Traits *B (S.E.)*	Issues *B (S.E.)*	Groups *B (S.E.)*	Candidate A *B (S.E.)*	Candidate B *B (S.E.)*	Candidate C *B (S.E.)*
ENP	-0.097 (0.104)	-0.108 (0.101)	-0.050 (0.099)	-0.103 (0.094)	-0.077 (0.094)	-0.131 (0.148)
White	0.070 (0.135)	0.125 (0.135)	-0.192 (0.132)	0.120 (0.124)	0.014 (0.123)	-0.012 (0.237)
Age	1.152 (0.594)	1.128 (0.591)	***1.506 (0.590)***	0.748 (0.552)	***1.761 (0.552)***	0.849 (0.890)
Age^2	-0.752 (0.758)	-1.086 (0.759)	-1.439 (0.759)	-0.425 (0.708)	***-1.569 (0.707)***	-0.251 (1.186)
Income	-0.139 (0.157)	-0.113 (0.152)	-0.138 (0.150)	-0.124 (0.143)	-0.116 (0.142)	-0.002 (0.228)
Education	-0.319 (0.249)	0.004 (0.241)	***-0.530 (0.241)***	-0.367 (0.229)	-0.334 (0.230)	-0.343 (0.353)
Male	***-0.282 (0.093)***	***-0.223 (0.092)***	-0.171 (0.091)	***-0.217 (0.086)***	***-0.245 (0.085)***	***-0.307 (0.138)***
Knowledge	0.308 (0.203)	***0.444 (0.201)***	0.306 (0.197)	***0.399 (0.188)***	0.201 (0.187)	0.479 (0.297)
Political Interest	-0.071 (0.192)	0.030 (0.189)	-0.094 (0.187)	-0.034 (0.176)	-0.092 (0.177)	-0.073 (0.290)
Need for Cognition	***0.554 (0.164)***	0.275 (0.162)	0.271 (0.157)	***0.316 (0.150)***	***0.345 (0.150)***	0.389 (0.243)
Need for Closure	0.275 (0.352)	0.199 (0.361)	0.025 (0.346)	0.253 (0.332)	0.336 (0.329)	-0.035 (0.519)
Intolerance	-0.167 (0.561)	-0.543 (0.556)	-0.090 (0.532)	-0.453 (0.522)	-0.437 (0.507)	-0.754 (0.791)
Trust in Government	-0.104 (0.270)	-0.096 (0.263)	0.015 (0.258)	0.084 (0.250)	-0.054 (0.248)	-0.521 (0.373)
Republican PID	-0.123 (0.118)	-0.132 (0.115)	-0.099 (0.114)	-0.126 (0.107)	-0.115 (0.108)	0.211 (0.183)
Party ID Strength	0.170 (0.144)	-0.004 (0.139)	0.259 (0.137)	0.226 (0.131)	0.099 (0.130)	-0.013 (0.204)
Length Reside	***-0.272 (0.110)***	-0.128 (0.108)	***-0.220 (0.106)***	-0.143 (0.102)	-0.192 (0.101)	***-0.382 (0.160)***
Constant	***1.570 (0.370)***	***1.773 (0.370)***	***1.691 (0.367)***	***1.899 (0.347)***	***2.091 (0.339)***	***2.478 (0.573)***
Alpha	0.607 (0.054)	0.588 (0.052)	0.559 (0.051)	0.524 (0.046)	0.512 (0.045)	0.591 (0.076)
N	399	399	399	399	399	185

Note: ENP variable is dichotomized such that Congressional districts with 0-1.99 effective parties equal 0 and Congressional districts with 2+ effective parties equal 1. Items bolded and italicized are significant at or below p<.05.

The results within Table 5.1 and Table 5.2 do not indicate that ENP on its own has any bearing on information search and depth of information processing. Analyzing interactive effects of ENP and demographic or personality variables, however, may shed some light on the circumstances under which ENP matters for seeking out political information. There were four primary interactive models in which ENP proved significant or marginally significant. Figure 5.3 through Figure 5.6 present these results graphically. First, the marginal effect of electoral supply on the number of repeated information boxes opened varies by an individuals' strength of party identification. The effect of ENP on strong partisans is positive, though not statistically significant, while the effect of ENP on weak partisans is negative and statistically significant (confidence intervals fall below zero). More importantly, the effect of ENP on the number of repeated information boxes opened between strong and weak partisans is statistically significant (*B*= 1.102, *SD*= 0.451, p=.015).

Figure 5.3 Average Marginal Effect of ENP on Repeated Openings

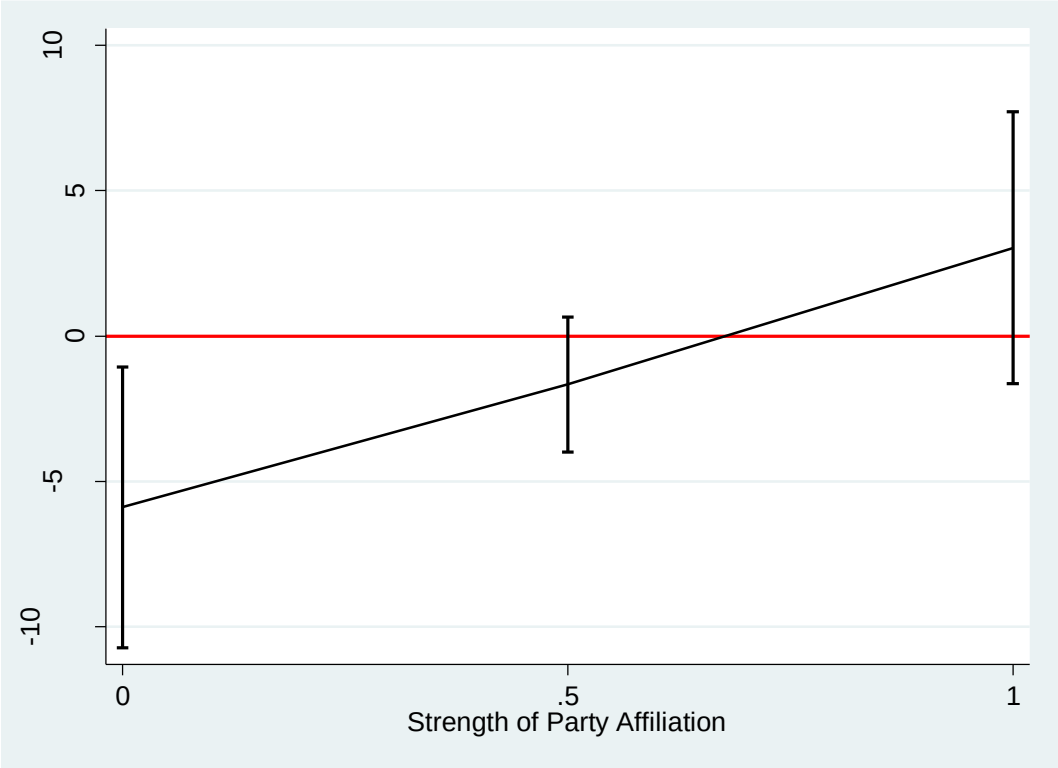


Figure 5.4 Average Marginal Effect of ENP on Information Board Time

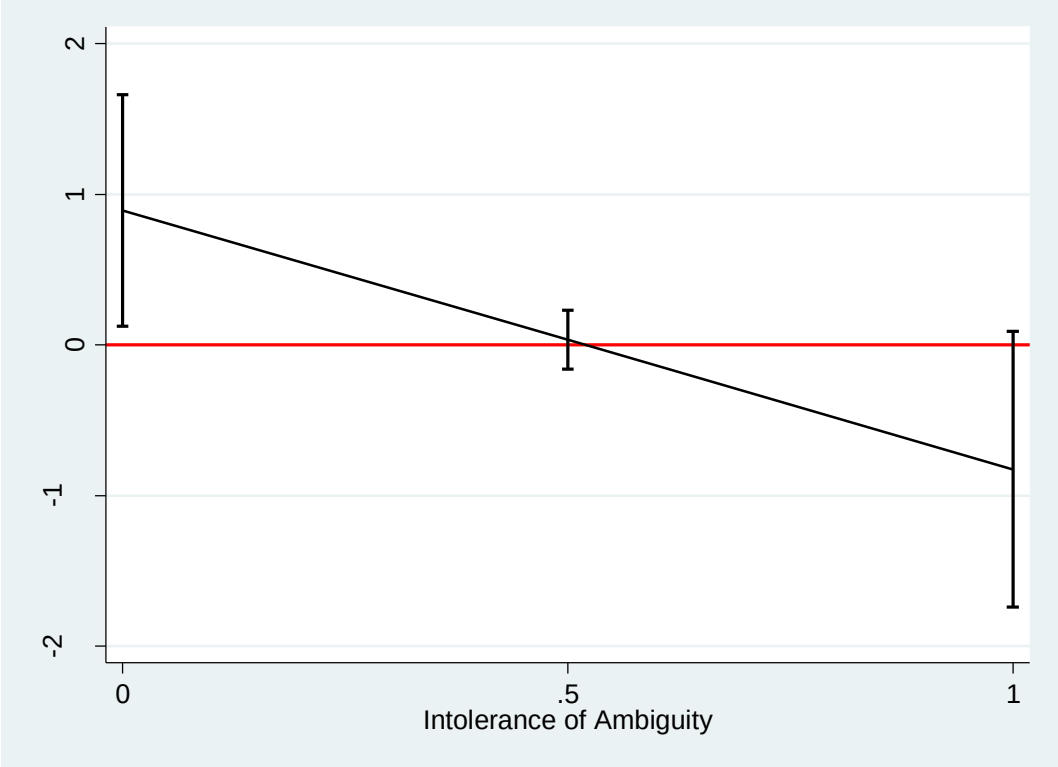


Figure 5.5 Average Marginal Effect of ENP on Candidate C Boxes Opened, Graph 1

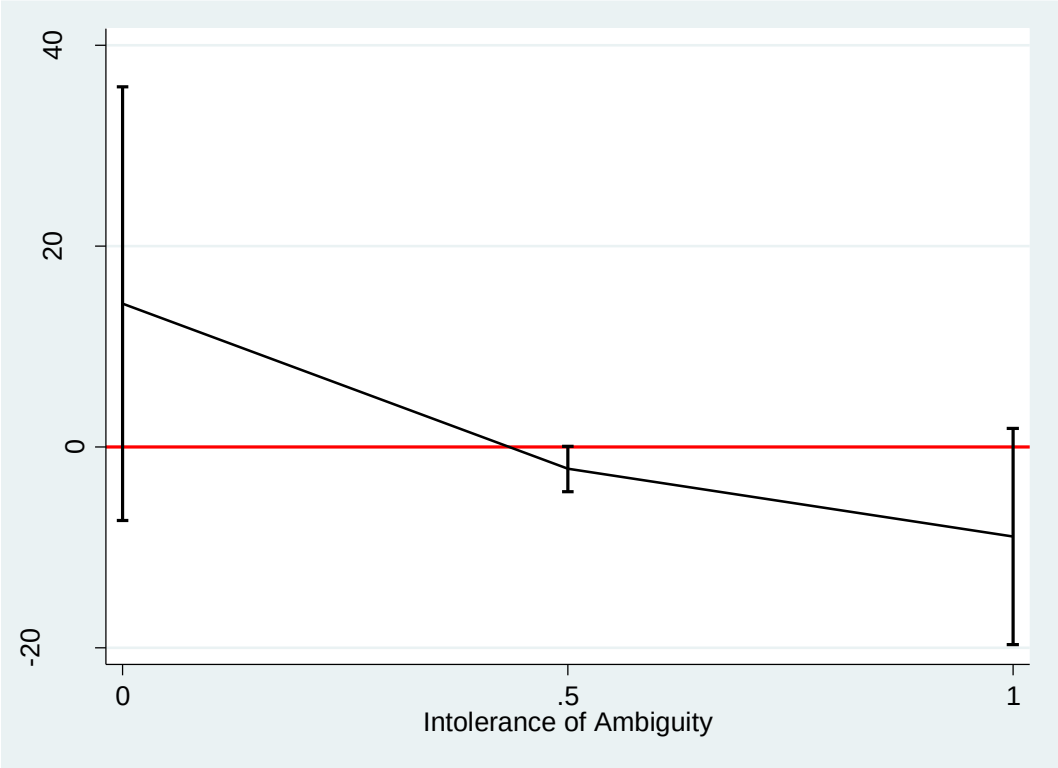
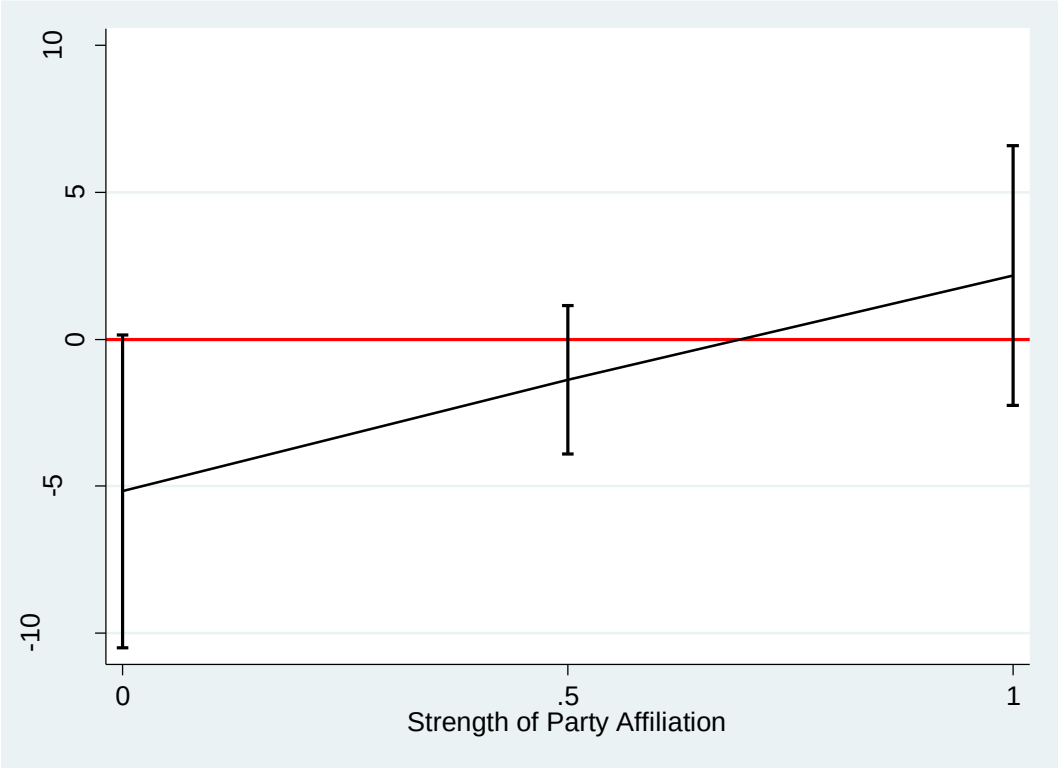


Figure 5.4 illustrates that the overall marginal effect of electoral supply on time spent within the information board task has a positive effect for those less intolerant of ambiguity and a negative effect for those more intolerant of ambiguity (*B*= -1.719, *SD*= 0.839, p=.041). Keep in mind that lower values indicate quicker reaction times (i.e., less time spent within the information board). Overall, one's electoral context serves to increase the amount of time spent in the information board task for those low in intolerance of ambiguity and serves to decrease the amount of time spent in the information board task for those high in intolerance of ambiguity.

The dependent variable within Figures 5.5 and 5.6 is the number of information boxes that were opened with regard to Candidate C. Recall that half of participants in Study 4 were randomly assigned to a three candidate task in which they were asked to scrutinize information about Candidates A, B, and C. Intolerance of ambiguity again emerges as a relevant interactive variable and we observe the same general relationship between intolerance, ENP, and our

dependent variable of interest in Figure 5.5 as we did in Figure 5.4. Electoral supply has a positive (though widely varied) effect on the number of Candidate C information boxes opened for individuals who score low in intolerance of ambiguity. In contrast, the average effect of electoral supply is negative for those high in intolerance of ambiguity, though the difference between individuals high and low in intolerance is only marginally significant (*B*= -2.446, *SD*= 1.324, p=.065). Likewise, the effect of ENP on the number of Candidate C information boxes opened is contingent upon by strength of party affiliation. Again, this effect is only marginally significant (*B*= 0.820, *SD*= 0.437, p=.061). In Figure 5.6 we see that the average marginal effect of ENP is negative on the number of Candidate C information boxes opened for weak partisans and positive for information boxes opened for strong partisans. Note that length of residence, political knowledge, political interest, need for cognition, and need for closure did not have any significant interactive effects with ENP on any of the information search variables collected within this study.

Figure 5.6 Average Marginal Effect of ENP on Candidate C Boxes Opened, Graph 2



5.5 Study 4 Discussion

The design and analyses of Study 4 sought to determine whether electoral contexts systematically alter the way in which individuals approach, consider, and navigate through political information. Overall my results were disappointing, as ENP did not prove to be a statistically significant predictor of any type of search behavior. Hypothesis 4a asserted that individuals in low electoral supply districts will engage in less information seeking (i.e., selecting and considering fewer pieces of information) than will individuals in high electoral supply districts. Hypothesis 4b asserted that individuals in low electoral supply districts will engage in more shallow (i.e., quicker) information processing than will individuals in high electoral supply districts. Neither of these hypothesis were supported by the data and analyses presented within this chapter.

One noteworthy finding, however, is that individuals who have resided in their Congressional district for a longer amount of time are *less* likely than individuals who have lived in their Congressional district for a shorter amount of time to seek out information regarding Candidate C (Table 5.2). This is (part of) what my theory would suggest. As individuals become more accustom to their partisan contexts they are less likely to engage in "new" search patterns. Therefore, individuals who are most familiar and comfortable with the dynamics of their partisan environment (i.e., those who have been there longer) should be less motivated to consider new information.

In general we see that ENP on its own may not have a direct relationship with information search and depth of processing but ENP does seem to matter in that it modifies the relationship between demographic or personality variables and search behavior. Within Study 1, for example, I observed that the marginal effect of ENP on measures of graded structure (e.g., typicality and feature applicability) was a function of party identification strength. Within Study 2 an interactive effect of ENP and political knowledge was found to significantly predict measures of graded structure, specifically central tendency and feature applicability. Given this compilation of results, I am beginning to suspect that electoral supply, in and of itself, is not directly related to the organization of party-related information, nor to subsequent patterns of information gathering. Electoral supply appears to be one of many contextual (as well as demographic) factors influencing one's navigation of the political terrain. As my theoretical model suggests, electoral context should first and foremost restructure the associative network of long-term memory, which then influences downstream attitudes and behaviors. Within the next and final empirical chapter I explore the direct effect of electoral supply on political behavior, as

well as path models which trace political behavior to measures of graded structure and ultimately, back to levels of electoral supply.

Chapter 6
Externalizing the Internal

6.1 Downstream Effects

"A man's every action is inevitably conditioned by what surrounds him" -*Leo Tolstoy, War and Peace*

To some extent, political scientists follow the Skinnerian tradition of valuing only the output, of caring primarily about the stimulus-response relationship. The 'black box' of human perception and cognition is explicated mostly for its utility in understanding the output. Researchers study the psychological effect of negative campaign advertisements in order to determine their effect on voter turnout (Ansolabehere, Iyengar, Simon, and Valentino 1994). They study the differential effects of campaign expenditures for incumbents and challengers to establish how it will affect voters' candidate selection (Jacobson 1978). And researchers study associative networks of long-term memory in order to determine how it affects real-world discrimination (Dovido, Kawakami, and Gaertner 2002). It is ultimately political behavior that matters and thus, this chapter is devoted to understanding how graded structure and electoral contexts relate to downstream political attitudes and behaviors.

Recall Figure 2.1 in Chapter 2 which outlines my theoretical model flow. Here I argue that one's electoral context should restructure the associative network through repeated exposure. Due to these basal, cognitive changes, individual variation in partisan attachment and political engagement should follow. Direct contextual effects on political behavior are well-studied (see Chapter 2). What seems common sense, though is rarely acknowledged by social scientists, is that contextual elements must travel *through* individual cognition in order to ultimately influence

behavior. Hence, the significance of my empirical inquiry here is to 1) first determine whether electoral environments have a direct effect on downstream attitudes and behaviors and to 2) identify whether those effects are the result of variation in graded structure.

6.2 Expectations

The expectations of this chapter are in accordance with those that I have outlined prior. I generally anticipate that individuals in low electoral supply districts, with fewer amounts of electoral choice, will tend to view the world in black and white terms. This simplified way of thinking about and approaching the politics should have implications for the way in which individuals attach themselves to parties and the way in which they engage with political world. Specifically, my hypotheses within this chapter are listed below:

Hypothesis 5a: Individuals in low electoral supply districts will exhibit lower levels of partisan ambivalence than will individuals in high electoral supply districts.

Hypothesis 5b: Partisan attachment will be stronger amongst individuals in low electoral supply districts than amongst individuals in high electoral supply districts.

Hypothesis 5c: Individuals in low electoral supply districts will engage in more participatory behavior than will individuals in high electoral supply districts. Specifically, individuals nested within low electoral supply districts will be more likely to report voting in the last general election and will report that they expect to vote in the next general election.

It is argued that lower levels of electoral supply will serve to decrease ambivalent attitudes or, said another way, should increase univalent attitudes among those nested within

these particular environments. This is in line with Hypothesis 3a (Chapter 4) which argues that fewer parties provides for *more* differentiation, whereas more parties within the same (and limited) ideological space must overlap in some way or another in terms of their issue stances, etc. as the electoral arena becomes more crowded. Ambivalence can be conceptualized as an internal conflict (Alvarez and Brehm 2002) that arises due to an individual holding a set of competing considerations (Lavine 2001) or experiencing both positive and negative reactions to a given political stimulus (Basinger and Lavine 2005). It is expected that in Congressional districts with fewer parties to choose from, parties are better differentiated from one another and thus a voter's decision to favor one party should be cut and dry[31]. One might liken partisan environments to a grocery store in which there are few or many options to choose from. Given only two brands of coffee, it should be easy for individuals to decide what characteristics (e.g., smoothness, roast, flavor) are most important in their selection. Increasing choices, on the other hand, cloud decision-making abilities, thus inducing ambivalence. Similarly, in low electoral supply districts party identification should be stronger. In contexts which offer few choices, individuals may find it easier to latch on to their preferred party wholeheartedly. There are no similar electoral options overlapping within the same ideological space as one's preferred party. Like a New Yorker's choice of identifying with the Jets versus the Giants, one's identification with a political party will be held with vigor when there are fewer options to choose from.

Finally, I expect that electoral context should have implications for political behavior. When there are fewer electoral options to choose from voting should be easier. In contrast, those who reside in districts with large amounts of electoral choice may feel overwhelmed and

[31] The opposite could be argued, that low electoral supply districts should encourage parties to move towards the ideological center, thus increasing ambivalence. Again, I emphasize that this dissertation is about individual perceptions, not about party behavior. As such, I maintain that fewer parties makes it easier for individuals to differentiate between parties and what they stand for.

ultimately, may choose to remove themselves from engaging with the political system. This expectation is also in line with the previous two hypotheses discussed, as strong and univalent partisans (who are expected to exist in greater numbers within low electoral supply districts) should be more politically involved.

6.3 Measures of Political Attachment and Behavior

The data used within this chapter are aggregated from all four of the previous studies. In addition to demographic information asked of every participant in Studies 1-4, participants were asked to answer several questions related to their own political behaviors or attitudes towards politics. Electoral supply (ENP) is calculated in these models using the same formula from Laakso and Taagepera (1979) (see Chapter 3). The dependent variables of interest are party identification (specified as Republican, Democrat, or other), party identification (a four category variable ranging from 'very strong' to 'not strong at all'), and the age group at which participants said they believed themselves to be a member of this party. Partisan ambivalence was measured in accordance with Lavine, Johnston, and Steenbergen (2012), who have argued that ambivalence hinges on one's own sense of self. These authors measure ambivalence such that it takes into consideration one's own partisan orientation. Instead of contrasting the number of likes and dislikes or feelings towards one party versus another, this measure captures the degree to which those evaluations are either *consistent* or *conflicting* with one's partisan identification. Lavine, Johnston, and Steenbergen identify ambivalent partisans as those individuals who score at the 95th percentile on identity-conflicting attitudes and at the 5th percentile on identity-consistent attitudes. This calculation, however, was not feasible for my study as there was not a single participant in all four studies who fell into this category. Because of this, I identify

ambivalent partisans as those who score at 75th percentile on identity-conflicting attitudes and at the 25th percentile on identity-consistent attitudes.

Other dependent variables within this analysis are whether or not one voted in the 2012 Presidential election, how likely one is to vote in the next general election, how often one discusses politics (a five category variable ranging from 'frequently' to 'never'), and how active one considers themselves to be in terms of politics (response options are not at all active, fairly active, and very active in politics). The final set of dependent variables in this study are whether one voted for Obama in 2012, whether one voted for a third party or independent candidate in 2012 (general election), and whether this vote was placed genuinely or strategically. Here, a genuine vote means that participants indicated that they voted the way they did in 2012 because they honestly preferred the policies or leaders or the party they voted for. Those who voted strategically indicated that they did not honestly prefer the candidate or party they voted for but recognized that their preferred choice had little chance of winning. The control variables used within the subsequent analysis are the same as those used previously (see section 3.4.4 of Chapter 3).

The path diagrams displayed within this chapter reference graded structure. Note that graded structure, as specified in these diagrams, refers to the *average* standard deviation across all graded structure trials in Study 1 and Study 2. Recall that Study 1 consisted of 50 typicality questions, 50 feature applicability questions, and 20 instantiation questions. Study 2 consisted of the same 50 typicality questions, the same 50 feature applicability questions, and 20 central tendency questions. Therefore, individuals in Study 1 and individuals in Study 2 completed 120 total graded structure trials. Average deviations across all 120 trials in both studies were calculated and merged into one variable in order to increase the sample size and boost the

reliability of my estimates. While the analyses presented in Chapter 3 parsed out graded structure by question type (e.g., typicality) and exemplar type (e.g., traits), combining all graded structure trials together should provide a robust understanding of how this measure of organizational memory relates to electoral supply and to political behavior.

6.3.1 Model Specification

For all models predicting 'downstream effects' (i.e., partisan attachment, participation, and vote choice) the analyses were specified as follows:

$$\text{Downstream Effects}_i = \beta_0 + \beta_1 \text{ENP}_i + \beta_2 \text{Race}_i + \beta_3 \text{Age}_i + \beta_4 \text{Age}^2_i + \beta_5 \text{Income}_i + \beta_6 \text{Education}_i + \beta_7 \text{Gender}_i + \beta_8 \text{Knowledge}_i + \beta_9 \text{Interest}_i + \beta_{10} \text{TrustGovernment}_i + \beta_{11} \text{PID}_i + \beta_{12} \text{PIDStrength}_i + e_i$$

Need for cognition, need for cognitive closure, and intolerance of ambiguity, previously included in Studies 1-4, were dropped as controls here as these cognitive measures were not expected to have a substantial influence on any of the relevant dependent variables. Length of residence was also dropped as a control variable in models predicting political attitudes and behaviors, though the individual effect of this variable is examined in the path analyses presented later in the chapter. Path analyses decompose the covariance between these variable and allow us to identify the degree to which one variable has a direct or indirect effect on another. As with the previous studies, district-level effective number of parties is expected to provide a sufficient operationalizing of partisan context, particularly as it pertains to the amount of political choice one is provided with. For these reasons, the models presented here should provide a good specification of my theory.

6.4 Results

The first set of analyses within this chapter are devoted to modeling out the relationship between electoral contexts and partisan attachment. Table 6.1 presents the results of four separate analyses predicting party identification, party identification strength, partisan ambivalence, and the age (group) at which an individual felt themselves to be a member of their current party. ENP is not significant in three of the four models[32]. Residing within a Congressional district with low electoral supply or a district with high electoral supply has no bearing on party identification (*B*= 0.016, p=.873), party identification strength (*B*= -0.064, p=.501), or age at which one became a party member (*B*= -0.172, p=.082). One's electoral environment does, however, have predict their level of partisan ambivalence. Those within low electoral supply districts tend to exhibit lower levels of partisan ambivalence than do those within high electoral supply districts (*B*= 0.530, p=.043). This finding is in accordance with Hypothesis 5a. Hypothesis 5b, on the other hand, is not supported as ENP has no statistically significant effect on strength of party identification.

The control variables within Table 6.1 relate to party identification and party identification strength in ways which we might expect. Caucasian or white individuals, higher income individuals, and those with lower levels of education tend to identify as Republican. Strong partisans (*B*= -1.760, p=<.000) and those high in political sophistication (*B*= -1.481, p<.01) are significantly less likely to express attitudes of partisan ambivalence. Republicans more so than Democrats tend to express ambivalent attitudes (*B*= 0.583, p=<.05). This finding

[32] Curiously, when ENP is not dichotomized and the raw ENP measure is used as an independent variable it is in fact significant at p<.01 for predicting party identification. This relationship is positive, suggesting that those within higher electoral supply districts tend to hold Republican affiliations. Theoretically, however, there is no reason to believe that the number of parties should relate to partisan identification. I suspect this finding may be a characteristic of my particular sample and not representative of the general population. Raw ENP is not a significant predictor of any other variable in Tables 6.1, 6.2, or 6.3.

could be a function of the time period in which the four studies were conducted (May 2013 through January 2014), as Republicans were in control of the House and Democrats were in control of the Senate and White House during this time. Hence, one could infer that being a member of the out party, or the party who is not in power of the majority of government, equates to less confidence in one's party which is then reflected in my measures of partisan ambivalence.

Table 6.1 Effect of ENP on Partisan Attachment

Variable	Republican ID *B (S.E.)*	PID Strength *B (S.E.)*	Ambivalent *B (S.E.)*	Party Member *B (S.E.)*
ENP	0.016 (0.101)	-0.064 (0.095)	***0.530 (0.261)***	-0.172 (0.099)
White	***0.641 (0.117)***	0.124 (0.104)	0.060 (0.315)	-0.003 (0.105)
Age	0.430 (0.554)	0.573 (0.516)	0.842 (1.772)	***6.033 (0.559)***
Age^2	0.373 (0.696)	-1.012 (0.658)	-2.989 (2.565)	***-3.513 (0.709)***
Income	***1.044 (0.151)***	0.162 (0.140)	0.007 (0.446)	0.066 (0.145)
Education	***-0.750 (0.226)***	-0.029 (0.107)	-0.199 (0.538)	0.026 (0.115)
Male	0.445 (0.084)	***-0.201 (0.079)***	0.368 (0.246)	***0.328 (0.082)***
Knowledge	-0.210 (0.176)	0.045 (0.161)	***-1.481 (0.476)***	***-0.710 (0.165)***
Political Interest	0.086 (0.163)	***1.849 (0.164)***	-0.092 (0.504)	-0.269 (0.164)
Trust in Government	***-1.561 (0.220)***	0.230 (0.211)	0.624 (0.638)	-0.050 (0.213)
Republican PID	---	***-0.533 (0.101)***	***0.583 (0.258)***	***0.647 (0.106)***
Party ID Strength	---	---	***-1.760 (0.425)***	***-1.039 (0.126)***
Constant	---	---	***-2.354 (0.631)***	---
N	2234	2234	1614	2234
Pseudo R^2	0.044	0.032	0.093	0.088
Log Likelihood	-2179.445	-2907.372	-283.286	-2787. 283

Note: ENP variable is dichotomized such that Congressional districts with 0-1.99 effective parties equal 0 and Congressional districts with 2+ effective parties equal 1. Items bolded and italicized are significant at or below p<.05.

One of the more interesting dependent variables within Table 6.1 is the age at which an individual reported that his or her current party affiliation was acquired. Here I find that males,

those possessing less political knowledge, and those affiliated with the Republican Party reported becoming a member of their current party later in life than did females, political sophisticates, and Democrats. These individuals seem to make up their mind politically or attach themselves to a party at a younger age. Unsurprisingly, strong partisans reported joining or feeling they were a member of their current party at a younger age than did weak partisans (*B*= -1.039, p<.000).

Table 6.2 Effect of ENP on Participatory Behavior

Variable	Vote 2012 *B (S.E.)*	Vote Next Election *B (S.E.)*	Discuss Politics *B (S.E.)*	Active in Politics *B (S.E.)*
ENP	-0.055 (0.144)	0.207 (0.124)	-0.045 (0.096)	-0.045 (0.117)
White	***0.404 (0.146)***	***0.374 (0.122)***	0.061 (0.105)	-0.093 (0.130)
Age	***1.677 (0.781)***	0.561 (0.667)	-0.679 (0.526)	***-1.393 (0.639)***
Age^2	-1.446 (1.039)	-0.298 (0.881)	-0.346 (0.671)	0.767 (0.800)
Income	***1.475 (0.252)***	***1.140 (0.198)***	-0.005 (0.142)	0.155 (0.172)
Education	***1.126 (0.322)***	0.123 (0.218)	***0.333 (0.112)***	0.098 (0.129)
Male	***-0.524 (0.120)***	***-0.803 (0.101)***	***-0.186 (0.081)***	***-0.332 (0.099)***
Knowledge	***0.831 (0.229)***	***1.088 (0.194)***	***0.682 (0.165)***	0.383 (0.209)
Political Interest	***1.958 (0.226)***	***2.482 (0.199)***	***3.031 (0.175)***	***4.312 (0.257)***
Trust in Government	0.539 (0.306)	***0.941 (0.262)***	0.231 (0.214)	0.369 (0.263)
Republican PID	-0.264 (0.156)	-0.052 (0.131)	0.133 (0.104)	0.014 (0.127)
Party ID Strength	***1.003 (0.181)***	***1.228 (0.157)***	***0.257 (0.122)***	***0.744 (0.151)***
Constant	***-2.040 (0.319)***	---	---	---
N	2234	2234	2234	2234
Pseudo R^2	0.165	0.140	0.080	0.159
Log Likelihood	-936.936	-1831.799	-2869.101	-1464.021

Note: ENP variable is dichotomized such that Congressional districts with 0-1.99 effective parties equal 0 and Congressional districts with 2+ effective parties equal 1. Items bolded and italicized are significant at or below p<.05.

Electoral supply does not affect any of the participatory behaviors listed within Table 6.2 Those residing in low electoral districts are no different than those residing in high electoral

districts when it comes to voting in last election, the likelihood of voting in next election, frequency of political discussion, or how active one is in politics. Hypothesis 5c is not confirmed across the board. ENP is, however, a significant predictor of the *types* of electoral choices one makes (Table 6.3). Individuals within high electoral supply district tend to report voting for Barack Obama in the 2012 general election more so than individuals within low electoral supply districts (B= 0.537, p<.01). In contrast, individuals residing within low electoral supply districts tend to report voting for a third or independent party candidate in the 2012 general election more so than individuals within high electoral supply districts (B= -1.051, p=.001). This is a curious finding, as those within low electoral supply districts, by virtue of their operationalization, possess fewer parties to begin with. I expand upon this finding in detail within the discussion section of this chapter.

Additionally, Table 6.3 analyzes whether electoral context has a significant effect on why an individual chose to vote the way he or she did in the 2012 general election. Specifically, I look at whether an individual indicated that he or she voted genuinely (i.e., voted for the party or candidate with the most preferable policies or best leaders) or voted strategically (i.e., voted for a less preferable party or candidate because their preferred candidate or party had no chance of winning)[33]. I find evidence that ENP has a significant (and negative) effect on voting genuinely (B= -0.291, p<.05), but has only a marginally significant effect on voting strategically (B= 0.482, p=.06). As one might expect, strong partisans and those with lower levels of education were less likely to report placing a strategic vote in 2012. Those who are more trustful of government tend

[33] These two responses are complementary, in a sense, but do not reflect all possible reasons why an individual may vote in the manner he or she chooses. That is, we cannot say that if one voted genuinely he did not vote strategically, as there are varying degrees of genuineness and participants are simply instructed to choose the answer that most closely represents their intentions. For this reason, I examine these as two separate dependent variables.

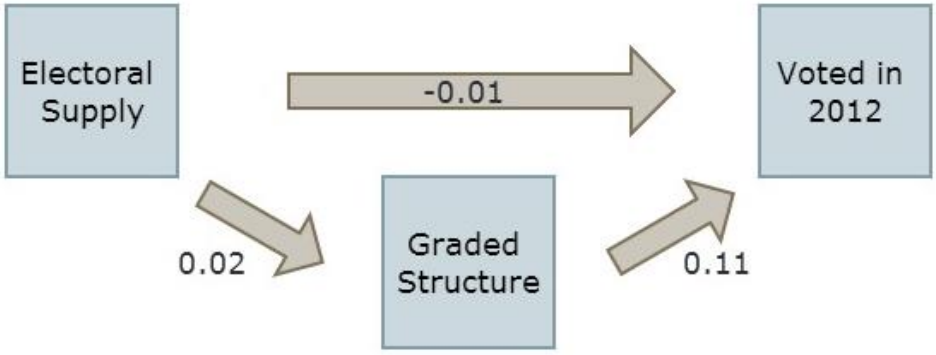
to vote genuinely and tend not to vote strategically. This is perhaps a reflection of their confidence in the electoral system. It should be noted that there are no interactive effects of length of residence and ENP on any of the dependent variables listed in Table 6.1, 6.2, or 6.3.

Table 6.3 Effect of ENP on Vote Choice

Variable	Third Party Vote *B (S.E.)*	Obama Vote *B (S.E.)*	Genuine Vote *B (S.E.)*	Strategic Vote *B (S.E.)*
ENP	***-1.051 (0.328)***	***0.537 (0.194)***	***-0.291 (0.129)***	0.482 (0.257)
White	0.657 (0.351)	***-0.555 (0.326)***	***-0.322 (0.160)***	-0.427 (0.299)
Age	-2.469 (1.277)	-0.773 (1.026)	***-1.774 (0.739)***	***-3.449 (1.460)***
Age^2	2.445 (1.600)	-0.300 (1.286)	***1.835 (0.925)***	***3.996 (1.782)***
Income	-0.737 (0.380)	-0.268 (0.268)	***0.512 (0.196)***	-0.297 (0.420)
Education	0.299 (0.161)	-0.238 (0.155)	-0.001 (0.141)	***0.308 (0.155)***
Male	0.361 (0.208)	0.008 (0.156)	0.131 (0.112)	0.226 (0.235)
Knowledge	0.131 (0.441)	-0.459 (0.335)	-0.275 (0.235)	-0.048 (0.486)
Political Interest	0.302 (0.423)	-0.099 (0.323)	***0.532 (0.233)***	-0.833 (0.452)
Trust in Government	***-2.410 (0.552)***	***2.398 (0.405)***	***2.741 (0.310)***	***-2.027 (0.621)***
Republican PID	***0.664 (0.253)***	***-5.168 (0.234)***	***-0.383 (0.137)***	0.568 (0.292)
Party ID Strength	-0.489 (0.306)	0.137 (0.235)	***1.265 (0.170)***	***-0.820 (0.354)***
Constant	***-1.301 (0.634)***	***2.564 (0.453)***	-0.343 (0.313)	***-1.542 (0.592)***
N	1784	1784	1784	1784
Pseudo R^2	0.082	0.496	0.096	0.065
Log Likelihood	-381.483	-575.440	-1018.213	-313.726

Note: ENP variable is dichotomized such that Congressional districts with 0-1.99 effective parties equal 0 and Congressional districts with 2+ effective parties equal 1. Items bolded and italicized are significant at or below $p<.05$.

Figure 6.1 Path Analysis of Voting in 2012



Path analysis can be viewed as an extension of regression techniques. Specifically, path analysis conducts a single regression for each specified independent variable in the model on the dependent variables of interest (Garson 2008). The output of path analysis are path coefficients or beta weights, which essentially decompose covariance and allow researchers to test for direct and indirect effects. In terms of the indirect effect specified throughout this dissertation, the path diagrams presented here illuminate a causal order of electoral supply on graded structure and, subsequently, of graded structure on political attitudes and engagement.

Graded structure in Figures 6.1 through 6.5 represents the average standard deviation across all graded structure trials in Study 1 and Study 2. Keep in mind that the same participants should not have completed both studies but that both studies were almost identical in terms of the graded structure trials (e.g., feature applicability, typicality) participants were presented with. Thus, graded structure was aggregated to provide more power within the analysis. Figure 6.1 and 6.2 present a relatively straightforward effect of electoral supply on graded structure and graded structure on one's decision to vote in 2012 and in the next election. In both models the direct effect of electoral supply on graded structure is minimal (Beta= 0.02), as is the direct effect of electoral supply on voting behavior. The direct effect of graded structure on voting behavior is

larger, with Beta= 0.11 in Figure 6.1 and Beta= 0.18 in Figure 6.2. If we consider that there are a number of factors ultimately influencing one's decision to vote (particularly latent factors like habit), explaining 11% or 18% of voting behavior due to the organization of party-related concepts in long-term memory (i.e., graded structure) is quite notable. Still, it is no secret that a good deal of unexplained variance exists in these models.

Figure 6.2 Path Analysis of Voting in the Next Election

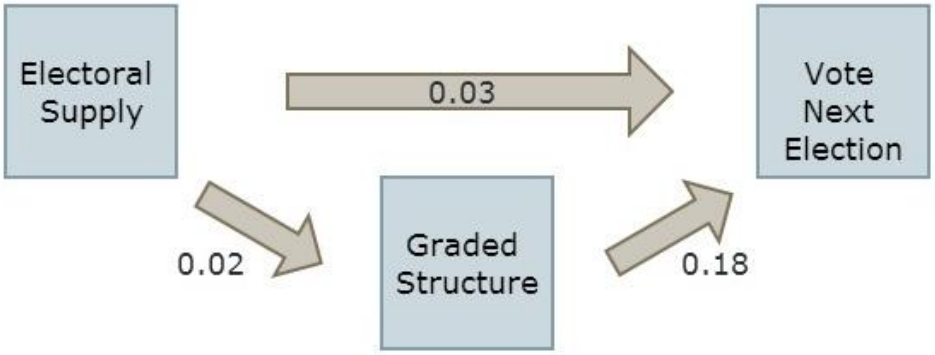


Figure 6.3 Path Analysis of Partisan Ambivalence

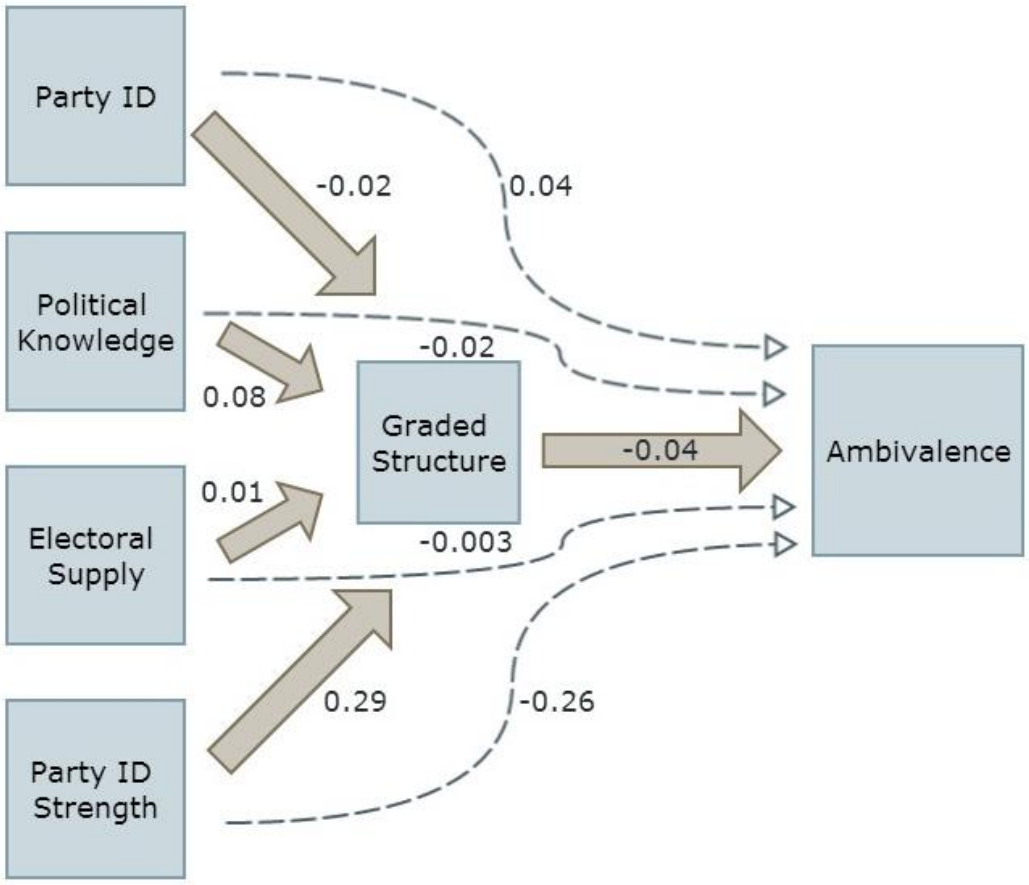


Figure 6.2 specified an indirect relationship between electoral supply, graded structure, and voting behavior. While it is helpful to examine this simplified model, there are certainly other factors which contribute to downstream political attitudes and behaviors. Thankfully, path analyses allows us to identify and decompose the covariance between these factors. In Figure 6.3 I explore several causal predictors of partisan ambivalence. Given that party identification, party identification strength, and political knowledge were significant predictors of ambivalence (Table 6.1) I include them in the path model. Figure 6.3 again demonstrates that only about 1% of graded structure scores can be explained by electoral supply. Despite the fact that ENP was a significant predictor of ambivalence in Table 6.1, electoral supply has a miniscule direct effect

on ambivalence (Beta= -0.003) when specified through a path analysis. What does seem to contribute to graded structure is political knowledge (Beta= 0.08) and strength of party identification (Beta= 0.29). Strength of party identification also has a substantial (and negative) direct effect on partisan ambivalence, meaning stronger partisans tend to hold less ambivalent attitudes[34].

Because trust in government and party identification[35] were significant predictors of vote choice in Table 6.3, I have specified them in a path analysis predicting whether or not one voted for Obama in 2012 (Figure 6.4) and whether or not one voted for a third/independent party in 2012 (Figure 6.5). In both models the direct effect of electoral supply on graded structure is only about 3%. Together with trust in government (Beta= -0.15) and party identification (Beta= -0.09) these three variables explain roughly 27% of the total variance in graded structure in both models. While graded structure explains about 5% of one's vote choice directly in Figure 6.4, party identification overwhelmingly (over 70%) explains the majority of one's vote choice. Note that this is not the case in Figure 6.5. Party identification here does not have the same explanatory power when it comes to votes for the third or independent party (Beta= 0.08). This makes sense given that most of the sample (roughly 72%) identified with either the Democratic or Republican Party. Although graded structure does not have a substantially large direct effect on vote choice, it does appear that it explains voting for a third party candidate (Beta= -0.09) better than voting for a mainstream candidate like Barack Obama.

[34] Note that I also identified and ran these models as a four tier path analyses, with ENP influencing party knowledge or party ID strength, which then influences graded structure, which then influences ambivalence. The beta coefficients of ENP directly on political knowledge (0.02) and on party ID strength (-0.1) were again small.
[35] As an aside, ENP has no direct predictive power on trust in government (β= -0.011, p=0.244) or on party identification (β= -0.013, p=0.900) and therefore are not mediators of ENP on vote choice.

Figure 6.4 Path Analysis of Voting for Obama

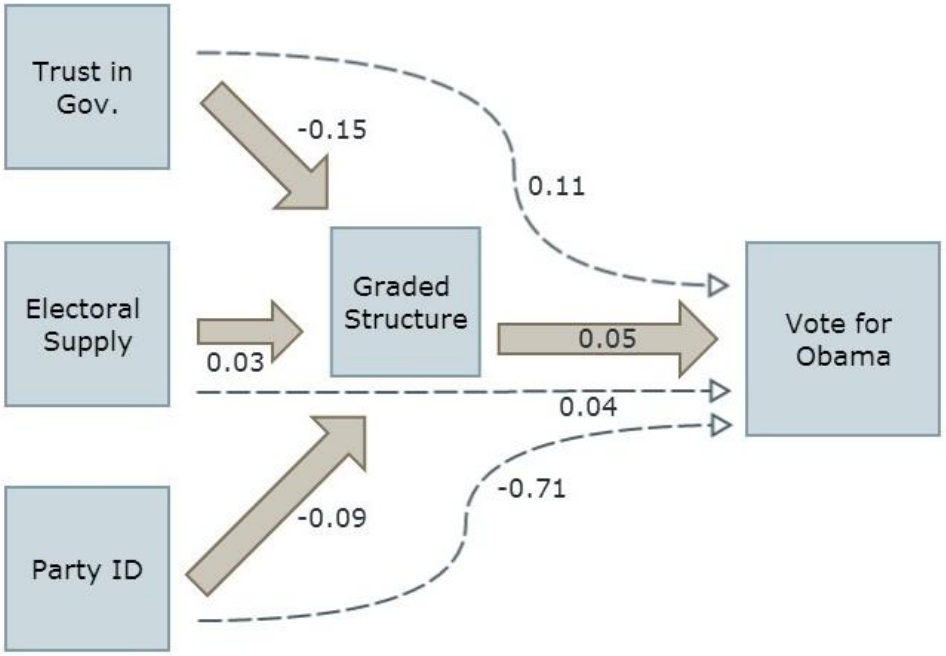
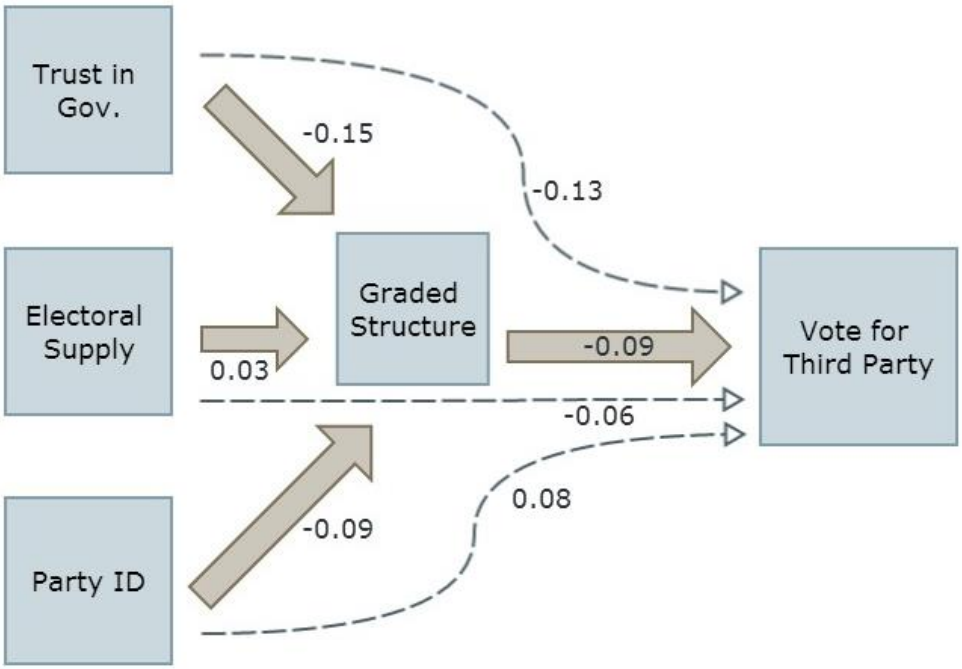


Figure 6.5 Path Analysis of Voting for a Third Party Candidate



6.5 Discussion

The purpose of this chapter has been to bring together the findings of Study 1, Study 2, Study 3, and Study 4 in order to paint a coherent picture of how electoral context matters for real-world political attitudes and behavior. Although I found support for Hypothesis 5a (regarding partisan ambivalence), there was no statistically significant difference in party identification strength (Hypothesis 5b) or participatory behaviors (Hypothesis 5c) among those who reside in low versus high electoral supply districts. I did, however, find a few interesting results when it comes to the relationship between electoral environments and vote choice. In particular, I demonstrated that those in low electoral supply districts are more likely than those in high electoral supply districts to report voting for third party or independent candidate in 2012. This is puzzling, however, given that low electoral supply district, simply by the way in which I have operationalized them, contain less electoral options from which to choose. Still, that is not to say that low electoral supply districts have *no* third party candidates for which to vote. New Jersey's Congressional District 10, for example, has an ENP of 1.15, making it appear to be a district in which there is little electoral choice. Nevertheless, in the 2012 House election there was both a Libertarian and an Independent Party candidate who provided some additional choice to voters in this district. Perhaps finding that individuals in low electoral supply districts are more likely to vote for third party candidates is a reflection of voters' dissatisfaction with the lopsided nature of local politics. In this way, supporting a party besides Republicans or Democrats suggests voters in low electoral supply districts may be attempting to buck the system.

In Figure 6.5 I showed that graded structure and electoral supply separately have a negative direct effect on voting for the third party candidate. Yet in Figure 6.4, which specifies

voting for Obama as the dependent variable, the direct coefficient of graded structure and of electoral supply is positive. What this means is that individuals in high electoral supply districts are more likely to vote for Obama and that possessing more graded structure is associated with voting for Obama. In contrast, individuals in low electoral supply districts are more likely to vote for a third party candidate (as discussed above) and that possessing less graded structure is associated with voting for a third party candidate. It may be the case that in high electoral supply districts, voting for a Democrat or Republican helps to simplify the amount of choices one is confronted with. Keep in mind that Obama was also the incumbent in 2012, which means that individuals surrounded by a good deal of electoral choices could simplify their decision and reduce their information costs by sticking with the status quo. While this theory may also apply to those who possess a wider amount of party knowledge, it is much more likely that the relationship between high amounts of graded structure and vote for Obama is simply an artifact of party identification. Recall in Chapter 3 that across several models Republicans tended to have lower levels of graded structure than did Democrats. In this way too, we might explain the negative relationship between graded structure and voting for a third party candidate as the result of Republicans, perhaps dissatisfied with Romney's bid for election in 2012, opting to vote for a Libertarian or third party candidate.

It is also worth returning to the fact that not one of the nearly 1,800 participants in my studies could be classified as an ambivalent partisan (as operationalized by Lavine, Johnston, and Steenbergen 2012). That is, no participant fell into the 95th percentile of identity-conflicting responses and into the 5th percentile of identity-consistent responses. In order to identify ambivalence at all I had to redefine these measures to be at the 75th and 25th percentiles. I do believe that this way of measuring partisan ambivalence is much superior to prior methods, such

as considering the number of likes and dislikes or feeling thermometers towards parties. The problem I encountered here, however, may be the demographics of my sample, as most participants were Democrats, under the age of 35, who professed a 'somewhat strong' attachment to their party. Perhaps my sample was far too homogenous to produce any substantive differences in ambivalence. It is also probable that self-selection had much to do with these results. MechanicalTurk workers who opted to participate are probably interested in politics to begin with (especially if we consider that $0.75 compensation is not much of an incentive) and are therefore not likely to reflect ambivalent attitudes.

The purpose of presenting these path models is to decompose the effect of ENP on graded structure and the effect of graded structure on subsequent political behavior. Despite clearly laying out my expectations, it may not be accurate to model these relationships using path analysis given that most of the dependent variables specified were dichotomous (Davis 1985). Path models are best used for continuous dependent variables. Furthermore, path analysis assumes linearity, additivity, and no correlation between the error terms (Garson 2008). I suspect that these assumptions may be violated within some of the models presented and thus I caution that the beta coefficients may not be accurate. I did create a summed variable which folded whether one voted in 2012 and their likelihood of voting in the next general election into one, 'continuous' dependent variable. The path results concerning this summed variable remain the same as they do in Figures 6.1 and 6.2. Overall, the path diagrams and regression results presented within this chapter highlight that electoral context is in some ways important for determining political attitudes and behaviors, though this distal cue most certainly coalesces with more proximate demographic factors.

Chapter 7
Putting Context in Context

7.1 Do Partisan Environments Shape Cognition?

"There is no real ending. It's just the place where you stop the story." –Frank Herbert

On the surface, this dissertation set out to measure party-related concepts in long-term memory, to relate variation in the organization of those concepts to local partisan contexts, and to extrapolate whether this variation predicted downstream attitudes and behaviors. By and large the results presented across Chapter 3, Chapter 4, Chapter 5, and Chapter 6 are empirically inconclusive and theoretically unsatisfying. In Study 1 (Chapter 3) I found that ENP was a significant predictor of extreme responses on instantiation questions but not on feature applicability questions or typicality questions. In Study 2 (also Chapter 3), however, I found support nearly across the board that ENP had a positive and significant effect on measures of typicality and on extreme responses within the feature application questions. Here, those who reside in Congressional districts possessing more electoral options were also more likely to show increased graded structure, or a wider perception of party-related knowledge. In both Study 1 and Study 2, ENP had no bearing on reaction time measures. This finding could be the result of conducting such a study online and without assurance that participants were fully engaged with the task at hand. In Study 1 the type of exemplar presented to participants (e.g., traits, issues, political figures) was not related to ENP. In contrast, I find that ENP is a significant predictor of graded structure as it applies to exemplar types in Study 2.

What do we make of the fact that the relationship between ENP and graded structure did not replicate across studies? This is especially troubling when we consider that participants were presented with some of the exact same questions and question wording across studies. One explanation is that there is unobserved error in one of both studies which is influencing my estimates. This error may plausibly come from the same MechanicalTurk workers completing both studies and thus exhibiting practice effects in Study 2. Note that while it was possible for me to bar individuals from completing the same study twice, it was not possible to keep individuals from taking more than one of my (separate) studies. While ENP should not change between studies (if participants indeed took both) it may be that familiarity with the exemplars prompted participants to be more decisive or extreme in their responses within Study 2. I do find that responses were more extreme in Study 2 (mean= 0.244, S.D.= 0.173) than in Study 1 (mean=0.179, S.D.= 0.129), though it is not entirely certain how this relates to systematic differences between high and low electoral environments.

It might also be true that this error came from history effects, meaning some noteworthy political or social event happened between the time that Study 1 and Study 2 were implemented (May 2013 to November 2013). Indeed, in June of 2013 the Supreme Court ruled the Defense of Marriage Act (DOMA) to be unconstitutional. This was big news at the time and could potentially serve as a confounding historical event. Still, for a historical event to have any systematic bearing on survey responses it must be salient for *all* individuals and it must supersede the longstanding, enduring effects of political socialization (both of which seem highly unlikely). Other forms of error could possible stem from the fact that those who self-selected into Study 1 were somehow different than those who self-selected into Study 2. Descriptive statistics from both studies (Appendices D and E), however, indicate that this was not the case.

If the results from Studies 1 and 2 prove indecisive, the findings within Studies 3 and 4 do no better to extinguish frustrations. Study 3 aimed to link variation in partisan environments to individual-level differences in partisan categorization. Across nearly all models ENP was not a significant predictor of categorization or willingness or categorize, regardless of whether the task involved two or three parties. The only significant relationship found within this study was between ENP and Green Party categorization. Individuals residing in Congressional districts with higher levels of electoral supply were more likely to categorize exemplars as belonging to the Green Party or as overlapping between the Green and Democratic parties. This finding is uplifting in the sense that it supports my overarching theoretical argument: those surrounded by more electoral options are increasingly likely to perceive and think of partisan dynamics as multidimensional. Study 4, on the other hand, did not find any significant direct effect of ENP on information search behavior. Individuals who are surrounded with more or less political choice are no different from one another in how they seek out candidate information. This was found to be true across both the two candidate condition and the three candidate condition.

When I arrived at Chapter 6 (for all intents and purposes, Study 5) I was not optimistic about uncovering a relationship between electoral supply and political attitudes and behaviors. Nevertheless, ENP did demonstrate itself as a significant predictor of partisan ambivalence (positive), vote for Obama (positive), vote for a third party candidate (negative), and voting genuinely (negative) rather than strategically. If in fact, contextual influences must travel *through* individual cognition in order to ultimately influence behavior, how is it that I find a direct relationship between ENP and political behavior yet do not find a coherent relationship between ENP and graded structure?

Taking all five studies into consideration, it is quite possible that the measures of graded structure I used within this study are not accurate reflections of the associative network of long-term memory. These measures themselves are noisy and are perhaps overshadowed by other, (arguably) cognitive variables such as political knowledge or strength party identification. Traditional measures of graded structure suit the needs of cognitive psychologists whose exemplars may contain types of birds or types of furniture. But politics is a wholly different subject. Voters attach themselves to parties, think of themselves as party members, and feel the thrill of electoral victory or the agony of electoral defeat when it concerns their preferred party. Voters attend to political news on a regular basis, as if it were a daytime soap opera (in many ways it is). The same cannot be said of varieties of hand tools or categories of fruits. In this way it may be incredibly difficult to isolate and measure cognitive representations of political objects in long-term memory because these objects are so strongly associated with one's emotions. This coincides with Lodge and Taber's (2005) idea of 'hot cognition', that all sociopolitical concepts carry an affective charge and that this charge is elicited spontaneously and without conscious effort. I raise this detail simply to point out that studies of political cognition cannot be treated like any other study of cognition, given the intimately intertwined nature of politics and emotion.

Within Chapter 1 of this dissertation I asked a pertinent question which my theory would perhaps imply: Are we prisoners of our minds? That is, do contextual influences shape political cognition so much so that we are robbed of our own free will? Evidence from this dissertation suggests that while context does seem to be important in some instances, it is not entirely deterministic. Across Studies 1 through 4 I presented interactive effects between ENP and demographic or personality variables. Specifically, intolerance of ambiguity, political sophistication, and strength of party identification were important moderators of the relationship

between electoral supply, political perceptions and information processing. When it comes to the structure and function of political cognition, it apparently not only matters *where* you are, but *who* you are.

7.1.1 Limitations of the Current Study

One of the limitations of this study- that the specified graded structure questions might not actually be measuring what I would like them to measure- has already been addressed. Perhaps the biggest hurdle this line of inquiry faces is making the leap from electoral supply to cognition. What is it about the structure and number of political parties that suggests it should have any bearing on political thought? Indeed, critics may view electoral supply as too distant or too remote a factor within the broader political context to have such a notable influence on individual-level cognition. In addition to being distal, electoral supply is only one aspect of political culture. On the whole, political culture generally refers to a nation's political traditions, stereotypes, mood, ideological goals, institutions, conceptualizations of citizenry, tone of political exchanges, and both formal and informal rules of the political game (Dawson and Prewitt 1969). I have tried to make the case that parties and the interplay between them form the very foundation of political knowledge (Hess and Torney 1967; Dawson and Prewitt 1969). Over time, individuals become familiar with the partisan dynamics that surround them and come to generalize their prior political experiences. Thus my theory views electoral supply as a prominent and enduring force in politics, providing a lifelong partisan schema. Still, the theoretical jump from context to cognition is a limitation in this study simply for the fact that this relationship cannot be directly observed (as many political scientists would prefer). Without the use of fMRI technology directly linking contextual factors to neurological changes my claim is

just a theory. This theory also rests on the assumption that cognitive patterns are the result of a long line of reinforcement with one's electoral context, again a process which cannot be observed within the present study.

Still, it is difficult to deny the role of political culture in shaping cognitive associations and even more difficult to ignore its existence within the empirics I have presented. But let me raise a counterpoint to those who argue for the inclusion of additional cultural factors within my models. Identifying only one contextual variable of interest makes this dissertation feasible and straightforward. That is to say, modeling relationships within the social sciences requires one to condense their representation of the world into a manageable set of variables. The world is complex but empirical inquiry, at times, necessitates parsimony.

Another potential limitation of this dissertation is that I cannot fully control for context and for time (history). Given that partisan dynamics have become increasingly polarized both within the United States (Hetherington 2001; Hetherington and Weiler 2009) and within many other Western countries (Powell 2009), some would argue that any variation observed in information processing, partisan attachment, and participation might be due to ideological divergence and not the direct effect of ENP. Theoretically, however, polarization does not rest outside of partisan dynamics. Rather, polarization in itself is one aspect of party systems and thus, should be reflected in the ENP variable. This is especially true if we consider that the ENP calculation methods I used (from Laakso and Taagepera 1979) essentially down weights parties who do not receive a large portion of the vote share. This is why we observe some U.S. Congressional districts with only one effective party. Those political attitudes and behaviors that I measure within this dissertation may indeed be driven by today's hyperpolarized political climate, but polarization is nonetheless a part of what shapes one's electoral options.

One might also consider the cross-sectional design of this study to be a limitation. Methodologically, it might be more useful to gather longitudinal evidence which parses out historical confounds like increased polarization or decreases in public mood. Yet, it should not be necessary to go to such lengths since a large portion of my argument rests on political socialization and reinforcement. I claim that individuals become used to thinking about politics in a certain way over time because electoral choices by and large remain the same election after election. The number of viable electoral options should not vary extremely over time[36], though the degree of contention or competition (e.g., polarization) between parties may indeed fluctuate. As a result of familiarity with one's partisan context over the lifespan, I am afforded the ability to investigate whether individuals who are more deeply embedded in their party system (i.e., older individuals and political sophisticates) exhibit significant cognitive differences from those individuals who are less embedded in their party system. In this sense, while I do not have longitudinal data to fall back on I can account for some of the effects of time.

Because the United States, as a whole, is classified as a two-party system (Ware 1996), I sought to exploit district-level variation in electoral supply and to connect this contextual difference to variation in my dependent variables. Still, one may take issue with the fact that levels of electoral supply do not deviate considerably from one another across U.S. Congressional districts. It could also be argued that *national*, rather than district-level, contexts should be most important for structuring the associative network. Indeed, people generally do seem to be more attentive to national politics (e.g., Presidential elections, what is happening on Capitol Hill) rather than local politics (e.g., how did my Congress member vote on a certain

[36] Party systems do seem to remain relatively stable over time, however, most of this research comes from the comparative context and is at the country-level (see Taylor and Herman 1971). I do not have data to confirm that ENP indeed remains stable across U.S. Congressional districts over time.

bill?). In all, this study is not perfect. It is important to note, though, that an empirical analysis of the relationship between parties and the organization of concepts within long-term memory has shamefully been overlooked in the extant literature. Therefore, the theory and initial findings outlined in this dissertation, exploratory as they may be, should outweigh these weaknesses.

7.2 Future Directions

Because of these limitations, it should prove fruitful to move beyond the American context. By providing cross-country variation as well as within-country variation (i.e., across Congressional districts, Parliamentary constituencies, etc.) the overall effect of partisan dynamics on political cognition should become more clear. Considering additional countries, such as Canada, India, or Mexico, would certainly address the abovementioned concerns about a lack of range or variance among ENP values. Still, comparative analyses generate problems all their own. Issues regarding endogeneity arise when comparing party systems and political cognition cross-nationally, given that there are a plethora of observed (as well as unobserved) cultural factors which may be responsible for structuring party-related information. Still, it is a worthwhile venture to take this collection of studies and apply them to other countries. The results, I suspect, might raise more questions than answers, thus spawning new avenues of research.

Prospective studies could also ameliorate concerns about the online format of the studies, the representativeness (or lack thereof) of the samples, and the potential invalidity of the graded structure measures by conducting an in-person study with implicit, rather than explicit, measures of party perceptions. Through collaboration with other researchers, multiple experimental laboratory centers could be set up throughout the United States or throughout other countries.

This would provide for the recruitment of a more representative sample than the ones collected here. Participants would then complete an evaluative priming task (see Fazio, Jackson, Dunton, and Williams 1995) within the laboratory. To some degree a controlled laboratory setting fixes the problem of participants not being focused, as I suspect is true within an online study. Asking participants to complete implicit, rather than explicit, measures of party-related concepts should address the problem of graded structure questions not relating well to political stimuli and not accurately reflecting the 'architecture' of long-term memory. Unlike explicit measures, implicit measures are useful because they get around response bias by forcing participants to respond to stimuli which are below their cognitive threshold. Implicit responses and reaction times to these measures are thus a promising path for this field of research.

7.3 Concluding Thoughts

The empirical findings in this dissertation, as inconclusive as they are, are not nearly as important as the theoretical assertions I have made. To argue that one's contextual environment shapes the very structure and organization of concepts within memory is a bit of a reach for traditional political scientists (particularly those who emphasize more proximate influences on political behavior). Yet going back to Locke's notion of *tabula rasa*, we might ask ourselves where but one's environment should this organization come from? This basic idea, that context matters for shaping attitudes and behaviors, has long thrived in psychology. The 'context principle', as it is known in this field, has resonated with the psychological community and can be seen in the work of scholars like Wilhelm Wundt, John Dewey, Egon Brunswick, and more recently Walter Mischel and Jerome Bruner (Mesquita, Barrett, and Smith 2010). Yet it was perhaps Kurt Lewin, largely regarded as the founder of social psychology, whose work most

clearly identified the context principle. Lewin argued that behavior is the function of a person *and* his environment (or B= *f* (P, E) (2010). While the context principle has deep roots in psychology, its applicability to mainstream political science is just now beginning to flourish. In a stimulating piece by Anderson and Dalton (2009), the idea that individual voters are at all times 'nested' within a particular electoral environment is put forth. While these authors primarily focus on the way in which institutional rules (e.g., proportional representation, effective number of parties) shape electoral behavior across countries, they do make a point to say that political context influences voter's thinking as well. Anderson and Dalton expand this sentiment by stating that any research which investigates contextual effects must first consider *how* the contextual variable operates and second, what type of *psychological effect* it has on voters (2009). This dissertation aimed to do just that. While I was unsuccessful in articulating a cohesive pattern of results, it is encouraging to see that mainstream political scientists (and indeed, comparative political behaviorists!) are taking up this line of inquiry.

A potentially interesting, though further complication of the theoretical model presented here, is the idea of situated concepts. Lawrence Barsalou, who originally pioneered the literature on graded structure, has recently published a series of papers on situated concepts. The idea is analogous to contextual priming in that it argues that background situations or contexts frame a stimulus and frame our recall of semantic memory (Yeh and Barsolou 2006). Whereas most models of graded structure (including Barsalou's own previous work) have viewed semantic memory as decontextualized (Barsalou 2005), the notion of situated concepts argues that situational factors influence cognitive tasks. Prior research assumes that semantic memory is completely modular and that the same exemplars relating to the Republican Party will be recalled across a variety of contexts. We can, however, imagine (similar to Fiorina's running tally) that

recent transgressions by the Republican Party may dampen the recall of some exemplars while heightening the recall of others. This is the very essence of contextual priming (see Kay, Wheeler, Bargh, and Ross 2004).

Situated concepts present a challenge to the theory presented here because this theory essentially adds another layer on to an already dense model. My argument is that enduring contextual factors, like the amount of political choice one has grown accustomed to, structure the associative organization of party-related concepts. To say that recall of this organization can then be modified by current contextual factors is almost certainly true, though it complicates matters and may in fact introduce tautological reasoning. Nevertheless, that scholars are beginning to understand and model systematic relationships between political cognition and contextual factors, both before and after cognitive patterns have been established, is promising.

I stated in the introductory chapter that it is because human behavior is so complex that social scientists still find employment, that all of life's mysteries regarding human behavior have yet to be solved. The totality of my results have indeed confirmed this sentiment. What is more, the studies conducted throughout this dissertation have raised more questions than they have answered. What do measures of graded structure really tell us? Might there be additional, discrete contextual factors or aspects of political culture which interact with electoral supply to influence cognition? How might the situated nature of party knowledge alter the habituation and reinforcement processes? In looking back on my theoretical model and what evidence I found (or did not find) to support it, the words of Karl Popper ring loud and true, "No book can ever be finished. While working on it we learn just enough to find it immature the moment we turn away from it."

Bibliography

Abbott, L.F., and Sacha B. Nelson. 2000. "Synaptic Plasticity: Taming the Beast." *Nature Neuroscience* 3(supplement): 1178–1183.

Ackerman, Philip L. 2013. "Personality and Cognition." In *Cognition and Motivation: Forging an Interdisciplinary Perspective,* ed. Shulamith Kreitler, 62-75. Cambridge, UK: Cambridge University Press.

Adoni, Hanna. 1979. "The Functions of Mass Media in the Political Socialization of Adolescents." *Communication Research* 6(1): 84-106.

Aldrich, John H. 1995. *Why Parties? The Origin and Transformation of Political Parties in America.* Chicago: University of Chicago Press.

Alvarez, Michael R., and John Brehm. 2002. *Hard Choices, Easy Answers: Values, Information, and American Public Opinion.* Princeton: Princeton University Press.

Amorim Neto, Octavio, and Gary Cox. 1997. "Electoral Institutions, Cleavage Structure, and the Number of parties." *American Journal of Political Science* 41: 149-174.

Anderson, Christopher J., and Russell J. Dalton. 2009. "Nested Voters: Citizen Choices Embedded in Political Contexts." In Russell J. Dalton and Christopher J. Anderson (Eds.) *Citizens, Context, and Choice.* Oxford: Oxford University Press.

Anderson, John R. 1996. *The Architecture of Cognition*. Mahwah, NJ: Lawrence Erlbaum Associates Inc.

Ansolabehere, Stephen, Shanto Iyengar, Adam Simon, and Nicholas Valentino. 1994. "Does Attack Advertising Demobilize the Electorate?" *American Political Science Review* 88(4): 829-838.

Barber, Jessica M. 2014. "Dalí by Design: Fashioning the Surreal, 1923-1983" New York: Fashion Institute of Technology.

Bargh, John A. 1999. The Cognitive Monster: The Case Against the Controllability of Automatic Stereotype Effects. In Shelly Chaiken and Yaacov Trope (Eds.) *Dual-Process Theories in Social Psychology*. New York: Guilford Press.

Barsalou, Lawrence C. 1985. "Ideas, Central Tendency, and Frequency Instantiation as Determinants of Graded Structure in Categories." *Journal of Experimental Psychology: Learning, Memory, and Cognition* 11(4): 629-654.

Barsalou, Lawrence C. 1987. "The Instability of Graded Structure: Implications for the Nature of Concepts." In *Concepts and Conceptual Development: Ecological and Intellectual Factors in Categorization*, ed. Ulrich Neisser, 101-140. Cambridge, UK: Cambridge University Press.

Barsalou, Lawrence W. 2005. "Situated Conceptualization." In *Handbook of Categorization in Cognitive Science*, eds. Henri Cohen & Clair Lefebvre, 619–650. Mahwah, NJ: Elsevier.

Basinger, Scott J., and Howard Lavine. 2005. "Ambivalence, Information, and Electoral Choice." *American Political Science Review* 99(2):169–84.

Best, Robin E., and Michael D. McDonald. 2009. "The Role of Party Policy Positions in the Operation of Democracy." In Russell J. Dalton and Christopher J. Anderson (Eds.) *Citizens, Context, and Choice.* Oxford: Oxford University Press.

Bliss, Timothy V.P., and Graham L. Collingridge. 1993. "A Synaptic Model of Memory: Long-term Potentiation in the Hippocampus." *Nature* 361: 31-39.

Bonneau, Chris W., and Melinda Gann Hall. 2003. "Predicting Challengers in State Supreme Court Elections: Context and the Politics of Institutional Design." *Political Research Quarterly* 56(3): 337-349.

Bonsor, Kevin, and Nathan Chandler. 2001. "How Black Boxes Work". June 13. http://science.howstuffworks.com/transport/flight/modern/black-box.htm (May 08 2014).

Branan, Nicole. 2010. "Wired for Categorization." *Scientific American Mind* 20(7): 11.

Budner, Stanley. 1962. "Intolerance of Ambiguity as a Personality Variable." *Journal of Personality* 30: 29-59.

Buhrmester, Michael, Tracy Kwang, and Samuel D. Gosling. 2011. "Amazon's Mechanical Turk: A New Source of Inexpensive, Yet High-Quality, Data?" *Perspectives on Psychological Science* 6(1): 3-5.

Cain, Bruce, Jack Citrin, and Cara Wong. 2000. *Ethnic Context, Race Relations, and California Politics.* San Francisco, CA: Public Policy Institute of California.

Cacioppo, John T., and Richard E. Petty. 1982. "The Need for Cognition." *Journal of Personality and Social Psychology* 42(1): 116-131.

Cacioppo, John T., Richard E. Petty, and Katherine J. Morris. 1983. "Effects of Need for Cognition on Message Evaluation, Recall, and Persuasion." *Journal of Personality and Social Psychology* 45(4): 805-818.

Campbell, Angus, Philip E. Converse, Warren E. Miller, and Donald E. Stokes. 1960. *The American Voter*. New York: John Wiley & Sons.

Chaiken, Shelly. 1980. "Heuristic Versus Systematic Information Processing and the Use of Source Versus Message Cues in Persuasion." *Journal of Personality and Social Psychology* 39(5): 752-766.

Collins, Allan M., and Elizabeth F. Loftus. 1975. **"**A Spreading Activation Theory of Semantic Processing." *Psychological Review* 82: 407-428.

Cusack, Thomas, Torben Iversen, and David Soskice. 2007. "Economic Interests and the Origins of Electoral Systems." *American Political Science Review* 101(3): 373-391.

Dalton, Russell J., and Steven Weldon. 2007. "Partisanship and Party System Institutionalization." *Party Politics* 13(2): 179-196.

Davis, James A. 1985. *The Logic of Causal Order*. Newbury Park, CA: Sage Publications.

Dawson, Richard E., and Kenneth Prewitt. 1969. *Political Socialization*. Boston, MA: Little Brown and Company.

De Deyne, Simon, Steve Verheyen, Eef Ameel, Wolf Vanpaemel, Matthew J. Dry, Wouter Voorspoels, and Gert Storms. 2008. "Exemplar by Feature Applicability Matrices and Other Dutch Normative Data for Semantic Concepts." *Behavior Research Methods* 40(4): 1030–1048.

de Zavala, Golec Agnieszka, and Agnieszka van Bergh. 2007. "Need for Cognitive Closure and Conservative Political Beliefs: Differential Mediation by Personal Worldviews." *Political Psychology* 28(5): 587-609

Devine, Patricia G. 1989. "Stereotypes and Prejudice: Their Automatic and Controlled Components." *Journal of Personality and Social Psychology* 56(1): 5-18.

Donovan, Todd, Caroline J. Tolbert, and Daniel A. Smith. 2009. "Political Engagement, Mobilization, and Direct Democracy." *Public Opinion Quarterly* 73(1): 98-118.

Dovido, John F., Kerry Kawakami, and Samuel L. Gaertner. 2002. "Implicit and Explicit Prejudice and Interracial Interaction." *Journal of Personality and Social Psychology* 82(1): 62-68.

Dow, Jay K. 2001. "A Comparative Spatial Analysis of Majoritarian and Proportional Elections." *Electoral Studies* 20(1): 109-125.

Downs, Anthony. 1957. *An Economic Theory of Democracy*. New York: Harper Collins.

Drummond, Andrew. 2006. "The Impact of Party Affect on Voter Sincerity in Open and Closed Electoral Systems." Center for the Study of Democracy, Paper 06-09. Irvine, CA: University of California at Irvine.

Duffy, Sean, and L. Elizabeth Crawford. 2008. "Primacy or Recency Effects in Forming Inductive Categories." *Memory and Cognition* 36(3): 567-577.

Dumont, Patrick and Jean-Francois Caulier. 2003. "The Effective Number of Relevant Parties: How Voting Power Improves Laakso-Taagepera's Index." Working paper. Brussels: Center for Research in Economics (CEREC), Facultes Universitaires Saint-Louis.

Duverger, Maurice. 1954. *Political Parties: Their Organization and Activity in the Modern State.* New York: John Wiley.

Ehman, Lee. H. 1980. "The American School in the Political Socialization Process." *Review of Educational Research* 50(1): 99-119.

Farrell, David M., and Ian McAllister. 2006. "Voter Satisfaction and Electoral Systems: Does Preferential Voting in Candidate-centred Systems Make a Difference?" *European Journal of Political Research* 45: 723-749.

Fazio, Russell H., Joni R. Jackson, Bridget C. Dunton, and Carol J. Williams. 1995. "Variability in Automatic Activation as an Unobtrusive Measure of Racial Attitudes: A Bona Fide Pipeline?" *Journal of Personality and Social Psychology*, 69(6): 1013-1027.

Fazio, Russell H., and Michael A. Olson. 2003. **"**Implicit Measures in Social Cognition Research: Their Meaning and Uses." *Annual Review of Psychology* 54: 297–327.

Fiorina, Morris P. 1981. *Retrospective Voting in American National Elections*. New Haven, CT: Yale University Press.

Ford, Nigel, T.D. Wilson, Allen Foster, David Ellis, Amanda Spink. 2002. "Information Seeking and Mediated Searching. Part 4. Cognitive Styles in Information Seeking." *Journal of the American Society for Information Science and Technology* 53(9): 728–735.

Frenkel-Brunswik, Else. 1948. "Tolerance Toward Ambiguity as a Personality Variable." *American Psychologist* 3: 268.

Gallagher, Michael. 1991. "Proportionality, Disproportionality, and Electoral Systems." *Electoral Studies* 10(1): 33-51.

Gardner, Howard E. 1985. *The Mind's New Science: A History of the Cognitive Revolution.* New York: Basic Books.

Garson, David. 2008. "Path Analysis." No date. http://lmr.zozlak.org/Wnioskowanie%20Statystyczne/09_ZastosowaniaPrzyklady/Garson_2008_PathAnalysis.pdf (May 25 2014)

Groves, Philip M., and Richard F. Thompson. 1970. "Habituation: A Dual-Process Theory." *Psychological Review* 77(5): 419-450.

Grumm, John G. 1958. "Theories of Electoral Systems." *Midwest Journal of Political Science* 2(4): 357-376.

Gauthier, Alex. 2013. "Independents Exceed Party Registration in Key States." June 18. http://ivn.us/2013/06/18/independents-exceed-party-registration-in-5-states/ (May 16 2014).

Haidt, Jonathon. 2006. *The Happiness Hypothesis: Finding Modern Truth in Ancient Wisdom.* New York: Basic Books.

Harnad, Steven. 2005. “To Cognize is to Categorize: Cognition is Categorization.” In Henri Cohen and Claire Lefebvre (Eds.) *Handbook of Categorization in Cognitive Science*. Mahwah, NJ: Elsevier.

Hebb, Donald O. 1949. *The Organization of Behavior: A Neuropsychological Theory*. New York: John Wiley &Sons.

Hess, Robert D., and Judith V. Torney. 1967. *The Development of Political Attitudes in Children.* Chicago, IL: Aldine Publishing Company.

Hetherington, Marc J. 2001. “Resurgent Mass Partisanship: The Role of Elite Polarization.” *American Political Science Review* 95(3): 619-631.

Hetherington, Marc J., and Jonathan D. Weiler. 2009. *Authoritarianism and Polarization in American Politics*. Cambridge: Cambridge University Press.

Hosp, Gerald. 2004. “Express Yourself! Political Participation Rights and the Demand for Censorship.” Available at SSRN: http://ssrn.com/abstract=591029

Huang, Li-Ning, and Vincent Price. 2001. “Motivations, Goals, Information Search, and Memory about Political Candidates.” *Political Psychology* 22(4): 665-692.

Huckfeldt, Robert. 1986. *Politics in Context: Assimilation and Conflict in Urban Neighborhoods.* New York: Agathon Press.

Imai, Kosuke, Luke Keele, Dustin Tingley, and Teppei Yamamoto. 2011. “Unpacking the Black Box: Learning About Causal Mechanisms from Experimental and Observational Studies.” *American Political Science Review* 105(4): 765-789.

Jackman, Robert W. 1987. “Political Institutions and Voter Turnout in the Industrial Democracies.” *American Political Science Review* 81(2): 405-423.

Jacobson, Gary. 1978. “The Effects of Campaign Spending in Congressional Elections.” *American Political Science Review* 72(2): 469-491.

Jelen, Ted G., and Clyde Wilcox. 1998. “Context and Conscience: The Catholic Church as an Agent of Political Socialization in Western Europe.” *Journal for the Scientific Study of Religion* 37(1): 28-40.

Jennings, M. Kent, and Richard G. Niemi. 1968. “The Transmission of Political Values from Parent to Child.” *American Political Science Review* 62: 169-184.

Johns, Gary. 2006. “The Essential Impact of Context on Organization Behavior.” *Academy of Management Review* 31(2): 386-408.

Joiner, Christopher. 2007. “Brands as Categories: Graded Structure and Its Determinants.” *Advances in Consumer Research* 34: 500-506.

Jost, John T., Jack Glaser, Arie W. Kruglanski, and Frank Sulloway. 2003. “Political Conservatism as Motivated Social Cognition.” *Psychological Bulletin* 129(3): 339-375.

Kay, Aaron C., S. Christian Wheeler, John A. Bargh, and Lee Ross. 2004. “Material Priming: The Influence of Mundane Physical Objects on Situational Construal and Competitive Behavioral Choice.” *Organizational Behavior and Human Decision Processes* 95: 83–96.

Kayden, Xandra, and Eddie Mahe. 1985. *The Party Goes On: The Persistence of the Two-Party System in the United States.* New York: Basic Books.

Kerschreiter, Rudolf, Stefan Schulz-Hardt, Andreas Mojzisch, and Dieter Frey. 2008. “Biased Information Search in Homogeneous Groups: Confidence as a Moderator for the Effect of Anticipated Task Requirements.” *Personality and Social Psychology Bulletin* 34(5): 679-691.

Kittilson, Miki, and Christopher J. Anderson. 2009. Electoral Supply and Voter Engagement. In

Russell J. Dalton and Christopher J. Anderson (Eds.) *Citizens, Context, and Choice.* Oxford: Oxford University Press.

Laakso, Markku, and Rein Taagepera. 1979. "Effective Number of Parties: A Measure with Application to West Europe." Comparative Political Studies 12:3-27.

Laukka, Petri, Nicolas Audibert, and Véronique Aubergé. 2012. "Exploring the Determinants of the Graded Structure of Vocal Emotion Expressions." *Cognition and Emotion* 26(4): 710-719.

Lavine, Howard. 2001. "The Electoral Consequences of Ambivalence Towards the Presidential Candidates." *American Journal of Political Science* 45(4): 915-929.

Lavine, Howard. 2004. "Attitude Ambivalence in the Realm of Politics." In Geoffrey Haddock and Gregory R. Maio *Contemporary Perspectives on the Psychology of Attitudes*. New York: Psychology Press.

Lavine, Howard, Christopher D. Johnston, and Marco Steenbergen. 2012. *The Ambivalent Partisan: How Critical Loyalty Promotes Democracy*. Oxford: Oxford University Press.

Lewis-Beck, Michael S., William G. Jacoby, Helmut Norpoth, and Herbert F. Weisberg. 2008. *The American Voter Revisited*. Ann Arbor, MI: University of Michigan Press.

Lijphart, Arend. 1990. "The Political Consequences of Electoral Laws, 1945-1985." *American Political Science Review* 84(2): 481-496.

Lipset, Seymour M., and Stein Rokkan. 1967. *Party Systems and Voter Alignments: Cross-National Perspectives.* New York: Free Press.

Lodge, Milton, and Ruth Hamill. 1986. "A Partisan Schema for Political Information Processing." *American Political Science Review* 80(2): 505-520.

Lodge, Milton, and Charles S. Taber. 2005. “The Primacy of Affect for Political Candidates, Groups, and Issues: An Experimental Test of the Hot Cognition Hypothesis.” *Political Psychology* 26(3): 333-487.

Lowry, William R. and Charles R. Shipan. 2002. “Party Differentiation in Congress.” *Legislative Studies Quarterly* 27: 33–60.

Madison, James. 1787. Federalist No. 10: "The Same Subject Continued: The Union as a Safeguard Against Domestic Faction and Insurrection." *New York Daily Advertiser*.

Malenka, Robert C., and Robert A. Nicoll. 1999. “Long-term Potentiation: A Decade of Progress?” *Science* 285 (5435): 1870-1874

Medin, Douglas L., and Paula J. Schwanenflugel. 1981. “Linear Separability in Classification Learning.” *Journal of Experimental Psychology: Human Learning and Memory* 7(5): 355-368.

Merolla, Jennifer L., Laura B. Stephenson, and Elizabeth Zechmeister. 2005. “Have Cue, Will Travel? Political Parties as Heuristics in Three Countries.” Presented at the Annual Meeting of the American Political Science Association.

Mesquita, Batja, Lisa Feldman Barrett, and Eliot R. Smith. 2010. *The Mind in Context*. New York. Guilford Press.

Montero, José R. 1998. “Stabilising the Democratic Order: Electoral Behaviour in Spain.” *West European Politics* 21(4): 53-79.

Nabi, Robin L. 2003. “Exploring the Framing Effects of Emotion: Do Discrete Emotions Differentially Influence Information Accessibility, Information Seeking, and Policy Preference?” *Communication Research* 30(2): 224-247.

Naoi, Megumi, and Ellis Krauss 2007. "Who Lobbies Whom? Special Interest Politics Under Alternative Electoral Systems." *American Journal of Political Science* 53(4): 874-892.

Newman, Benjamin J. 2013. "Acculturating Contexts and Anglo Opposition to Immigration in the U.S." *American Journal of Political Science* 57(2): 374-390.

Newman, Benjamin J., Todd K. Hartman, and Charles S. Taber. 2012. "Foreign Language Exposure, Cultural Threat, and Opposition to Immigration." *Political Psychology* 33(5): 635-657.

Newman, Benjamin J. and Joshua Johnson. 2012."Ethnic Change, Concern over Immigration, and Approval of State Government." *State Politics and Policy Quarterly* 12(4): 415-437.

Newman, Benjamin J., Christopher D. Johnston, April A. Strickland, and Jack Citrin. 2012. "Immigration Crackdown in the American Workplace: Explaining Variation in E-Verify Policy Adoption across the U.S. States." *State Politics and Policy Quarterly* 12(2): 160-180.

Niemi, Richard G., and Mary A. Hepburn. 1995. "The Rebirth of Political Socialization." *Perspectives on Political Science*, 24(1): 7-17.

Packard, Vance. 1984. *The Hidden Persuaders*. Brooklyn, NY: Pocket Books.

Paolacci, Gabriele, Jesse Chandler, and Panagiotis G. Ipeirotis. 2010. "Running Experiments on Amazon Mechanical Turk." *Judgment and Decision Making* 5(5): 411-419.

Payne, B. Keith. 2001. "Prejudice and Perception: The Role of Automatic and Controlled Processes in Misperceiving a Weapon." *Journal of Personality and Social Psychology* 81(2):181-192.

Park Chung-Hoon, and Young-Gul Kim. 2003. “Identifying Key Factors Affecting Consumer Purchase Behavior in an Online Shopping Context.” *International Journal of Retail & Distribution Management* 31(1): 16-29.

Pew Research Center. 2013. “Tea Party’s Image Turns More Negative.” October 16. http://www.people-press.org/2013/10/16/tea-partys-image-turns-more-negative/ (May 13 2014).

Powell, G. Bingham. 2009. “Voter Diversity, Ideological Trends, and Changing Party System Polarization in Western Democracies: Implications for Ideological Congruence.” Presented at the 2009 American Political Science Association Annual Conference. Toronto, Canada.

Rae, Douglas W. 1971. *The Political Consequences of Electoral Laws* (Revised Ed.). New Haven, CT: Yale University Press.

Rahn, Wendy M. 1993. “The Role of Partisan Stereotypes in Information Processing about Political Candidates.” *American Journal of Political Science* 37(2): 472-496.

Rand, David G. 2012. “The Promise of Mechanical Turk: How Online Labor Markets Can Help Theorists Run Behavioral Experiments.” *Journal of Theoretical Biology* 299: 172-179.

Redlawsk, David P. and Richard R. Lau. 2009. “Understanding Individual Decision Making using Process Tracing.” Paper presented at the General Conference of the European Consortium for Political Research, Potsdam, Germany.

Riker, William H. 1982. "The Two-Party System and Duverger's Law: An Essay on the History of Political Science." *American Political Science Review* 76: 753-66.

Riker, William H., and Peter C. Ordeshook. 1968. “A Theory of the Calculus of Voting.” *American Political Science Review* 62(1): 25-42.

Rosch, Eleanor. 1978. “Principles of Categorization”. In Eleanor Rosch and Barbara L. Lloyd (Eds.) *Cognition and Categorization*. Hillsdale, NJ: Lawrence Erlbaum Associates Inc.

Rudolph, Thomas J., and Elizabeth Popp. 2007. “An Information Processing Theory of Ambivalence.” *Political Psychology* 28(5): 563-585.

Sartori, Giovanni. 1968. “Political Development and Political Engineering.” In John D. Montgomery and Albert O. Hirschman (Eds.) *Public Policy, Vol. XVII*. Cambridge, MA: Harvard University Press.

Schank, Roger C., and Robert P. Abelson. 1977. *Scripts, Plans, Goals, and Understanding: An Inquiry into Human Knowledge Structures*. Hillsdale, NJ: Erlbaum Associates Inc.

Schattschneider, Elmer E. 1942. *Party Government*. New York: Rinehart.

Schlesinger, Joseph A. 1984. “On the Theory of Party Organization.” *Journal of Politics* 46: 369-400.

Schwartz, Thomas. 1986. *The Logic of Collective Choice*. New York: Columbia University Press.

Sears, David O. 1975. “Political Socialization.” In *Handbook of Political Science*, vol. 2, eds. Fred I. Greenstein and Nelson W. Polsby. Reading, MA: Addison-Wesley.

Soubelet, Andrea, and Timothy A. Salthouse. 2011. “Personality–Cognition Relations Across Adulthood.” *Developmental Psychology* 47(2): 303-310.

Staddon, John Eric Rayner. 1973. “On the Notion of Cause, with Applications to Behaviorism.” *Behaviorism* 1(2): 25-63.

Stein, Johan. 1997. “How Institutions Learn: A Socio-Cognitive Perspective.” *Journal of Economic Issues* 31(3): 729-740.

Sullivan, Sean. 2013. “The States with the Highest and Lowest Turnout in 2012, in 2 Charts.” March 12. http://www.washingtonpost.com/blogs/the-fix/wp/2013/03/12/the-states-with-the-highest-and-lowest-turnout-in-2012-in-2-charts/ (May 16, 2014).

Taber, Charles S., and Milton Lodge. 2006. “Motivated Skepticism in the Evaluation of Political Beliefs.” *American Journal of Political Science* 50(3): 755-769.

Tajfel, Henri, and John C. Turner. 1979. “An Integrative Theory of intergroup Conflict.” In *The Social Psychology of Intergroup Relations*, eds. William G. Austin and Stephen Worchel, 33-47. Monterey, CA: Brooks-Cole.

Taylor, Michael, and V. M. Herman. 1971. “Party Systems and Government Stability.” *American Political Science Review* 65(1): 28-37.

Tedin, Kent L. 1974. “The Influence of Parents on the Political Attitudes of Adolescents.” *American Political Science Review* 68(4): 1579-1592.

Teyler, Timothy J., and P. DiScenna. 1987. “Long-term Potentiation.” *Annual Review of Neuroscience* 10: 131-161.

Trevino, Linda Klebe, and Bart Victor. 1992. “Peer Reporting of Unethical Behavior: A Social-Context Perspective.” *Academy of Management Journal* 35(1): 38-64.

Van Dijk, Teun A. 2002. “Political Discourse and Political Cognition.” In *Politics as Text and Talk. Analytical Approaches to Political Discourse*, eds. Paul A. Chilton and Christina Schäffner, 204-236. Amsterdam, Netherlands: John Benjamins Publishing Company.

Ware, Alan. 1996. *Political Parties and Party Systems.* Oxford, UK: Oxford University Press.

Washington, Ebonya. 2006. “How Black Candidates Affect Voter Turnout.” *Quarterly Journal of Economics* 121(3): 973-998.

Wasserman, Stanley, and Katherine Faust. 1994. *Social Network Analysis: Methods and Application*. New York: Cambridge University Press.

Webster, Donna M., and Arie W. Kruglanski. 1994. "Individual Differences in Need for Cognitive Closure." *Journal of Personality and Social Psychology* 67(4): 1049-1062.

Yeh, Wenchi, and Lawrence W. Barsalou. 2006. "The Situated Nature of Concepts." *American Journal of Psychology* 119(3): 349-384.

Zadeh, Lotfi. A. 1998. "Some Reflections on Soft Computing, Granular Computing and Their Roles in the Conception, Design and Utilization of Information/Intelligent systems." *Soft Computing* 2: 23-25.

Zaller, John. 1992. *The Nature and Origins of Mass Opinion.* Cambridge, UK: Cambridge University Press.

Appendices

Appendix A: List of Exemplars in Graded Structure Trials

Political Figures	*Traits*	*Traits (Con't)*
Barack Obama	Intense	Educated
Abraham Lincoln	Hard-working	Confident
Ronald Reagan	Principled	Traditional
Mitt Romney	Malicious	Shy
Harry Reid	Arrogant	Jovial
Rick Perry	Racism	Family-oriented
Newt Gingrich	Clever	Religious
Ted Kennedy	Defiant	Irrational
Chris Christie	Cheerful	Reckless
Ron Paul	Dull	Individualistic
Colin Powell	Indecisive	Rational
Ralph Nader	Frugal	Open-minded
John McCain	Antiquated	Nationalistic
Nancy Pelosi	Enthusiastic	Modern
Richard Nixon	Inventive	Happy-go-lucky
Sarah Palin	Credible	Militaristic
George W. Bush	Deceptive	Spineless
Franklin Delano Roosevelt	Dishonest	Stubborn
Bill Clinton	Rebellious	Trustful
Lyndon B. Johnson	Proud	Punctual
Al Gore	Threatening	Masculine
Hillary Clinton	Progressive	Materialistic
Woodrow Wilson	Self-centered	Powerful
Barry Goldwater	Disillusioned	Lavish
George H.W. Bush	Persistent	Scholarly

Bob Dole	Uncompromising	Agreeable
John Boehner	Eager	Cultured
Jeb Bush	Friendly	Career-oriented
Jimmy Carter	Thoughtful	Cynical
John Kerry	Hesitant	Unproductive
Olympia Snow	Wasteful	Pessimistic
Tom Daschle	Assertive	Curious
John F. Kennedy	Egalitarian	Glamorous
Eric Cantor	Self-reliant	Socialist
Dick Cheney	Self-serving	Apathetic
	Bold	Cooperative
	Lazy	Crude
	Aggressive	Calculating
	Loyal	Fearful
	Responsible	Knowledgeable
	Ruthless	Accepting
	Feminine	Rigid
	Old-fashioned	Eager
	Weak	

Issues	***Groups***	***Groups(Con't)***
Pro-renewable energy	Spanish-speakers	Criminals
Pro-religious freedom	Southerners	Taxi drivers
Pro-same sex marriage	The unemployed	South Asians/Indians
Anti-social welfare	Priests	Authority figures
Pro-nationalism	Scientists	Christians
Pro-education spending	The privileged	Racists
Anti-war	African-Americans	Nerds

Anti-public spending	Motorcyclists	Communists
Anti-capitalism	Minorities	Rural people
Anti-corruption	Capitalists	The lower-class
Anti-taxation	Environmentalists	Economists
Anti-criminal punishment	The apathetic	Social workers
Pro-choice	The wealthy	Males
Anti-science	Activists	Radicals
Pro-foreign aid	The working-class	Terrorists
Pro-atheism	Foreign-born people	Jewish people
Anti-welfare	Catholics	Professors
Pro-medicinal marijuana	Females	Homosexuals
Pro-minorities	The educated	Atheists
Pro-affirmative action	Doctors	Vegetarians
Anti-education spending	Union workers	Church-goers
Pro-taxation	Asians	Hispanics
Anti-unions	City dwellers	Northerners
Anti-gun control	Athletes	The middle-class
Pro-gun control	Gun owners	Muslims
Pro-life	Liberals	Lesbians
Pro-immigration	Marijuana smokers	Business executives
Pro-social welfare	Heterosexuals	Farmers
Anti-affirmative action	Nurses	Midwesterners
Anti-big government	Veterans	
Pro-privatization	Young people	
Anti-same sex marriage	The poor	

Appendix B: DPTE Information Pieces

Box Label	*Information within Box*
Candidate A- Issue Stance 1	Candidate A supports immigration
Candidate A- Issue Stance 2	Candidate A is anti-affirmative action
Candidate A- Issue Stance 3	Candidate A is against same sex marriage
Candidate A- Issue Stance 4	Candidate A is for increasing social welfare spending
Candidate A- Issue Stance 5	Candidate A is against privatizing public corporations
Candidate A- Group Affiliation 1	Candidate A is popular with church-goers
Candidate A- Group Affiliation 2	Candidate A is supported primarily by minorities
Candidate A- Group Affiliation 3	Candidate A is not well-liked by business executives
Candidate A- Group Affiliation 4	Candidate A is supported by the middle-class
Candidate A- Group Affiliation 5	Candidate A is not well-liked by many women's groups
Candidate A- Trait 1	Candidate A is very family-oriented
Candidate A- Trait 2	Candidate A has been described as being open-minded
Candidate A- Trait 3	Candidate A tends to hold capitalist values
Candidate A- Trait 4	Candidate A has a shy personality
Candidate A- Trait 5	Candidate A is often described as cooperative and easy-going
Candidate B- Issue Stance 1	Candidate B is against big government
Candidate B- Issue Stance 2	Candidate B is against taxation
Candidate B- Issue Stance 3	Candidate B is pro-war and military intervention
Candidate B- Issue Stance 4	Candidate B supports prayer in public schools
Candidate B- Issue Stance 5	Candidate B is pro-gun control
Candidate B- Group Affiliation 1	Candidate B tends to receive a lot of support from the wealthy
Candidate B- Group Affiliation 2	Candidate B is not popular with Hispanics
Candidate B- Group Affiliation 3	Candidate B is widely supported by the elderly
Candidate B- Group Affiliation 4	Candidate B is well-liked by those in the academic community

Candidate B- Group Affiliation 5	Candidate B is supported by a number of environmentalist groups
Candidate B- Trait 1	Candidate B is well-educated
Candidate B- Trait 2	Candidate B has a pessimistic personality
Candidate B- Trait 3	Candidate B is exceptionally hard-working
Candidate B- Trait 4	Candidate B has been described as old-fashioned
Candidate B- Trait 5	Candidate B is often admired for his/her loyalty and trustworthiness
Candidate C- Issue Stance 1	Candidate C continually pushes for income equality
Candidate C- Issue Stance 2	Candidate C has advocated for decreased funding for educational programs in math and science
Candidate C- Issue Stance 3	Candidate C is anti-abortion
Candidate C- Issue Stance 4	Candidate C is against unions
Candidate C- Issue Stance 5	Candidate C supports increasing taxes in order to pay for social services
Candidate C- Group Affiliation 1	Candidate C tends to receive a lot of support from members of the military
Candidate C- Group Affiliation 2	Candidate C is not popular with agricultural groups
Candidate C- Group Affiliation 3	Candidate C is supported by gay and lesbian groups
Candidate C- Group Affiliation 4	Candidate C is supported primarily by Caucasians
Candidate C- Group Affiliation 5	Candidate C is generally not well-liked by those in the South
Candidate C- Trait 1	Candidate C is career-oriented
Candidate C- Trait 2	Candidate C's personality has been described as uptight or rigid
Candidate C- Trait 3	Candidate C is devoutly religious
Candidate C- Trait 4	Candidate C holds egalitarian values
Candidate C- Trait 5	Candidate C's assertiveness is often off-putting to others

Appendix C: Survey Questions

Political Knowledge (open ended)

1. Who is the current Vice President of the U.S.?
2. How many members are there in the United States Senate?
3. For how many years is a U.S. House Representative elected – that is, what is the maximum amount of years in one term?
4. To become President of the United States you have to be at least ____ years old.
5. What job or political office does John G. Roberts currently hold?
6. Whose responsibility is it to appoint judges to the Supreme Court? The President, Congress, or the Federal Election Commission?

Trust in Government

1. How often do you trust those in government to do the right thing?
2. How often do you trust those in government to make a fair decision?

Response Options:
1. Never
2. Rarely
3. Sometimes
4. Frequently
5. Very frequently

Need for Closure- Shortened Scale

Instructions: How would you place your views on this scale? 1 means you agree completely with the first statement; 10 means you agree completely with the second statement; and if your views fall somewhere in between, you can choose any number in between.

1.
   [1] I don't like going into a situation without knowing what I can expect from it.
   [10] I enjoy the uncertainty of going into a new situation without knowing what might happen.
2.
   [1] In most social conflicts, I can easily see which side is right and which is wrong.
   [10] In most social conflicts, I can easily see how both sides could be right.

3.
   [1] I think it is fun to change my plans at the last moment.
   [10] I hate to change my plans at the last moment.

4.
   [1] I like to have friends who are unpredictable.
   [10] I don't like to be with people who are capable of unexpected actions.

5.

[1] I tend to put off making important decisions until the last possible moment.
[10] I usually make important decisions quickly and confidently.

Need for Cognition- Shortened Scale

1. 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?

Response Options:
1. Dislike It A Lot
2. Dislike It Somewhat
3. Neither Like nor Dislike It
4. Like It Somewhat
5. Like It A Lot

2. Some people prefer to solve simple problems instead of complex ones, whereas other people prefer to solve more complex problems. Which types of problems to you prefer to solve: simple or complex?

Response Options:
1. Simple
2. Complex

Intolerance of Ambiguity

1. An expert who doesn't come up with a definite answer probably doesn't know too much.
2. I would like to live in a foreign country for a while.
3. There is really no such thing as a problem that can't be solved.
4. People who fit their lives to a schedule probably miss most of the joy of living.
5. A good job is one where what is to be done and how it is to be done are always clear.
6. It is more fun to tackle a complicated problem than to solve a simple one.
7. In the long run it is possible to get more done tackling small, simple problems rather than large and complicated ones.
8. Often the most interesting and stimulating people are those who don't mind being different and original.
9. What we are used to is always preferable to what is unfamiliar.
10. People who insist upon a yes or no answer just don't know how complicated things really are.
11. A person who leads an even, regular life in which few surprises or unexpected happenings arise really has a lot to be grateful for.
12. Many of our most important decisions are based upon sufficient information.
13. I like parties where I know most of the people more than ones where all or most of the people are complete strangers.

14. Teachers or supervisors who hand out vague assignments give one a chance to show initiative and originality.
15. The sooner we all acquire similar values and ideals the better.
16. A good teacher is one who makes you wonder about your way of looking at things.

Response Options
1. Strongly disagree
2. Moderately disagree
3. Slightly disagree
4. Neither agree nor disagree
5. Slightly agree
6. Moderately agree
7. Strongly agree

Appendix D: Descriptive Statistics, Study 1

Modal Category for Each Descriptive

	Category	*% Sample*		*Category*	*% Sample*
Age Group:	18-24	20.04	Gender:	Female	52.98
Education:	Bachelor's degree	37.49	Income:	Below $20,000	28.06
Race:	White	80.82	Knowledge:	6/6 correct	27.27
Interest:	Somewhat interested	51.62	Length Reside:	0-5 years	36.80
Party ID:	Democrat	53.15	PID Strength:	Somewhat strong	34.56

	Mean (0-1 scale)	Std. Dev.
Need Cognition:	0.691	0.331
Need Closure:	0.585	0.164
Intolerance:	0.456	0.109
Trust Government:	0.392	0.194

Appendix E: Descriptive Statistics, Study 2

Modal Category for Each Descriptive

	Category	*% Sample*		*Category*	*% Sample*
Age Group:	25-29	19.21	Gender:	Female	53.23
Education:	Bachelor's degree	38.90	Income:	Below $20,000	25.51
Race:	White	83.46	Knowledge:	6/6 correct	28.84
Interest:	Somewhat interested	44.83	Length Reside:	0-5 years	36.83
Party ID:	Democrat	51.15	PID Strength:	Somewhat strong	34.96

	Mean (0-1 scale)	Std. Dev.
Need Cognition:	0.693	0.338
Need Closure:	0.578	0.167
Intolerance:	0.454	0.112
Trust Government:	0.373	0.196

Appendix F: Descriptive Statistics, Study 3

Modal Category for Each Descriptive

	Category	*% Sample*		*Category*	*% Sample*
Age Group:	30-34	18.96	Gender:	Male	52.73
Education:	Bachelor's degree	38.44	Income:	Below $20,000	26.23
Race:	White	80.26	Knowledge:	6/6 correct	27.72
Interest:	Somewhat interested	48.96	Length Reside:	0-5 years	34.20
Party ID:	Democrat	51.14	PID Strength:	Somewhat strong	35.06

	Mean (0-1 scale)	Std. Dev.
Need Cognition:	0.666	0.345
Need Closure:	0.599	0.173
Intolerance:	0.455	0.116
Trust Government:	0.350	0.209

Appendix G: Descriptive Statistics, Study 4

Modal Category for Each Descriptive

	Category	*% Sample*		*Category*	*% Sample*
Age Group:	25-29	18.88	Gender:	Female	53.61
Education:	Bachelor's degree	34.03	Income:	Below $20,000	24.71
Race:	White	85.78	Knowledge:	6/6 correct	27.97
Interest:	Somewhat interested	51.75	Length Reside:	0-5 years	40.33
Party ID:	Democrat	50.63	PID Strength:	Somewhat strong	35.43

	Mean (0-1 scale)	Std. Dev.
Need Cognition:	0.707	0.319
Need Closure:	0.582	0.159
Intolerance:	0.442	0.112
Trust Government:	0.404	0.176

Appendix H: Continuous ENP Results for Typicality Analyses, Study 1

Variable	Deviation *B (S.E.)*	Extremity *B (S.E.)*	Deviation, Republican *B (S.E.)*	Extremity, Republican *B (S.E.)*	Deviation, Democrat *B (S.E.)*	Extremity, Democrat *B (S.E.)*
ENP	0.011 (0.045)	0.004 (0.021)	-0.010 (0.049)	0.003 (0.024)	0.046 (0.049)	0004 (0.022)
White	-0.008 (0.031)	-0.013 (0.144)	0.004 (0.034)	-0.011 (0.016)	-0.012 (0.034)	-0.015 (0.015)
Age	0.206 (0.157)	0.022 (0.073)	0.302 (0.173)	0.047 (0.082)	0.113 (0.171)	-0.003 (0.077)
Age^2	-0.143 (0.206)	0.012 (0.095)	-0.289 (0.227)	-0.050 (0.108)	0.028 (0.224)	0.074 (0.100)
Income	0.018 (0.043)	0.024 (0.020)	0.023 (0.048)	0.023 (0.023)	0.003 (0.047)	0.026 (0.021)
Education	***-0.194 (0.063)***	***-0.120 (0.029)***	***-0.221 (0.069)***	***-0.141 (0.033)***	-0.118 (0.069)	***-0.098 (0.031)***
Male	-0.040 (0.242)	-0.014 (0.011)	-0.036 (0.027)	-0.016 (0.013)	-0.046 (0.026)	-0.012 (0.012)
Knowledge	***0.208 (0.051)***	***0.059 (0.023)***	***0.240 (0.056)***	***0.071 (0.026)***	***0.190 (0.055)***	0.047 (0.025)
Political Interest	***0.280 (0.052)***	***0.095 (0.024)***	***0.296 (0.057)***	***0.109 (0.027)***	***0.258 (0.056)***	***0.081 (0.025)***
Need for Cognition	***0.111 (0.040)***	***0.048 (0.019)***	***0.090 (0.044)***	***0.041 (0.021)***	***0.132 (0.044)***	***0.054 (0.020)***
Need for Closure	***0.256 (0.085)***	***0.115 (0.039)***	***0.297 (0.094)***	***0.158 (0.045)***	***0.193 (0.093)***	0.074 (0.042)
Intolerance	0.249 (0.141)	***0.144 (0.065)***	0.037 (0.155)	0.053 (0.074)	***0.438 (0.153)***	***0.236 (0.069)***
Trust in Government	***-0.228 (0.064)***	***-0.110 (0.030)***	***-0.301 (0.070)***	***-0.140 (0.033)***	-0.119 (0.070)	***-0.081 (0.031)***
Republican PID	***-0.081 (0.032)***	***-0.032 (0.015)***	***-0.165 (0.035)***	***-0.066 (0.017)***	-0.038 (0.035)	0.001 (0.016)
Party ID Strength	***0.281 (0.037)***	***0.139 (0.017)***	***0.255 (0.040)***	***0.134 (0.019)***	***0.298 (0.040)***	***0.144 (0.018)***
Length Reside	0.017 (0.029)	0.012 (0.013)	0.019 (0.031)	0.014 (0.015)	0.007 (0.031)	0.010 (0.014)
Constant	***1.213 (0.118)***	0.009 (0.055)	***1.398 (0.130)***	0.062 (0.062)	***1.002 (0.129)***	-0.045 (0.058)
N	873	873	873	873	873	873

Note: Items bolded and italicized are significant at or below p<.05.