Preference Change in Competitive Political Environments

James N. Druckman[1] and Arthur Lupia[2]

[1]Department of Political Science, Northwestern University, Evanston, Illinois 60208; email: druckman@northwestern.edu

[2]Department of Political Science, University of Michigan, Ann Arbor, Michigan 48109; email: lupia@umich.edu

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Abstract

Political actions and outcomes depend on people's preferences over candidates, policies, and other politically relevant phenomena. For this reason, a great deal of political activity entails attempts to change other people's preferences. When do politically relevant preferences change? Addressing this question requires recognition of two realities: (*a*) Many stimuli compete for every person's attention, and (*b*) every person's capacity to pay attention to information is limited. With these realities in mind, we review research on preference change in competitive environments. We discuss how individuals allocate attention and how individuals' values and identities affect their use of the information to which they attend. We then discuss how this work has been applied to a new problem: improving the communication of scientific facts in increasingly politicized environments.

INTRODUCTION

A preference is a comparative valuation of (i.e., a ranking over) a set of objects. The objects over which people have preferences are those they can imagine as substitutable. For example, a person can prefer a Republican to a Democratic candidate or a higher gasoline tax to a lower gasoline tax.

Political actions and outcomes depend on people's preferences over candidates, policies, and other politically relevant phenomena. For this reason, a great deal of political activity entails attempts to change other people's preferences. Campaigners want voters to prefer one candidate over others. Legislators seek to influence citizens' preferences about specific bills or laws. Policy advocates want others to prefer actions about which they are passionate. They seek to change preferences on issues as broad as climate change or as narrow as which textbooks to use in local schools.

In this article, we review research on preference change in politicized environments. Our starting point is an essay titled "Preference Formation" that this journal published 15 years ago (Druckman & Lupia 2000). That article reviewed how scholars of the time answered the question, "Why do people want what they want?" This article responds to a request by the journal's editors to describe what has changed since "Preference Formation" was published.

Perhaps no change is more important than the amount of information (or data) available. Today, people can obtain millions of government documents, campaign materials, advocacy statements, and other political content that was never available before. They access these data on an ever-expanding range of electronic communication devices. In societies where political discussions are allowed, people also use these devices and many associated technologies to broadcast their knowledge and beliefs. People can use videos, message boards, or the comments sections attached to others' writings to convey ideas faster, and to more people, than most members of any previous generation could have ever imagined.

At the same time, other preference-related factors have remained constant. No constant is more important than the human brain. Whereas the brain's capacity for processing data quickly is extraordinary, its attentive capacity is limited when compared to the typical human environment. People can pay attention to only a tiny fraction of all of the information that is available to them at any given moment. As a result, campaigners, legislators, policy advocates, and other influence-seeking citizens must compete for citizens' limited attention with all manner of stimuli from the natural world; social environments; and a growing range of electronically enabled entertainment, recreational, cultural, economic, and related endeavors. In several important respects, the competition for attention in many political contexts is very different than it was when "Preference Formation" was published.

When we pair an information explosion with an unchanging human brain, an increasingly important question becomes, "Under what conditions does new information change preferences?" Answering this question requires knowledge of how people direct attention in competitive communicative environments and of what people do with the information to which they attend. This review describes recent findings and controversies in the study of these topics.

This review is organized in four substantive sections. In the first section, we examine how increased competition affects the kinds of information to which people pay attention. A common theme in research on this topic is that people seek information that is easy to use, and many political scientists have examined how commonly available types of easy-to-use information such as party labels and interest group endorsements affect preferences. The section titled "Competing Information" focuses on the types of information to which people direct their attention in competitive political environments.

The second section focuses on competing values. What makes a context political is the presence of people who express different points of view about what others should do. Citizens'

values play an important role in such expressions. A value, in this context, is an ordered belief that is situation invariant and that guides behaviors and preferences (e.g., Feldman 2003). Consider, for example, an individual who believes that people should provide for themselves—this value will guide the individual's views and actions on a range of policies. Values affect preferences in several ways. They influence the kinds of appeals to which people are willing to pay attention and the kinds of information that they find credible. The section titled "Competing Values" focuses on how values affect preference change.

The third section focuses on competing identities. Group identities provide individuals with a sense of pride and self-esteem and lead them to differentiate similar others (the in-group) from different others (the out-group). In some cases, these identities lead individuals to discriminate against out-group members (e.g., Brewer & Roccas 2001). Because much of politics pertains to disagreements among well-identified groups, an individual's political preferences are often associated with his or her group identities. Moreover, most people see themselves as members of multiple groups (e.g., being a woman and a person of faith). For this reason, many politically motivated attempts to change others' preferences seek to make some identities more salient than others at key decision-making moments. The section titled "Competing Identities" focuses on how identities affect preference change in competitive political environments.

In the fourth section, we review how research on the first three topics has influenced a new form of scholarship and activity: science communication. Science communication's connection to these topics emerges from the increasing politicization of science (Prewitt 2013). This politicization has led some people to reject scientific findings in venues where those findings could increase the efficiency and effectiveness of critical social endeavors and improve quality of life (Lupia 2014, Prewitt et al. 2012). Many researchers and organizations are examining how to more effectively convey useful scientific insights in politicized environments. The section titled "Science Communication in Competitive and Politicized Environments" describes how political science research on competing information, competing values, and competing identities can be used to expand the range of cases in which citizens and societies base their decisions on scientific information.

With the content just described, our review complements other recent *Annual Review* articles on similar topics (Bohner & Dickel 2011, Crano & Prislin 2006, DellaVigna & Gentzkow 2010; see also Hatemi & McDermott 2011, Jost & Amodio 2012, Mondak 2010). Our distinctive focus is on recent findings that apply to articulated preference change dynamics that are common to political contexts. Our hope is that this review helps answer the question "When does new information change preferences?" in a wide range of competitive and politicized communication environments.

COMPETING INFORMATION

Compared to all of the information available on various political topics, or compared to all of the nonpolitical information to which a person could pay attention, every person's attentive capacity is extremely limited. Unchangeable aspects of human biology lead people to ignore almost all of the information to which they are exposed. Because preference change requires attention, people who seek to change others' preferences must find ways to get their attention.

One type of information that draws attention is circumstantial variations. Easily observable variations—such as a change in family circumstances or employment status, shifts in the economy, natural disasters, military decisions by foreign states, domestic public safety concerns, and many other policy actions and outcomes—have been shown to affect political preferences. For these types of changes to occur, individuals must observe the events, connect them to a particular (political) preference, and remember them (see, e.g., Healy & Malhotra 2013b, p. 289). Connecting an event to a preference depends on the event's relevance to the individual in question. For example, after

the Fukushima nuclear plant meltdown in Japan, Japanese public opinion became less supportive of nuclear power. The same event did not have the same effect in more distant places such as England (Poortinga et al. 2013).

Recent events have particularly large effects. There is substantial evidence, for example, that when constructing a preference about incumbent politicians, people put more weight on the last year's economy than on the economic conditions of the last several years (Bartels 2008). In a set of innovative experiments, Huber et al. (2012) find that an incumbent who does better than average over the last four quarters of his or her mandate is 6.5% more likely to be reelected. They conclude that "manipulating the election-year economy . . . and directing campaign rhetoric on the here and now improve an incumbent's odds of reelection, regardless of cumulative performance" (Huber et al. 2012, pp. 738–39). Similarly, people often use today's temperatures to make generalizations about longer weather patterns. On particularly warm days, people tend to think the prior year included a disproportionate number of warm days and are more likely to believe in, and express concern about, global warming (e.g., Egan & Mullin 2012, Zaval et al. 2014). In both cases, individuals seek to "simplify a complicated evaluation problem by substituting end conditions for overall condition" (Healy & Lenz 2014, p. 32). Deeper inquiries reveal this strategy to be a correctable default rather than a hard cognitive rule. Healy & Lenz (2014) and Druckman (2015), for example, find that when information about long-term trends is made available (i.e., competing with short-term observations), people are less apt to base preferences on recent events.

In addition to documenting circumstantial changes that correspond to preference changes, scholars have examined how commonly used types of information affect preferences. Many studies of this kind focus on the use of cues. A cue is an information shortcut—a simple way to draw complex inferences. "Heuristic" is another label for the concept.

A prominent cue in many elections is a candidate's party label. A party label is a piece of information about a candidate that is often widely available and easy for voters to see. A party label can help voters understand where a candidate stands on a large set of issues. It can also help them imagine the types of legislative outcomes that will occur if a sufficient number of members of a party are elected to a legislature (Sniderman & Stiglitz 2012). As Sniderman & Bullock (2004, p. 138) describe:

> [I]n representative democracies, citizens do not directly choose the alternatives. They only get to choose from among the alternatives on the menu of choices presented to them. That menu is simplified, coordinated, and advocated above all through electoral competition between political parties. Accordingly, we claim that citizens in representative democracies can coordinate their responses to political choices insofar as the choices themselves are coordinated by political parties.

When cues work in this way, they can influence citizens' preferences over candidates. A common presumption is that when choosing whether to base decisions on detailed issue descriptions or party cues, citizens opt for the cues (e.g., Cohen 2003, p. 88). Yet, the little work that tests this proposition directly shows a different result. Bullock (2011, p. 496) finds that when people receive information about a policy *and* party cues (i.e., policy information competes with party cues), "their attitudes seem to be affected at least as much by that information as by cues from party elites" (see also Boudreau & MacKenzie 2014, Druckman et al. 2010, Malhotra & Kuo 2008).

Party labels are not the only commonly used cues. Endorsements from individuals and groups also affect preferences (e.g., Lau & Redlawsk 2006, p. 232; also Boudreau 2009). For example, a voter may come to see a candidate's economic program as beneficial after learning that a Nobel Prize–winning economist endorsed it. Kuklinski & Quirk (2000, p. 155) explain that "in judging

either candidates or policies, people can use public statements by elected officials, interest-group leaders, or others as cues."

What happens in competitive communicative environments where multiple cues are available? What factors determine which among the many available cues individuals choose to follow? Lau & Redlawsk (2001, 2006) address this question by examining how and when people use five types of cues (partisanship, ideology, group endorsements, polls, and appearance). They find that people who demonstrate greater knowledge about a set of political issues rely on ideology and endorsements more often, whereas those who demonstrate less knowledge turn to partisanship and appearance. Lau & Redlawsk also report that as the context becomes more complex (e.g., primary versus general election), individuals rely more on heuristics than on alternative types of information. These results suggest that all people generally rely on heuristics. This finding is contrary to the older view that cues are a refuge for the lazy and least-informed citizens, whereas more responsible citizens base their decisions on scrupulous investigation of detailed information (for a discussion, see Sniderman et al. 1991). Nearly all of Lau & Redlawsk's study participants use one or more of the available cues as the basis of subsequent judgments (for reviews, see also Jussim 2012, Kelman 2011).

The reality that most people use cues, at least some of the time, raises the question of when information used in this way serves people well. Lau & Redlawsk (2006, p. 16) find that, in general, people who appear to be more knowledgeable about politics make better use of the cues (e.g., their decisions are more similar to decisions they would have made with better knowledge of the candidate). There are other cases, however, in which cues have the opposite effect. Dancey & Sheagley (2013), for example, investigate how respondents use the cue that an elected official is from a particular party when predicting the representative's choice in a roll call vote. The authors find that when legislators deviate from stereotypical positions of their party, it is the more informed respondents who prove most likely to predict their senator's behavior incorrectly.

The fact that cues are not always sufficient to lead individuals to express the same preferences they would have expressed if they were more knowledgeable leads some critics to castigate cue-based decision making as a whole (e.g., Somin 2006). As Lupia (2015, pp. 64–65) argues, however, such claims reflect

> a fundamental misunderstanding of how people use information . . . . [E]veryone uses information shortcuts on almost every decision that we make. Much of what any of us consider to be our own knowledge is based on cues of one kind or another. So, the right question to ask is not whether cues always (or never) yield competent decisions, because we know that the answer to both questions is "no." The constructive question to ask is "Under what conditions are particular cues necessary or sufficient for competent decision making?"

An interest in these conditions has led scholars to examine how the quality of information affects citizens' preferences. Nyhan & Reifler (2010) are among the scholars studying how misinformation affects preferences. For example, long after clear evidence was produced that Iraqis did not possess biological or chemical weapons during the period leading up to the Iraq War, many Americans continued to believe that they had such weapons (e.g., Kull et al. 2003, Nyhan & Reifler 2010). Scholars have found lingering effects of misinformation on other issues such as the unemployment rate, the relationship between vaccinations and autism, immigration, and climate change (e.g., Hochschild & Einstein 2015, Jerit & Barabas 2006, Kuklinski et al. 2000, Sides & Citrin 2007).

Because many people are concerned about how misinformation can affect preferences, many individuals and organizations attempt to correct misinformation (i.e., they offer corrections to compete with misinformation). Scholars have studied this phenomenon with mixed results. Some

identify successful corrections (Berinsky 2015, Cobb et al. 2013); others document correction attempts that not only fail but also reinforce false beliefs (see, e.g., Schwarz et al. 2007). Factors offered to explain these failures include motivated reasoning, a process by which people respond to information based on how it makes them feel rather than on the relevance of its content to their well-being (e.g., Nyhan & Reifler 2010).

Scholars have also debated the effects of different kinds of information on the quality of political decisions. Consider, for example, Bartels's (2005) study of tax cut preferences. Bartels (p. 16) argues that "most Americans support tax cuts not because they are indifferent to economic inequality, but largely because they fail to connect inequality and public policy." He characterizes the expressed preferences of "ordinary people" as being "unenlightened" and the result of "simple-minded and sometimes misguided considerations of self-interest"(p. 21). He supports this conclusion with American National Election Studies (ANES) data. In 2002, the ANES asked questions about inequality and a recent tax cut proposal (a.k.a. the Bush tax cuts). In that survey, two-thirds of respondents who stated a preference approved of the tax cut. Bartels (2005, p. 24) explains the result as "entirely attributable to simple ignorance."

Bartels bases his claim on a positive association between a measure of citizens' knowledge and their support for the tax cut. Lupia et al. (2007) seek to replicate and reexamine his assertion. They find no direct evidence that these groups' support for the tax cuts was entirely attributable to ignorance. Instead, they report that for a large and politically relevant group of respondents—people who described themselves as conservative or Republican—a high score on Bartels's information measure either had no significant effect on support for the tax cut or corresponded to increased support for the cut (a result that holds when controlling for income and other factors). Self-identified liberals and Democrats liked the tax cuts less as they scored higher on Bartels's knowledge measure, but even substantial numbers of those who achieved the highest possible score on this measure supported the tax cuts. In short, Bartels's findings depended on a strong assumption: His analysis restricted all respondents to draw identical conclusions from higher information levels. This assumption eliminates the possibility that on issues such as the merit of a tax cut proposal, knowledgeable people with diverse values can have different preferences. Although Bartels (2005, p. 23) concludes that "public support for President Bush's tax policies derived from 'unenlightened' considerations of self-interest," the stronger finding in the data is that value diversity fuels the opinion differences.

In summary, biology has wired citizens to be attentive to information that they can process quickly and that they can apply directly to decisions. In many cases, these dynamics lead individuals to base their preferences on cues. Changes in communication technologies are quickly expanding the type and content of available cues. In some cases, more cues yield new options for learning about politics. In other cases, cues cause confusion and lead to decisions that individuals can later regret. The work described in this section has clarified how people use different types of information and how these patterns in information usage affect preferences and choices. As the Bartels–Lupia debate foreshadows, further pursuits of these topics have led some scholars to focus on values as a factor that affects the relationship between information and preferences. It is to this topic that we now turn.

COMPETING VALUES

In recent years, scholars have asked broader and deeper questions about the relationship between preference change and a person's values. Values are critical because they provide a lens through which people respond to new information; to change a preference, information must change the attitudes that are related to the preference.

Attitudes in this context are defined as "a person's general evaluation of an object (where 'object' is understood in a broad sense, as encompassing persons, events, products, policies, institutions, and so on)" (O'Keefe 2016, p. 4). Both preferences and attitudes depend on beliefs. Therefore, to change a preference one must change at least one belief and at least one attitude. Politically relevant beliefs include beliefs that people have about one another, about political institutions and ideologies, and about cause-and-effect relationships in the natural world. An example of a belief that can affect a political action or outcome is a belief that the climate is changing. A person can hold a belief with certainty (e.g., he or she believes that the association in memory is unconditionally true) or with uncertainty (e.g., he or she believes that an association in memory is possibly true). We say that a belief changes when the strength or direction of an association changes. For example, if new information causes a person to become more uncertain (or more certain) about a relationship, that information has changed the person's beliefs.

Values affect the relationship between information and preference change because they structure a person's preexisting beliefs and attitudes. According to Schwartz (1992, p. 4), values "(1) are concepts or beliefs, (2) pertain to desirable end states or behaviors, (3) transcend specific situations, (4) guide selection or evaluation of behavior and events, and (5) are ordered by relative importance." Indeed, values can influence a person's response to new information before the person realizes it. Preconscious aspects of how values affect preferences can lead people to have strong feelings about political topics while struggling to explain why (Schwartz & Boehnke 2004). That people can hold different values in this way is one reason that we see strongly held disagreements about what kinds of political actions and outcomes are beneficial.

Scholars have set out to characterize commonly held value systems (see, e.g., Feldman 2003, pp. 498–99; Gastil et al. 2011; Maio & Olson 2000; Rokeach 1968, 1973). For example, Kahan's cultural cognition theory (e.g., Gastil et al. 2011, Kahan 2010) builds on the work of Wildavsky and Douglas (e.g., Wildavsky 1987) and posits two value dimensions that drive attitudes: hierarchy–egalitarianism (e.g., whether resources are distributed along differentiated or undifferentiated lines) and individualism–communitarianism (e.g., whether individuals are responsible for their own flourishing or whether the collective is charged with securing basic needs). These value dimensions have notable power in affecting a host of political opinions, including opinions on gun control, the death penalty, and gay marriage (e.g., Gastil et al. 2005, 2011).

Another widely influential value system comes from Schwartz (see Feldman 2003, p. 484). Schwartz (1994) identifies 10 basic values that fall into two dimensions, namely openness to change versus conservation (similar to classical liberalism–conservatism) and self-enhancement versus self-transcendence (e.g., whether government should promote equality or protect citizens' ability to retain wealth) (Davidov et al. 2008; Feldman 2003, p. 494; Schwartz 1994). These personal values influence numerous political preferences, including left/right orientation, vote choice, national identification, and political interest (Piurko et al. 2011, Robison 2014, Schwartz et al. 2010). Scholars have gathered evidence that these basic values, which extend across life domains, precede an applied set of values that are politically relevant (see Schwartz et al. 2014; for detailed discussion and analysis, see Goren 2005, 2013). Goren (2013, pp. 166–68) explains: "[P]olitical values are a political construct centered on beliefs about government, citizenship, and American society . . . . Personal values [e.g., the Schwartz values] are prepolitical beliefs that have much wider applicability . . . personal values and core political values are not interchangeable."

Documented political values include traditional morality, social order (or law and order), equality, civil liberties (or freedom), economic security, limited government, patriotism, individualism, etc. (Goren 2005, Jacoby 2014, Schwartz et al. 2014). These values appear to play an important role in political preference formation. Feldman & Zaller (1992), for instance, show that on the issue of social welfare, US citizens readily turn to political values such as individualism, equality,

and limited government. A related finding is that individuals are often ambivalent over which value should take precedence in a given decision-making environment (see also Sniderman & Hagendoorn 2007, Sniderman & Highton 2011, Sniderman et al. 2015). Such ambivalence means that political elites (or other actors) can attempt to frame an issue in ways that make some values more salient than others (for a discussion, see Klar et al. 2013). Brewer (2008, pp. 93–102) shows that individuals exposed to a newspaper article framing gay rights in terms of equality (morality) were significantly more likely to think of gay rights in terms of equality (morality): "[E]xposure to frames invoking equality and morality led participants to explain their views in terms of these values" (Brewer 2008, p. 96; see also Chapp 2012, Clifford et al. 2015, Nelson & Garst 2005).

Framing in politics, though, is not so easy. In many cases, there is intense value-framing competition; that is, political actors compete with one another in an effort to induce citizens to weigh one value more heavily than another (e.g., one actor will frame a change to a welfare program as a matter of equality whereas an opponent will emphasize individualism). Which frames win this competition? In one of the first studies of competitive value framing, Sniderman & Theriault (2004) suggest that when people are exposed to competing frames, none of them wins; instead, people fall back on their preexisting values. They show, for example, that when a hate group rally is framed in terms of both civil liberties (e.g., free speech) and social order (e.g., public safety), neither value dominates. Instead, people base their decisions on whether they generally care more about free speech or public safety. The frames can effectively cancel each other out.

Not all value frames are equal in their potential to influence preferences. Chong & Druckman (2007) examine attributes of competitive framing attempts that would not neutralize each other and would be strong enough to win competitions. They argue that strength depends on whether the value is available in mind (e.g., whether people connect a value such as civil liberties to a hate group rally), accessible in mind (e.g., whether civil liberties actually come to mind), and applicable (e.g., whether the value of civil liberties is a compelling consideration with regard to the rally).

One ostensible determinant of applicability is the source of the frame. Chong & Druckman (2007) implemented an experiment similar to Sniderman & Theriault's (2004), focusing on the impact of competing free speech and public safety frames with regard to whether a hate group should be allowed to rally. As an added twist, they varied the source of the frames: Frames were described as coming from a credible source (a major local newspaper) or a less credible one (a high school newspaper). They report that when people are presented with competing frames of this kind, the more credible source's frame has a much larger effect on preferences (Chong & Druckman 2007, pp. 648–49).

Frame strength can also stem from how easily people connect a frame to a given issue. For example, Druckman et al. (2010) explore competitive framing with respect to a publicly funded casino that was a topic of debate during the 2006 Illinois gubernatorial campaign. Druckman and colleagues asked individuals to rate the relevance/persuasiveness of various values when thinking about the casino. They find economic security (e.g., benefits) and social order (e.g., avoiding addiction and debt among citizens) to be strong frames for and against the casino, respectively. In contrast, morality is a weakly connected value (against the casino), whereas entertainment (which may connect with individualism) is a weak supportive value. With a different group of Illinois voters, Druckman et al. then conducted an election-day experiment in which they exposed subjects to various mixes of the frames just described. They find that strong value frames move opinion and weak value frames do not (e.g., when participants were exposed to the economic security frame and the morality frame, the former won out, and people consequently became more supportive). Others have replicated these results with other issues, such as urban sprawl, a hate group rally, a Danish marriage rule, immigration, health care, and the Patriot Act (e.g., Aarøe 2011; Chong & Druckman 2007, 2010; Druckman et al. 2013; Holm 2012).

Although this research clarifies frame–issue connections that have greater and lesser effects on preferences (e.g., Aarøe 2011, Arceneaux 2012, Baumgartner et al. 2006, Druckman & Bolsen 2011), the literature is far from identifying what exactly makes a value frame strong or weak. Scholars are also examining patterns by which different people prioritize competing values. Jacoby (2014, pp. 765–66), for example, explains: "Republicans and conservatives are particularly distinctive from the rest of the society in the importance they assign to morality, patriotism, and social order. Democrats and liberals, along with partisan and ideological centrists, place greater emphasis on economic security, equality, and to a somewhat lesser extent, freedom."

In summary, values affect how citizens view the political world. They affect the preferences people express and their reactions to information that might change those preferences. Because values have this effect, lessons from the emerging literature on values can be integrated with the literature described in the previous section to clarify the kinds of informational appeals that are more (and less) likely to change preferences.

COMPETING IDENTITIES

Many political activities are responses to disagreements about how to distribute certain goods, services, and responsibilities across certain groups. For this and other reasons, people's political preferences are often associated with their social identities. To form these identities, people categorize one another and often perceive themselves as members of socially salient groups. People who see themselves as members of certain types of groups often derive a sense of pride and self-esteem from their in-group membership and tend to discriminate against members of the out-group.[1] A classic example comes from Tajfel (1970), who randomly created two groups and asked individuals in each group to allocate monetary rewards and penalties. He found that a large majority of subjects gave more money to members of their own group with the ostensible goal of maximizing differences between their group and the other group. In short, when an identity is salient to an individual, his or her preferences tend to align with the interests of his or her group.

People form preferences with their identity in mind for various reasons (e.g., Abdelal et al. 2009), including the need to forge an identity (Baumeister & Leary 1995; O'Keefe 2016, p. 37), to assure approval from others (Kahan 2015), to assert common values or ideologies (e.g., Iheduru 2006), or to act on a feeling of linked fate whereby an individual holds an "acute sense of awareness (or recognition) that what happens to the group will also affect the individual member" (Simien 2005, p. 529; see also, e.g., Dawson 1995, Gay & Tate 1998, Herring et al. 1999).

The development of political identities seems to cohere in adolescence and young adulthood (Sapiro 2004, pp. 11, 13; Van Deth et al. 2011). Niemi & Jennings (1991) famously show that parents influence their children's partisan identities at age 18; the influence drops but remains significant when children enter their mid-20s and into their 30s. Families matter in other ways as well. Young men with sisters tend to hold more conservative views on gender roles and to identify

[1]A social identity can be understood as "that part of the individual's self-concept which derives from their knowledge of their membership of a social group (or groups) together with the value and emotional significance attached to that membership" (Tajfel 1981, p. 255). Analogously, Blumer's (1958) group position framework discusses the impact of the identification with a social group as the result of collective judgments about the positions that in-group members ought to occupy in relation to out-group members within society (see also Bobo & Hutchings 1996, Bobo & Tuan 2006, Hutchings & Wong 2014). Finally, Brewer & Roccas (2001, p. 220) explain that "an optimal social identity is a representation of the self as an integral part of a distinctive group of others in which the individual feels unambiguously included while, at the same time, those who do not share the group identity are unambiguously excluded. Social identification with the in-group implies a transformation of the conceptualization of the self, the basis for self-evaluation, and the meaning of self-interest from the individual to the collective level."

with Republicans (Healy & Malhotra 2013a), whereas fathers with daughters tend to identify more with liberals and to support gender equity policies (Oswald & Powdthavee 2010, Shafer & Malhotra 2011, Warner 1991, Washington 2008; however, see Conley & Rauscher 2013).

In political settings, there exists a wide range of relevant social groups defined by nationality (e.g., Shildkraut 2011, 2014), family (Stoker & Jennings 1995), ethnicity (e.g., Sidanius et al. 2008), race (e.g., Dawson 2001, Hutchings & Valentino 2004, Lowery et al. 2006, Tate 1994), gender (e.g., Carroll & Fox 2006, Winter 2008), religion (Bloom et al. 2015), and partisanship (e.g., Huddy et al. 2015). Large literatures on each of these identities, and many others, demonstrate that identification with these groups has a direct impact on political, economic, and social preferences (Akerlof & Kranton 2010, Kinder & Kam 2010, Monroe et al. 2000, Transue 2007). For example, strongly identified African-Americans tend to adopt more pro-group positions (i.e., support) on the issues of affirmative action and welfare (Tate 1994; see also White 2007), and strongly identified partisans are more likely to view elected officials from their party as doing a good job of managing economic and social policy (e.g., Bartels 2002).

Understanding how particular identities form and influence political preferences has become an increasingly complex question. Demographic shifts in the United States have led to a populace that not only is more diverse (Shrestha 2006) but also has more overlapping and competing identities (e.g., Huddy 2003). The perspective of identity competition raises the question, "When does a given identity become activated in preference change contexts?" Part of the answer is that it depends on individual circumstances and the sociopolitical context. For example, Chong & Kim (2006) find that the impact of racial and ethnic identities depends on individuals' economic status; specifically, economic status is positively correlated with more favorable assessments of race relations among Latinos and Asian Americans, but not as much among African Americans.[2] Similarly, Karpowitz & Mendelberg (2014) find that the effects for gender identity depend on the nature of the (deliberative) context. Beyond circumstance and context, the rhetorical environment also matters. For example, Brooks & Valentino (2011) show that women become more supportive of war—vitiating a common gender gap when it comes to war support—when the war is motivated by humanitarian concerns (e.g., innocents will die) or is supported by the United Nations.

In a more intricate study of competing identities, Klar (2013) examines the preferences of Democratic parents on three issues: social spending versus deficit reduction, antiterrorism spending, and sex offender sentencing. In this context, parental and Democratic partisan identities often lead to different preferences (e.g., parents thinking about their children's future would be more likely to prefer reducing the deficit, increasing antiterrorism spending, and ensuring harsher sentences). Klar randomly assigns individuals to receive competing appeals to each identity. The experiment varies whether subjects receive a mere mention of the identity, a statement about the political relevance of the identity, or a mention of threat to the identity. In general, she finds that the threat appeal had the largest effects on expressed preferences.

Identities compete not only among themselves but also with other sources of preference formation. Consider the relative impact of identity versus other kinds of information. Althaus & Coe (2011) explore these competing factors in a study of the impact of war-related news coverage. Conventional theories of war and preference formation suggest that people update their preferences in light of the information they receive about the ongoing war (e.g., support increases with

[2] See also Junn (2007) on the interaction between institutions and Asian American immigrant identity, Tate (2010) on the interaction between racial identity and elite preferences, Pérez (2015) on the moderating impact of elite preferences and Latino identity, and Gay (2004) on the moderating impact of geographic environments on racial identity.

coverage suggesting the war is going well and decreases with reports that the war is going poorly; see also Baum & Groeling 2010). The authors find, however, that the informational content of the coverage is of minor consequence; instead, any increase (or decrease) in war-related coverage primes patriotism, leading to more support for (or opposition to) the war. The dynamic at play is that a rise in coverage primes nationalistic identities that generate support for war. If positive coverage does not prime patriotism, it does not have the same effect. In this competition between informational content and identity, it is identity that comes to the fore.

Other scholars have studied partisanship as an identity that affects information processing and preference change. As discussed above, when partisanship provides the basis of an information cue, voters may express a preference indicated by fellow partisans thinking that it is the preference that they themselves would have expressed had they spent time collecting more information. Druckman et al. (2013) show that when individuals' partisan identities are activated (via a stimulus that accentuates in-group partisan homogeneity and out-group difference, i.e., polarization), partisans are more likely to follow partisan endorsements and to ignore more detailed information that they might otherwise find persuasive. For example, Democrats might oppose drilling despite strong supportive arguments because they are told that Democrats in Congress oppose it: They form preferences that cohere with their activated identities (see, e.g., Iyengar et al. 2012; Lavine et al. 2012; Nicholson 2012, p. 52).

A challenge in documenting relationships between identities and preferences is that identities themselves can change. Consider, for example, the changing nature of ethnic identity for Asian Americans. In some contexts, Asian American identity plays a key role in driving preferences. In other cases, grouping all Asian Americans under one label proves misleading as there is substantial variance between Korean Americans, Chinese Americans, Vietnamese Americans, etc. (Lien et al. 2004; on Afro-Caribbean immigrants, see Rogers 2006). Kang & Bodenhausen (2015, p. 547) explain that "categorization is often complex . . . because category membership can be ambiguous." This point accentuates that there can be variation within an identity based on subordinate identities. For instance, an African-American woman, even when thinking from a female identity perspective, may differ from a white woman who similarly prioritizes gender identity (see Strolovitch 2007). Another example comes from recent work on how skin tone can act as a subordinate racial identity divide (e.g., Hochschild & Weaver 2007, Weaver 2012; for related work on the growing varieties of multiracial identity, see Hochschild et al. 2012, Masuoka 2011). How individuals prioritize one identity over another in a competitive political environment is among the most pressing questions facing social scientists today.

SCIENCE COMMUNICATION IN COMPETITIVE AND POLITICIZED ENVIRONMENTS

The research described above seeks to clarify the conditions under which new information changes preferences in competitive political environments. Scholars and organizations outside of political science have begun to pay greater attention to this work. Their motivation for doing so is a desire to explain, and react constructively to, the changing dynamics of science communication in the public sphere (Lupia 2014).

Science has long played a key role in the formation and implementation of public policy. For instance, in 1863 the US government established the National Academy of Sciences, whose mission is to provide "independent, objective advice to the nation on matters related to science and technology" (**http://www.nasonline.org/about-nas/mission/**). As Dietz (2013, p. 14,082) explains, "a good decision must be factually competent. The beliefs used in making decisions should

accurately reflect our understanding of how the world works. Here, the role of science is obvious: Science is our best guide to developing factual understandings" (see also Kahneman 2011, p. 4).

A growing concern about the use of scientific information in public decision making is the politicization of science (see Suhay & Druckman 2015). As Steketee (2010, p. 2) argues, science can become politicized when an actor exploits "the inevitable uncertainties about aspects of science to cast doubt on the science overall . . . thereby magnifying doubts in the public mind" (see also Jasanoff 1987, p. 195; Oreskes & Conway 2010; Pielke 2007). A consequence is that "even when virtually all relevant observers have ultimately concluded that the accumulated evidence *could* be taken as sufficient to issue a solid scientific conclusion . . . arguments [continue] that the findings [are] not definitive" (Freudenburg et al. 2008, p. 28; italics in original). Politicization becomes particularly concerning when citizens' beliefs, attitudes, and preferences diverge systematically from science's best available logic and evidence (Weber & Stern 2011).

Because few scientists outside of political science and related fields are trained in understanding how political factors affect expressed preferences, many are seeking advice from social scientists about how to communicate potentially valuable information in increasingly politicized environments. In one of the few studies that look at the effects of politicization on preferences, Bolsen et al. (2014) analyze what happens when respondents are told that

> research . . . suggests alternative energy sources (e.g., nuclear energy) can dramatically improve the environment, relative to fossil fuels like coal and oil that release greenhouse gases and cause pollution. For example, unlike fossil fuels, wastes from nuclear energy are not released into the environment. A recent National Academy of Sciences (NAS) publication states, "A general scientific and technical consensus exists that deep geologic disposal can provide predictable and effective long-term isolation of nuclear wastes."

When respondents received just this information (which did, in fact, come from an NAS report), support for nuclear energy increased (see also van der Linden et al. 2015). Yet, when the information was preceded by a politicization prime that stated, "It is increasingly difficult for nonexperts to evaluate science—politicians and others often color scientific work and advocate selective science to favor their agendas," support not only did not increase but in fact marginally decreased. The authors also present evidence that the decreased support stemmed from increased anxiety about using nuclear energy. The results suggest that politicization has great potential to cause people to ignore scientific claims when making judgments about important matters.

Other scholars have used research on beliefs, attitudes, and preferences to offer advice about how to communicate scientific information in ways that are less prone to politicization. For example, Bolsen & Druckman (2015) show that warnings that future politicization claims are faulty can minimize the impact of such later claims. Alternatively, Lupia (2013) offers examples of how greater attention to social scientific findings about source credibility can help scientists convey their work more effectively. Many science communicators, for example, believe that elements of a speaker or writer's true character (e.g., honest), demographic attributes (e.g., female), or academic pedigree (e.g., a PhD in physics or highly cited publications) are sufficient for a person to be considered a credible source of information. These assumptions are incorrect. Although there are conditions under which such factors correlate with source credibility, they do not determine it.

Source credibility is more accurately described as a perception that is bestowed by an audience. Source credibility represents the extent to which an audience perceives a communicator as someone whose words or interpretations they would benefit from believing. As Lupia & McCubbins (1998) demonstrated, the two key perceptions are commonality of interests (the extent to which

the listener and the speaker want similar outcomes from the speaker's communicative attempt) and relative expertise (the extent to which the speaker knows things about the consequences of the listener's choice that the listener does not know). A wide range of studies show that when an audience's perception of a candidate differs from the candidate's true attributes, the perception, and not the reality, determines the extent to which prospective learners believe what they are reading, seeing, or hearing (also see Pornpitakpan 2004).

These findings convey to science communicators the importance of establishing common interests with the audiences that they seek to inform. A dry recitation of facts is likely to be received more critically, if it is received at all. By contrast, developing communication that stays true to the content of scientific work while presenting the work in ways that are commensurate with prospective learners' values and identities is a way to gain greater attention and credibility.

CONCLUSION

Under what conditions does new information change political preferences? Answers to this question are more important than ever, because the amount of information available in political contexts is expanding rapidly. The emergence of millions of political websites, the expanding availability of government documents, and an explosion of politics-related social media combine to make competition a key concept in attempts to explain how any particular kind of information affects preferences. With such changes in mind, scholars are finding creative and rigorous ways of documenting the kinds of information to which people pay attention and the ways in which such information affects preferences.

Many scholars are studying topics related to preferences and information. We have chosen to review studies that can clarify effects that are common to increasingly competitive political environments. The emphasis on competition, in our view, is critical for work in this area to have external validity. Unless a citizen is forced to pay attention to a particular piece of information, the information's effect on the citizen's preferences will depend on whether the information can obtain the needed attention in another way. If it does not gain this attention, the information cannot affect preferences. Studies of information effects that fail to account for competition are prone to documenting an upper bound of the information's potential effect on preferences rather than providing a more accurate estimate of its likely effect. Indeed, one of the most significant lessons that we have learned since writing "Preference Formation" is the importance of integrating competition into our research designs and claims.

In summary, the scope and breadth of political communication continue to change, and the literature on political preferences must evolve with it. This review describes the beginning of that shift in emphasis. We look forward to learning what the scholarly community will teach us next.

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Errata

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