# Two-way translation: Advancing knowledge of politics and psychology via the study of bilingual voters

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## Contents

## Abstract

The number of bilingual voters in the United States is at an all-time high. As a consequence, political candidates and interest groups often engage in persuasive communications in languages other than English; some states translate ballots measures into multiple languages, and disinformation campaigns are conducted using several languages. However, we still know very little about how this multilingual information environment affects voters' political attitudes and behaviors. In this chapter, we make two points. First, we argue that political scientists and communication researchers can use basic insights from psychology to advance our understanding of how bilingual voters make sense of the political world. Second, studying bilingual decision making in the domain of politics can provide psychologists with important theoretical insights into how the information environment interacts with psychological processes to influence behaviors. To best illustrate our arguments, we use examples from three important domains: voting, political persuasion, and the generation and spread of political misinformation.

In 1960, Jackie Kennedy spoke Spanish in the first national political ad targeted at Latino voters (BBC, 2012). The ad was part of John F. Kennedy's strategy to connect with Latino voters during his presidential campaign. Indeed, Ms. Kennedy was fluent in several languages and she used this proficiency to persuade voters to vote for her husband. In addition to Spanish she also delivered campaign radio ads in French and Italian (Harrison, 2018).

Today, communications in languages other than English are common in the political landscape. For example, during the 2000 presidential race, George W. Bush ran several Spanish political ads in the key battleground state of Florida (Griffin, 2018). Bernie Sanders in his 2016 presidential bid released radio ads in Arabic prior to the Michigan primary (Alnuweiri, 2016). In the same presidential race, Hillary Clinton's campaign ran television and radio ads in Mandarin, Cantonese, Vietnamese, and Korean (Fuchs, 2016).

This rise in multilingual political communications is likely the product of political actors adapting to the changing demographic composition of the United States. In particular, the number of bilingual individuals has doubled over the past twenty years from 10% of the U.S. population in 1980 to 20% in 2016 (Grosjean, 2018). Furthermore, members of important voting groups are bilingual. For instance, 75% of Latinos and 77% of Asian Americans speak a non-English language at home (Center for Asian American Media, 2016).

Surprisingly, despite the growing importance of bilingual individuals as a voting group and the emergence of multilingual political communications, researchers still know very little about how this multilingual information environment affects voters' political attitudes and behaviors. Indeed, much of the studies in political science and communication are dominated by work on monolingual speakers of English (for the exceptions, see Abrajano & Panagopoulos, 2011; Binder, Kogan, Kousser, & Panagopoulos, 2014; Flores & Coppock, 2018; Hopkins, 2011, 2014; Pérez & Tavits, 2017; Soto & Merolla, 2006). There is emerging and relevant work in psychology that examines decision making among bilingual individuals (for a review, see Hayakawa, Costa, Foucart, & Keysar, 2016). This work, however, has focused primarily on economic and moral decision making.

In this chapter, we advance two arguments. First, we make the case that the fields of political science and communication have much to gain by incorporating concepts and theories from psychological studies of bilingualism and decision making. Second, psychology can also greatly benefit by studying how bilinguals make political decisions. In particular, the political context can provide novel theoretical insights into how the information

environment interacts with psychological processes to influence behaviors. To best illustrate our arguments, we use examples from three important domains: voting, framing, and misinformation.

This chapter is organized as follows. We begin by describing work in psychology examining economic and moral decision making among bilingual individuals. We focus mainly on psychological mechanisms and processes that are relevant to the domain of politics. Then, we devote a section to each of three important areas of study in political science and communication: ballot measures and voting, political framing, and political misinformation. In each section, we discuss how adopting a psychological perspective can generate novel hypotheses related to political persuasion and decision making among bilingual voters. Finally, we end by discussing how the political context can provide important insights into future psychological studies of bilingualism and decision making.

## 1. Psychological perspectives on bilingualism and decision making

Psychological research on the effects of bilingualism on decision making has focused on the domains of risk and morality. These studies often investigate the extent to which people's choices will change as a function of whether the decision problem is presented in either the participant's native or a non-native language. Collectively, these studies generally show that language medium has an effect on people's decisions—often called the "foreign-language effect" (Keysar, Hayakawa, & An, 2012). However, as we discuss in the next sections, the exact mechanisms underlying the foreign-language effect are still not well understood.

### 1.1 Bilingualism and risk-based decision making

A foundational study in this literature examined the effects of language medium on people's choices to Kahneman and Tversky's (1979) famous "framing" decision problem (Keysar et al., 2012). In this problem, participants are faced with an imaginary outbreak of disease and asked to choose between two types of medications. Participants are told that without the medication, 600,000 people will die. One version of the scenario frames the problem in terms of lives saved (or "gains") by giving people the choice of selecting either:

Medicine A: 200,000 people will be saved.

Medicine B: There is a 33.3% chance that 600,000 people will be saved and a 66.6% chance that no one will be saved.

Another version frames the problem in terms of lives lost (or "losses") by giving participants these options:

Medicine A: 400,000 people will die.

Medicine B: There is a 33.3% chance that no one will die and a 66.6% chance that 600,000 people will die.

Although both Medicine A and Medicine B in the two scenarios are logically equivalent and lead to the same results (i.e., the expected value of option B is equal to the expected value of option A), a large body of work has found that people are more likely to choose Medicine A when the problem is presented in terms of gains and to pick Medicine B when the problem is presented in terms of losses (i.e., the "sure" option—Medicine A—is selected more in the gains than loss scenario; for a review, see Kühberger, 1998). This difference is thought to occur because people tend to be risk averse when the problem is presented in terms of gains, but risk seeking when it is presented in terms of losses.

In one of the first studies to examine the effects of language medium on decision making, researchers randomly assigned bilingual participants to a version of the framing scenario written in either their native language or non–native language (Keysar et al., 2012). The study replicated the classic framing effect when the scenario was presented in the participants' native language. In other words, Medicine A was selected at a higher rate in the gains than loss framing scenario. However, the researchers discovered that the framing effect disappeared when the scenario was presented in a non–native language (i.e., individuals were equally likely to select Medicine A across both the gains and loss scenario). The "foreign-language effect" has generally been replicated across studies from several countries using different native/non–native language combinations (Hayakawa, Lau, Holtzmann, Costa, & Keysar, 2019; although see Oganian, Korn, & Heekeren, 2016).

However, the exact mechanisms underlying this effect is still not completely understood. One explanation for this effect is that native and non–native languages engage emotional processing differently. The claim is that a non–native language engages emotion less than the native language does. Native languages are often associated with emotion-rich experiences that people encounter in their everyday lives whereas non–native languages are mostly acquired in less emotional contexts, such as the classroom. Indeed, there is evidence that people are less physiologically aroused when listening to a non–native language (Harris, Aycicegi, & Gleason, 2003).

There is evidence that the framing effects are the result of people's strong emotional attraction to sure gains and emotional aversion to sure losses (Kahneman & Frederick, 2006). Thus, using a non–native language might weaken these emotional reactions and make the choices seem more similar across gains and losses.

Another explanation is that the foreign-language effect results from enhanced cognitive control processes due to language switching (Oganian et al., 2016). The claim is that native languages may not be inherently more emotional than non–native languages. Instead, in contexts where people engage in language switching, cognitive control abilities are enhanced and lead to a suppression of emotional responses. There is evidence that bilinguals engage cognitive control processes when they need to manage the activation of both languages such as during language switching (Kiesel et al., 2010; Meuter & Allport, 1999). Language switching may reduce framing effects by temporarily enhancing cognitive control processes, which, in turn, leads to a suppression of emotional reactions. Researchers have found evidence for this claim. In one study, researchers randomly assigned bilingual participants to a language switch-condition (bilinguals had to switch languages—either from their native to a non–native language or vice versa—between task instructions and the framing problem) and a non–language-switch condition (those that were immersed in one language throughout the experiment) (Oganian et al., 2016). The authors found that the framing effect was strongly reduced following a language switch. Importantly, this reduction in the framing effect was observed for both a switch from the native language to a non–native language *and* a switch from the non–native language to the native language.

Finally, researchers have also theorized that a non–native language increases psychological distance—in particular, leading people to perceive situations at a more abstract level of construal compared to a more concrete level when using their native language (Hayakawa et al., 2016). Researchers theorize that people who evaluate issues at an abstract level are then less likely to focus on "concrete" representations of the scenario such as the words used to convey the problem.

## 1.2 Bilingualism and moral decision making

Another important domain in which researchers have examined the effects of bilingualism is in moral decision making. In another foundational study, researchers presented participants with the classic moral dilemma known as

the "footbridge dilemma" (Costa et al., 2014). In this problem, participants are presented with an imaginary scenario in which a runaway trolley is about to hit and kill a group of five people standing on the tracks. Participants are told that the only way to stop it is to push a heavy stranger off the footbridge in front of the trolley. This will kill the stranger, but save the five people. Killing the stranger to save five people is referred to as the "utilitarian solution" as it maximizes the benefits for the greatest amount of affected individuals. Not pushing the stranger and letting the five people die is the "deontological solution" as it places rights or duties above that of other considerations (i.e., deliberately killing under any circumstances is wrong).

This study found that presenting the scenario in a non–native language increased people's willingness to push the stranger off the footbridge (Costa et al., 2014). Specifically, approximately 20% of participants would the push the stranger off the footbridge when encountering the dilemma in their native language, but this proportion jumps to 50% if the dilemma is presented in a non–native language. The explanation for this result is still debated. In particular, this type of moral dilemma is thought to invoke two competing psychological responses (Greene, Sommerville, Nystrom, Darley, & Cohen, 2001). The initial and more automatic response is thought to be one that engages more emotional processes—leading to the deontological option (e.g., aversion to pushing someone to their death). The later controlled response engages more deliberative cognitive processing (i.e., calculating that sacrificing one life to save the many can be reasonable)—leading to the utilitarian solution.

Researchers theorize that because individuals are typically less fluent in their non–native language, they are much more likely to exert effort in attempting to comprehend the scenario and therefore engage in a greater level of deliberative processing. This increase in deliberative processing causes an increase in people's tendency to pick the utilitarian solution. However, an alternative explanation is that individuals possess less emotional associations with their non–native than native language. In this instance, use of a non–native language stunts emotional processing which, in turn, attenuates considerations of deontological rules, such as the prohibition against killing.

## 1.3 Summary of psychological processes

To summarize, existing work in psychology has identified several relevant processes that researchers should consider when examining how different language mediums may affect decision making. Generally, there seems to

be two classes of models that specify distinct mechanisms. First, "emotional distancing" models suggest that non-native languages elicit less emotional reactions than native languages. Specifically, non-native languages in comparison to native languages are believed to elicit less emotional processing because they are often not learned in affect-rich contexts. Further, non-native language use can promote higher-level construal that lead individuals to think in more abstract and emotionally distant terms. Second, "cognitive control" models suggest that non-native languages can increase deliberative cognitive processing. In particular, non-native languages are often less fluent than their native counterparts. Thus, individuals engage in greater cognitive effort or deliberative processing when evaluating information in a non-native language than the native language. In addition, language switching among bilinguals can engage cognitive control processes which, in turn, leads to suppression of emotional responses. Importantly, this can occur when an individual switches from a native to a non-native language or vice versa. In the next section, we discuss how these processes are relevant to the realm of politics and propose novel hypotheses generated by these theoretical frameworks.

## 2. Novel predictions on the effect of language medium on political decision making

In this section, we discuss how a psychological perspective can provide political science and communication with novel hypotheses about the extent to which bilingual voters respond to multilingual communications. We do this in three important political domains: ballot measures and voting, competitive framing, and political misinformation. In the discussions that follow, we assume contexts in which the voters' native language is non-English (e.g., Spanish, Arabic, Tagalog) and the non-native language is English. Similar to studies of the foreign-language effect, we also assume that bilingual individuals will be more fluent in their native than in their non-native language (i.e., voters are unbalanced bilinguals).

### 2.1 Ballot measures and voting

One of the most important contexts in which individuals encounter multilingual communications is in the voting booth. In 1965, Congress passed the Voting Rights Act primarily as a means of combatting nationwide voter disfranchisement of minority groups. In 1975, an amendment was added that included protections against voting discrimination of language minority

citizens (Department of Justice, 2017). These became known as The Language Minority Provisions of the Voting Rights Act. The provisions stipulate that when a certain portion of the population in a state or a political subdivision belongs to a minority language group, information related to elections is required to be provided in not only English, but the native language of relevant minority groups.

One important consequence of the Voting Rights Act is that millions of bilingual voters now have access to election materials in their native non-English language. For example, as of the last census in 2011, 248 jurisdictions in 25 states were required to translate election materials into languages other than English (Cohn & Cohn, 2016). As of 2015, there were 21 million U.S. citizens who were both language minorities and eligible to vote in districts that had bilingual ballot options (United States Census Bureau, 2017). This real-world context raises important questions about how political decisions are affected by changes in language medium in the voting booth. This is an important question to answer because voters make important policy decisions by voting on ballot measures and referendums. It is the most direct way the public can have a major impact on public policy. Further, it is usually the case that ballot measures are not well-publicized and voters can only rely on information presented at the voting booth.

Recently, there is growing concern that voters often encounter ballot measures that employ language that is too difficult to comprehend (i.e., use of legalistic or unfamiliar words) (Quesenbury & Chisnell, 2016). Work in this domain conducted primarily on monolingual speakers of English has shown that an increase in text difficulty can have a profound impact on people's voting decisions. In particular, theoretical and empirical work suggest that as the level of text difficulty increases, voters are either more likely to either abstain from voting on the ballot measure or to vote against it (Reilly & Richey, 2009; Winkielman, Schwarz, Fazendiero, & Reber, 2003).

One explanation for why an increase in text difficulty can cause voters to abstain from voting on the ballot measure is that it prevents voters from translating their political preferences to choices. An increase in legalistic or unfamiliar words is thought to decrease the likelihood that voters are able to understand the substantive content of the initiative ballot measure which, in turn, prevents them from assessing the consequences of the measure. A preference for the abstention option can emerge if voters perceive neither directional choice (for or against) as attractive due to lack of information, and they consider the potential costs of making of a decision (e.g., they do not feel entitled to make it without appropriate knowledge; they anticipate

possible regret if they make the "wrong" decision) to outweigh the potential benefits. Under this view, the mechanisms that lead to the decision to abstain can be seen as a rational strategy in which voters perceive the benefits of abstaining as outweighing its costs (Selb, 2008; Wattenberg, McAllister, & Salvanto, 2000).

An increase in text difficulty may also increase the likelihood that voters vote against a ballot measure. The mechanism underlying this prediction is that ballot measures can elicit positive and negative affective feelings as a function of whether the measures contain easy or difficult text. This view is based on the literature on metacognition and processing fluency. Studies in this area (for a review, see Petty, Briñol, Tormala, & Wegener, 2007) suggest that easy processing is experienced as pleasant (Winkielman & Cacioppo, 2001), and that this affective response can itself be used in judgment and decision-making (Winkielman et al., 2003). Conversely, difficult processing is experienced as unpleasant, and this feeling is associated with negative judgments such as uncertainty (Nelson, Kruglanski, & Jost, 1998) and risk (Song & Schwarz, 2009). Voters may misattribute these affective feelings to the content of a ballot measure—mistakenly believing that their positive or negative feelings were elicited by the substantive content of the measure instead of the use of unfamiliar words that comprised the ballot text.

How would a switch from a non-native language (in this context, English) to a native language (e.g., in this context, Spanish, Arabic) affect the decisions of bilingual individuals voting on ballot measures? In terms of rates of abstentions, one possibility is that ballot measures in the native language will elicit lower rates of abstention than a non-native language. This may occur for two reasons. First, if bilingual voters are more likely to understand and comprehend words in their native than non-native language, then they will be more successful at translating their political preferences into votes. Second, if a non-native language is more likely to promote high-level construal, then presenting ballot measures in the native language can make the issues seem more concrete and therefore immediate and important—requiring instant action (voting on the ballot measure as opposed to abstaining). Both these mechanisms converge on the prediction that ballot measures in the voters' native language will elicit lower rates of abstention than measures in the non-native language.

In terms of directional voting, it is likely the case that bilingual individuals engage in language switching during their voting experience on Election Day. For instance, jurisdictions that are required to provide election

materials in other languages often present both the English and the non-English versions of the measures side-by-side on ballots. Language-switching may mitigate the effects of affective feelings (generated by text difficulty) on directional voting by engaging voters' cognitive control abilities. This engagement of cognitive control processes may lead to a suppression of the positive feelings associated with reading "easy" ballot measures and negative feelings elicited by "hard" measures, which, in turn, decreases the likelihood that these emotional responses influence people's directional votes. The consequence, then, is that an increase in language switching may, overall, decrease the margin of "victory" of a ballot measure among bilingual voters.

Testing these novel hypotheses is important. Suppose studies find that presenting ballot measures in the voters' native language increases their ability to understand the substantive content of the measure and, as a consequence, decreases their likelihood of abstaining from voting on the measure. This would suggest that the Language Minority Provision of the Voting Rights Act is fulfilling its intended outcome by increasing rates of political participation among language-minority groups. In addition, this rise in political participation along with an increase in people's ability to understand what they are voting on would be desirable outcomes under some normative conceptions of democracy (Dewey, 1927). Further, suppose studies also find that engagement of cognitive control processes (due to language switching) leads to the suppression of emotional responses generated by the ease or difficulty of reading a ballot measure. This suppression of emotional responses then decreases the influence of affective feelings on voting choices. This would also be a normatively desirable outcome, given that it lessens the likelihood that voters mistakenly attribute their emotional responses—based on difficulties in reading—to the substantive content of the ballot measure. Generally, an understanding of the psychological processes underlying the vote choices of bilinguals informs knowledge about whether a multilingual information environment in the voting booth promotes or hinders sound voting decisions.

## 2.2  Competitive framing in politics

Voters not only encounter multilingual political communications in the voting booth but they also encounter them in their everyday lives. Imagine a bilingual voter who encounters two diverging perspectives about the issue of euthanasia while reading news articles online. The author of an opinion

piece, written in English, suggest that that individuals "have the right to die with dignity" (Niekerk, 2019). The author of another article, written in Spanish, points out that euthanasia is a form of "*homicado*" [homicide] ("¿Por qué NO a la Eutanasia?"). In the language of modern political science and communication research, the two authors are using different "frames"—right to die vs. form of homicide—to influence people's attitudes about euthanasia.

Although the political science and communication literatures use the terms "frame" and "framing," these are distinct from the conceptualization of "frames" in the economic and psychology literatures (i.e., framing effect studied in risk-based decision making). It is useful to distinguish between the concept of *equivalency framing* (the type studied in economics and psychology) from *emphasis framing* (the type studied in political science and communication). Equivalency framing effects occur when "logically equivalent phrases cause individuals to alter their preferences…typically involve [ing] casting the same information in either a positive or negative light" (Druckman, 2004, p. 671).

For example, recall the risk-based scenario mentioned earlier in which 600,000 are expected to die from a disease. The gain frame in which "Medicine A will save 200,000 people" is logically equivalent to the loss frame in which "Medicine A will result in 400,000 deaths." In politics, an example of an equivalency framing effect is when individuals decide to vote against a policy if voters are told that it will lead to 10% unemployment (a loss frame) but accept it if they are told that it will result in 90% employment (a gain frame).

In contrast, "emphasis framing effects" occur in contexts in which the alternative frames are not logically equivalent to each other. Framing effects occur because one frame is made more salient than the other. For instance, one prominent definition of emphasis framing effects describe them as "situations where, by emphasizing a subset of potentially relevant considerations, a speaker leads individuals to focus on these considerations when constructing their opinions" (Druckman, 2004, p. 672). Thus, highlighting euthanasia as a form of homicide instead of an exercise in the right to die will cause people to base their opinion on the notion that euthanasia is an act of homicide instead of an expression of one's right to die. Much of the empirical work in political science and communication focus on emphasis frames given their prevalence in the political environment (for a review, see Chong & Druckman, 2007a).

In particular, this work on emphasis framing in politics has generally gone through two stages. In the first stage, work on framing focused on the effects of "one-sided frames." In these studies, individuals were exposed to just one of two alternative frames. For the most part, work on one-sided frames reported evidence of strong framing effects (Nelson, Clawson, & Oxley, 1997; Nelson & Oxley, 1999; for a review, see Chong & Druckman, 2007a). For example, in a classic study on one-sided framing, participants were told that the Ku Klux Klan (KKK) intends to hold a rally. Participants were then randomly assigned to one of two conditions in which they either read a news story that framed the rally as an expression of civil liberties (free speech frame) or one that raised the possibility of violence (public safety frame). The study found that participants were much more likely to support allowing the KKK to hold a rally when the news story framed the rally in terms of free speech than an issue of public safety.

The second stage of research has provided new approaches, including work on "competitive frames" (Chong & Druckman, 2007b, 2010; Druckman & Nelson, 2003; Matthes & Schemer, 2012; Sniderman & Theriault, 2004). This body of work attempts to capture an important facet of the real-world information environment: Individuals at any point in time regularly encounter not one, but multiple frames from different political actors (e.g., politicians, journalists, interest groups, media organizations). These studies typically expose the same individuals to two or more alternative frames (e.g., simultaneously presenting individuals to both the free speech and public safety frames). Research on competitive frames has found that exposure to multiple and competing frames can, under certain conditions, lead to their effects canceling out, thus eliminating framing effects (i.e., people's attitudes when exposed to competing frames are equivalent to a condition in which they are not exposed to any frames, Chong & Druckman, 2007b).

However, this body of work on competitive framing has focused largely on studies of monolingual speakers of English. This work neglects another important feature of the information environment: Voters may be exposed to multiple competing frames delivered in different languages. This raises the important question, then, of whether exposure to multiple competing frames can lead to their effects canceling out or if one frame can still exert greater influence on people's attitudes and behaviors.

We expect that under certain conditions, exposure to competing frames with one conveyed in a native language and the other in a non-native language, will lead to one frame exerting stronger effects. Researchers theorize

that considerations must first be made "available" to exert effects on attitudes and behaviors (Chong & Druckman, 2007c). The idea behind availability is that individuals need to understand the meaning of considerations for them to play a role in the construction of their attitudes. For example, if an individual does not comprehend the concept of free speech, then they will not be affected by a free speech frame.

Conveying frames in either a native or non-native language can influence the availability of considerations. Among bilingual voters, we expect considerations to be more available when they are delivered in the native than non-native language. If voters are more fluent in their native language, then they will be more likely to comprehend the conceptual meaning of words that convey the frame. All else equal, this account predicts that when bilingual voters are exposed to competing frames in distinct languages, they will be more likely to be influenced by frames conveyed in their native language.

Another mechanism by which frames could exert effects is through the emotional responses they elicit. There has been some intriguing empirical work that supports this claim. One study examined people's emotional dispositions and their susceptibility to certain frames. The researchers hypothesized that individuals who were high in "physiological threat sensitivity" defined as "arousal of the sympathetic nervous system in response to physically threatening stimuli" (Coe, Canelo, Vue, Hibbing, & Nicholson, 2017, p. 1466) were more likely influenced by the public safety frame in the KKK scenario mentioned previously than individuals low in threat sensitivity. They reasoned that the public safety frame invoked information about physical danger or threat whereas the free speech frame did not. The researchers ascertained people's threat sensitivity by examining their level of arousal (measured using skin conductance) to negatively-valenced images. The images were from the International Affective Picture System (IAPS) database—a collection of pictures that vary in emotional valence (e.g., images of a spider, snake) often used in studies of emotion processing (Bradley & Lang, 2007). Individuals who were high in threat sensitivity were ones who experienced higher levels of arousal when looking at "threatening" images (e.g., spiders).

The researchers found that when exposed only to the public safety frame, participants high in threat sensitivity were more likely to oppose the KKK holding a rally than participants low in threat sensitivity. Interestingly, among participants exposed only to the free speech frame, both the high and low threat-sensitivity groups showed similar levels of support for the KKK holding a rally.

Among bilingual individuals, frames that generate emotional responses may be less likely to be effective when delivered in a non-native than native language. This is because words that convey the frame may have weaker emotional associations in the non-native than native language. In addition, language-switching contexts may decrease the effects of frames regardless of whether it is delivered in a native or non-native language. Based on previous studies in psychology, language switching may increase cognitive control processes which can lead to the inhibition of emotional responses.

In sum, scholarly work on framing in politics can be advanced by examining how a multilingual competitive environment influences the attitudes and behaviors of bilingual voters. In particular, bilingual voters and multilingual communications can provide a context by which to test the proposed mechanisms underlying framing effects—availability and emotional processing. Importantly, the study of bilingual voters would expand the literature's knowledge on the individual differences and informational environments that moderate the effects of frames on people's political attitudes.

## 2.3  Political misinformation

"Pope Francis shocks world, endorses Donald Trump for President."
"FBI agent suspected in Hillary email leaks found dead in apparent murder-suicide."

The articles accompanying these headlines were among the most prominent news stories during the 2016 U.S. presidential campaign. The story about the Pope endorsing Trump was shared over one million times on social media (Allcott & Gentzkow, 2017). Social media users engaged with the Clinton story (shared, liked, commented) more than half a million times. These stories, however, were not true. The websites that created the stories—the *Denver Guardian* and *WTOE 5 News*—were fake news web sites masquerading as real news sites (Evan, 2016; Mikkelson, 2016).

Although the idea of "fake news" gained national prominence during the wake of the 2016 U.S. presidential election, political scientists and communication scholars have known for more than two decades that much of the American public is likely misinformed about important issues. That is, many voters confidently hold onto beliefs that are demonstrably false across a wide range of domains, including inaccurate views about the beneficiaries of social policies, population demographics, economic statistics, and scientific facts (Kuklinski, Quirk, Jerit, Schwieder, & Rich, 2000; Pasek, Sood, & Krosnick, 2015). These false beliefs are important, as they have been shown to influence people's attitudes and opinions (Kuklinski et al., 2000).

In this section, we discuss two ways that voters can be misinformed about political facts. First, information sources from the environment, such as news websites and blogs that disseminate inaccurate facts, can play a role in misinforming members of the mass public. We refer to these as *external sources* of misinformation. We focus on the importance of people's ability to remember the source of political and scientific claims voters encounter in their everyday lives as a way of combating the influence of misinformation. Second, there are also instances in which voters are exposed to accurate information from an external source (e.g., credible news website), but their schemas or stereotypes about the world cause them to misremember information. We refer to these as *internal sources* of misinformation. We discuss how individuals may become misinformed in the context of bilingual voters navigating a multilingual information environment.

### 2.3.1 External sources of misinformation and bilingual voters

One of the most challenging tasks confronting voters in modern democracies involves forming opinions about complex and important social issues with which they are unfamiliar. It has been known for a long period of time that individuals look to others in helping them form opinions about political and economic issues (Katz & Lazarsfeld, 1955; Lazarsfeld, Berelson, & Gaudet, 1948). A large body of work has shown that individuals often draw upon the credibility of a source to decide whether or not to accept the claims or information presented in a message (Eagly & Chaiken, 1993; Petty & Cacioppo, 1986). For example, a person who sees political information that has been shared through social media has the opportunity to rely on source cues, such as who shared the article or the news organization that created the article, to evaluate the information.

It is important for individuals to direct attention to and remember the source of political claims or information for two reasons. First, individuals who accurately remember source information can have the opportunity to check the credibility of the source at a later point in time if the source is unfamiliar. Second, forgetting source information may run the risk of individuals failing to discount political information from a non–credible source when rendering a voting decision. For example, suppose a voter encounters an article claiming that Hillary Clinton poisoned an FBI agent who leaked her emails. Although the voter recognizes the news as "fake" given its source, exposure to it could still generate a negative emotional response towards Clinton. If the voter remembers that the article originated from a non–credible source when in the voting booth, she may simply discount these negative feelings since it's clear that they have an unreliable origin.

However, if the voter does not remember source information, then she may treat the negative information derived from "fake news" the same way as affective information derived from a credible source.

In the current information environment, disinformation campaigns can intentionally spread misinformation in different languages. For example, the Russian–controlled news agency *Sputnik* has been known to have engaged in the spread of political misinformation online and on social media (Satariano, 2019). The site called "newsbusters.org" often uses unreliable information and has a Facebook page that promotes its articles ("Newsbusters," 2016). Both organizations maintain an English and Spanish version of their online sites. We expect the language medium by which the news story is delivered to have an effect on bilingual voters' abilities to remember the source of the information. Specifically, we expect individuals to expend more cognitive effort at reading and understanding news stories conveyed in the non–native than native languages. This increase in deliberative effort may lead to better encoding of information which cause voters to remember source information in the non–native language (for one of the first studies to examine source memory among bilinguals, see Grant & Dennis, 2017). If true, this could be an instance in which a disfluent experience caused by communication in a non–native language leads to a desirable outcome.

Science communication is a related and important domain in which accurately remembering source information is critical. In particular, there has been a recent push for scientists to begin to communicate directly with the public about science, thus cutting out the middle-man of traditional mass media sources (Besley, Dudo, Yuan, & Ghannam, 2016; Dudo & Besley, 2016; Nisbet & Scheufele, 2009). For instance, scientists recognize that social media offers a new and exciting opportunity for them to engage and communicate about science (Dudo, Kahlor, AbiGhannam, Lazard, & Liang, 2014; Liang et al., 2014). In addition, many individuals are increasingly turning to social media as their primary supplier of science information (Brossard, 2013; Welbourne & Grant, 2016). These two phenomena have created an information environment in which individuals are frequently exposed to different scientists—possessing different areas of expertise—who disseminate information on scientific topics which may or may not be congruent with their area of expertise (e.g., a plant geneticist vs. an aerospace engineer sharing an article on Genetically Modified Organisms) (McKnight & Coronel, 2017).

It is important for individuals to remember the specific source of scientific claims because domain-specific experts are more likely to possess

accurate information that is within their area of expertise (Ericsson & Lehmann, 1996; Tetlock, 2005). Indeed, individuals can encounter science information communicated online by pseudoscientists and those without appropriate educational or professional experience with a specific science topic. For example, suppose an individual encounters a blog post from a geologist who claims that vaccines are dangerous and cause autism (Scheibner, 2013). At a later point, it may not be sufficient for the individual to remember that the claim originated from a scientist for her to discount the scientific claim. She needs to remember specifically that the source was a geologist to make it easy for her to realize that that information came from a scientist, but one who is likely non-expert on vaccines. Language medium may have a similar effect on bilingual voters' abilities to remember the source of the information. Specifically, individuals exert greater attention and cognitive effort while evaluating science information conveyed in the non-native than native language. As a consequence, they may be more likely to remember specific source information in the non-native language.

The ability to remember and evaluate external sources of information is one of the most important ways that individuals can discern true from questionable political and scientific "facts" and claims. Here, we used the example of political and science communication to make the case that remembering source cues is just one of the ways to curb the spread of political and scientific misinformation in the context of a multilingual environment. Understanding how these external sources of misinformation may be processed differently depending on non-native or native language is an important topic for future research to explore.

## 2.3.2 Internal sources of information and bilingual voters

Another important source of misinformation are instances in which individuals are exposed to accurate information from a source (e.g., credible news websites), but their schemas or stereotypes about the world cause them to misremember information. In particular, we focus on instances in which individuals can form false memories of about politics. A "false memory" refers to the vivid recollection of an event that did not occur (for a review, see Gallo, 2013).

In the cognitive psychology literature, false memories are often studied using the Deese-Roediger-McDermott paradigm (DRM). In the DRM, participants are presented with a list of words that are all semantically related to a non-presented word. The non-presented word is often referred to as the "critical lure." For example, the words "sugar," "honey," "candy"

and "cake" are all associated with the word "sweet"—the critical lure. Later when participants are asked to recall or recognize words from the studied list, they have a strong tendency to incorrectly report having encountered the critical lure (McDermott & Watson, 2001; Roediger, Watson, McDermott, & Gallo, 2001) often with a high level of confidence (Miller & Wolford, 1999; Roediger & McDermott, 1999).

One theoretical view claims that individuals possess a false memory about the critical lure in the DRM (Johnson, Hashtroudi, & Lindsay, 1993). According to this account, information about the world is stored in the form of schemas consisting of an organized network of semantically related concepts. For example, the concept of "sweet" may be linked with "candy," "cake," and "honey" in long-term memory. These associations arise because people experience repeated instances in which these concepts are linked in the environment (i.e., candies, cakes, and honey are often sweet). When a concept is encountered, its associated representation in memory becomes active and that activation spreads to surrounding concepts within the network (Collins & Loftus, 1975). Incidental activation of a related, non-encountered concept ("sweet") could form a long-lasting memory representation. A false memory occurs when an individual retrieves this memory representation and misattributes its source, mistakenly thinking that they encountered information that was, instead, internally activated (Johnson et al., 1993).

In the political domain, stereotypes about gender, race, and partisan identities are prominent examples of cultural schemas. Importantly, similar schema-based false memories likely occur in the political context. For example, in a now-classic study, Gilliam and Iyengar (2000) presented participants with a local television news story about a violent crime. In one of the conditions, the story did not show or even mention the word "suspect." After exposure to the story, participants were asked if the story showed a suspect. Strikingly, 44% of participants inaccurately remembered seeing a black "suspect" in the story that did not mention a suspect. A false memory explanation for this error is that for some individuals, the concept of "African-American" (the "non-studied critical lure") may be linked with "crime" and "violence" (the "studied list").

Similar memory errors occur in instances in which voters attribute policy positions to candidates. In particular, converging evidence from observational and experimental studies that have used both behavioral and electrophysiological techniques have found that voters tend to misattribute issue positions that are consistent with candidates' party affiliation

(e.g., attribute a pro-life view to a Republican candidate), even when these candidates have never endorsed such views (Coronel, Federmeier, & Gonsalves, 2013; Dancey & Sheagley, 2013; Lodge & Hamill, 1986; Lodge, McGraw, & Stroh, 1989). Further, issue misattributions that are held in high confidence generate an electrophysiological response (measured using event-related potentials) that are indistinguishable from true memories of the candidate's issue positions—suggesting that individuals possess actual (but incorrect) memories of these issue positions (Coronel et al., 2013).

How would differences in language medium impact the likelihood that bilingual voters generate false memories? We expect two distinct possibilities. It is possible that when learning information about either a political candidate or a news story about a crime, voters are more likely to exert effort when the information is presented in a non-native than native language, given their fluency in the latter. This increased cognitive effort may lead them to focus on individuating information and thus to rely less on general stereotypes or schemas. Further, enhanced attention can lead to better memory for the information they encountered. Under this view, individuals may generate fewer false memories when political information is presented in the non-native than the native language. Another possibility is that because comprehending political information delivered in a non-native language requires more cognitive effort, voters turn to heuristic shortcuts—political stereotypes—to aid in the learning process. Under this account, voters may generate greater false memories when information is presented in a non-native than native language.

Stereotypes and schemas as cognitive shortcuts has been relatively well studied in the political domain among monolingual speakers of English. However, we do not know how information that is presented to bilingual individuals, in either their native or non-native languages, influence their memories about political information. This is an important area to explore given the competing rationales for how non-native language may facilitate or inhibit stereotype-based false memories.

## 2.4 Summary of novel predictions

Adopting a psychological perspective can provide the fields of political science and communication with novel predictions regarding the effects of language medium on persuasion and decision making among bilingual voters. Below, we list our predictions and provide of a summary of the possible psychological mechanisms underlying each hypothesis.

### 2.4.1 Ballot measures and voting

*   *Ballot measures written in a native language will elicit fewer abstentions than measures conveyed in a non-native language.* This can occur because voters are more likely to understand ballot measures written in their native language. Another mechanism that can support this prediction is that ballot measures written in a non-native language increases psychological distance, which decreases the perceived importance of the issue.
*   *Language switching will decrease the margin of victory of a ballot measure among bilingual voters.* An increase in cognitive control processes leads to a suppression of the positive feelings associated with reading "easy" ballot measures and negative feelings elicited by "hard" measures which, in turn, decreases the likelihood that these emotional responses influence people's directional votes.

### 2.4.2 Framing in politics

*   *Under conditions in which voters are exposed to competing frames with one conveyed in a native language and the other in a non-native language, the frame delivered in the native language will exert stronger effects.* Voters will be more likely to comprehend the conceptual meaning of words that convey frames in the native than non-native language.
*   *Among frames that exert their effects on attitudes through emotional responses, such frames will exert stronger effects in the native than non-native language.* Words that convey the frame in a non-native language will have weaker emotional associations than the native language.
*   *Among frames that exert their effects on attitudes through emotional responses, language switching will weaken their effects.* Language switching may increase cognitive control processes which can lead to the inhibition of emotional responses. This can occur for both frames conveyed in the non-native and native language.

### 2.4.3 Political misinformation

*   *External source cues are more likely to be remembered when conveyed in a non-native than native language.* The increase in cognitive effort directed to understanding information conveyed in a non-native language may lead to better encoding of source information.
*   *Conveying political information in a non-native language will elicit fewer schema-based false memories than delivering the information in a native language.* The increase in cognitive effort directed to understating information

conveyed in a non–native language will cause voters to focus on individ-
uating information and rely less on general stereotypes or schemas.

*   *Conveying political information in a non-native language will elicit greater
    schema-based false memories than delivering the information in a native language.*
    The increase in cognitive effort directed to understating information
    conveyed in a non-native language will cause voters to turn to heuristic
    shortcuts—political stereotypes—to aid in the learning process.

Testing these hypotheses will advance the literature in each of these
domains. In addition, it will also provide much needed knowledge about
the conditions under which a multilingual information environment
facilitates or inhibits the ability of bilingual voters to make sound political
decisions and judgments.

## 3. Insights gained by psychology

Our primary argument is that both fields will benefit by studying
decision making among bilingual voters. In this final section, we discuss
what the literature on psychology and decision making can learn by expan-
ding its scope to the political domain. We believe that such investigations
can lead to three important insights.

First, a critical insight is that the effects of language switching on decision
making is going to be equally as important as the foreign-language effect. In
the political domain, language switching is pervasive. Bilingual voters
encounter multiple translations of ballots in the voting booth, they read
news stories in different languages in their everyday lives, and they often
learn political information in one language and need to translate the infor-
mation to another language when they share it with others such as their
family, friends, and colleagues. Much of the current work on psychology
and decision making has focused largely on the foreign-language effect.
To our knowledge, only one study has examined the effects of language
switching on decision making (Oganian et al., 2016). Further investigations
on the causal effects of language switching on decision making is therefore
critical. Such research is needed given that political decisions will often
occur in the context of a multilingual environment that requires bilingual
voters to frequently engage in language switching.

A second insight is that more attention will need to be paid to compre-
hension processes and their effects on decision making. Much of the empir-
ical work on the foreign-language effect has assumed that participants were
generally able to understand the decision problems posed to them in both

the native and non-native language. Thus, much of the theorizing on the mechanisms underlying the foreign-language effect has focused on "secondary" processes such as emotional and cognitive control processes—processes that transpire once participants have understood the meaning of the stimuli. However, in politics, there are strategic reasons for political elites to use complex language in their communications. They do this for the purpose of misleading voters or discouraging them from participating in politics. For example, some ballot measures use language that is difficult to understand because politicians or interest groups want to bias the outcome; using complex language can obscure issues or cause less educated voters to refrain from voting (Reilly & Richey, 2009). In the political context, the inability of some individuals to understand stimuli presented in a non-native language compared to a native language is a phenomenon that, in most cases, should not be "controlled for." It is an important feature of the political environment.

Finally, understanding decision making in the context of politics requires integration of different theories and concepts across sub-fields in psychology. As highlighted by our examples, theories related to false memories from cognitive psychology and affect misattribution from the meta-cognition literature were combined with existing theories from the foreign-language effect to derive novel hypotheses. To our knowledge, current work in bilingualism and decision-making literature has not drawn from, or engaged with, the false memory or meta-cognitive literatures. Future psychological studies on political decision making will need to synthesize knowledge across different sub-fields of psychology. Such integration may provide novel theoretical and conceptual insights into human cognition.

Taken together, we believe that studying bilingual decision making in the context of politics will benefit the field of psychology. More generally, it will advance basic scientific knowledge into how the nature of the information environment interacts with basic psychological processes to influence important forms of behavior.

## 4. Conclusion

According to the 2010 census, approximately 65 million individuals in the United States speak a language other than English at home (Ryan, 2013). Of this number, about 25 million spoke English "less than very well" (Ryan, 2013). Considering recent developments in accommodating bilingual individuals as they receive political information, such as through bilingual ballots

or multilingual campaign messages, there is a pressing need to understand how a significant portion of the population might make political decisions based on the language medium conveying critical information. Applying existing knowledge from political science, communication, and psychology, we formed expectations of how bilingual individuals might respond to ballot initiatives, frames, and sources of misinformation in a multilingual environment. Ultimately, understanding how bilingual voters make sense of the political world offers useful insights into ways of promoting sound decision making in democratic societies.

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