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[Link to publication](#)

Citation for published version (APA):

Routledge
Taylor & Francis Group

REVIEW ARTICLE

Recategorizing political frames: a systematic review of metaphorical framing in experiments on political communication

Britta C. Brugman[a], Christian Burgers[b] and Gerard J. Steen[c]

[a]Department of Political Science and Public Administration/John Stuart Mill College, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands; [b]Department of Communication Science, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands; [c]Department of Dutch Studies, University of Amsterdam, Amsterdam, The Netherlands

ABSTRACT

Framing theory is one of the most important theories in communication. One of the key debates today is about the tendency of scholars to mostly study issue-specific frames instead of generic frames. As a new approach to this debate, we propose a recategorization of frames. Following the proposition that metaphor is an important reasoning device in political communication, we examined the presence of metaphorical framing in recent political framing experiments. The main results show that almost one in three experiments involves metaphorical framing, and one in six frames is metaphorical, irrespective of frame type. By showing reasonable presence of metaphorical framing, this study demonstrates that the challenge of issue-specific prevalence may not be as problematic as previously suggested.

Framing theory is one of the most important theories in communication (Cacciatore, Scheufele, & Iyengar, 2016). The theory has been embraced by scholars across many sub-disciplines of communication because of its broad applicability to the study of media in terms of media content, dynamics, and effects (D'Angelo, 2002; Entman, 1993; Matthes, 2009; Vliegenthart, 2012). However, framing has also been associated with diverging research approaches, ranging from a focus on the psychological causes of social perceptions to the attitudinal effects of presenting information in different ways. Recently, Krippendorff (2017) has argued that these diverging research approaches have emerged because framing has a metaphorical meaning, that of a picture frame through which the world is presented. As a solution to this problem, Krippendorff proposes to move away from understanding framing as a cognitive construct and instead to redefine framing as acts of communication. According to Krippendorff, concentrating on communicative behaviors like the use of linguistic tropes such as metaphors will generate a great deal of new insights for key debates in framing research.

One of those key debates in framing research today is about the tendency of scholars to focus on issue-specific frames instead of generic frames (Borah, 2011; Cacciatore et al., 2016; De Vreese, 2005; Hertog & McLeod, 2001**).** While generic frames generally transcend thematic limitations, issue-specific frames are unique, meaning that they are only pertinent to the specific issue that is under investigation[1] (De Vreese, 2005). For example, whereas the generic 'conflict frame' is abstract and applicable to a wide range of topics, the issue-specific 'peace frame' is more concrete and is usually exclusively identified in relation to the topic of war.

CONTACT Britta C. Brugman ✉ b.c.brugman@vu.nl Department of Political Science and Public Administration/John Stuart Mill College, Vrije Universiteit Amsterdam, De Boelelaan 1081, 1081 HV Amsterdam, The Netherlands

The problem here is that the use of issue-specific frames often raises concerns about the validity of research findings on framing (e.g. Borah, 2011; Hertog & McLeod, 2001). The study of generic frames allows for the identification of patterns of frames and effects over time and across topics (e.g. Chyi & McCombs, 2004). In contrast, the unique conceptual nature of issue-specific frames may make the comparability and generalizability of research results more difficult, because connecting these findings to the broader theoretical framework of framing may be more challenging. For this reason, some scholars have argued to shift the focus from issue-specific frames towards generic frames (e.g. Borah, 2011; Hertog & McLeod, 2001).

At the same time, the study of issue-specific frames invites a more comprehensive analysis of the effects of framing with regard to particular topics than the study of generic frames, which establishes a profound understanding of framing (De Vreese, 2005). Public debates involve many, often opposing, issue-specific frames, which is why research on issue-specific frames may be critical to advance our knowledge of how frames work in shaping public opinion (e.g. Chong & Druckman, 2007a). The specific communication contexts in which frames play an important role are much more taken into account compared to the study of generic frames. Framing research thus also benefits from studying frames that are specific to only one issue.

The novel contribution of this paper is that it explores the relations between these two types of frames and one specific type of communicative behavior: metaphors, which Krippendorff calls 'proto-typical initiators of framing' (2017, p. 97). This paper integrates previous framing research with a new approach to framing to reevaluate the issue-specific/generic-frame debate: figurative framing, which posits that figures of speech such as metaphor can both serve as framing devices and as reasoning devices in shaping public discourse (Burgers, Konijn, & Steen, 2016). The term 'framing device' generally refers to how the frame is linguistically packaged, whereas the term 'reasoning device' refers to the frame's conceptual content. Up to now, most framing scholars considered metaphors a framing device, meaning that metaphors draw attention to the political position in the frame (e.g. Gamson & Lasch, 1989; Joris, d'Haenens, & Van Gorp, 2014). The figurative-framing approach proposes that metaphors can also serve as a reasoning device by adding conceptual content (Burgers et al., 2016).

Metaphor is defined as a cross-domain mapping between a source domain and a target domain (Lakoff & Johnson, 1980). The source is the conceptual domain from which the metaphorical expression is drawn. The target is the conceptual domain that is understood in terms of the source. A prominent example of a metaphorical frame is the 'horse-race frame,' which compares the target domain of political elections to the source domain of horse races. The metaphor in the frame adds conceptual content by producing interpretations of the issue based on 'front runners' (politicians), 'race developments' (polls), and a 'finishing post' (election day). Yet, the 'horse-race frame' has hardly been classified as metaphorical in the framing literature, which is why little attention has been paid to how this metaphor serves as a reasoning device, and consequently how the metaphor influences our understanding of the topic of the frame. This may also be true for many other frames.

Because of this notion that metaphor can both serve as a framing and reasoning device in shaping public discourse (Burgers et al., 2016), the purpose of this study is to see whether issue-specific and generic frames can both be metaphorical. Rather than arguing against examining issue-specific frames, we suggest a more positive approach to the debate. One that takes the possible similarity between issue-specific and generic frames as a starting point. We examine whether they are by definition two fundamentally different categories, or instead may share a common feature. Any such finding would indicate that the problem of issue-specific frame prevalence may not be as serious as often presumed, because similarity between both types of frames benefits the comparison and generalization of the totality of framing-theory findings.

This paper focuses specifically on framing in political communication for three reasons. First, research shows differences in framing between communication domains. Because of its interdisciplinary and integrative nature, framing often has a different meaning across theoretical and methodological approaches (e.g. D'Angelo, 2002; Entman, 1993; Hertog & McLeod, 2001; Matthes, 2009). Given the potential relation between communication domain and framing, we propose to

investigate the metaphorical nature of frames in one domain first. Second, political communication could possibly be considered the most influential communication research field for framing development, especially seeing the vast number of scholars who are actively working on advancing our understanding of framing dynamics and effects (see De Vreese & Lecheler, 2012 for an overview). Third, according to the Theory of Moral Reasoning (TMR) by cognitive linguist George Lakoff (2002) metaphor is exceptionally critical to political discourse.

TMR proposes that metaphor is not only at the heart of political talk but even more so of political thought. Specially, people use the metaphorical concept of the family to make sense of the political world (Lakoff, 2002). Whereas conservatives generally see the state as a strict father, liberals commonly think of the state as a nurturing parent. This prediction is based on the assumption that people automatically and unconsciously use metaphor to understand abstract concepts (e.g. political values) by drawing from knowledge of more concrete concepts (e.g. family; Lakoff & Johnson, 1980). Metaphor essentially provides people with a means of connecting political issues to their own experiences, which is exhibited in how people express themselves about politics. This suggests that because metaphor plays an important role in the public understanding and discussion of politics, framing in political communication would be highly metaphorical.

Finally, the concerns associated with issue-specific frame prevalence are relevant to both quantitative and qualitative research methods used to study framing such as content analysis. However, they are most relevant to experiments because experimental findings can only be validated when the frames employed are similar in some way. We therefore aim to systematically examine the presence of metaphorical framing in present-day experiments on political framing to assess how big the challenge of issue-specific frame prevalence may actually be. In this way, our systematic review serves as a way to explore the potential of a metaphorical perspective to the analysis of issue-specific and generic frames, allowing for the organization, integration, and interpretation of past experimental research on framing from multiple scientific fields.

A need for recategorizing frames

Framing is commonly defined as 'select[ing] some aspects of a perceived reality and mak[ing] them more salient in a communicating text (…) to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation' (Entman, 1993, p. 53). In political communication, framing has been shown to be particularly useful for studying how changes in the media presentation of issues can change public opinion (Chong & Druckman, 2007b). Media coverage is characterized by an abundance of frames that scholars attempt to capture in their analyses (De Vreese, 2005). As a result, a multitude of frames has been identified to understand framing in relation to many different topics. A systematic review by Borah (2011), for example, shows that the majority of these frames studied in communication research is issue-specific rather than generic, which means that a majority of frames cannot easily be applied across issues.

This tendency of framing scholars to focus on issue-specific frames has especially been criticized in relation to experimental research. Experiments are specifically designed to establish causal relationships between framing manipulations that represent media presentations of issues, on the one hand, and real-world attitudinal and behavioral responses, on the other hand. For validation of these effects, it is imperative that researchers are able to connect findings to the broader theoretical framework of framing (Borah, 2011; Hertog & McLeod, 2001). In order to properly do this, findings from the study of issue-specific frames should be conceptually similar to each other. However, the many issue-specific frames that are used may generate too much heterogeneity to compare and generalize existing empirical evidence for the effects of framing (Hertog & McLeod, 2001). Such concerns about methodological validity and theoretical integration are usually understood to be addressed by turning to the exclusive study of generic frames.

Nevertheless, compared to generic frames, issue-specific frames are particularly useful for gaining insights into the effects of framing on people's political perceptions, opinions, and preferences

regarding specific issues in specific contexts (De Vreese, 2005). For example, even though experimental investigation into the effects of the 'equality frame' as a generic frame could help explain how people come to think about gay marriage policy, issue-specific frames such as the 'gay rights frame' can be regarded as having more practical value. Examining issue-specific frames consequently contributes to our knowledge of framing and the construction of our complex political reality.

For this reason, advising scholars to refrain from using issue-specific frames would be unfortunate. Alternatively, considering a novel recategorization of issue-specific and generic frames under the umbrella of a common variable may offer many benefits. First and foremost, the approach is more positive, because the value of issue-specific frames for gaining contextual knowledge of framing is recognized. Second, the approach improves the comparability of findings, because priority is given to the ways in which the two types of frames are similar. Third, the approach improves the generalizability of findings, because redistribution of frames between categories may help to bridge the evidence from studies analyzing both two types of frames. Frame analysis at the general level of metaphor will thus provide a new interdisciplinary avenue for constructing one and the same basis for comparison and generalization of findings from framing research studying both issue-specific and generic frames. This study therefore offers a new starting point from which framing theory can advance.

Metaphorical framing

Metaphors consist of systematic sets of correspondences between elements of two domains, which is why metaphor is generally defined as a cross-domain mapping (Lakoff & Johnson, 1980). Metaphors can be summarized by the schematic form 'A is B,' where A is the target domain and B is the source domain. Accordingly, metaphors constitute a way of expressing thoughts, feelings, and beliefs about one thing in terms of another. According to Steen (2011), metaphor is characterized by three dimensions: language, thought, and communication. Metaphor can serve to name in language, frame in thought, and change perspectives in communication, meaning that metaphor possesses linguistic, conceptual, and communicative properties and functions. Social scientists have paid the most attention to the third dimension of metaphor by exploring how politicians use metaphor as a rhetorical device to achieve strategic goals (Bougher, 2012).

Contrary to popular belief, the use of metaphors is not restricted to rhetorical language, and not even to language in general. At present, metaphor scholars widely agree that metaphor is a conceptual device through which abstract concepts are understood by drawing upon knowledge of more concrete concepts (Steen, 2011). With regard to the concept of scientific theories, for example, we rely on conceptualizations of theories as buildings (e.g. 'theory construction,' 'foundations of a theory'), plants (e.g. 'a budding theory,' 'earlier stages of the theory's development'), and cloth (e.g. 'finely woven theory,' 'fabric of the theory'). Similarly, in communication theories, we use domains like plants (Cultivation Theory), but also diseases (Hypodermic Needle Theory, Contagion Theory), physical space (Knowledge Gap Theory, Theory of Digital Divide), and physical boundaries (Gatekeeping Theory) to understand communication processes.

Cognitive linguists Lakoff and Johnson (1980) argue that a great deal of our thinking is structured by a system of metaphorical concepts. Conceptual Metaphor Theory (CMT, Lakoff & Johnson, 1980) posits that people can only conceive abstract concepts by means of more concrete concepts. People need an underlying set of conceptual metaphors to think and talk about abstractions. Conceptual metaphors are clusters of cross-domain mappings; cognitive structures that help organize our knowledge of the world. As a result, metaphorical use of language is not random, but a reflection of concepts clustered in systems of cross-domain mappings. The metaphorical expressions we use to talk about abstract concepts are the product of the conceptual metaphors that we use to think about them.

By way of illustration, the political domain is often understood as sports. The metaphorical expression 'running ahead in the polls' for example compares political elections to horse races. In horse races, horses are judged relatively to the speed of other horses, and not by absolute speed or skill. This is why this metaphorical expression may lead people to focus on which political

candidate is winning the elections rather than on policy positions. Another example is referring to a politician as 'running a marathon,' which connects properties of long distance racing, such as endurance and persistence, to political elections. Both these and many other metaphorical expressions belong to the same conceptual metaphor of ELECTION IS A RACE (following the conventions of linguistics, conceptual metaphors are written in capitals). Moreover, political elections can also be interpreted by means of other conceptual metaphors such as ELECTION IS A BATTLE and ELECTION IS A JOURNEY, which are again reflected in many metaphorical expressions.

The idea that metaphor is an important reasoning device in political communication comes from this precise proposition that people think in metaphor (Lakoff & Johnson, 1980). With special respect to political reasoning, TMR (Lakoff, 2002) holds that people unconsciously understand political morality through the completely different domain of family. The conceptual metaphor of THE NATION IS A FAMILY prompts people to see the nation as a family, government as a parent, and citizens as children. Political ideas of right and wrong are therefore closely connected to thoughts about family dynamics and parenting styles. The particular conceptual manifestations of this conceptual metaphor however differ between political ideologies.

While conservatives typically think of the nation as a strict father, liberals see the nation as a nurturing parent (Lakoff, 2002). A strict father raises his children by way of strict rules and punishment, and praises moral values like self-discipline. A nurturing parent favors moral values such as empathy and responsibility, and believes that parents should above all support and protect their children. These metaphorical ways of conceptualizing the nation have direct policy implications. The strict-father metaphor for instance implies a strong criminal justice system, whereas the nurturing-parent metaphor implies more generous welfare programs. Given that metaphors in thought produce metaphors in language (Lakoff & Johnson, 1980), TMR proposes that when politicians discuss their political opinions, this is almost always based on the strict-father metaphor and/or nurturing-parent metaphor (Lakoff, 2002). Thus, most political frames would be metaphorical by definition. The first research question therefore asks:

RQ1: What is the presence of metaphorical framing in political framing experiments published in the twenty-first century?

As discussed previously, the 'horse-race frame' is a metaphorical frame, because political elections are compared to horse races. As a manifestation of the 'game frame,' the 'horse-race frame' is also a generic frame (Aalberg, Strömbäck, & De Vreese, 2012). Yet, a metaphorical perspective to the recategorization of issue-specific and generic frames may be equally relevant to both issue-specific and generic frames. For this reason, the second research question reads:

RQ2: How does the degree of metaphorical framing differ between issue-specific versus generic frames?

It is also important to check whether this metaphorical perspective to the analysis of issue-specific and generic frames is relevant regardless of other factors. Given the assumption that framing is based on selection and salience (Entman, 1993), the ways in which political issues are framed can depend on many factors, and so could the degree of metaphorical framing in political framing experiments. According to Kövecses (2006), cultural context could explain variations in metaphor use. The governing principles that are central to people's experience vary among and within cultures, and therefore possibly influence the structure of our metaphorical thinking differently. Seeing that people understand the world with metaphor (Lakoff & Johnson, 1980), and culture can be defined as a shared understanding between groups of people (Kövecses, 2006), metaphorical framing in political framing experiments and the cultural context of the researchers are possibly closely connected.

Another important factor in metaphor use could be the political issue under discussion. Previous research suggests that metaphor is most commonly used to explain abstract versus concrete concepts (Landau, Meier, & Keefer, 2010). Again, this idea originates from the major premise of CMT that people automatically and unconsciously use metaphor to understand concepts that are difficult to understand by drawing upon knowledge of concepts that are easier to understand (Lakoff &

Johnson, 1980). The more studies involve abstract political issues, the more one would expect meta-phorical frames. In short, the country in which the studies are conducted, the political sphere (foreign versus domestic) and topics (e.g. economy, education) of the study could influence the presence of metaphorical framing. Accordingly, the third research question examines:

RQ3: How does the degree of metaphorical framing differ between (a) cultures, and (b) political spheres and topics?

Method

Database search

A systematic review was conducted to examine the degree of metaphorical framing in political framing experiments. A systematic review is a research method used to gather, evaluate, and syn-thesize existing evidence provided by studies that address a similar research question, in a way that is as pragmatic, transparent, and reproducible as possible (Cook, Mulrow, & Haynes, 1997). The database search was conducted for publication title, abstract, and keywords in nineteen elec-tronic databases (see Appendix 1).[2] The databases were selected based on perceived relevance to the topic. Given the increasing problem of publication bias in scientific research and reporting (Cumming, 2014), the unit of analysis were studies published in conference papers, doctoral disser-tations, book chapters, and journal articles between 2000 and 2014 on the persuasive effect of framing in political communication. This time frame served to substantiate the finding by Borah (2011) that issue-specific frame prevalence is a contemporary challenge in framing research.

The search string contained 'frame' or 'framing,' multiple search terms describing politics such as 'politics,' 'policy,' and 'public opinion,' and 'effect or result or finding or outcome or experiment or survey or questionnaire' (see Appendix 2). Wildcards were employed to account for plurals and vari-ations in spelling. In addition to forward searching, backward reference searching and backward author searching were used to increase the probability of relevant studies to be included. This means that references that were cited in relevant publications and previous publications of authors who are known to conduct framing experiments were also checked.

Selection procedure

The database search was the first of five selection steps in the systematic review process (see Figure 1). The second step was the removal of duplicates. In the third step, publications were manu-ally screened against several inclusion criteria by reading the titles and abstracts of the publications.
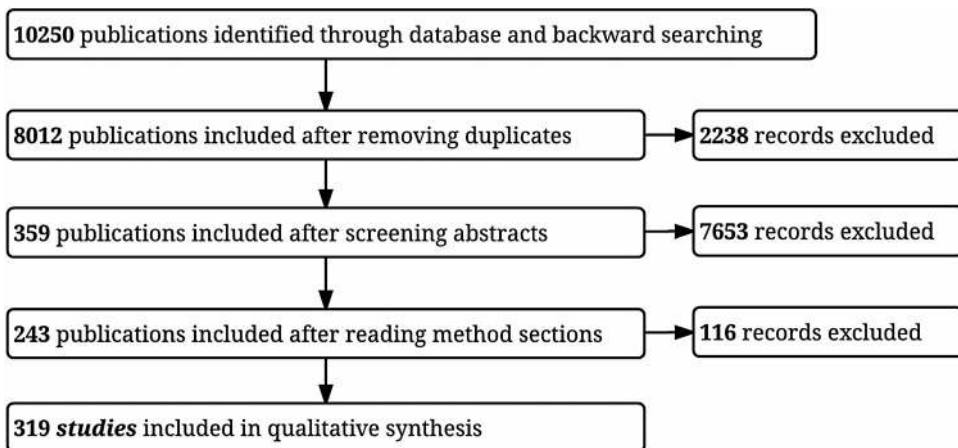

Figure 1. Flow diagram of the systematic review process.

Publications were included when at least one of the studies reported by a publication met the inclusion criteria.

The first inclusion criterion entailed that only publications with one or more studies about framing were included. In order to include as many framing studies as possible, we operationalized a study as dealing with framing when the original authors explicitly indicated this in the text of the publication. In other words, publications met the criterion when the original authors classified their experimental conditions as frames. Publications were only regarded as eligible when one or more studies examined verbal framing.

Second, only publications with one or more studies about political communication were included. According to Wolton (1990, pp. 12–13), political communication is 'the arena in which different types of discourse revolving around politics vie to gain ascendancy in the political interpretation of the situation.' Following his view of political communication as competition over political consideration of issues as matters of serious discussion, political communication was operationalized as: *information provided by authoritative actors about issues that demand political attention*. Authoritative actors were understood as, among many others, politicians, policy-makers, journalists, and experts.

Third, only publications with one or more studies with one or more experimental conditions were included. In other words, the only publications considered for inclusion were those that contained one or more studies employing a quantitative effect study design. This selection criterion excluded non-experiments.

Fourth, only publications with one or more studies examining one or more persuasion-related dependent variables were included, because experiments on political framing focus on examining the degree in which frames change people's minds (Druckman, 2001). The Theory of Planned Behavior (TPB, Ajzen, 1991) has been widely applied to understand the underlying mechanisms behind attitudinal and behavioral change. Thus, we classified an experimental framing study as dealing with political persuasion when at least one of the variables of the TPB was included as a dependent variable. Dependent variables included beliefs, attitude, subjective norm, perceived behavioral control, intention, and behavior.

Finally, only publications with one or more studies with populations comprising native speaking, healthy adults were included. The populations of studies could not purposely consist of participants with low language proficiency, language impairment, a neurological or psychiatric history, and minority of age, because these participants do not represent average voters, which is a necessary condition for traditional political framing experiments.

A total of 243 relevant publications were included. This means that precision without duplicates was 3.0%, which aligns with medium precision in systematic reviews (Sampson, Tetzlaff, & Urquhart, 2011). Intercoder reliability of preliminary relevance coding was assessed with the second author as a second coder. Based on a random sample of 200 publications, intercoder reliability assessment yielded an 'almost perfect' agreement score (Cohen's $\kappa = .91$; Landis & Koch, 1977).

The next step in the selection process involved reading the method sections of the preliminarily included publications to determine which studies needed to definitely be included. In this stage, studies were included instead of publications, because publications can contain multiple relevant studies (examples of papers reporting on more than one experiment are Chong & Druckman, 2007a; Hartman & Weber, 2009). This resulted in 319 relevant studies. Intercoder reliability calculations of this second set of relevance coding were based on a random sample of 10% of the preliminarily included publications, and again indicated 'almost perfect' agreement (Cohen's $\kappa = .80$; Landis & Koch, 1977). The fifth and final step of the selection process concerned coding the included studies for a number of variables.

Coding procedure

Frames were first coded for being issue-specific or generic. The following frames have been prominently identified in the framing literature as generic: 'game frame,' 'strategy frame,' 'substantive frame,' 'procedural frame,' 'opportunity frame,' 'risk frame,' 'thematic frame,' 'episodic frame,' 'conflict

frame,' 'human interest frame,' 'economic consequences frame,' 'morality frame,' 'responsibility frame,' 'gain frame,' and 'loss frame' (e.g. Aalberg et al., 2012; Entman, 2004; Iyengar, 1994; Lecheler & De Vreese, 2012; Semetko & Valkenburg, 2000; Tversky & Kahneman, 1981). Since scholars may give frames different names, making this set of frames insufficiently exhaustive, frames were also coded as generic when the name of the frame was similar to the frames described above or covered similar conceptual grounds. For example, the 'issue frame' corresponds reasonably closely to the 'substantive frame,' because both focus on the substance of an issue. Both were therefore coded as generic. Otherwise, frames were coded as issue-specific.

The degree to which frames were metaphorical was next determined by means of the first step of the Metaphor Identification Procedure Vrije Universiteit (MIPVU; Steen et al., 2010), a systematic manual procedure that has been shown to be a reliable method for metaphor identification. All frames were coded for metaphor by applying MIPVU to every word of the name of the frame (except for the word 'frame').[3] A word is metaphorical when there is an implied comparison between two domains. This means that the two domains involved should be sufficiently distinct, but should also be related by some form of similarity. A word was therefore coded as metaphorical when its contextual meaning contrasted with its basic meaning, but could still be understood in comparison to it. As the term already suggests, the contextual meaning refers to the meaning of the word in the specific discourse. The basic meaning is the most concrete or precise meaning of the word. When the basic meaning and contextual meaning are (almost) the same, a word was coded as non-metaphorical. The complete coding manual can be found in Steen et al. (2010).

An example of a metaphorical frame was the 'improbable mechanism frame' (Corner, Hahn, & Oaksford, 2011). Both the words *improbable* and *mechanism* were entered into the online version of the Macmillan Dictionary for British English. The word *improbable* produced the same basic and contextual meaning ('not likely to happen or to be true'), which would not indicate a metaphor related word. In contrast, the basic meaning of the word *mechanism* is 'a machine or part of a machine,' while the contextual meaning of the word in the study is 'a method or process for getting something done within a system or organization,' which is why the 'improbable mechanism frame' was coded as metaphorical. Following the same procedure, examples of non-metaphorical frames are the 'economic consequences frame' (e.g. De Vreese, 2004), 'equality frame' (e.g. Joslyn & Haider-Markel, 2002) and the 'public order frame' (Hartman & Weber, 2009), because the basic meaning of the words *economic*, *consequences*, *equality*, *public*, and *order* are the same as their contextual meaning in the studies.

After applying MIPVU to the frames, the metaphorical frames were translated into conceptual metaphors to show which source domains are generally mapped onto which target domains in the political framing experiments. The target domains of the metaphorical frames were derived from the authors' account of the political topic of the study. The source domains were inferred from the Macmillan Dictionary entry of the metaphorical related word(s) in the frames. The synonyms and related words Macmillan Dictionary provided for the basic meaning served to find the source domain. In the case of the 'improbable mechanism frame,' this was 'machinery and equipment.' As a result, the 'improbable mechanism frame' produced the conceptual metaphor of POLICY IS MACHINERY. When synonyms and related words were unavailable, the provided description of the word was shortened as much as possible.

Finally, studies were coded for the country in which the studies took place and the political issues related to the studies. The country in which the studies were conducted was taken from the method sections of the publications. The political spheres and topics related to the studies that were distinguished were domestic politics, foreign politics, economy, science and technology, health and environment, and education. The variables took two values: yes or no, except for the political spheres variable. Given the selection criteria of political communication, the experiment could not be unrelated to one of the spheres. The values of that variable were therefore: domestic politics, foreign politics, or both. Additional intercoder reliability calculations showed that coding agreement was 'substantial' to 'almost perfect' (Landis & Koch, 1977; cf. Table 1), with the exception of the political topic of science and technology. For this reason, this variable was excluded from the analyses.

Table 1. Cohen's kappa's and percent agreement as measures for intercoder reliability.

Variables	N	Cohen's κ	% agreement
Metaphor	91	0.88	95.6
Generic or issue-specific	100	0.79	90.0
Country	33	1.00	100.0
Medium	33	0.90	95.6
Political sphere: domestic versus foreign	33	0.82	91.0
Political topic: economy	33	0.82	94.0
Political topic: health and environment	33	0.76	87.9
Political topic: education	33	0.65	97.0

Results

In the 319 studies, a total of 870 frames were documented, of which 47.1% were identified as generic and 52.9% as uniquely applicable to a specific political issue. These percentages suggest that issue-specific frame prevalence is still a topic of relevance to current framing research. For a start, RQ1 first asked how present metaphorical framing is in traditional political framing experiments published in the twenty-first century. Results reveal that from a conceptual perspective 27.9% of the studies contain at least one metaphorical frame and 16.6% of all frames is metaphorical. In addition, three metaphorical frames were identified in 8.5% of the studies containing metaphorical framing, two metaphorical frames in 51.5% of those studies, and one metaphorical frame in 39.3% of these framing experiments.

Interestingly, most metaphorical generic frames seem to reflect the conceptual metaphor of POLITICS IS WAR (see Table 2). Both the 'strategy frame' and 'conflict frame,' which account for 66.2% of the metaphorical generic frames, map properties of the target domain of fighting a battle onto the source domain of politics. The remaining 33.8% of metaphorical generic frames was mostly comprised of the 'value frame,' which reflects the conceptual metaphor of POLITICS IS AN OBJECT. Moreover, the same proportion of frames was already classified as metaphorical by the authors of the publications.

Metaphorical issue-specific frames seem to differ from metaphorical generic frames in how they conceptualize politics (see Table 2). While a large majority of metaphorical generic frames emphasize the competitive nature of politics, only very few metaphorical issue-specific frames conceptualize politics as a battle like the 'image attack frame' (Sung, 2000). For example, the conceptual metaphor of THE EUROPEAN UNION IS MONEY was inferred from the 'democracy deficit frame' (Abbarno & Zapryanova, 2013), because according to the MacMillan dictionary, the word *deficit* is an economical term referring to insufficient money. Likewise, the conceptual metaphor of HOUSING POLICY IS A BIOLOGICAL PROCESS was deduced from the 'lifecycle housing frame' (Goetz, 2008), since the dictionary defines the word *lifecycle* as a biological process of changes that happen to an organism during its lifetime. Compared to metaphorical generic frames, most metaphorical issue-specific frames thus tend to stress objects rather than actions.

RQ2 then addressed the proportion of metaphorical frames that is issue-specific versus generic. Regarding the issue-specific frames, 15.2% was classified as being metaphorical compared to 18.0% of the generic frames. A chi-square test was conducted to test whether generic frames were significantly more likely to be metaphorical than issue-specific frames. This appeared not to be the case, $\chi^2(1, N = 870) = 1.25$, $p = .26$, odds ratio = 1.23. The probability for generic frames to be recategorized as metaphorical can be considered equal to that for issue-specific frames.

In what way the degree of metaphorical framing differs among cultures was examined by RQ3a. The majority of the framing experiments was conducted in the United States, an impressive 67.7%. Countries that constituted the other 32.3% mostly included European countries such as the Netherlands, United Kingdom, Denmark, Germany, and Italy. Given this number of framing experiments conducted in the United States, the degree of metaphorical framing in American studies was compared to the degree of metaphorical framing in studies conducted in all other cultural contexts combined. A

Table 2. Overview of the metaphorical generic and issue-specific frames found.

Generic frames	Conceptual metaphor	Total count	% found in studies	% all frames
Strategy	POLITICS IS WAR	42	8.8	4.8
Value	POLITICS IS AN OBJECT	9	2.8	1.0
Metaphorical	Multiple conceptual metaphors	9	2.8	1.0
Conflict	POLITICS IS WAR	7	2.2	0.8
Game	POLITICS IS SPORTS AND GAMES	3	0.9	0.3
Image	POLITICS IS ART AND PICTURES	3	0.9	0.3
View	POLITICS IS A LANDSCAPE	1	0.3	0.1

Issue-specific frames	Conceptual metaphor	Total count	% found in studies	% all frames
Virus	CRIME IS A MICRO-ORGANISM	18	5.6	2.1
Beast	CRIME IS AN ANIMAL	17	5.3	2.0
Growth regulatory concern	RENEWABLE ENERGY POLICY IS A BIOLOGICAL PROCESS	2	0.6	0.2
War language	WELFARE POLICY IS WAR	2	0.6	0.2
Anthropomorphic	A BUSINESS IS A HUMAN BEING	1	0.3	0.1
Blocking	AN ACADEMIC PROGRAM IS MOVEMENT	1	0.3	0.1
Business	DELIBERATE DEMOCRACY IS A BUSINESS	1	0.3	0.1
Citizen identity	ENERGY-EFFICIENT LAMP USE IS CITIZENSHIP	1	0.3	0.1
Conduit	AFFAIRE BILL CLINTON IS A DRAINAGE SYSTEM	1	0.3	0.1
Consumer	THE WAR IN IRAQ IS A BUSINESS	1	0.3	0.1
Consumer identity	ENERGY-EFFICIENT LAMP USE IS CONSUMPTION	1	0.3	0.1
Cornucopian	NANOTECHNOLOGY IS A CONTAINER	1	0.3	0.1
Democratic deficit	THE EUROPEAN UNION IS MONEY	1	0.3	0.1
Echoed	UNITED STATES DRONE POLICY IS SOUND	1	0.3	0.1
Encroachment	UNWANTED PLANTS POLICY IS TAKING SOMETHING AWAY FROM SOMEONE	1	0.0	0.1
Ethical value	ACCESS TO MEDICAL TREATMENT IS AN OBJECT	1	0.3	0.1
Harmony with nature	FLOOD CONTROL POLICY IS MUSIC	1	0.3	0.1
Illness	SUSTAINABLE FOOD PRODUCTION IS AN ILLNESS	1	0.3	0.1
Image attack	POLITICAL CANDIDATE CRITICISM IS A MILITARY OR ARMED ATTACK	1	0.3	0.1
Improbable mechanism	POLICY IS MACHINERY	1	0.3	0.1
Invasion	UNWANTED PLANTS POLICY IS TAKING CONTROL BY FORCE	1	0.3	0.1
Issue attack	POLITICAL CANDIDATE CRITICISM IS A MILITARY OR ARMED ATTACK	1	0.3	0.1
Lifecycle housing	HOUSING POLICY IS A BIOLOGICAL PROCESS	1	0.3	0.1
Material value	ACCESS TO MEDICAL TREATMENT IS AN OBJECT	1	0.3	0.1
Mixed attack	POLITICAL CANDIDATE CRITICISM IS A MILITARY ATTACK	1	0.3	0.1
Passing	AN ACADEMIC PROGRAM IS MOVEMENT	1	0.3	0.1
Passive policy	TAX POLICY IS A HUMAN BEING	1	0.3	0.1
Predator	CRIME IS AN ANIMAL	1	0.3	0.1
Prevent collapse	AN ECONOMIC STIMULUS PLAN IS A BUILDING	1	0.3	0.1
Probable mechanism	POLICY IS MACHINERY	1	0.3	0.1
Retaining walls	SUSTAINABLE FOOD PRODUCTION IS A WALL OF A BUILDING	1	0.3	0.1
Runaway train	SUSTAINABLE FOOD PRODUCTION IS A TRAIN	1	0.3	0.1
Stealing thunder	CRISIS REPORTING IS A STORM	1	0.3	0.1
Stronger communities	URBAN GROWTH IS A FORCE	1	0.3	0.1
Thunder	CRISIS REPORTING IS A STORM	1	0.3	0.1
Trade is a two-way street	TRADE IS A TWO-WAY STREET	1	0.3	0.1
Trade is war	TRADE IS WAR	1	0.3	0.1

chi-square test showed that the percentage of frames that is metaphorical indeed significantly differs by culture, $\chi^2(1, N = 319) = 4.27$, $p = .045$, odds ratio = 1.79. Researchers located in the United States are close to twice as likely to use metaphorical frames in their experiments on framing than scholars associated with universities in other countries (see Table 3).

A possible explanation for the difference observed in the degree of metaphorical framing between studies conducted in the United States and elsewhere could have been that scholars associated with

Table 3. Percentages of studies containing metaphorical framing per cultural context, political sphere, and political topic.

Cultural context		N	no metaphor	metaphor	χ^2	OR
Country	U.S.	230	68.5	31.5	4.27*	1.79
	Other	89	79.6	20.4		
Political sphere		N	no metaphor	metaphor	χ^2	OR
Politics	Domestic	254	72.0	28.0	.03	---
	Foreign	46	71.7	28.3		
	Both	19	73.7	26.3		
Political topic		N	no metaphor	metaphor	χ^2	OR
Economy	No	222	70.7	29.3	.69	.79
	Yes	97	75.3	24.7		
Health and environment	No	210	67.1	32.9	7.51*	.46
	Yes	109	81.7	18.3		
Education	No	301	72.8	27.2	1.15	1.70
	Yes	18	61.1	38.9		

Note: Overall $N = 319$. $df^{politics} = 2$, otherwise $df = 1$.
*$p < .05$ (two-tailed).

American universities are more likely to use the most common metaphorical frame that was identified in this systematic review: the 'strategy frame.' Out of the 42 'strategy frames' found in this study, however, only 13 frames were employed in U.S. framing experiments compared to 29 frames in non-U.S. studies. Other metaphorical generic frames were too infrequently used to possibly account for the higher incidence of metaphorical framing in American experiments.

The focus of RQ3b was to explore how the degree of metaphorical framing differs among political topics. In terms of the percentages, 79.6% of the studies was about an issue connected to domestic politics, 14.4% to foreign politics, and 6.0% to both foreign and domestic politics. Furthermore, 30.4% of the studies comprised issues involving the topics of economy, 34.2% of health and environment, and 5.6% of education. Chi-square tests showed that the percentage of frames that is metaphorical only differs by the topic of health and environment, $\chi2(1, N = 319) = 7.51$, $p = .006$, odds ratio = 0.46 (see Table 3). Metaphorical framing is half as much likely to be found when a study is about a health and environment issue.

Discussion

The results of this systematic review show that metaphorical framing is prevalent in political framing experiments published in the twenty-first century (RQ1). From a conceptual perspective, almost one in three experiments contains metaphorical framing. Furthermore, the results reveal that issue-specific and generic frames overlap in the extent to which they are possibly metaphorical (RQ2). Roughly one in six frames was identified as metaphorical, irrespective of whether the frames are issue-specific or generic. The results also demonstrate that the degree of metaphorical framing in framing experiments differs between cultural contexts and political topics of the studies (RQ3). Metaphorical framing was more often found in studies from the United States compared to studies conducted in other countries, and was least often found in studies about the most concrete political topic of health and environment. These findings have three different types of implications: (1) specific implications for research on metaphorical framing in political communication, (2) general implications for framing research from a linguistic perspective, and (3) general implications for framing research from a communication perspective.

The first type of implication of our paper is that research on metaphorical framing in political communication should take into account how the cultural context and concreteness of the study topic influence the degree of metaphorical framing in experiments. Metaphorical framing was more often found in U.S. framing experiments than non-U.S. studies, which could imply that metaphors summarizing political values may simply be more embedded in American political culture than in other political cultures. Previous research suggests that the ideological distance between Democrats

and Republicans on a number of issues has increased during the past decades (Layman, Carsey, & Horowitz, 2006). Considering that framing can serve to promote a particular moral evaluation (Entman, 1993), and American politics is organized in a polarized two-party system, American citizens (including scientists) may need to rely on metaphorical reasoning more to think and talk about the political world than people from other countries.

In addition, metaphorical framing was least often found in studies of which the issue was related to the topic of health and environment, which was the most concrete political topic that was measured. This finding corresponds to previous research suggesting that abstract concepts are more often explained metaphorically than concrete concepts, because people generally rely on familiar concepts to understand unfamiliar ones (Landau et al., 2010). After all, while people usually know something about how to stay healthy or how to best recover from sickness (e.g. by sleeping sufficiently, by eating plenty of fruits and vegetables), very few people know something about how to manage an economy for example. For political framing experiments, this finding implies that the topic of the study may determine the degree of metaphorical framing. That is, metaphorical framing may occur most often in studies where the topic needs more explanation to be adequately understood by participants.

The second type of implication of our paper is that framing research from a linguistic perspective should no longer exclusively focus on metaphorical frames when studying the effects of metaphorical frames in political communication. TMR (Lakoff, 2002) predicts that political framing generally works through metaphor, because moral reasoning in politics is highly metaphorical. While our findings demonstrate that metaphorical frames can be found in a substantial number of cases, and even in political framing experiments that do not explicitly deal with metaphor, two in three experiments did not contain metaphorical framing, and five in six frames were non-metaphorical. Naturally, experimental design choices do not necessarily reflect everyday political discourse. Nevertheless, the frames identified in this study often present a non-metaphorical conceptualization of the political issues under discussion. The findings thus contradict the belief that frames in political communication are metaphorical by definition.

However, many studies that examine the persuasive power of metaphor in political communication do not take these non-metaphorical frames into account (e.g. Brône & Coulson, 2010; Robins & Mayer, 2000; Thibodeau & Boroditsky, 2015). Some metaphor scholars even explicitly argue against including a non-metaphorical frame, because non-metaphorical frames differ from metaphorical frames on multiple linguistic dimensions (e.g. vividness, valence, conventionality), which would render comparison meaningless (Thibodeau & Boroditsky, 2015). By contrast, we argue that a non-metaphorical condition is necessary to determine whether findings can be attributed to the metaphoricity of the frame, because we need to be able to exclude general framing effects as an alternative explanation (Lau & Schlesinger, 2005; Reijnierse, Burgers, Krennmayr, & Steen, 2015).

An important distinction that should always be made in persuasion research is between message features and recipient responses (O'Keefe, 2003). In framing, the presence of metaphorical framing is a message feature that can be manipulated by the researcher, while the vividness of frames for instance is a psychological outcome, and thus a recipient response. The reason why some metaphor scholars (e.g. Thibodeau & Boroditsky 2015) argue against including non-metaphorical frames in their experimental designs is that they incorrectly define message variation in terms of persuasive effects, meaning that these metaphor scholars consider vividness to be a message feature rather than a recipient response. Yet, these effect-based message variable definitions create problems for understanding persuasion processes and effects (O'Keefe, 2003), because important explanatory variables of persuasion, like vividness for the effects of metaphorical framing, are ignored (Reijnierse et al., 2015). Future experimental studies should therefore always include non-metaphorical frame conditions to improve scholars' ability to precisely determine how metaphorical frames impact political opinions.

The third type of implication of our paper is that framing research from a communication perspective should incorporate metaphor in the analysis of framing and framing effects in political communication. The framing literature suggests that metaphors play a small role in political communication, but this study shows that the role is bigger than expected. The findings support the proposition that metaphor can do more than serve as a framing device in shaping public discourse by attracting attention to the political position in the frame. Many different domains are used in frames to structure people's understanding of the domain of politics, which points to the possibility that metaphor can also serve as a reasoning device by containing conceptual content, as proposed by the figurative-framing approach (Burgers et al., 2016). Since almost one-third of framing experiments involves metaphorical framing at a conceptual level, communication research would benefit from more attention to how and why metaphorical frames are used in public debates and to which effects they have on audiences.

Moreover, this study demonstrates that integrating the metaphor literature with communication research can help to address current debates within the field of communication, like the debate about conducting framing experiments using issue-specific frames or generic frames as independent variables (e.g. Borah, 2011; Hertog & McLeod, 2001). For example, we have found no difference in the degree of metaphorical framing between issue-specific frames and generic frames, which shows that issue-specific frames and generic frames are not by definition two fundamentally different categories. Instead, both types of frames share the property of being reasonably and equally likely to be metaphorical, which makes comparing and generalizing framing-theory findings over time and across topics easier. Consequently, the problem of issue-specific frame prevalence in framing-theory research that has been identified by scholars like Borah (2011) is mitigated.[4]

After all, previous research shows that metaphors work in a limited amount of ways. For instance, the Career of Metaphor Theory suggests that metaphors are either processed by comparison or by categorization (Bowdle & Gentner, 2005). When metaphors are processed by comparison (e.g. novel metaphors like the verb *carpet-bomb* in the sentence 'She *carpet-bombed* his argument'), recipients infer a cross-domain mapping. That is, only the basic meaning (in case of the verb *carpet-bomb*: to drop a lot of bombs from a plane over an area to destroy everything on the ground) is stored in the mental lexicon. In order to understand the metaphor, the recipient then needs to actively compare this basic meaning to the context. Thereby, the novel metaphor can only be understood by drawing a comparison between the source (e.g. war) and target (e.g. argumentation) domains. Multiple characteristics of metaphor have been identified in the metaphor literature as elements increasing the chance of processing by comparison, including (but not limited to) novelty (Bowdle & Gentner, 2005), extendedness (Steen, 2011), and the use of metaphor flags (i.e. explicit comparison words, including *like* and *as*; Glucksberg, 2008).

By contrast, other metaphors (e.g. conventional metaphors like the verb *attack* in the sentence 'She *attacked* his argument') are processed by categorization, which means that people understand the metaphor by simple lexical disambiguation. That is, just like the basic meaning (in case of the verb *attack*: to use violence to do harm), the metaphorical meaning (in case of the verb *attack*: strongly criticize) is stored in the recipient's mental lexicon. The recipient thus makes sense of the metaphor by determining which of the two word meanings (*use violence* or *criticize*) is relevant to the context, and infers the appropriate metaphorical meaning (e.g. *criticize*) without activating the basic meaning (e.g. *use violence*).

We hypothesize that the way a metaphor is processed (by comparison or by categorization) influences whether effects can be attributed to the metaphoricity of a frame. Previous research has argued that whether recipients pay attention to the source domain impacts the way the metaphor functions in communication (Steen, 2011). That is, the effects of metaphor depend on whether the source meaning is activated (as happens in processing by comparison) or not (as happens in processing by categorization). Only in the former case do recipients think about the target concept in terms of the source, implying that these metaphors are more likely to change recipients' perspectives on a given topic. For this reason, we predict that *effects of metaphorical frames are*

more attributable to the metaphoricity of a frame when the metaphor is processed by comparison compared to categorization.

As an important caveat, it should be mentioned that the effectiveness of metaphorical frames also depends on the competition with other frames in the public debate. Whether and how frames that are constructed by political actors influence audience frames is called frame setting. The two conditions that possibly determine frame transfer are frame salience and frame importance (Scheufele, 1999). We argue that metaphors can both be used to boost frame salience by eliciting certain thoughts and feelings (e.g. Bougher, 2012; De Landtsheer, De Vries, & Vertessen, 2008; Hartman, 2012), and to boost frame importance by rendering the complexities of politics in comprehensible narratives (Kalmoe, 2014; Lau & Schlesinger, 2005). We thus propose that – all other things being equal – *metaphorical frames increase frame salience and increase frame importance compared to non-metaphorical frames*.

Finally, in this systematic review, the degree of metaphorical framing was only investigated with regard to the domain of politics while framing can work differently across different communication domains (e.g. D'Angelo, 2002; Entman, 1993; Hertog & McLeod, 2001; Matthes, 2009). Between these domains, the presence and character of metaphorical frames may for example vary, perhaps because of differences in abstraction. Future research should therefore extend this study to other research fields than political communication to contribute to further framing development.

In conclusion, the objective of this study was to introduce a new and interdisciplinary perspective on one of the key debates in framing-theory research regarding the tendency of scholars to focus on issue-specific frames instead of generic frames (e.g. Borah, 2011). As a response to Krippendorff's (2017) proposition to redefine framing as acts of communication (e.g. by focusing on the use of linguistic tropes), we have integrated previous framing research with a new approach in framing: figurative framing (Burgers et al., 2016), and show that issue-specific and generic frames are equally likely to be metaphorical. Because similarity between both types of frames benefits the comparison and generalization of the totality of framing findings, the challenge of issue-specific frame prevalence may not be as problematic as previously suggested. Thus, while current framing literature juxtaposes generic and issue-specific frames, alternative approaches that incorporate the analysis of metaphor in framing theory (Burgers et al., 2016; Krippendorff, 2017) can bring both types of frames together in one theoretical framework.

Notes

1. One of the most important theoretical debates on issue-specific frames is about what constitutes the specificity of issue frames. This is understood and explained in many ways. Some scholars organize frames on the basis of relating to a specific issue (De Vreese, 2005), others for example use topic domains (e.g. science policy, Nisbet, 2007), considerations (e.g. effectiveness, Zaller, 1992), values (e.g. equality, Sniderman, 1993), or Entman's four frame elements (problem, cause, evaluation, and/or treatment; Matthes & Kohring, 2008) as the main organizing principle (Chong & Druckman, 2007b). While these are important considerations, we build upon the definition that is most commonly used in experiments in political communication; specificity defined as relating to a specific issue (De Vreese, 2005).
2. The data reported in this paper were also used for a different study, which has been reported elsewhere (Authors, under review).
3. Since the basic meaning of the word 'frame' is a picture or mirror frame, framing is essentially a metaphor for changing perspective (Tversky & Kahneman, 1981). Due to the metaphorical nature of the word 'frame,' the word was excluded from the analyses as it would otherwise distort the results.
4. Please note that while many framing scholars envisage a clear-cut dichotomy between generic and issue-specific frames (e.g. De Vreese, 2005), it is difficult to exactly determine the criteria for generality of a frame (Chong & Druckman, 2007b). For example, efforts have been made to develop typologies of issue-specific frames that are regularly used across specific debates (Nisbet, 2007). Moreover, some scholars argue that generic frames are the result of journalists translating the issue-specific frames used by their political sources into frames intended for the general public (Brewer & Gross, 2010). In this paper, we made the distinction based on which frames were prominently classified as generic in the literature.

Disclosure statement

Funding

References

References included in the systematic review are preceded by an asterisk.

Aalberg, T., Strömbäck, J., & De Vreese, C. H. (2012). The framing of politics as strategy and game: A review of concepts, operationalizations and key findings. *Journalism*, *13*(2), 162–178. doi:10.1177/1464884911427799

*Abbarno, A. J., & Zapryanova, G. M. (2013). Indirect effects of eurosceptic messages on citizen attitudes toward domestic politics. *Journal of Common Market Studies*, *51*(4), 581–597. doi:10.1111/jcms.12025

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. doi:10.1016/0749-5978(91)90020-T.

Borah, P. (2011). Conceptual issues in framing theory: A systematic examination of a decade's literature. *Journal of Communication*, *61*(2), 246–263. doi:10.1111/j.1460-2466.2011.01539.x

Bougher, L. D. (2012). The case for metaphor in political reasoning and cognition. *Political Psychology*, *33*(1), 145–163. doi:10.1111/j.1467-9221.2011.00865.x

Bowdle, B. F., & Gentner, D. (2005). The career of metaphor. *Psychological Review*, *112*(1), 193–216. doi:10.1037/0033-295X.112.1.193

Brewer, P. R., & Gross, K. (2010). Studying the effects of issue framing on public opinion about policy issues: Does what we see depend on how we look. In P. D'Angelo & J. A. Kuypers (Eds.), *Doing news framing analysis: Empirical and theoretical perspectives* (pp. 159–186). New York, NY: Routledge.

Brône, G., & Coulson, S. (2010). Processing deliberate ambiguity in newspaper headlines: Double grounding. *Discourse Processes*, *47*(3), 212–236. doi:10.1080/01638530902959919

Burgers, C., Konijn, E. A., & Steen, G. J. (2016). Figurative framing: Shaping public discourse through metaphor, hyperbole and irony. *Communication Theory*, *26*(4), 410–430. doi:10.1111/comt.12096

Cacciatore, M. A., Scheufele, D. A., & Iyengar, S. (2016). The end of framing as we know it … and the future of media effects. *Mass Communication and Society*, *19*(1), 7–23. doi:10.1080/15205436.2015.1068811

*Chong, D., & Druckman, J. N. (2007a). Framing public opinion in competitive democracies. *American Political Science Review*, *101*(4), 637-655. doi:10.1017/S0003055407070554

Chong, D., & Druckman, J. N. (2007b). Framing theory. *Annual Review of Political Science*, *10*, 103–126. doi:10.1146/annurev.polisci.10.072805.103054

Chyi, H. I., & McCombs, M. (2004). Media salience and the process of framing: Coverage of the Columbine school shootings. *Journalism & Mass Communication Quarterly*, *81*(1), 22–35. doi:10.1177/107769900408100103

Cook, D. J., Mulrow, C. D., & Haynes, R. B. (1997). Systematic reviews: Synthesis of best evidence for clinical decisions. *Annals of Internal Medicine*, *126*(5), 376–380.

*Corner, A., Hahn, U., & Oaksford, M. (2011). The psychological mechanism of the slippery slope argument. *Journal of Memory and Language*, *64*(2), 133-152. doi:10.1016/j.jml.2010.10.002

Cumming, G. (2014). The new statistics: Why and how. *Psychological Science*, *25*(1), 7–29. doi:10.1177/0956797613504966

D'Angelo, P. (2002). News framing as a multiparadigmatic research program: A response to Entman. *Journal of Communication*, *52*(4), 870–888. doi:10.1111/j.1460-2466.2002.tb02578.x

De Landtsheer, C., De Vries, P., & Vertessen, D. (2008). Political impression management: How metaphors, sound bites, appearance effectiveness, and personality traits can win elections. *Journal of Political Marketing*, *7*(3-4), 217–238. doi:10.1080/15377850802005083

*De Vreese, C. H. (2004). The effects of frames in political television news on issue interpretation and frame salience. *Journalism & Mass Communication Quarterly*, *81*(1), 36–52. doi:10.1177/107769900408100104

De Vreese, C. H. (2005). News framing: Theory and typology. *Information Design Journal*, *13*(1), 51–62. doi:10.1075/idjdd.13.1.06vre

De Vreese, C. H., & Lecheler, S. (2012). News framing research: An overview and new developments. In H. Semetko & M. Scammell (Eds.), *The Sage handbook of political communication* (pp. 292–306). Thousand Oaks, CA: Sage.

Druckman, J. N. (2001). On the limits of framing effects: Who can frame? *Journal of Politics*, *63*(4), 1041–1066. doi:10.1111/0022-3816.00100

Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication*, *43*(4), 51–58. doi:10.1111/j.1460-2466.1993.tb01304.x

Entman, R. M. (2004). *Projections of power: Framing news, public opinion, and US foreign policy*. Chicago, IL: University of Chicago Press.

Gamson, W. A., & Modigliani, A. (1989). Media discourse and public opinion on nuclear power: A constructionist approach. *American Journal of Sociology*, 95(1), 1–37. doi:10.1086/229213

Glucksberg, S. (2008). How metaphors create categories – quickly. In R. W. Gibbs (Ed.), *The Cambridge Handbook of metaphor and thought* (pp. 67–83). Cambridge: Cambridge University Press.

*Goetz, E. G. (2008). Words matter: The importance of issue framing and the case of affordable housing. *Journal of the American Planning Association*, 74(2), 222–229. doi:10.1080/01944360802010251

*Hartman, T. K. (2012). Toll booths on the information superhighway? Policy metaphors in the case of net neutrality. *Political Communication*, 29(3), 278–298. doi:10.1080/10584609.2012.694983

*Hartman, T. K., & Weber, C. R. (2009). Who said what? The effects of source cues in issue frames. *Political Behavior*, 31(4), 537–558. doi:10.1007/s11109-009-9088-y

Hertog, J., & McLeod, D. (2001). A multiperspectival approach to framing analysis: A field guide. In S. D. Reese, O. H. Gandy, & A. E. Grant (Eds.), *Framing public life: Perspectives on media and our understanding of the social world* (pp. 139–161). Mahwah, NJ: Erlbaum.

Iyengar, S. (1994). *Is anyone responsible? How television frames political issues*. Chicago, IL: University of Chicago Press.

Joris, W., d'Haenens, L., & Van Gorp, B. (2014). The euro crisis in metaphors and frames: Focus on the press in the low countries. *European Journal of Communication*, 29(5), 608–617. doi:10.1177/0267323114538852

*Joslyn, M. R., & Haider-Markel, D. P. (2002). Framing effects on personal opinion and perception of public opinion: The cases of physician-assisted suicide and social security. *Social Science Quarterly*, 83(3), 690–706. doi:10.1111/1540-6237.00109

*Kalmoe, N. P. (2014). Fueling the fire: Violent metaphors, trait aggression, and support for political violence. *Political Communication*, 31(4), 545-563. doi:10.1080/10584609.2013.852642

Kövecses, Z. (2006). *Language, mind, and culture: A practical introduction*. Oxford: Oxford University Press.

Krippendorff, K. (2017). Three concepts to retire. *Annals of the International Communication Association*, 41(1), 92–99. doi:10.1080/23808985.2017.1291281.

Lakoff, G. (2002). *Moral politics: How liberals and conservatives think* (2nd ed.). Chicago, IL: University of Chicago Press.

Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago, IL: Chicago University Press.

Landau, M. J., Meier, B. P., & Keefer, L. A. (2010). A metaphor-enriched social cognition. *Psychological Bulletin*, 136(6), 1045–1067. doi:10.1037/a0020970

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, 33(1), 159–174. doi:10.2307/2529310

Lau, R. R., & Schlesinger, M. (2005). Policy frames, metaphorical reasoning, and support for public policies. *Political Psychology*, 26(1), 77–114. doi:10.1111/j.1467-9221.2005.00410.x

Layman, G. C., Carsey, T. M., & Horowitz, J. M. (2006). Party polarization in American politics: Characteristics, causes, and consequences. *Annual Review of Political Science*, 9(1), 83–110. doi:10.1146/annurev.polisci.9.070204.105138

Lecheler, S., & De Vreese, C. H. (2012). News framing and public opinion: A mediation analysis of framing effects on political attitudes. *Journalism & Mass Communication Quarterly*, 89(2), 185–204. doi:10.1177/1077699011430064

Matthes, J. (2009). What's in a frame? A content analysis of media framing studies in the world's leading communication journals, 1990–2005. *Journalism & Mass Communication Quarterly*, 86(2), 349–367. doi:10.1177/107769900908600206

Matthes, J., & Kohring, M. (2008). The content analysis of media frames: Toward improving reliability and validity. *Journal of Communication*, 58(2), 258–279. doi:10.1111/j.1460-2466.2008.00384.x

Nisbet, M. C. (2007). Framing science: A new paradigm in public engagement. In L. Kahlor & P. A. Stout (Eds.), *Communicating science: New agendas in communication* (pp. 40–67). New York, NY: Routledge.

O'Keefe, D. J. (2003). Message properties, mediating states, and manipulation checks: Claims, evidence, and data analysis in experimental persuasive message effects research. *Communication Theory*, 13(3), 251–274.

*Reijnierse, W. G., Burgers, C., Krennmayr, T., & Steen, G. J. (2015). How viruses and beasts affect our opinions (or not): The role of extendedness in metaphorical framing. *Metaphor and the Social World*, 5(2), 245–263. doi:10.1075/msw

*Robins, S., & Mayer, R. E. (2000). The metaphor framing effect: Metaphorical reasoning about text-based dilemmas. *Discourse Processes*, 30(1), 57–86.

Sampson, M., Tetzlaff, J., & Urquhart, C. (2011). Precision of healthcare systematic review searches in a cross-sectional sample. *Research Synthesis Methods*, 2(2), 119–125. doi:10.1002/jrsm.42

Scheufele, D. A. (1999). Framing as a theory of media effects. *Journal of Communication*, 49(1), 103–122. doi:10.1111/j.1460-2466.1999.tb02784.x

Semetko, H. A., & Valkenburg, P. M. (2000). Framing European politics: A content analysis of press and television news. *Journal of Communication*, 50(2), 93–109. doi:10.1111/j.1460-2466.2000.tb02843.x

Sniderman, P. (1993). *A new look in public opinion research*. In A. Finifter (Ed.), *Political science: The state of the discipline II* (pp. 220–245). Washington, DC: American Political Science Association.

Steen, G. J. (2011). The contemporary theory of metaphor – Now new and improved! *Review of Cognitive Linguistics*, 9(1), 26–64. doi:10.1075/rcl.9.1.03ste

Steen, G. J., Dorst, A. G., Herrmann, J. B., Kaal, A., Krennmayr, T., & Pasma, T. (2010). *A method for linguistic metaphor identification: From MIP to MIPVU*. Amsterdam: John Benjamins Publishing.

*Sung, W. S. (2000, August). *The impact of political advertising: Differences between positive ads and issue, image and mixed attacks*. Paper presented at the annual meeting of the Association for Education in Journalism & Mass Communication, Phoenix, AZ.

Thibodeau, P. H., & Boroditsky, L. (2015). Measuring effects of metaphor in a dynamic opinion landscape. *PLoS ONE*, *10*(7), e0133939. doi:10.1371/journal.pone.0133939

Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, *211*(4481), 453–458. doi:10.1126/science.7455683

Vliegenthart, R. (2012). Framing in mass communication research – An overview and assessment. *Sociology Compass*, *6*(12), 937–948. doi:10.1111/soc4.12003

Wolton, D. (1990). Political communication: The construction of a model. *European Journal of Communication*, *5*(1), 9–28. doi:10.1177/0267323190005001002

Zaller, J. (1992). *The nature and origins of mass opinion*. Cambridge: Cambridge University Press.

Appendix 1. Databases used in systematic review

1. ABI/INFORM Global (via ProQuest);
2. Arts & Humanities Citation Index (via ISI Web of Science);
3. British Humanities Index (via ProQuest);
4. ComAbstracts;
5. Communication & Mass Media Complete;
6. Education Resource Information Center (via EBSCO);
7. International Bibliography of the Social Sciences (via ProQuest);
8. Linguistics and Language Behavior Abstracts (via ProQuest);
9. MEDLINE (via ISI Web of Science);
10. Modern Language Association International Bibliography (via ProQuest);
11. ProQuest Dissertations & Theses A&I (via ProQuest);
12. PsycARTICLES (via EBSCO);
13. Psychology and Behavioral Sciences Collection (via EBSCO);
14. PsycINFO (via EBSCO);
15. PubMed;
16. SciELO Citation Index (via ISI Web of Science);
17. Science Citation Index Expanded (via ISI Web of Science);
18. ScienceDirect;
19. Social Sciences Citation Index (via ISI Web of Science).

Appendix 2. Search string used in systematic review

(frame OR frames OR framed OR framing) AND (politic* OR polic* NOT police* OR president* OR government* OR parliament* OR democra* OR party OR parties OR candidate* OR election* OR campaign* OR debate OR 'public opinion' OR 'public support' OR news* OR journalist*) AND (effect OR effects OR result* OR finding* OR outcome* OR experiment* OR survey* OR questionnaire*)