

# Performance information in politics: How framing, format, and rhetoric matter to politicians' preferences

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## **Performance information in politics: How framing, format, and rhetoric matter to politicians' preferences**

### **Abstract:**

Performance information research has grown rapidly over the last decade with much research emphasizing the importance of how information is framed, presented, and communicated by using a distinct rhetorical appeal. In this study, we examine how the framing, format, and rhetoric of performance information influence preferences among elected politicians. We study the direct effects of how information is presented. We also argue that performance information is always a mixture of different frames, formats, and rhetorical appeals and that it is therefore important to account for interaction effects. Using a large-scale survey experiment with responses from 1,406 Italian local politicians, we find that framing and ethos-based rhetoric affect politicians' responses to performance information. We also find that the format of presentation is important in several ways. Thus, politicians are more likely to support the status quo when information is presented graphically rather than textually, and a graphical format furthermore reduces the impact of ethos-based rhetoric and – to a lesser extent – the impact of equivalence framing.

**Keywords:** Performance information, Framing, Information formats, Rhetoric, Political preferences

Performance information is a valuable means to increase the capacity of political decision-makers to make informed decisions (Moynihan 2008, p. 6; Van Dooren & Van de Walle, 2008; Van de Walle & Roberts, 2008, p. 222). Without some valid and reliable information about performance, attempts to improve public service provision will likely be futile. However, we know from the literature on framing effects in public opinion (e.g., Druckman, 2001; Chong & Druckman, 2007; Scheufele, 1999; Klar, Robison & Druckman, 2013; Lau, Smith & Fiske, 1991, p. 645; Levin, Schneider & Gaeth, 1998), rhetoric (e.g. Bizzell & Herzberg, 1990; Herrick, 2001), and presentation formats in applied cognitive psychology (e.g., Tait, Voepel-Lewis, Zikmund-Fisher & Fagerlinthe, 2010; Hollands & Spence, 1998; Simkin & Hastie, 1987; Lipkus & Hollands, 1999) that the ways information is presented have pivotal implications for how it is interpreted and understood. In practice, performance information will necessarily be framed in one way or another, presented in a particular format, and marked with rhetorical appeals when it is conveyed to political decision-makers. Thus, we know from the literature that performance information is indispensable in political systems, but it is also very unlikely that performance information can be transmitted neutrally to political decision-makers.

The aim of this paper is to examine how the presentation of performance information influences elected politicians' preferences. Empirical studies of the literature on framing, format, and rhetoric are largely based on samples drawn outside political systems (see e.g., Druckman, 2001; Tait et al., 2010). They also tend to examine the explanatory factors in isolation although bias in the interpretation of performance information in political systems will always be likely to be a product of a mixture of framing, rhetoric,

and format. We also argue that interaction effects are relevant. We study actual political decision-makers (rather than random samples of citizens) and examine (in a large-n 3 x 4 x 2 survey experimental design) how framing, rhetoric, and format interact when information is presented. The results show that framing of performance information has a strong effect on politicians' preferences, and so have rhetoric and presentation format, although to a lesser extent, and, finally, they show that presentation format seems to moderate the effect of framing.

This study is valuable for at least two reasons: firstly, it provides some insight into how complex decision-making processes unfold in real public sector settings, and secondly, it is useful for an architect of performance information to know which combination of framing, rhetoric, and format has the greatest impact on the recipients. The following section provides the theoretical backdrop by reviewing work on information framing, rhetoric, and format. We then present design and data. The next section reports the results, and finally, we discuss the results and conclude.

### **Framing, Rhetoric, and Format**

Framing effects are relevant to performance information because the same piece of information may be presented in different ways without changing its content. This can apply to performance information, such as data on citizen satisfaction, compliance with quality standards, percentages of completion of public projects, target attainments, survival rates, and pass rates in school examinations. An equivalence framing effect occurs when individuals respond in systematically different ways to objectively

equivalent pieces of information that are framed differently (Levin et al., 1998; Rabin, 1998; Tversky & Kahneman, 1981, 1986). Several studies in different fields show that describing situations in terms of success instead of failure rates affects evaluations and decisions as positive framing leads to more favorable evaluations than negative framing (Kühberger, 1998; Levin et al., 1998). The underlying reason is that individuals encode information efficiently, and they do so by interpreting the information according to its descriptive valence (Levin & Gaeth, 1988), i.e., a positive framing leads to an encoding of the information, which tends to evoke favorable associations, whereas a negative labeling of the same information tends to evoke unfavorable associations. Along these lines, a growing literature suggests that negativity bias exists in the use of performance information (Boyne, James, John & Petrowsky, 2009; Charbonneau & Bellavance, 2012; Craig, Imberman & Purdue, 2015; James & John, 2007; Marvel, 2016). For example, Olsen (2015) shows that citizens' views of public service is affected by whether performance information is presented in terms of success rather than failure. Nielsen and Moynihan (2017) offer evidence of a negativity bias toward how elected officials use performance data to make a judgment about leadership responsibility. Indeed, they demonstrate that the provision of performance data on elected officials who show low performance encourages greater responsibility attribution to bureaucratic leaders. In line with these results, we expect that the framing of information matters to how the information is interpreted by political decision-makers.

In addition to framing, information can also be transmitted by using different rhetorical appeals. Rhetoric is a classic discipline dating back to Aristotle, who distinguished

between three modes of persuasion: pathos, logos, and ethos. These three rhetorical appeals trigger different reactions (Bizzell & Herzberg, 1990; Herrick, 2001). Pathos appeals to affect emotions and aims to trigger immediate reactions. This type of rhetoric is associated with highly passionate appeals, and it is used, for example, to justify a particular course of action based on an audience's sense of greed, fear, or happiness. Reactions following a pathos appeal are likely to fade out quickly if they are not adequately reinforced (Green, 2004). Unlike pathos, logos appeals to the rational side of the mind, which calls for rationales associated with ideas such as efficiency or effectiveness. Thus, logos appeals are described as being less immediate compared with pathos, but their persuasive effect is sustained over a longer period of time (Green, 2004). Finally, ethos justifications influence moral or ethical sensibilities, and refer to sacrificing self-interests for social and collective ones (e.g., honor or responsibility). Hence, ethos may have a slower persuasive effect than pathos and logos. However, once an ethos-based practice is adopted, moral legitimacy is produced, and thus the persistence of the ethos appeals may become institutionalized (Green, 2004). In light of these considerations, it may be expected that transmitting information using rhetoric appeals affects how politicians interpret the information.

Finally, information can be presented in different formats. In particular, the literature on presentation format has focused on whether data are supplied in a graphical or textual format. Graphs have been shown to promote better understanding of messages and information compared with textual formats in general, particularly among innumerate individuals (Tait et al., 2010; Hollands & Spence, 1998; Simkin & Hastie, 1987; Lipkus

& Hollands, 1999). Graphical reports have been found to improve judgement accuracy, both as supplements to and substitutes for traditional textual and numerical reports (Burkell, 2004; Feldman-Stewart, Brundage & Zotov, 2007; Peters et al., 2007; Waters, Weinstein, Colditz & Emmons, 2006). The geometrical aspects of graphical elements, such as position and size, are presumed to influence assimilation of data by the user. This does not imply that the presentation format has a direct effect on preferences. It rather implies that the presentation format can influence how strongly politicians react to framing and rhetoric. In other words, the presentation format is likely to interact with the two other aspects of how information is presented. We now turn to a discussion of these interaction effects.

We consider three sets of interactions: first, the interaction between presentation format and framing, then between presentation format and rhetoric, and finally between framing and rhetoric. In practical terms, it is highly relevant to understand such interaction effects since, when performance information is presented to political decision-makers, framing, format, and rhetoric always appear in combination.

As mentioned, presentation format affects the effort required to process and understand information, and framing affects preferences because the processing of information requires effort. To process information quickly, individuals rely on cues, such as negative or positive words. Using such cues, the information is seen as more critical when it is framed negatively than when the same information is framed positively. The graphical format reduces the effort required to process the information. Since the required effort is

smaller, individuals are less likely to use cues when they interpret the information. In other words, since the graphical format eases cognitive processing, we suggest that compared to a textual format, a graphical format reduces the impact of framing effects.

Similarly, presentation format is likely to interact with rhetoric. Rhetorical appeals work in a way similar to framing. Cognitively demanding information processing leads to cue-taking, which implies that individuals can be affected by rhetorical appeals. However, if the information is easy to process, the effect is likely to be dampened. Hence, we argue that the effect of rhetoric is likely to be smaller when the information is presented graphically.

Finally, framing and rhetoric are also likely to interact. If logos leads to a more careful consideration of the content of performance information, framing effects are likely to be reduced. Conversely, if pathos produces an immediate response, and if ethos triggers moral considerations, framing effects are likely to be higher. Hence, we suggest that the effects of framing are stronger if a pathos- or ethos-based rhetoric is used and that the effects of framing are weaker if a logos-based rhetoric is used.

In the following, we first present our research design in which we randomly assign vignettes with 24 combinations of framing, rhetoric, and format to a sample of 1,406 politicians from Italian local governments. We analyze main effects and interaction effects of framing, rhetoric, and format. We end by discussing the implications for the



literature on performance information, for the design of performance information systems, and for future research.

### **Design and Data**

The present study aims to explore the effect of performance information on elected politicians' preferences. To do so, the study presents the results of a large-scale survey experiment, which uses Italian local politicians as respondents. A survey experiment design has been chosen because it allows us to address possible concerns of endogeneity (e.g., Baekgaard & Serritzlew, 2018; George, Desmidt, Nielsen & Baekgaard, 2017; Olsen, 2015). The Italian context constitutes an interesting testing ground as Italian local politicians have not previously been exposed to surveys and experiments, which focus on the use of and responses to performance information. Email addresses of the politicians have been collected from municipalities with more than 10,000 inhabitants and supplemented with email addresses of those municipalities with less than 10,000 inhabitants, which had the addresses available on public databases. The online survey has been sent to 17,400 local politicians and 1,406 have answered. The email invitation specifically stated that the email came from our research institution and that the survey results were for research use only. Also, the respondents were promised confidentiality in the sense that neither responses from individual respondents nor aggregate responses from municipalities would be identifiable in publications from the research. As shown in Table 1, the sample exhibits considerable diversity in terms of the politicians' gender, age, and ideological position as well as the population size of their home municipalities.

**Table 1**  
**Descriptive Statistics of Sample**

	Mean	SD	Min	Max	N
Gender (female = 1)	0.305	0.461	0	1	1,400
Age (years)	45	13	19	77	1,400
Ideology	2.33	1.11	1	5	1,194
Population size	56,223	131,617	446	1,242,123	1,406

Notes: Ideology is measured on a five-point self-placement scale running from 1 (most to the left) to 5 (most to the right).

To examine the independent and combined effects of rhetoric, format, and framing, the politicians were randomly assigned to one of 24 vignettes from the manipulation of those three factors. Following the literature on rhetoric, the councilors were exposed to either ethos, pathos, logos, or a neutral rhetoric. Furthermore, the information was either positively, negatively, or neutrally framed, and the format was either textual or graphical. We conducted the experiment in the context of school meals, which represent a salient issue in Italy. This allows us to test the direct effect of rhetoric, format, and framing as well as several interaction effects, and due to the multiple tests, the latter has an explorative element.

The following paragraphs illustrate the structure and content of the 24 vignettes, resulting from the combination of the three factors: rhetoric (logos, pathos, ethos, neutral) X framing (negative, positive, neutral) X format (textual, graphical). For example, the

logos-based rhetoric has been designed to speak to the rational side of the mind by appealing to ideas of efficiency or effectiveness. As such, the textual format and positive framing read like this:

“Please do your best to imagine yourself in the following scenario. **A report that has recently been released by an independent agency shows that ninety percent of the meals served in the city schools meet the national quality standards.** Based on the results presented in the report, the City Council will soon discuss a proposal aimed at improving the quality of the school lunch service, which will require allocating additional resources to the service. In particular, the proposal points out that the new solution will generate efficiency gains in terms of lower costs for waste management and for facing nutritional diseases.” In order to convey a pathos-based rhetoric by triggering an emotional reaction, the underlined in the text was replaced by “In particular, the proposal points out that the new solution will allow dealing with the increasing fears and complaints about food-related issues rising among parents’ associations.” The ethos-based rhetoric was introduced by referring to potential consequences for health and environmental sustainability: “In particular, the proposal points out that the new solution will allow ensuring that children eat food that is healthier and ethically produced.” Finally, in the neutral group no rhetoric frame was included. Note that using different rhetorical styles involves highlighting different aspects of the information.

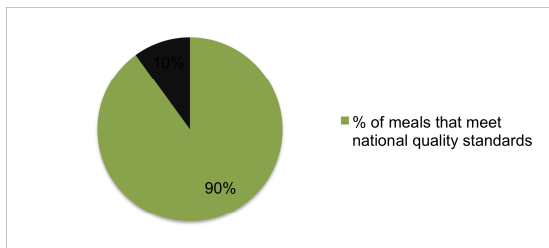
The part in bold is the textual presentation of the information. In the graphical presentation, the respondents were shown the information in Figure 1 instead of the bold

text. Contrasting colors were used to increase the strength of the signal of the information provided.

**Figure 1**  
**Example of Graphical Format Vignette**

Panel A: Positive framing

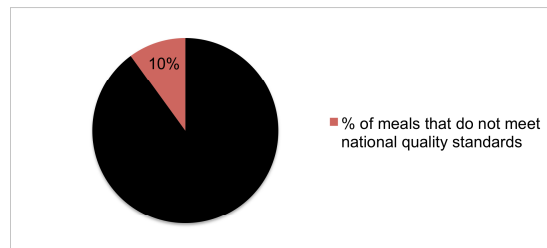
Please do your best to imagine yourself in the following scenario. A report that has recently been released by an independent Agency, which has assessed the quality of the meals served in the City schools, shows the following results:



Based on the results presented in the report, the City Council will soon discuss a proposal aimed at improving the quality of the school lunch service, which will require allocating additional resources to the service. In particular, the proposal points out that the new solution will generate efficiency gains, in terms of lower costs for waste management and for facing nutritional diseases.

Panel B: Negative framing

Please do your best to imagine yourself in the following scenario. A report that has recently been released by an independent Agency, which has assessed the quality of the meals served in the City schools, shows the following results:



Based on the results presented in the report, the City Council will soon discuss a proposal aimed at improving the quality of the school lunch service, which will require allocating additional resources to the service. In particular, the proposal points out that the new solution will generate efficiency gains, in terms of lower costs for waste management and for facing nutritional diseases.

Finally, the different framings (i.e., positive, negative, neutral) are reflected in the way the data on the share of meals, which satisfy national standards, are presented. In line with the literature (e.g., Blom-Hansen, Baekgaard, Christensen & Serritzlew, 2018; Olsen, 2015), we drew on an equivalence frame where identical information is either presented in a negative or a positive manner. Under the positive framing, respondents are informed that “ninety percent of the meals served in the city schools meet the national quality standards.” In the negative framing they are informed that “ten percent of the meals served in the city schools do not meet the national quality standards,” and in the

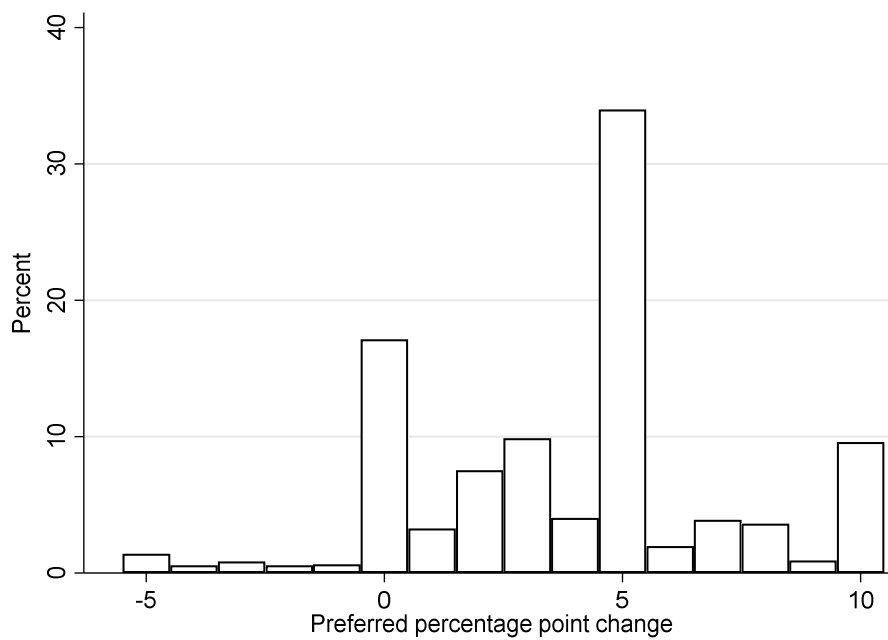
neutral frame is says that “ninety percent of the meals served in the city schools meet the national quality standards, while ten percent do not meet the standards.” The neutral frame thus provides both the positive and negative frames. The graphical vignettes vary the presentation of data as shown in Figure 1. Panel A shows the positive framing version, and Panel B shows the negative framing version as presented to the respondents, both translated from Italian to English. The text is identical with the text-based vignette shown above, except that the bold text is replaced by this text: “A report that has recently been released by an independent Agency, which has assessed the quality of the meals served in the City schools, shows the following results” as well as the circle diagrams shown in Figure 1.

In accordance with previous research (Nielsen & Baekgaard, 2015; Geys & Sørensen, 2018; George et al., 2017), we focus on how performance information matters to politicians’ preferences for budget changes (what we call funding preferences). This allows us to discuss how politicians respond to information in order to avoid blame by, for instance, increasing funding in the event of negatively framed information.

Following the performance information vignette, the politicians were thus asked to indicate their opinion on a policy proposal on school meals: “By using the slider below, please indicate the change in the school lunch fees that you would prefer. The change can vary from -5% (a fee reduction that will preclude any improvements of the school lunch service) to +10% (a fee increase that will cover all additional costs to improve the

service). Take into account that the school lunch fees are the only source of funding for the school lunch service.”

**Figure 2**  
**Distribution of the Dependent Variable**



Note: N=1,406.

The respondents were required to indicate their answer on a continuous 16-point slider with one-percentage point intervals. This representation allows the respondents to answer in an intuitive way, and it allows us to see how the treatments affect how intensely the politicians react to the information provided. The resulting outcome is a continuous ratio variable, which is more informative than discrete or ordinal categorical variables, such as Likert scales. With an overall mean of 3.9 and a standard deviation of 3.3, there is

substantial variation in the responses, though, and as shown in Figure 2, we observe a tendency for responses to concentrate on focal values of either 0, 5, or 10.

## **Results**

Figure 3 provides a first glimpse of our results. When information is presented in a textual format, the ethos-based rhetoric triggers the largest increase in preferences for funding, under both the positive and the negative frames. Another pattern that emerges is that preferences for increased funding tend to drop when moving from the negative to the positive frames, with pathos being the only exception. Notably, the pattern is much more blurred when looking at the results for the respondents who received the graphical format. This provides a first initial suggestion that presentation format matters to the impact of framing among political decision-makers.

### **Figure 3**

#### **Preferred Percentage Point Changes Presented by Experimental Treatment**

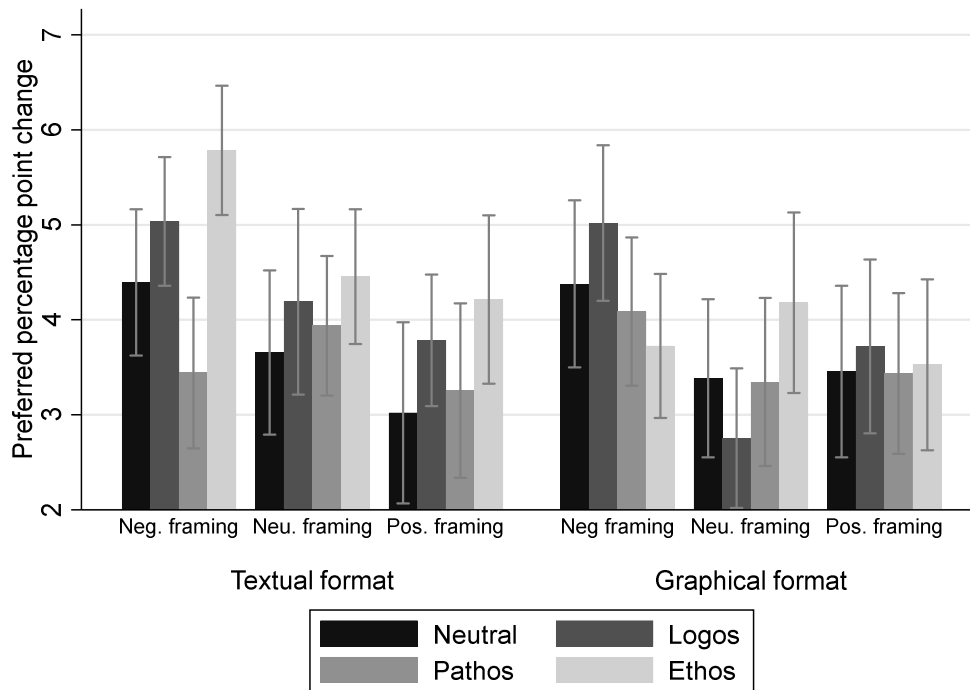


Table 2 examines the combined impact of framing and information format on funding preferences. Model 1 shows the results of a baseline regression in which the main effects of the experimental treatments are explored. We find that respondents prefer more funding when performance information is framed negatively, possibly because negatively framed information generates a greater desire to spend more to avoid blame (see Nielsen & Baekgaard, 2015; George et al., 2017 for a similar interpretation). The average preferred change in funding under the negative frame condition is 4.5 compared to 3.8 and 3.6 in the neutral and positive versions respectively. Thus, the difference between the positive and negative frames amounts to about one fourth of a standard deviation of the dependent variable. The finding that only negatively framed information has an impact is much in line with the literature on negativity bias.



**Table 2**  
**The Impact of Equivalence Framing, Rhetoric, and Information Format on**  
**Preferences**

	Model 1	Model 2	Model 3	Model 4
<b>Equivalence framing</b>				
Positive framing	-0.187 (0.218)	-0.187 (0.219)	-0.481 (0.303)	-0.268 (0.453)
Negative framing	0.739 (0.207)**	0.742 (0.206)**	0.599 (0.282)*	0.865 (0.426)*
Neutral framing	(ref.)	(ref.)	(ref.)	(ref.)
<b>Rhetoric</b>				
Ethos	0.595 (0.248)*	1.107 (0.338)**	0.593 (0.248)*	0.793 (0.425)
Pathos	-0.137 (0.249)	-0.148 (0.349)	-0.138 (0.249)	0.126 (0.421)
Logos	0.358 (0.247)	0.628 (0.343)	0.360 (0.247)	-0.043 (0.438)
Neutral	(ref.)	(ref.)	(ref.)	(ref.)
<b>Information format</b>				
Graphical format	-0.355 (0.173)*	0.032 (0.359)	-0.646 (0.302)	-0.353 (0.174)*
Textual format	(ref.)	(ref.)	(ref.)	(ref.)
<b>Interactions</b>				
Ethos X graphical		-1.040 (0.496)*		
Pathos X graphical		0.035 (0.498)		
Logos X graphical		-0.534 (0.494)		
Positive framing X graphical			0.596 (0.437)	
Negative framing X graphical			0.286 (0.414)	

Positive framing X ethos				-0.173 (0.630)
Negative framing X ethos				-0.410 (0.585)
Positive framing X pathos				-0.032 (0.625)
Negative framing X pathos				-0.752 (0.590)
Positive framing X logos				0.539 (0.624)
Negative framing X logos				0.686 (0.595)
Constant	3.717 (0.232)**	3.519 (0.281)**	3.859 (0.262)**	3.696 (0.318)**
R <sup>2</sup>	0.03	0.03	0.03	0.03
N	1,406	1,406	1,406	1,406

Notes: Entries are unstandardized regression coefficients from an ordinary least squares regression. Robust standard errors in parentheses. \*\* p<0.001, \*p<0.01, p<0.05.

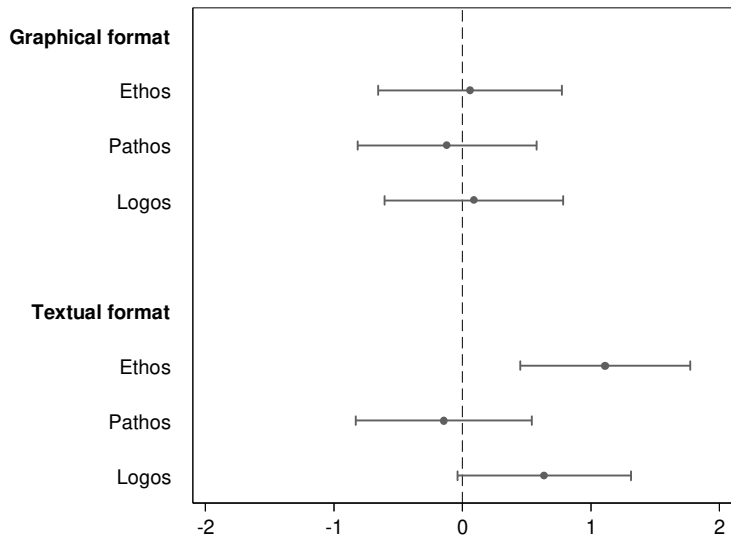
Moreover, the ethos-based frames turn out to have a positive impact on funding preferences, whereas neither the logos- nor the pathos-based frames have any influence. Compared to the equivalence framing, the effect of rhetoric is weaker in substantial terms. Finally, the politicians tend to prefer less funding when performance information is presented graphically, possibly because the graphical representation makes it more apparent that a very large percentage of the meals served in the city schools already meet the national quality standards, thus moving attitudes towards status quo. This interpretation is supported by descriptive statistics, since 20.1% of the respondents prefer the status quo in the graphical representation compared to 14.2% in the textual format.<sup>1</sup> However, the effect in this case is modest in substantial terms as it amounts only to approximately one tenth of a standard deviation.

Model 2 examines if the effects of the rhetorical appeals depend on whether the performance information is presented graphically or textually. The proposition is supported if the interaction term between the ethos-based frame and the information format dummies is statistically significant. As evident in model 2, this is exactly what we find. Since the interaction term between the ethos-based frame and the information format dummy is statistically significant and takes the opposite sign of the ethos-based main effect, and since the two coefficients are of almost similar size, the findings suggest that ethos-based framing can be inhibited by presenting the information in a graphical format. Given that our tests produce a total of 35 estimates in Table 2, with an alpha level of 0.05, we should observe on average 1.7 significant effects as a result of type I-errors. While we observe ten significant effects, it is impossible to rule out that some of them are due to type I-errors. Hence, this part of the analyses has an explorative element.

Figure 4 illustrates the impact of the three rhetorical appeals separately for the two information formats (i.e., textual and graphical). None of them causes any significant effects – relative to the neutral version – when a graphical format is used. In contrast, under a textual format, the ethos-based rhetoric triggers increased preferences for funding relative to both pathos and the neutral appeal. Also, when information is presented as a text, the logos-based rhetoric has a positive impact compared to both pathos and the neutral appeal, though only at the 0.1-level for the latter.

#### **Figure 4**

#### **The Impact of Rhetorical Appeals by Information Format**

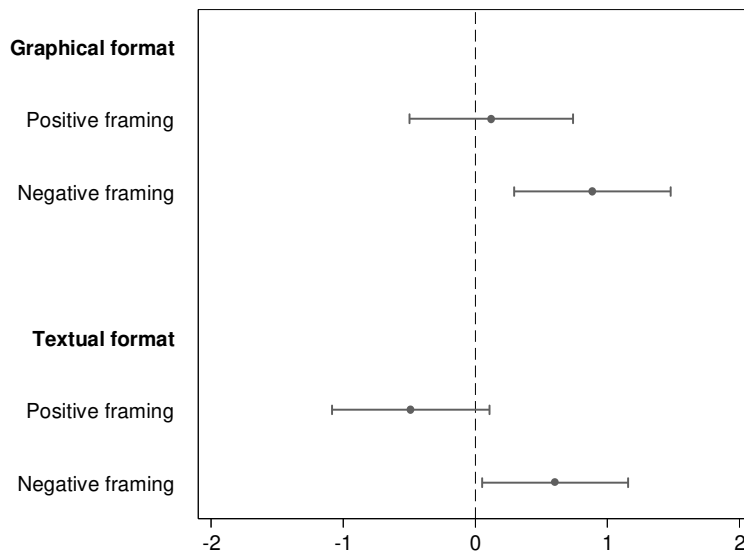


Notes: The figure presents estimated effect sizes of rhetorical appeals (relative to neutral). 95% confidence intervals.

Model 3 in Table 2 tests the extent to which the effects of equivalence framing is moderated by the format of the performance information. While the effects of negative framing are positive and almost of the same size for both information formats, the results are somewhat different for the positive framing. This treatment has an effect very close to zero when the graphical format is used, whereas it is negative and very close to being significant at the 0.05-level when the textual format is used. The difference between the positive and negative frames are also somewhat larger (though not significantly so) in the textual than in the graphical format (1.09 versus 0.76) (see also Figure 5). Thus, there are some indications that equivalence framing matters less in the textual than in the graphical format. The findings are not strong with respect to this conclusion, however.

**Figure 5**

**The Impact of Equivalence Framing by Information Format**



Notes: The figure presents estimated effect sizes of equivalency framing (relative to the neutral framing). 95% confidence intervals.

Finally, model 4 in Table 2 tests the combined impact of equivalence framing and various forms of rhetorical appeals. All interaction terms are clearly statistically insignificant, and thus the findings lend support to the interpretation that equivalence framing has generic effects regardless of the rhetorical appeal used in the presentation of performance information.

**Discussion and Conclusion**

Knowledge about the effects and performance of policies and public organizations is vital for political decision-makers. An amblyopic political system cannot effectively address

real world problems. This is why it is crucial to understand how performance information is processed and understood by political decision-makers. We know from the established literature on framing effects in public opinion, presentation format in applied cognitive psychology, and rhetoric that the way information is presented is decisive for how it is understood. Consistent with this literature, the same piece of information will be processed and understood differently according to how it is framed, how it is presented, and with which rhetorical appeals it is conveyed to the receiver.

We show that these insights are highly relevant to political systems. In line with prior evidence on negativity bias (Blom-Hansen et al., 2018), our survey of 1,406 elected politicians shows that negatively framed information has a large impact on funding preferences. We also show that information format has a considerable effect, whereas we only find weak evidence for the importance of rhetorical appeals in affecting political preferences.

We argue that it is important to study the combined effects of these three aspects of how performance information is presented. The effects of framing and rhetoric, for instance, are likely to be moderated by presentation format. To understand how performance information is understood in political systems, the three aspects may also need to be considered together. Our findings show that these interaction effects can be remarkable. Presenting information graphically reduces the effect of the ethos-based rhetoric and possibly also the impact of logos, although this effect is not significant at the 0.05-level. It also tends to reduce the impact of equivalence framing, though insignificantly.<sup>2</sup> One

potential explanation for these findings is that graphical information is easier to interpret for many people, and thus the actual content of the information matters more when the information is presented graphically while the framing of the information becomes less important. Due to the large number of tests of interaction effects, the findings should be interpreted with caution, however.

Knowledge about these effects is important, both to design performance information systems that can reduce bias (graphical presentation formats seem promising) and to raise awareness of possible manipulation (see Blom-Hansen et al., 2018). This points to some limitations of the current study and interesting perspectives for future research. Firstly, we focus on how the presentation of information matters to funding preferences.

However, previous research has demonstrated that effects of performance information on funding preferences generally differ from the effects on, for instance, preferences for governance-related forms (Geys & Sørensen, 2018) and citizen satisfaction (Baekgaard, 2015). Thus, we advise future research to study how the presentation of information matters to for instance performance evaluations and other political responses.

Secondly, among the treatments on rhetoric, only ethos produces significant effects.

However, these treatments have never before been tested in the context of performance data. To establish more firmly if and how rhetoric matters to the interpretation of performance information, future research is well advised to apply a series of experiments with multiple measures of the three rhetorical appeals to test whether the measures evoke the expected responses. Another potential problem when studying rhetoric is that

different rhetorical appeals highlight different aspects of the information presented. This implies that in a simple experiment with only one treatment for each rhetorical appeal, it is difficult to separate the effect of the rhetorical appeal from the potential effect of the attribute of the highlighted information. Future studies can address this problem by testing the effect of different implementations of the rhetorical appeals.

Thirdly, we examine only a subset of framing (negativity bias), presentation formats (graphical or textual), and rhetoric (pathos, ethos, and logos). Future research should investigate how other aspects of framing, format, and rhetoric as well as other ways of presenting information affect how politicians – and people at large – respond to performance information.

Fourthly, as shown by previous studies, the interpretation of performance information is prone to prior values and beliefs of those who receive the information (e.g., Baekgaard et al., 2017; Christensen et al., 2018; James & Van Ryzin, 2017). Thus, future research should explore how behavioral aspects and the way information is presented interact. For instance, it would be interesting to study how extant behavioral aspects are of different importance depending on how the information is framed, formatted, and communicated rhetorically.

## **Notes**



1. Differences in the extent to which a status quo response is provided is indeed what seems to be driving the difference between the graphical and textual representation. The difference in mean responses between the two representations is thus clearly statistically insignificant ( $p = 0.58$ ;  $N = 1,165$ ) if status quo responses are not included in the analysis. Also, the percentage point difference of 5.9 in the use of the status quo response is substantially larger than the difference in use of any other response category. The second largest is a 3.3 percentage point difference for the “five percentage points” increase category, which is preferred to a larger extent in the textual than the graphical representation.
2. It is important to remember that the power of the study is quite limited (we test a total of 35 effects in Table 2 with 1,406 observations). This means that statistical insignificance cannot be taken as conclusive evidence of a lack of effect.

## References

- Baekgaard, M. (2015). Performance information and citizen service attitudes: Do cost information and service use affect the relationship? *International Public Management Journal*, 18(2), 228-245.
- Baekgaard, M., Christensen, J., Dahlmann, C. M., Mathiasen, A., & Petersen, N. B. G. (2017). The role of evidence in politics: Motivated reasoning and persuasion among politicians. *British Journal of Political Science*, 1-24.
- Baekgaard, M., & Serritzlew, S. (2018). Those who understand it will not be persuaded: A performance information paradox. *International Public Management Journal*, 1-23.
- Bizzell, P., & Herzberg, B. (Eds.). (1990). *The rhetorical tradition: Readings from classical times to the present*. Boston: Bedford Books of St. Martin's Press.
- Blom-Hansen, J., Baekgaard, M., Christensen, J., & Serritzlew, S. (2018). Politicians and bureaucrats: Reassessing the power potential of the bureaucracy. *Manuscript presented at the 2017 IRSPM (Budapest), NOPSA (Odense), and ECPR (Oslo) Conferences*. Retrieved from [https://www.hi.is/sites/default/files/bgk/Skjol/reassessing\\_the\\_power\\_potential\\_norkom.pdf](https://www.hi.is/sites/default/files/bgk/Skjol/reassessing_the_power_potential_norkom.pdf)
- Boyne, G., Oliver, J., John, P., & Petrovsky, N. (2009). Democracy and government performance: Holding incumbents accountable in English local governments. *Journal of Politics* 71(4), 1273-1284.
- Burkell, J. (2004). What are the chances? Evaluating risk and benefit information in

- consumer health materials. *Journal of Medical Library Association*, 92(2), 200-208.
- Charbonneau, E., & Bellavance, F. (2012). Blame avoidance in public reporting. *Public Performance & Management Review*, 35(3), 399-421.
- Chong, D., & Druckman, J. N. (2007). Framing theory. *Annual Review of Political Science*, 10(1), 103-126.
- Christensen, J., Dahlmann, C. M., Mathiasen, A. H., Moynihan, D. P., & Petersen, N. B. G. (2018). How do elected officials evaluate performance? Goal preferences, governance preferences, and the process of goal reprioritization. *Journal of Public Administration Research and Theory*, 28(2), 197-211.
- Craig, S. G., Imberman, S., & Perdue, A. (2015). Do administrators respond to their accountability ratings? The response of school budgets to accountability grades. *Economics of Education Review*, 49(C), 55-68.
- Druckman, J. N. (2001). The implications of framing effects for citizen competence. *Political Behavior*, 23(3), 225-256.
- Feldman-Stewart, D., Brundage, M. D., & Zotov, V. (2007). Further insight into the perception of quantitative information: Judgments of gist in treatment decisions. *Medical Decision Making*, 27(1), 34-43.
- George, B., Desmidt, S., Nielsen, P. A., & Baekgaard, M. (2017). Rational planning and politicians' preferences for spending and reform: Replication and extension of a survey experiment. *Public Management Review*, 19(9), 1251-1271.
- Geys, B., & Sørensen, R. (2018). Never change a winning policy? Public sector performance and politicians' preferences for reform. *Public Administration*

*Review*, 78(2), 206-216.

Green, S. E. (2004). A rhetorical theory of diffusion. *Academy and Management Review*, 29(4), 653-669.

Herrick, J. A. (2001). *The history and theory of rhetoric: An introduction*. Boston: Allyn and Bacon.

Hollands, J. G., & Spence, I. (1998). Judging proportion with graphs: The summation model. *Applied Cognitive Psychology*, 12(2), 173-190.

James, O., & Van Ryzin, G. G. (2017). Motivated reasoning about public performance: An experimental study of how citizens judge the affordable care act. *Journal of Public Administration Research and Theory*, 27(1), 197-209.

James, O., & John, P. (2007). Public management at the ballot box: Performance information and electoral support for incumbent English local governments. *Journal of Public Administration Research and Theory*, 17(4), 567-580.

Klar, S., Robison, J. & Druckman, J. N. (2013). Political dynamics of framing. In T. N. Ridout (Ed.), *New directions in media and politics* (173-192). New York: Routledge.

Kühberger, A. (1998). The influence of framing on risky decisions: A meta-analysis. *Organizational Behavior and Human Decision Processes*, 75(1), 23-55.

Lau, R. R., Smith, R. A., & Fiske, S. T. (1991). Political beliefs, policy interpretations, and political persuasion. *Journal of Politics*, 53(3), 644-675.

Levin, I. P., & Gaeth, G. J. (1988). How consumers are affected by the framing of attribute information before and after consuming the product. *Journal of Consumer Research*, 15(3), 374-378.

- Levin, I. P., Schneider, S. L., & Gaeth, G. J. (1998). All frames are not created equal: A typology and critical analysis of framing effects. *Organizational Behavior and Human Decision Processes*, 76(2), 149-188.
- Lipkus, I. M., & Hollands, J. G. (1999). The visual communication of risk. *JNCI Monographs*, 25, 149-163.
- Marvel, J. D. (2016). Unconscious bias in citizens' evaluations of public sector performance. *Journal of Public Administration Research and Theory*, 26(1), 143-158.
- Moynihan, D. P. (2008). *The dynamics of performance management*. Washington DC: Georgetown University Press.
- Nielsen, P. A., & Baekgaard, M. (2015). Performance information, blame avoidance, and politicians' attitudes to spending and reform: Evidence from an experiment. *Journal of Public Administration Research and Theory*, 25(2), 545-569.
- Nielsen, P. A., & Moynihan, D. P. (2017). How do politicians attribute bureaucratic responsibility for performance? Negativity bias and interest group advocacy. *Journal of Public Administration Research and Theory*, 27(2), 269-283.
- Olsen, A. L. (2015). Citizen (dis)satisfaction: An equivalence framing study. *Public Administration Review*, 75(3), 469-478.
- Peters, E., Dieckmann, N. F., Dixon, A., Hibbard, J. H., & Mertz, C. K. (2007). Less is more in presenting quality information to consumers. *Medical Care Research and Review*, 64(2), 169-190.
- Rabin, M. (1998). Psychology and economics. *Journal of Economic Literature*, 36(1), 11-46.

- Scheufele, D. A. (1999). Framing as a theory of media effects. *Journal of Communication, 49*(1), 103-122.
- Simkin, D., & Hastie, R. (1987). An information processing analysis of graph perception. *Journal of the American Statistical Association, 82*(398), 454-465.
- Tait, A. R., Voepel-Lewis, T., Zikmund-Fisher, B. J., & Fagerlinthe, A. (2010). Effect of format on parents' understanding of the risks and benefits of clinical research: A comparison between text, tables, and graphics. *Journal of Health Communication, 15*(5), 487-501.
- Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science, 211*(4481), 453-458.
- Tversky, A., & Kahneman, D. (1986). Rational choice and the framing of decisions. *Journal of Business, 59*(4), S251-S278.
- Van de Walle, S., & Roberts, A. (2008). Publishing performance information: An illusion of control? In W. Van Dooren & S. Van de Walle (Eds.), *Performance information in the public sector: How it is used* (211-226). Houndmills, UK: Palgrave.
- Van Dooren, W., & Van de Walle, S. (Eds.). (2008). *Performance information in the public sector: How it is used*. Houndmills, UK: Palgrave.
- Waters, E. A., Weinstein, N. D., Colditz, G. A., & Emmons, K. (2006). Formats for improving risk communication in medical tradeoff decisions. *Journal of Health Communication, 11*(2), 167-182.