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Policy Positions of Bureaucrats at the Frontlines: Are They Susceptible to Strategic Communication?

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Abstract

It is well established that bureaucrats' implementation of policies is influenced by their own policy position, i.e., their attitude towards the given policy. But what affects the policy positions of bureaucrats? This article focuses on whether the policy positions of bureaucrats at the frontlines of government are susceptible to frames and cues embedded in communication. Based on the notion that bureaucrats often adhere to certain professional norms when developing their attitudes towards policies, we hypothesize that communication frames and cues that align policies with such norms move their policy positions in favor of the policy. Results of four studies in European and American settings among mid- and street-level bureaucrats show support to the hypothesized effect—they also show that aligning policies to dimensions outside of the professional norms is ineffective, possibly even producing opposite effects.

Practitioner points

- The way new policies are presented to street-level bureaucrats and middle managers directly affects their attitudes towards the policy.
- Emphasizing aspects of the policy that are in accordance with professional norms of serving clients and building policies on research-based evidence is likely to make bureaucrats more sympathetic—or less negative—towards the policy.
- Emphasizing other considerations such as client satisfaction surveys and economic concerns may cause bureaucrats to be more hostile towards the policy.
- Managers and other decision-makers must strategically consider how they communicate about new programs and policies.

The implementation of policies by street-level bureaucrats is deeply affected by their own positions on the policy issues in question (i.e., their attitudes towards the given policy). This insight dates back to classic studies by Kaufman (1960) and Lipsky (1980) and has been confirmed by a number of more recent studies (Brehm and Gates 1997; Keiser and Soss 1998; May and Winter 2009; Stensöta 2012; Trummers, Stein, and Bekkers 2012). This poses a fundamental question about what affects the policy positions of bureaucrats. Bureaucrats arrive at their jobs with experiences and individual personality traits, which are likely to influence them throughout their work life. They are also affected by long-term socialization and organizational influences in various ways after they are recruited for their job (Oberfield 2010). However, much less is known about how bureaucrats' policy positions, i.e., their attitudes towards specific policies and programs, are influenced by strategic communication emphasizing different perspectives.

In this article, we center on whether “frames” and “cues” imbedded in communication affect the policy positions of bureaucrats working at the frontlines of government. Framing refers to emphasizing one subset of considerations rather than others when describing an object, for example, emphasizing a certain aspect of a policy. A cue is a piece of information (e.g., expert advice) that enables individuals to make simplified evaluations without analyzing extensive information (Druckman et al. 2010). Communication is an inevitable part of organizations, and it surrounds every policy implemented by bureaucrats. From extensive research on public opinion formation in political science, we know that the attitudes of citizens towards a policy are susceptible to the way that a policy is communicated. Communication impacts attitudes both in terms of how policies are framed as well as by cues allowing citizens to form opinions based on smaller pieces of information (Nelson, Oxley, and Clawson 1997; Druckman et al. 2010).

Based on the notion that bureaucrats often adhere to certain professional norms when developing their attitudes towards policies, we hypothesize that communication that aligns policies with such norms moves the policy positions of bureaucrats in favor of the policy. In contrast, communication that connects policies with dimensions outside the professional norms is expected to be ineffective, or it may even produce negative attitudes towards the policy. The theoretical claim is developed in the next section by combining contributions from the public opinion literature (in particular, the conceptualizations of communication frames and cues) with classic insights on bureaucrats and the role of communication in organizations.

We use four large-n survey experiments of frontline bureaucrats in Denmark and America to test the hypotheses. The policy area of our testing is the education system. This administrative area is important in most countries, and it provides a good case area since it is dominated by professionally trained workers. The test cases include policies concerning standardized testing,

student background, and economy of schools, which are salient issues in public administration of schools across the world (Phelps 2003).

The experiments confirm that the frames and cues that align policies with professional norms rooted in bureaucracy have a consistent impact on policy positions among street-level bureaucrats across different administrative contexts. One of our experiments, which is able to separate the effects of frames and cues, shows that both frames and cue have the potential to affect the policy positions of bureaucrats. Yet this experiment also shows that even a cue aligning a policy with professional norms is ineffective if it is combined with a frame that does not fit the professional norms. It is important to note that the experiments are designed to examine shifts in policy positions, which is the object of our study (not bureaucrats' behavior); hence, the implications of the test results concern our knowledge about how the policy positions of street-level bureaucrats develop. We elaborate on this in the final part of the article.

The next section develops the theoretical hypotheses upon which we build the research. This section also includes the conceptualizations of policy position, professional norms, and communication. We then present the design of four studies that test the hypotheses in different contexts. The results are then presented, and we conclude by discussing how the results increase the understanding of the political process that leads from political decisions to their implementation and the role of communication in that process.

Bureaucrats' Policy Positions and Communication Effects

Numerous studies have shown how the manner in which bureaucrats implement political decisions is often influenced by “opinions, values, preferences, and their own interpretations of the world” (Kaufman 1960, 80), bureaucratic ideology (Stensöta 2012), and values

institutionalized in standard operating procedures (Lipsky 1980; Keiser and Soss 1998)—as well as more immediate attitudes towards specific policies (Brehm and Gates 1997; May and Winter 2009). We distinguish between bureaucrats' policy positions, that is, preferences for specific policies, and more fundamental norms, values, or ideologies. Whereas the latter represent more generic views of what is good, right or acceptable, we define policy positions as attitudes related to specific policies. Hence, a bureaucrat's policy position indicates whether he or she favors (i.e., displays a positive attitude towards) or disfavors the policy.

Bureaucrats' policy positions are important for their behavior. Psychologists debate what moderates the relationship between attitudes and behavior and whether interests of the individual are more important than attitudes. However, despite limited consensus about how exactly attitudes influence behavior, there seems to be general agreement that attitudes *can* influence behavior and often do (for a review and a discussion, see Ajzen and Fishbein 2000). The transition of attitudes into behavior is assumed to take place in a cognitive process where beliefs about what is expected of a person are important for that person's behavior. This resonates very well with some of the prominent organizational theories on behavior, for example March and Olsen's (2006) theory on logic of appropriateness. Thus, attitudes are influenced by what is expected of the individual, and attitudes are themselves more likely to influence behavior if they are in keeping with what is expected of the individual. In sum, despite little consensus about how exactly attitudes influence behavior, research both in public administration and psychology suggests that understanding the attitudes of bureaucrats towards a given policy (i.e., their policy position) is important for understanding their implementation of that policy.

Research on public opinion formation has repeatedly shown that citizens with the same values, norms, ideologies, and preferences may hold very different attitudes on specific issues,

depending on how the issue is communicated strategically (for a review, see Chong and Druckman 2007b). However, whether bureaucrats are susceptible to communication on policies which they implement, that is, in their own field of expertise, is a different question. Bureaucrats are likely to be predisposed towards certain positions on the policies they implement since they are usually experts in their field, their work is affected by the policies they are asked to implement, and they are bound by norms that influence their policy positions. Strong predispositions are likely to render people more resistant to communication effects (Chong and Druckman 2007b). Yet as we argue below, bureaucrats may be susceptible to some types of communication. To unfold our argument, we start by outlining the conceptualization of communication that we apply.

Simon (1997 [1947], 217) defines communication in the bureaucratic process as the transmission of decisional premises from one member of an organization to another. Decisions are based on not one but several premises given different weight and attention. This is akin to the conventional model of attitude formation within public opinion research. This model states that an attitude towards an object is the sum of the evaluation of the object on different dimensions—and with different weights attached to these dimensions (Ajzen and Fishbein 1980; Nelson, Oxley, and Clawson 1997; Price and Tewksbury 1997). The idea is that communication influences attitudes by affecting the weighting of these dimensions and the evaluation of the object on the different dimensions (Druckman et al. 2010; Slothuus 2008).¹ In the study of bureaucrats, this means that, on the one hand, bureaucrats' policy positions depend on how they evaluate the policy along dimensions such as impact on the clients they serve and its effect on the influence of other stakeholders. On the other hand, the policy position depends on how each

of these dimensions is weighted, and communication may influence how bureaucrats evaluate and weigh these different concerns when generating their policy position.

In accordance with the conceptualization of communication in the public opinion literature, we distinguish between communication “frames” and “cues”. “Framing” is defined as emphasizing one subset of considerations rather than others when describing an object (Druckman et al. 2010). In our study, this object is the policy the bureaucrats are asked to implement. We use the term “cue” to denote a piece of information that enables individuals to make simplified evaluations without analyzing extensive information (see Druckman et al. 2010). One prime example of such a cue is expert advice.

In the inventory of what makes a strong frame in public opinion research, we find frames that resonate in a credible manner with and invoke strong consensus values (Gamson and Modigliani 1989; Pan and Kosicki 2001) and back them up with reference to credible sources (Druckman 2001). Strong consensus values mean that most people share the same positive (or negative) value on specific dimensions. Therefore, by acquiring a theoretical understanding of the dominating values and norms in an audience, it should be possible to deduce which frames and cues will have a strong effect on policy position and which will not.

What types of frames and cues would we expect to be effective with regard to changing the policy positions of bureaucrats? Bureaucrats are in many respects a heterogeneous group (DeHart-Davis 2007; O’Leary 2010). Nevertheless, based on the literature on professions we suggest that there are some norms that bureaucrats (on average) are likely to share.

Professions have been characterized by specialized knowledge bases, a strong service ethic in the sense of commitment to meeting clients’ needs, and collegial versus bureaucratic control over entry, performance evaluations, and retention in the profession (Etzioni 1969; see also

Talbert and McLaughlin 1994; Hargreaves and Goodson 1996; Hargreaves 2000). There are two sides of this, though. One side has to do with the status and compensation of the profession. The other side has to do with the ethics or norms that guide professionals' behavior (Hargreaves and Goodson 1996; Darling-Hammond 1990). The latter aspect, which is our focus, "outlines a view of practice that is *client-oriented* and *knowledge-based*" (Darling-Hammond 1990, 25). These two characteristics of professional norms are also central to Wilson (1989, 60). He defines a professional as "someone who receives important occupational rewards from a reference group whose membership is limited to people who have undergone specialized formal education and have accepted a group-defined code of proper conduct." He further specifies that highly professional bureaucrats usually seek to serve clients and follow the procedures recommended by experts within a profession, such as professors and experienced members of the profession. He does not claim that personal interests or other incentives do not affect professionals, but that they "receive some significant portion of their incentives" from such norms shared by organized groups of fellow practitioners (Wilson 1989, 60). Similarly, Simon (1997 [1947]) sees expertise and identification with others in the organization as two strong influences on the premises of bureaucrats' decision-making. In his study of street-level bureaucrats, Lipsky (1980, 201–2) also emphasizes the service of clients as a professional norm that is guided by university experts.

Who the clients are depends on the profession. For teachers it is typically students; for physicians typically patients. Notably, serving the clients does not necessarily mean serving clients' choices or own expressed wishes; it means doing what the profession perceives as valuable to clients (Freidson 2001, 122). Professionals are educated at professional schools and they generally see the schools and studies within their profession as professionally significant. Consequently, they recognize recommendations from research-based studies as authoritative (see

also Freidson 2001; Tummers et al. 2012). The professional schools codify and refine the profession's understanding of how to serve clients independently of the values of clients or other stakeholders (Freidson 2001, 123; Wilson 1989). In this way, the profession uses norms strategically as a means to secure influence. By adhering to certain professionally based norms, behavior and decision-making do not depart from what is in the interest of the profession and its members.

We do not claim that professionals always act in accordance with the norms of their profession. Self-interests and pressure from interest groups might obviously influence bureaucratic behavior, and any individual bureaucrat may diverge from the majority. However, appealing to professional norms should on average have an influence on the attitudes among bureaucrats towards specific policies. Referring implicitly to these norms, we argue, will tend to make bureaucrats more favorable to the policy.

Based on this, we suggest that policies that benefit clients—though not necessarily the clients' own requests—will be evaluated more positively by bureaucrats (on that dimension) due to a common value of client orientation. Consequently, frames emphasizing the benefits of a policy for clients will shift the policy position of bureaucrats in favor of the policy. Similarly, policies rooted in research or expert knowledge will be evaluated more positively by bureaucrats because of a norm of basing decisions on research-based knowledge. Thus, cues that provide information that positively connects a policy with research-based knowledge will also make bureaucrats more sympathetic to the policy. Furthermore, if a cue also links this research to a renowned professional school (i.e., an institution of higher education), we would expect it to have an even stronger effect on the bureaucrats since they are often educated at such institutions.

Other legitimate considerations, such as the expressed wishes of clients and other stakeholders, are not usually part of the professional norms. Consequently, we do not expect frames emphasizing dimensions such as benefits to other stakeholders to move bureaucrats' policy positions in favor of the policy.

To sum up, our general hypothesis is:

H₁: Communication that emphasizes the coherence between a given policy and professional norms will move policy positions in favor of the policy.

Following our discussion, we may further specify a number of hypotheses that extend the general hypothesis. First, we expect both frames and cues to affect policy positions:

H₂: Communication frames emphasizing professional values of client-service will move policy positions in favor of the policy.

H₃: Communication cues referring to research-based evidence will move policy positions in favor of the policy.

Furthermore, the source of the provided expert/research knowledge is also expected to matter:

H₄: Communication cues referring to a professionally accepted source will move policy positions in favor of the policy.

Experimental Tests on Street-Level Bureaucrats in Denmark and the U.S.

Testing the hypotheses requires a method that (1) includes measures of exposure of communication to bureaucrats, (2) holds everything but the communication constant, (3) includes measures of bureaucrats' policy positions, (4) reduces the pressure potentially felt by some bureaucrats to state policy positions in accordance with official policies or the policy positions of peers, and (5) is replicable in different settings. Survey experiments are able to do exactly that. Survey experiments can be used to expose bureaucrats to different communication cues and frames. Bureaucrats can answer anonymously, which reduces the pressure bias. Moreover, pressure bias and other confounding variables are held constant through the randomization procedure. Additionally, survey experiments can include a large number of bureaucrats and offer good potential for replicating the study in different contexts. Because of such advantages, survey experiments are extensively used in research on public opinion formation, and they have been increasingly used in public administration research as well.

However, it is important to note some of the limitations of survey experiments. First, they usually identify effects on policy positions, knowledge, intentions, etc.; not behavior (whereas field experiments typically study effects on behavior). Second, they measure immediate, short-term effects, but do not reveal whether these effects are persistent. Third, the survey experiment is somewhat artificial since it occurs in the survey. We cannot be sure that the found effects would be exactly the same in a non-experimental situation. The survey experiment estimates the effect of communication when it is isolated from all other factors happening in an organization.

We conducted four experimental tests in the education sector in both American and European contexts using individual bureaucrats as subjects in the analysis. Education is a key policy area in most countries. Moreover, in both the American and European contexts, the

education system is part of a developed political bureaucracy including a vast number of professionally trained bureaucrats. This renders the education sector a good test case for our purpose.

Using the education sector as test case, a relevant question is whether professional norms of client-orientation and knowledge-based practice pertain to teachers as an occupation. The profession has developed over time to become more guided by collective norms than private practice (Hargreaves 2000). Our claim is not that teacher behavior is only guided by professional norms of client orientation and knowledge-based practice. In her discussion of teacher professionalism, Darling-Hammond (1990, 32) states: “Professionalization is not a dichotomous event or a state of grace into which an occupation clearly falls or does not. Rather, it describes points along a continuum representing the extent to which members of an occupation share a common body of knowledge and use shared standards of practice in exercising that knowledge on behalf of clients.” Our claim is that the professional norms are strong enough among teachers on average that their attitudes will be affected by strategic communication that appeals to these norms.

This study focuses on mid- and street-level bureaucrats, as they have great influence on how policies are implemented—not least in the education sector (Weatherley and Lipsky 1977; Honig 2006). In order to strengthen the basis of our conclusions, we replicated our tests in four studies of very different contexts. The contexts differ with respect to client group (preschoolers, primary school students, secondary school students), hierarchical organizational level (street- and mid-level bureaucracy), and the general political system. The political systems in the studies vary between the market-based education system in the traditionally conservative state of Texas and the universal welfare state-based system in Denmark, which is more liberal and social

democratic. Table 1 provides an overview of the four studies. The purpose of varying the context is not to examine how the context moderates the effects of communication, but to demonstrate that the same kinds of communication have similar effects in very different contexts.

Table 1 here

Each of the four studies used a specific policy case to test the hypotheses. In the survey experiments, we presented a likely policy proposal to the bureaucrats along with different types of communication about the policy. We then asked the bureaucrats to state their position on the policy proposal; that is, the extent to which they were in favor of or against the policy. In three of the studies (1, 2, and 3), the applied policy case concerned the issue of standardized test-taking among students; that is, the extent to which students should be tested in school. In study 4, the policy case focuses on the strictness of admission to upper secondary schools.

These cases hold several features rendering them suitable for our experiments. First, the included policy proposals about standardized testing (studies 1, 2, and 3) are highly salient, familiar to the bureaucrats, and the subject of intense debate in the given contexts. “Standardized testing has been an ever-expanding, albeit controversial, part of education in the United States throughout the 20th century” (Linn 2001, 29). Phelps (2003) analyzes in particular the debate about standardized testing in Texas (one of our empirical sites), describing the conflict as a “war” between policymakers and educators. A key part of the conflict is the question of political control over the bureaucracy (Wang, Beckett, and Brown 2006). Similarly, in Denmark (our other empirical site), standardized testing has been a key conflict in education politics, both between political parties and currently between politicians and teachers (Gustafsson 2012). If the

policy positions of bureaucrats can be moved on an area as controversial and salient as this, they may also be amendable on less controversial areas.

The case in study 4, entry requirements, is also controversial but probably less so than standardized testing. Entry requirements were a center of prevailing political debate when the study was conducted. Besides the ideological conflict about access to education between left- and right-wing parties, entry requirements represents a classic conflict between politicians who want more young people to get an education and teachers defending themselves against the workload related to teaching students that are less prepared for secondary school. The teachers do so, for instance, by trying to move away from schools with a demanding student composition (Bonesrønning, Falch, and Strøm 2005). The variation in terms of how controversial this policy is compared to the highly controversial standardized testing provides some leverage in terms of the generalizability of the results along this dimension.

Second, the cases are salient not only in the US and Danish contexts. Although mostly used in developed countries, standardized testing in education is a widespread and growing phenomenon in virtually all global regions (Kamens and McNeely 2010). Third, it was possible to include realistic policy proposals in the case studies. Fourth, in all four studies, identifying communication that connected the policy proposal with norms of the bureaucracy was rather straightforward.

Our first aim was to test the causal effect outlined by the main hypothesis in dissimilar contexts. For this purpose, we conducted studies 1, 2, and 3 (which examine the general hypothesis, H_1). Our second aim was to disentangle the different cue and framing effects (i.e., to test H_2 , H_3 , and H_4). Study 4 was conducted for this purpose. Next, we introduce the general design of studies 1, 2, and 3. Then we introduce the design and policy case of study 4.

General Design of Studies 1, 2, and 3

The experiments in studies 1, 2, and 3 each included three experimental conditions. The first condition (the control condition) included no other communication than the description of the policy case. The second condition (the non-professional norm condition) included a stimulus consisting of communication about the policy that was not in alignment with the professional norms of the bureaucratic context. The third condition (the professional norm condition) included communication about the policy that was in strong alignment with the professional norms; that is, communication that presents the policy as beneficial to the clients, connects the policy with research-based knowledge, and connects the knowledge to a credible source such as a specific professional school (e.g., a specific university). This enables us to estimate the effect of the communication in strong alignment with norms by comparing the professional norm condition with the non-professional norm condition and the control condition, respectively.

We measure policy position by asking the bureaucrats to indicate the extent to which they agree or disagree that the policy proposal is a good idea (response categories: Strongly agree, Agree, Neither agree nor disagree, Disagree, Strongly disagree). Thus, policy position ranges 1–5, 1 being the most negative attitude towards the policy and 5 the most positive. Table A1 in the Supplementary Material shows the full text of all three experiments.

In studies 1, 2, and 3, the communication in the non-professional norm condition frames the policy in the light of requests or wishes from the parents. Specifically, the policy is reasoned with parent surveys showing that a large majority of the parents requests more testing. Such a frame is not expected to be particularly persuasive in any of the contexts of studies 1, 2, and 3. Even though parents are in some sense clients in the education system, adhering to the clients’

own choices is not part of the professional norm. The professional norm emphasizes the profession's independent understanding of what serves the clients (Freidson 2001, 121–3). Hence, this reasoning may even be an argument for some bureaucrats to turn against the policy as it may be perceived as populist or as increasing the influence of other stakeholders (i.e., the parents) on their practice. Therefore, we only expect the non-professional norm condition to produce a change in favor of the policy.

In the three studies, the communication in the professional norm condition emphasizes that the policy proposal is beneficial to what the professional norms of the contexts perceive as the main clients: the students.² The professional norm condition also includes cues referring to research-based knowledge that backs up the policy and professional schools as sources of this knowledge. Thus, research-based knowledge and the research sources are expected to be credible in the context of the education system in both Texas and Denmark. Research-based knowledge and education institutions are part of the education system, and bureaucrats employed in this system are usually educated through a professional school. In this way, the professional norm condition is in alignment with the professional norms in bureaucracy. Hence, we expect this communication to have a strong influence on policy positions in favor of the policy. Details of study 1, 2, and 3 are presented in the appendix.

Study 4: Disentangling Cue and Frame Effects

In studies 1, 2, and 3, the professional norm condition includes both a frame emphasizing that the policy is beneficial to the main clients as well as cues referring to knowledge and credible sources of this knowledge. The aim of study 4 was to disentangle the effects of the different cues and frames. Therefore, we split the three conditions included in studies 1, 2, and 3 into nine

separate conditions in order to disentangle the effects of communication that (1) presents the policy as beneficial to the clients; (2) connects the policy with research-based knowledge; and (3) connects this knowledge to a credible source.

The study includes 3,739 secondary school teachers surveyed in December 2012.³ The policy case is whether secondary schools should lower the entry requirements (and thereby increase the intake of students). This issue has been subject to considerable debate. The schools have an incentive for a high intake of students (schools are paid per student via activity-based budgeting), and politicians would like to see more people enrolled in secondary schools. However, a high intake may compromise education quality and the demands placed on the teachers as the number of students with lower qualifications increases.

We combine three frame conditions and three cue conditions in a 3×3 design. The phrasing of all nine conditions is outlined in table A2 in the Supplementary Material. We included three types of framing. First, we included conditions with no additional framing. Second, a frame not in alignment with the professional norms of the teachers was included. This frame emphasizes the potential economic payoff that the school may experience from increasing the intake of students (the schools are partly financed by activity-based budgeting). The economic prosperity may be of importance to other stakeholders of the organization, namely, the governing board. However, this does not align very well with the predominant professional norms, which privileges the consideration for the students. Although not in alignment with professional norms, some teachers may react to the economic interest in the frame, which can reduce the difference between this frame and the frame in strong alignment with professional norms. This makes the test of difference between non-professional norm frames and the professional norm frame harder. Third, we included frames in strong alignment with professional norms. As in the previous

studies, these emphasize the benefit of the policy proposal to the main client: the students. In particular, the frames in strong alignment with the norms emphasized the benefits of less advantaged students as they are often those who would benefit most from the policy.

We also included three cue conditions. First, we included stimuli with no additional cues. Second, we included a cue type providing information that a study supports the policy (a knowledge cue). This cue is in alignment with the norm of professionally based knowledge. Third, we included a cue that not only provides information that a study supports the policy but also that the source of this knowledge is Aarhus University (Andersen and Thomsen 2011), a well-known university in the Danish context that educates many secondary school teachers. In addition to including the three types of frames and three types of cues, we included all of the interactions between the frames and cues. Hence, the experiment uses a full 3×3 factorial design; that is, nine experimental conditions. The policy position measure is similar to that of studies 1, 2, and 3.

Testing the General Hypothesis (H_1) in Different Contexts: Results of Studies 1, 2, and 3

The general hypothesis of the study (H_1) states that communication emphasizing the coherence between a given policy and professional norms of client orientation and expert advice will move bureaucrats' policy positions in favor of the policy. Figure 1 presents the results of testing this hypothesis in the three different contexts of studies 1, 2, and 3. The bars in figure 1 show the bureaucrats' mean policy position by experimental group. The significance tests are calculated using linear random effects models (see the Supplementary Material). Using ordered logistic regression does not change the conclusions.

Figure 1 here

In study 1, the communication that coheres strongly with the norms (the Professional Norm Condition) increases the mean policy position from 2.49 to 2.92 on the absolute scale, corresponding to an increase by 17% or 0.32 standard deviations of the policy position. Thus, not only are bureaucrats' policy positions amendable to communication—the professional norm condition also has a substantial effect in the predicted direction. We also notice that attitudes are not so volatile that any and all kinds of arguments in favor of the policy will change them: Communication that does not correspond with the norms cannot change the attitudes (the difference between the Control Condition and the non-professional norm condition is not statistically significant). Only communication emphasizing coherence between the policy and professional norms changes the attitudes in favor of the policy. This supports the general hypothesis (H_1).

We find similar results when examining the reactions towards the proposal of increased testing in primary schools in study 2. The communication in strong coherence with norms increases the mean policy position from 1.86 in the Control Condition to 2.14 in the Professional Norm Condition—or by approximately 15% in favor of the policy, which is significantly different from both the Control Condition and the non-professional norm condition. Moreover, the non-professional norm condition is not significantly different from the Control Condition. Study 2 serves to replicate the results in a similar national context where we should expect similar results but with different respondents in a different data collection and another bureaucratic setting (schools vs. preschools). This shows that the results of study 1 are robust across different settings, cases, experimental wording, and data collections in the Danish context.

In study 3, we change the context radically. It is still within the education system, which is why we would expect the professional norms of client service and research-based knowledge to be predominant. However, the broader context—the universal welfare state in Denmark versus the more conservative, market-oriented state of Texas—is radically different. We also change respondents from street-level bureaucrats to managers or mid-level bureaucrats who might have many other considerations than the needs of the clients. Figure 1 shows that, despite these contextual differences, we still find a strongly significant effect of the communication that connects the policy with norms. Thus, the effect size of the professional norm condition is similar to those in studies 1 and 2; the relative increase in policy position is approximately 11% or 0.22 standard deviations of the policy position when compared to the Control Condition, $p < 0.01$.

Moreover, we find that the non-professional norm condition (i.e., framing the policy as a request from the parents) triggers an opposite effect: Presented with this communication, the share of principals in favor of the policy drops by 27%. Based on the underlying theoretical argument of our main hypothesis, there are at least two plausible explanations of the opposite effect. First, emphasizing a dimension outside of the professional norms may not only be ineffective, it may produce more negative attitudes towards the policy since bureaucrats can be expected to work against policies that do not correspond to the professional norms. Second, framing the policy as a request from parents may not seem credible among the Texas principals since (in contrast to the Danish cases) a lot of parents in Texas expressed negative feelings about testing around the time of the experiment. Hence, if the communication is not perceived as credible, it may trigger a boomerang effect. Regardless of the cause, study 3 shows that, under some circumstances, cues and frames may even reduce support for a policy. In all, the general

hypothesis (H_1) is supported in all three studies. We therefore turn to study 4 to disentangle the effects of cues and frames.

Disentangling the Cue and Framing Effects: Results of Study 4

Study 4 uses a 3×3 factorial design to separate the effect of frames and cues, which are combined in the treatments in studies 1-3. We also isolate the effect of adding a source of the expert/research knowledge. Thus, we are able to test H_2 , H_3 , and H_4 . We show the results of study 4 in table 2 and figure 2. Table 2 presents different regression analyses on the effects of frames and cues, and figure 2 displays the mean policy position of each of the nine experimental conditions.⁴

Table 2 here

We start by evaluating the cue effects. Model I in table 2 presents the average effects of the frames and cues; that is, the effects of frames and cues compared to the control condition across all of the experimental conditions. We see that the research cue (“support in recent studies”) has a positive and significant effect (controlling for the frames). The effect of 0.18 corresponds to an increase of about 11% or 0.19 standard deviations of the policy position. The bureaucrats move their policy position in favor of the proposal merely by being told that some study supports it—without knowing which study it is or which standards or outcomes it measured. They seem to use the knowledge cue as a heuristic to evaluate the proposal. We also see that the research source cue (“from Aarhus University”) adds a small additional effect on top of the effect of the

knowledge cue. In other words, the cues have positive effects on the policy positions across frames.

We can also examine the effect of cues when no frame (other than the case) was added to the communication. We do so by comparing the three conditions that did not include a frame, which are presented on the left side of figure 2. Here, the research cue (“support in recent studies”) and the research source cue (“support in studies from Aarhus University”) have substantial, positive effects on the bureaucrats’ policy position. The research cue moves the policy position from 1.52 to 1.81 ($p < 0.01$), corresponding to a relative change of 19% (0.31 standard deviations of the policy position). As expected, the research source cue moves the position even further; from 1.52 to 1.94 ($p < 0.01$) or 28% (0.45 standard deviations of the policy position). The difference between the research cue and the research source cue is statistically significant at the 0.05 level. In sum, there is a substantial effect of cues on bureaucrats’ policy position.

Figure 2 here

We also find support for effects of frames in table 2 and figure 2. Model I in table 2 shows that the frame, in alignment with professional norms (“thereby helping more disadvantaged people to get an education”), has a positive and significant effect when controlling for the cues. We also see a substantial and statistically significant effect of the frame in strong alignment with professional norms when the research and research source cues are not included. As seen in figure 2, the professional norm frame moves the policy position from 1.52 (no frame/no cue) to 1.84 (no cue/professional norm frame). The effect is significant at the 0.01 level. The frame in

strong alignment with the professional norms is also significantly different from the frame that is not in alignment with norms (“thereby increasing the activity-based budget”). Indeed, the non-professional norm frame again produces a boomerang effect (see table 2, model I), suggesting that bureaucrats react with opposition if the policy is made for the sake of the economy—a frame that connects poorly with norms and may be seen as influence over practice by other stakeholders such as the governing board. In sum, as stated in H₂ and H₃, both frames and cues are able to move the policy positions of the bureaucrats in the predicted direction.

However, when used in combination, the effect of frames and cues are contingent on one another. This becomes evident in model II in table 2, which presents the interaction effects between frames and cues. While no significant interaction is seen between the professional norm frame and the cues, a negative interaction effect is seen between the non-professional norm frame and the cues. To help interpret this result, we turn to the three bars in the middle of figure 2, which shows the effect of cues when the non-professional norm frame is included in the communication. None of the non-professional norm frame conditions are significantly different from each other, nor are they significantly different from the control group (No frame/No cue). In other words, cues that are otherwise effective become ineffective if they are combined with the non-professional norm frame. Hence, if the frame is not in alignment with professional norms, the bureaucrats seem to be impervious to the cues. This provides strong evidence of the importance of providing communication in- or outside of the professional values.

The strongest influence on the policy positions is found when the professional-norm frame is combined with the research or research-source cues. In this case, the policy position is moved from 1.52 in the control group (no frame/no cue) to 2.10 ($p < .01$), which is a 38% increase or an increase of 0.63 standard deviations of the policy positions.

Conclusion

The policy positions of bureaucrats at the frontlines of government are important for their implementation of those policies. This calls for attention to what affects the policy positions of bureaucrats. We argue that bureaucrats' policy positions are susceptible to communication despite that they are likely to be predisposed towards certain policy positions, which might render them more resistant to communication effects. However, not any kind of arguments will persuade bureaucrats. The effectiveness of communication is related to the professional norms of the bureaucrats. We hypothesize that communication that emphasizes the coherence between a given policy and professional norms will be more effective in moving the policy positions in favor of the policy than communication that aligns the policy with dimensions outside of the professional norms. When observing some of the main professional norms of bureaucrats across different professions and contexts, successful appeals to the needs of the clients and to research-based knowledge from credible sources are expected to move bureaucrats' policy positions in favor of the policy.

The article presents four experimental tests of the effect of strategic communication on bureaucrats' policy positions. The high internal validity of the survey experiments leaves us confident that in these settings bureaucrats' attitudes are affected in predictable ways by strategic changes in the cues and frames used to present policy proposals. Policy positions are not turned around completely from negative to positive, but are moved in favor of the policy as predicted. The teachers and school principals studied were generally negative about the policies outlined in the experiments; however, the strategic communication made them, on average, less negative. At the same time, the consistent replication of the study in very different contexts and with

bureaucrats at different levels of the organizations speaks for the external validity of the effects. Furthermore, the non-existent or negative effects of alternative frames help narrow down the kind of norms to which bureaucrats respond.

It is not possible to use this study to determine the degree to which these norms are distinctive to bureaucrats in the education system or whether they are shared more broadly among bureaucrats and citizens in general. For example, the norm of adhering to expert and research-based knowledge may very well be appealing, not only to professionals, but to citizens in general as well. Thus, our argument does not claim that the studied communication effects are solely applicable to bureaucrats. In addition, the duration of the effects of communication and effects on bureaucratic behavior needs to be established in other ways than through a single survey measure. Furthermore, our tests are done within one type of policy (education), and therefore do not provide evidence on hypothesized effects in other policy areas. We should also mention that we have not tested whether effects are symmetrical in the sense that strategic communication emphasizing that a policy is violating professional norms will reduce bureaucratic support, even though this would be a clear prediction based on the theory.

Despite these limitations the results hold important lessons for public managers. Whether they endorse the idea of manipulating bureaucrats' policy positions through strategic communication or not, the results presented here demonstrate that the way new policies are presented is not a neutral choice. Emphasizing aspects of a policy that are in accordance with professional norms such as serving clients and using research-based evidence move bureaucrats in favor of the policy compared to not emphasizing these aspects. On the other hand, emphasizing other concerns such as client satisfaction or economic considerations may even

reduce bureaucratic support. This means that the presentation of new policies always involves a choice of whether to use specific frames and cues or not.

The results also trigger a number of questions for further exploration. Will we find communication effects in policy areas that are less (or more) professionalized than education? We might also speculate that the credibility of the frame or cue moderates the communication effect. In particular, the sender of communication is likely to be important. We argue that the use of survey experiments may offer a fruitful way of providing parts of the answer to such questions and thereby advance our understanding of what affects the policy positions at the frontlines of government.

Notes

1. In the empirical tests, we do not examine whether the psychological mechanism is a change in the weight of different dimensions or a change in the content of these beliefs.
2. Teachers' perceptions of students as the main clients are easily seen from, for example, the "Ideals of the Profession" adopted by the Danish Union of Teachers (The Folkeskole 2002).
3. The experiment was part of a web survey of all secondary school teachers in Denmark. The experiment was included for a subset of the teachers. The response rate for this subset was 52%.
4. Significance tests of the differences between the nine conditions are reported in the supplementary material. We refer to some of these when presenting the results of figure 2.

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Appendix

The appendix includes details about study 1, 2 and 3, the wording of the survey experiments used in studies 1-4 (see tables A1 and A2), and the regression analyses used to calculate the significance tests presented in the article (see tables A3-A8).

Study 1: DK, childcare, street-level bureaucracy

The first study includes a survey of 586 public childcare workers employed in preschools (0–6 years) in Aarhus, Denmark. The survey was conducted in January 2010.¹ In 2007, the national government in Denmark adopted legislation stating that all three-year-old children should be offered a language test, which placed a demanding task on childcare workers. After intense debate of the issue following the adoption of the law, the government revoked the demand that all children were to be offered a language test in 2010.

The experiment presents the policy case that the local municipality in Aarhus would like to continue the offer of a language test to all children. The communication in the non-professional norm condition points to a request for such an offer among a majority of the parents. The professional norm condition frames the policy proposal as being beneficial to the children (main clients) and includes information that this claim is rooted in professional knowledge provided by the Danish School of Education, which educates childcare professionals.

The public preschools are organized by the local municipalities under the legislative control of the national government. The vast majority of preschools are public (currently 73%), some are semi-public, and a very small fraction is private. Typically, a preschool has between 20 and 50 children.

Study 2: DK, primary education, street-level bureaucracy

The second study includes 926 teachers from public primary schools in Denmark, which were surveyed in the spring of 2011.² The policy cases focus on national tests in mathematics and Danish. In 2006, the Danish government adopted a policy stating that students in grades 2, 4, 6, and 8 should be tested in Danish, and students in grades 3 and 6 should be tested in mathematics. The Danish school system does not have great traditions for testing, so the policy triggered heated debate. The policy positions varied in the bureaucratic system as documented in an evaluation of the test system (Rambøll 2013).

In the experiment, we presented the policy proposal that the local government in which the teachers' school is placed supplements the national tests by testing at the remaining grade levels (1, 5, 7, and 9). Again, the non-professional norm condition refers to a survey among the parents indicating that a great majority requests such tests. The professional norm condition emphasizes that the tests are beneficial as they improve teaching. This claim is further supported by scientific studies produced by the Danish School of Education. In this context, like the preschools, public primary schools are organized by the local municipalities within the legislative control of the national government. The municipalities finance the schools, are responsible for managing most schools, and they are the formal employers of teachers.

Study 3: US, primary and secondary education, mid-level bureaucracy

The third study tests the general hypothesis (H_1) in a less likely case: school principals in Texas. First, school principals are mid-level bureaucrats at a greater distance from the clients (the students) than the street-level bureaucrats. Mid-level bureaucrats are likely to have other concerns than the client orientation prescribed by the professional norms. They also have to

manage the political environment, the human resources at the schools, and, not least, the economic sustainability of the school. Second, and related to the issue of the economy, the Texas school system is a more conservative political environment and relies more on market mechanisms than the Danish welfare state. Hence, there are numerous reasons to suspect that Texas school principals are relatively more concerned about parent satisfaction than Danish front-line workers, which makes it a less likely case. Moreover, because of the intense debate about standardized testing in Texas (Phelps 2003), we would expect bureaucrats to have considered the issue and taken a standpoint, which, according to framing theory, makes it less likely that their attitudes are moved by communication. On the other hand, if the frames and cues that align with professional norms have the same effect in this context as in the Danish context, we would have strong support for the importance of political communication referring to clients and research-based knowledge.

The study includes 1,389 principals of public elementary, middle, and secondary schools in Texas, who were surveyed in March and April 2011.³ The Texas Education Agency (TEA) is the administrative unit for primary and secondary public education in Texas. Among other things, the agency administers the Texas Assessment of Knowledge and Skills (TAKS), which is a test taken by all students in the state at different grade levels.

In the experiment, we presented the principals with the policy proposal that TEA should supplement the TAKS with new tests in mathematics and reading at grade levels 3–9. In the Control Condition, no additional text was included. In the non-professional norm condition, the case presentation was supplemented with text emphasizing that TEA would supplement the TAKS with new tests because a survey among parents showed that a vast majority requested more testing. As argued above, including a frame that refers to meeting a request from parents as

a reason for adopting policy is not expected to be particularly persuasive because it is not in alignment with, and might even go against, the professional norms. In the Professional Norm Condition, the supplement of new tests is reasoned by new research from Duquesne University and University of Pittsburgh showing that the use of these tests increases student outcomes significantly (Lane, Parke, and Stone 2002). Here, the policy proposal is framed as beneficial to the main clients, i.e., the students. Furthermore, the communication includes cues referring to scientific knowledge and sources of this knowledge (universities) that are expected to be credible in the context of the education system.

Notes

1. The experiment was included in a survey on street-level bureaucracy. The response rate was 55%. The data was collected using a mail questionnaire sent to the respondents' home addresses.
2. The experiment was included in a survey on street-level bureaucracy in the Danish school system. The respondents were contacted by email, and the response rate was 52%. The teachers constitute a representative sample of publicly employed primary school teachers in Denmark.
3. The experiment was a part of a survey on mid-level bureaucracy administered to all school principals in Texas (Thomas, Walker, and Meier 2011). The survey was sent to the principals by email. The response rate was 29%. As the response rate is lower than usual, we replicated the analyses using a weight correcting for measureable dissimilarities between respondents and non-respondents. These additional analyses confirm the results (see the Supplementary Material).

Table 1. Overview of the four studies

	Bureaucratic level	Client group/ organization	Policy	Political System	Hypotheses tested	N
Study 1	Street-level	Preschool	Testing students	Denmark	H ₁	586
Study 2	Street-level	Elementary and middle school	Testing students	Denmark	H ₁	926
Study 3	Middle-manager	Elementary, middle and high schools	Testing students	Texas, USA	H ₁	1,386
Study 4	Street-level	High schools	Admission to high school	Denmark	H ₂ , H ₃ , H ₄	3,739

Table 2. Frame and Cue Effects

Independent variable	Model I:		Model II:	
	Main effects		Interaction effects	
Non-professional norm frame	−0.22**	(0.04)	−0.03	(0.06)
Professional norm frame	0.26**	(0.04)	0.31**	(0.06)
Research cue	0.18**	(0.04)	0.28**	(0.06)
Research source cue	0.26**	(0.04)	0.42**	(0.06)
Non-professional norm frame × research cue			−0.26**	(0.09)
Non-professional norm frame × research source cue			−0.32**	(0.09)
Professional norm frame × research cue			−0.02	(0.09)
Professional norm frame × research source cue			−0.14	(0.09)
Constant	1.62**	(0.04)	1.54**	(0.05)
N	3,739		3,739	

Note: * $p < 0.05$; ** $p < 0.01$, two-tailed significance test based on linear random effects models. Standard errors in parentheses. Reference group in models I and II: The control condition (no frame and no cue).

Figure 1. Effects of Communication on Bureaucrats' Policy Position, Studies 1, 2, and 3
Mean Policy Position by Experimental Group

Note: * $p < 0.05$; ** $p < 0.01$, two-tailed significance test comparing the Non-Professional and Professional Norm Conditions, respectively, to the Control Condition. + $p < 0.05$; ++ $p < 0.01$, two-tailed significance test comparing the professional norm condition to the non-professional norm condition. A high value indicates a more positive attitude towards the policy. $N = 586$ in Study 1, $n = 926$ in Study 2, and $n = 1,389$ in Study 3.

Figure 2. Effects of Cues and Framing on Bureaucrats' Policy Position, Study 4
Mean Policy Position by Experimental Group

Note: * $p < 0.05$; ** $p < 0.01$, two-tailed significance test comparing each condition to the Control Condition (no frame and no cue). Significance tests of the differences between each of the nine conditions are reported in the Supplementary Material. A high value indicates a more positive attitude towards the policy. $N = 3,739$.

Table A1. The Survey Experiments of study 1, 2, and 3

Study 1: DK, childcare, street-level bureaucracy (childcare workers)	Study 2: DK, primary education, street-level bureaucracy (teachers)	Study 3: US, primary and secondary education, mid-level bureaucracy (principals)
<p>Question “The government has proposed to revoke the existing demand that ALL parents with three-year-old children are to be offered a language assessment of their child (not to be confused with the mandatory language assessment of three-year-old ‘bilingual’ children). Instead, the government proposes that the language assessment should focus on the children who appear to have language difficulties and children who are not in childcare. <i>Imagine that the municipal council in Aarhus wishes to continue the offer to all parents... [experimental group text].</i></p> <p><i>To what extent do you agree or disagree continuing the offer to all parents is a good idea?”</i></p> <p>Experimental group text Control Condition: <i>[No text]</i></p> <p>Non-professional norm condition: <i>“...because a survey shows how a large majority among the parents in Aarhus wants to continue the offer.”</i></p> <p>Professional norm condition: <i>“...because a study from the Danish School of Education shows that it is a valuable tool for strengthening the language development among all children and contributes to early preventive efforts for vulnerable children.”</i></p>	<p>Question “The government has introduced national tests for Danish in 2, 4, 6, and 8 grades and mathematics in 3 and 6 grades. Imagine that <i>the municipal council in your municipality decides that school teachers should supplement the national tests by municipal tests in the other grade levels... [experimental group text].</i></p> <p><i>To what extent do you agree or disagree with the following statement: ‘Supplementing the national test with municipal tests is a good idea.’?”</i></p> <p>Experimental group text Control condition: <i>[No text]</i></p> <p>Non-professional norm condition: <i>“...because a survey among parents in the municipality shows that a large majority requests more tests.”</i></p> <p>Professional norm condition: <i>“...because new research from the Danish School of Education shows that it is a valuable pedagogical tool for improving teaching.”</i></p>	<p>Question “Imagine that the Texas Education Agency (TEA) decides to supplement the Texas Assessment of Knowledge and Skills (TAKS) test with new tests in math and reading at grade levels 3–9...<i>[experimental group text].</i></p> <p>To what extent do you agree or disagree that this is a good idea?”</p> <p>Experimental group text Control condition: <i>[No text]</i></p> <p>Non-professional norm condition: <i>“...because a survey among parents shows that a large majority requests more tests.”</i></p> <p>Professional norm condition: <i>“...because new research from Duquesne University and University of Pittsburgh shows that the use of these tests increase student outcomes significantly.”</i></p> <p>Strongly agree, Agree, Neither agree nor disagree, Disagree, Strongly disagree, Don’t know.</p>

Note: The text in bold was not included in the survey text. Response categories in all three studies: Strongly agree, Agree, Neither agree nor disagree, Disagree, Strongly disagree, Don’t know.

Table A2. The Survey Experiment of study 4.

		Frame		
		<i>None</i> (no additional framing)	<i>Non-Professional Norm Frame:</i> Frame not in alignment with professional norms	<i>Professional Norm Frame:</i> Frame in strong alignment with professional norms
Cue	<i>None</i>	(1) “Imagine that the management at your school decides to lower entry requirements in order to increase the intake of students.”	(2) “Imagine that the management at your school decides to lower entry requirements in order to increase the intake of students, thereby increasing the activity-based budget. ”	(3) “Imagine that the management at your school decides to lower entry requirements in order to increase the intake of students, thereby helping more disadvantaged people to get an education. ”
	<i>Research cue</i>	(4) “Imagine that the management at your school has found support in recent studies to decide to lower the entry requirements in order to increase the intake of students.”	(5) “Imagine that the management at your school decides to lower entry requirements in order to increase the intake of students, thereby increasing the activity-based budget, because a study shows that it significantly improves the economy of schools. ”	(6) “Imagine that the management at your school decides to lower entry requirements in order to increase the intake of students, thereby helping more disadvantaged people to get an education, because a study shows that it benefits disadvantaged students to be in class with talented students. ”
	<i>Research source cue</i>	(7) “Imagine that the management at your school has found support in recent studies from Aarhus University to decide to lower the entry requirements in order to increase the intake of students.”	(8) “Imagine that the management at your school decides to lower entry requirements in order to increase the intake of students, thereby increasing the activity-based budget, because a study from Aarhus University shows that it significantly improves the economy of schools. ”	(9) “Imagine that the management at your school decides to lower entry requirements in order to increase the intake of students, thereby helping more disadvantaged people to get an education, because a study from Aarhus University shows that it benefits disadvantaged students to be in a class with talented students. ”

Note: The **bold** font was not included in the survey experiment. It was added in the table to highlight the differences between the experimental conditions. Each statement was followed by the question: “To what extent do you agree or disagree that this is a good idea?” Response categories: Strongly agree, Agree, Neither agree nor disagree, Disagree, Strongly disagree, Don’t know.

Table A3. Study 1. Effects of Communication on Policy Position. OLS and Ordered Logit Regressions.

Independent variable	Model I: OLS	Model II: OLS	Model III: Ordered logit	Model IV: Ordered logit
Control condition	ref.	-.10 (.15)	ref.	.01 (.19)
Non-professional norm condition	-.02 (.13)	ref.	-.01 (.19)	ref.
Professional norm condition	.40** (.13)	.32* (.15)	.60** (.19)	.61** (.19)
Constant	2.47** (.10)	2.55** (.10)		
Cut 1, constant			-1.06** (.16)	-1.04** (.16)
Cut 2, constant			.57** (.15)	.59** (.16)
Cut 3, constant			1.05** (.16)	1.06 (.16)
Cut 4, constant			2.50** (.20)	2.51 (.20)
N	586	586	586	586

* p<0.05; ** p<0.01, two-tailed significance tests. Standard errors in parentheses. Random effects models. Grouping variable: Preschool. Number of groups: 160.

Table A4. Study 2. Effects of Communication on Policy Position. OLS and Ordered Logit Regressions.

Independent variable	Model I: OLS	Model II: OLS	Model III: Ordered logit	Model IV: Ordered logit
Control condition	ref.	-.07 (.10)	ref.	-.11 (.15)
Non-professional norm condition	.07 (.09)	ref.	.11 (.15)	ref.
Professional norm condition	.28** (.10)	.21* (.10)	.39* (.15)	.27 [†] (.15)
Constant	1.86** (.06)	1.93** (.07)		
Cut 1, constant			.36** (.11)	.24* (.11)
Cut 2, constant			1.00** (.12)	.89** (.12)
Cut 3, constant			1.85** (.14)	1.73** (.14)
Cut 4, constant			3.13** (.19)	3.01** (.19)
N	926	926	926	926

* p<0.05; ** p<0.01; [†] p=.07, two-tailed significance tests. Standard errors in parentheses. Random effects models. Grouping variable: School. Number of groups: 424.

Table A5. Study 3. Effects of Communication on Policy Position. OLS and Ordered Logit Regressions.

Independent variable	Model I: OLS	Model II: OLS	Model III: Ordered logit	Model IV: Ordered logit
Control condition	ref.	.60** (.07)	ref.	1.07** (.13)
Non-professional norm condition	-.60** (.07)	ref.	-1.07** (.13)	ref.
Professional norm condition	.25** (.07)	.85** (.07)	.42** (.12)	1.49** (.13)
Constant	2.24** (.05)	1.64** (.05)		
Cut 1, constant			-.70** (.09)	.37** (.09)
Cut 2, constant			.42** (.09)	1.49** (.10)
Cut 3, constant			1.78** (.10)	2.86** (.12)
Cut 4, constant			3.67** (.19)	4.74** (.20)
N	1,386	1,386	1,386	1,386

* p<0.05; ** p<0.01; two-tailed significance tests. Standard errors in parentheses.

Table A6. Study 3. Effects of Communication on Policy Position. OLS and Ordered Logit Regressions. Data Weighted According to Population.

Independent variable	Model I: OLS	Model II: OLS	Model III: Ordered logit	Model IV: Ordered logit
Control condition	ref.	.59** (.07)	ref.	1.06** (.13)
Non-professional norm condition	-.59** (.07)	ref.	-1.06** (.13)	ref.
Professional norm condition	.24** (.07)	.84** (.07)	.42** (.12)	1.47** (.13)
Constant	2.25** (.05)	1.65** (.05)		
Cut 1, constant			-.72** (.09)	.34** (.10)
Cut 2, constant			.40** (.09)	1.46** (.10)
Cut 3, constant			1.77** (.11)	2.83** (.12)
Cut 4, constant			3.69** (.19)	4.75** (.20)
N	1348	1348	1350	1350

* p<0.05; ** p<0.01; two-tailed significance tests. Standard errors in parentheses. The weight is based on the percentage of black people, Latinos, low-income students, teacher salary, total school enrollment, and the school's overall TAKS pass rate.

Table A6. Differences Between Experimental Groups, study 4.

Comparison of Experimental groups		Difference
(λ : Cue/frame)	(θ : Cue/frame)	($\theta - \lambda$)
(1) None/none)	vs. (2) None/non-prof)	-.03
(1) None/none)	vs. (3) None/prof)	.31**
(1) None/none)	vs. (4) Research cue/none)	.28**
(1) None/none)	vs. (5) Research cue/non-prof)	-.01
(1) None/none)	vs. (6) Research cue/prof)	.57**
(1) None/none)	vs. (7) Research source cue/none)	.42**
(1) None/none)	vs. (8) Research source cue/non-prof)	.07
(1) None/none)	vs. (9) Research source cue/prof)	.58**
(2) None/non-prof)	vs. (3) None/prof)	.34**
(2) None/non-prof)	vs. (4) Research cue/none)	.31**
(2) None/non-prof)	vs. (5) Research cue/non-prof)	.02
(2) None/non-prof)	vs. (6) Research cue/prof)	.60**
(2) None/non-prof)	vs. (7) Research source cue/none)	.45**
(2) None/non-prof)	vs. (8) Research source cue/non-prof)	.10
(2) None/non-prof)	vs. (9) Research source cue/prof)	.61**
(3) None/prof)	vs. (4) Research cue/none)	-.02
(3) None/prof)	vs. (5) Research cue/non-prof)	-.32**
(3) None/prof)	vs. (6) Research cue/prof)	.26**
(3) None/prof)	vs. (7) Research source cue/none)	.11
(3) None/prof)	vs. (8) Research source cue/non-prof)	-.24**
(3) None/prof)	vs. (9) Research source cue/prof)	.27**
(4) Research cue/none)	vs. (5) Research cue/non-prof)	-.30**
(4) Research cue/none)	vs. (6) Research cue/prof)	.28**
(4) Research cue/none)	vs. (7) Research source cue/none)	.13*
(4) Research cue/none)	vs. (8) Research source cue/non-prof)	-.22**
(4) Research cue/none)	vs. (9) Research source cue/prof)	.30**
(5) Research cue/non-prof)	vs. (6) Research cue/prof)	.58**
(5) Research cue/non-prof)	vs. (7) Research source cue/none)	.43**
(5) Research cue/non-prof)	vs. (8) Research source cue/non-prof)	.08
(5) Research cue/non-prof)	vs. (9) Research source cue/prof)	.60**
(6) Research cue/prof)	vs. (7) Research source cue/none)	-.15*
(6) Research cue/prof)	vs. (8) Research source cue/non-prof)	-.50**
(6) Research cue/prof)	vs. (9) Research source cue/prof)	.01
(7) Research source cue/none)	vs. (8) Research source cue/non-prof)	-.35**
(7) Research source cue/none)	vs. (9) Research source cue/prof)	.17**
(8) Research source cue/non-prof)	vs. (9) Research source cue/prof)	.52**

* $p < 0.05$; ** $p < 0.01$, two-tailed significance tests. Random effects linear regressions. Grouping variable: School. Non-prof: Non-Professional Norm frame. Prof: Professional Norm frame.