Mobilize is a Verb: The Use of Verbs and Concrete Language is Associated with Authors' and Readers' Perceptions of a Text's Action Orientation and Persuasiveness

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Abstract

In three studies, we investigated the role of linguistic features characterizing texts aiming to mobilize others. In Study 1 (N = 728), participants produced a leaflet either mobilizing others to engage in an action or expressing their thoughts about that action, and evaluated how action-oriented their text was. Mobilizing texts included more verbs and concrete words, and the presence of these linguistic characteristics was positively linked to participants' evaluations of their messages as action-oriented. In Studies 2 and 3 (N = 557 and N = 556), independent groups of participants evaluated texts produced in Study 1. Readers' perceptions of texts as action-oriented were associated with the same linguistic features as in Study 1 and further positively linked to perceived message effectiveness (Study 2) and behavioral intention (Study 3). The studies reveal how encoding and decoding of verbs and concrete words serve as distinct persuasive tools in calls to action.

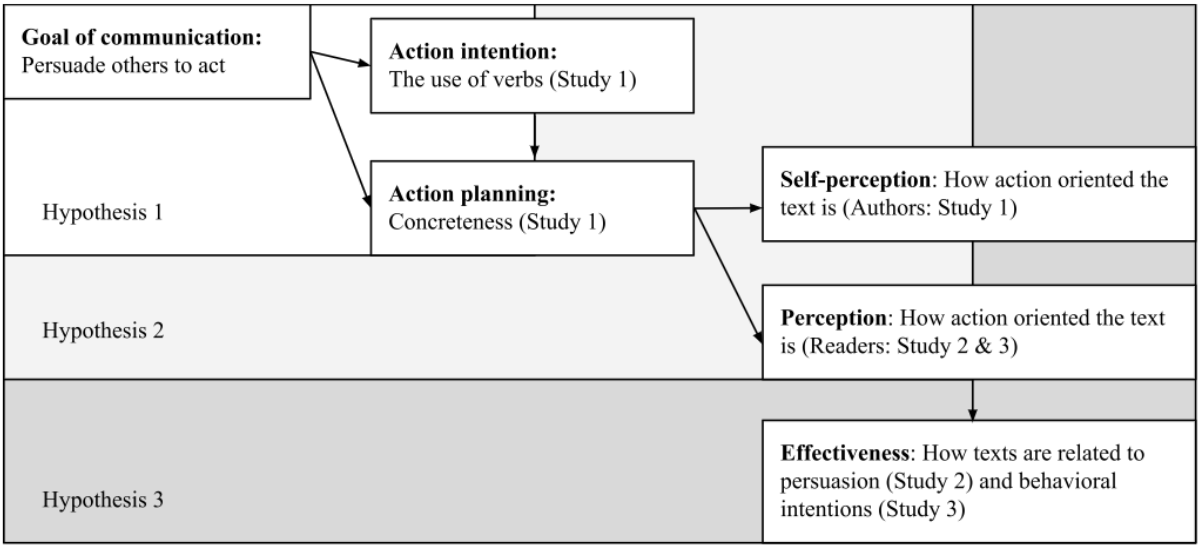
Keywords: Agency, Persuasion, Language, Concreteness

Whether for personal/political, benevolent/malicious, or pro bono/corporate purposes, people often ask themselves how to effectively encourage others to act. The prevalence of mobilizing speech acts can foster a learned association between calls to action and linguistic devices typically employed in such appeals, facilitating a shared understanding between communication partners. In accordance with the persuasion-knowledge model (Friestad & Wright, 1994; see also Rocklage et al., 2018), an author of a persuasive message and their audience are likely to share knowledge about the features that characterize a persuasive attempt. This shared knowledge makes the use of the same linguistic devices probable at both the encoding and decoding stages. In other words, these features can be commonly used when individuals intend to mobilize and play a pivotal role in shaping people's attitudes toward message persuasiveness.

Accordingly, we propose that communication intended to mobilize others contains some distinct linguistic qualities. In identifying these qualities, we follow the theoretical framework of goal pursuit (Gollwitzer & Oettingen, 2012), according to which goal orientation consists of two different, but incremental, building blocks: action-setting and planning. Once the intention to achieve a goal is established, a concrete plan of how to achieve it needs to be envisaged in order to sustain goal-striving. Following this stream of work, we propose that successful mobilizing communication might seek to evoke an *intention to act* and *provide a plan for how to implement that intention*, as these two features jointly contribute to goal achievement. We further posit that *intention to act* can be captured by the use of verbs, a linguistic category related to action (Vigliocco et al., 2011), while *the planning* component by concreteness (Brysbaert et al., 2014). We anticipate that both features can be decoded by message recipients and prompt them to act according to the speaker's intentions, thus creating shared meaning between the two (see Figure 1).

Figure 1

Visual Representation of Hypotheses Tested in this Research



Verbs and Action Intention

The verb–activity link has been established at the basic muscular level (e.g., Cappa & Pulvermüller, 2012). For example, Foroni and Semin (2009) found that verbs elicit more muscle activity than adjectives with a similar meaning. Other research has also found that verbs influence willingness to engage in an action (Idan et al., 2018). In a series of experiments, Rhodes et al. (2019) observed that girls were more likely to engage in science activities when encouraged with a verb (e.g., "Let's do science!") than with a noun (e.g., "Let's be scientists!"). Additionally, one of the biggest US campaigns aimed at increasing physical activity in children was labeled Verbs™, because "*Verb* is the grammatical term for action" (Asbury et al., 2008, p. 185).

Verbs are related not only to activity but also agency, understood as the ability to plan and execute goal achievement (Bandura, 2001). In natural language, verbs are used more often to describe agentic versus non-agentic social categories (Formanowicz et al., 2017) or content (Pietraszkiewicz & Formanowicz, 2023). Moreover, verbs tend to be evaluated as more agentic than nouns in tasks using both pseudowords (Formanowicz et al., 2017) and real words (Weis et al., 2022). Altogether using verbs may evoke an intention to act at the level of physical activation as well as increase one's sense of agency— the belief in one's ability to achieve desired goals through their own efforts (Bandura, 2001).

Consequently, verbs might play a role in a broadly understood message effectiveness. For instance, Hansen and Wänke (2010) found that sentences including action verbs were evaluated as more truthful than sentences without them. Similarly, online reviews using more present tense verbs are perceived as conveying a sense of confidence in one's opinion and, as a result, are evaluated as more helpful (Packard et al., 2023). Finally, in a series of experiments using hypothetical campaign slogans, the use of verbs versus adjectives (e.g., "We help" vs. "We're helpful") consistently increased the rating of the campaign's effectiveness (Formanowicz et al., 2021).

Importantly, all these results are in line with the research demonstrating that messages emphasizing the concept of agency lead to agency-related outcomes, such as efforts, efficiency, and performance. A meta-analytic review found a moderate effect ($d = 0.35$) of employing goal-related words in priming goal-oriented behaviors (Weingarten et al., 2016). Likewise, a study examining the link between agency and message effectiveness found that invoking personal or group-level agency in message recipients (Whillans et al., 2017) positively affected participants' behavioral intentions as well as actual behavior. These studies primarily focus on semantic agency, yet they provide support for the postulated role of verbs in promoting mobilizing intentions.

Concreteness and Action Planning

In order to encourage someone to climb a mountain (e.g., Marmolada in Dolomites), action intention needs to be evoked. Still, saying "Let's climb Marmolada" will remain a tall tale, unless the intention turns into a concrete plan (Gollwitzer & Sheeran, 2006). Concreteness pertains to the '*how'* aspect of action execution (Liberman & Trope, 2008), hence concrete language is likely to be used to express an action plan. Concrete words and sentences are easier to remember than abstract ones, as they are believed to activate perceptual memory codes in addition to verbal codes; they also evoke more specific and vivid imagery (Paivio, 1991), and enable faster and more in-depth information processing

(Schwanenflugel & Stowe, 1989). Previous studies indicate that concrete language elicits more engagement in readers (Sadoski et al., 2000), which consequently leads to better comprehension and increased willingness to share details with others. Providing concrete (i.e., imaginable) ways of construing an action may thus make it seem more feasible and encourage engaging in it.

Consequently, concrete language is also linked to message effectiveness. In the domain of probability judgments, concreteness increases the perceived likelihood of events because vivid, concrete details make a given example seem more representative of the sample and, therefore, more likely (Tversky & Kahneman, 1982). Concrete language reduces ambiguity and uncertainty in communication (Sadoski et al., 2000). Accordingly, concrete language proves persuasive in applied contexts, such as online information sharing during acute disasters (Lee & Yu, 2020). In the context of business communication, concreteness has proven to be a key language feature in inducing positive investor responses (Pan et al., 2017). All this evidence implies that concreteness can play an important role in mobilizing communication.

Action-Oriented Language in Persuasive Messages

Action intention and planning may co-occur in persuasion-related communication (i.e., communication with a goal of motivating others to engage in a wanted action). Given that goal achievement is more likely when action intention is complemented by concrete planning (Gollwitzer & Oettingen, 2012), we propose that communication aimed to mobilize others should also include these two components to be effective. Specifically, we posit that effective calls to action will consist of linguistic components typical of evoking action intention (i.e., verbs) and of action planning (i.e., concrete words).

Until now, research has demonstrated that these two elements of communication do coincide. For instance, sentences using verbs (vs. nouns) tend to be evaluated as more concrete (i.e., easier to visualize) and thus more truthful (e.g., Hansen & Wänke, 2010).

Moreover, authors of concrete messages tend to be perceived as more action-oriented than those of more abstract messages (Experiment 4; Palmeira, 2015), while perceiving authors as action-oriented has been found to affect message effectiveness (Formanowicz et al., 2021). Zhu et al. (2020) observed that tweets of the Centers for Disease Control and Prevention intended to mobilize others to engage in healthy behaviors were most effective when they included call-for-action (involving direct requests for engaging in a behavior) and efficacy information (describing effective means of achieving a goal). Overall, the above research indirectly shows that, to be more persuasive, people who aim to mobilize others might use linguistic devices associated with action intention and concreteness (Packard & Berger, 2021). In this work, we aim to test these associations directly.

Overview of the Current Research

The first goal of this research was to test whether authors use more verbs and concrete words in messages aiming to mobilize others to engage in an action than in messages expressing their thoughts about the action (Hypothesis 1, Study 1). This hypothesis was preregistered.[1] If these linguistic features are prevalent in mobilizing communication, it is also likely that both the message author and recipient link the presence of these features to action orientation or goal pursuit more generally. Following the goal pursuit literature (Gollwitzer & Oettingen, 2012), we predicted that the serial path of the usage of verbs and concrete language in mobilizing messages would drive authors' perceptions of their message as action-oriented (Hypothesis 2a, Study 1 - preregistered) and that similar perceptions would be observed among message recipients (Hypothesis 2b, Studies 2 and 3). We extend the serial role of verbs, concreteness, and action orientation also to message effectiveness (Hypothesis 3a, Study 2) and behavioral intentions (Hypothesis 3b, Study 3 - preregistered). All the accompanying materials, data, analysis codes, codebooks for interpreting the data files, and

[1]For details on additional preregistrations and minor deviations from the preregistered protocol see SOM.

findings of an additional study (N = 779) with convergent results are available in Supplemental Online Materials (SOM: https://osf.io/x7z9p/?view_only=98b19ae87b1f4e3bba14cac4996444e6). All the studies reported here followed ethical guidelines, including adherence to the legal requirements of the study country, while research protocols were approved by the first author's organizational research ethics board. For all the studies, we run sensitivity analyses using the G*Power 3.1 software (Mayr et al., 2007) with conventional parameters (α = 0.05, 1- β = 0.80), for details see below. In all the studies, data were collected via an online questionnaire created with Qualtrics™; native English speakers were recruited through Prolific.

Study 1

We tested participants' language use and perception of their message as action-oriented in three different contexts: participation in environmental action, volunteering, and election voting.

Methods

Participants

The initial sample consisted of 801 participants (200 in the environmental action, 301 in the volunteering, and 300 in the election voting context). Nineteen participants were excluded because they did not pass the attention check: "To continue, click No". Additional 26 participants were excluded because they were unable to recall which of the two writing tasks was assigned to them. Finally, 26 participants were excluded because they reported not being native speakers and two were excluded because they did not follow the study instructions.[2] The final sample consisted of 728 participants (451 women, 269 men, 8 who indicated other gender or did not disclose this information; M_{age} = 37.76, SD_{age} = 13.77).

[2] These two participants wrote: a text containing meta-reflections about their participation in the study (e.g., "Participating in this study isn't something that I would consider amusing. [...]"); a text that was not on the subject matter.

In terms of statistical sensitivity, for Hypothesis 1 (tested with a 2x3 ANOVA), the minimum detectable effect is $f = 0.10$, which translates to $\eta^2 = .01$. As Hypothesis 2a was tested with a mediation analysis, a series of sensitivity analyses for different regression models was conducted. For a one-predictor regression (which corresponds to the total effect of the tested mediation model, i.e., the effect of communicative goal on action orientation), the minimum detectable effect is $f^2 = .01$, which translates to $R^2 = .01$. It equals $f^2 = .01$ ($R^2 = .01$) for a two-predictor regression (which corresponds to the path from the communicative goal to action orientation mediated through concreteness) and $f^2 = .02$ ($R^2 = .02$) for a three-predictor regression (which corresponds to the path from communicative goal to action orientation mediated through verbs and concreteness). Therefore, our sample size is adequate to test our main hypotheses.

Procedure

After completing an informed consent form, participants were asked to write a short text on the topic related to either environmental action (EA), volunteering (Vol), or voting (Vote). Participants were randomly assigned to one of two conditions: they were instructed to either "*write a leaflet expressing your thoughts about participating in environmental action/volunteering/voting in elections* ('expressing thoughts' condition; $N_{EA} = 79$, $N_{Vol} = 135$, $N_{Vote} = 142$) or "*write a leaflet encouraging others to participate in environmental action/volunteering/to vote in elections"* ('mobilizing' condition; $N_{EA} = 102$, $N_{Vol} = 129$, $N_{Vote} = 141$). The leaflets were expected to be at least 100 words (M_{EA}= 151.43, SD_{EA} = 91.62; M_{Vol} = 118, SD_{Vol} = 26.55; M_{Vote} = 116.80, SD_{Vote} = 22.86).[3] Examples of leaflets for each context and condition are presented in SOM in Table S4. After completing the writing task,

[3] In Study 1, for the EA context, we used the standard Qualtrics validation option for the number of characters (minimum 500, no maximum), which resulted in some participants producing longer texts. For the two other contexts, we used our own validation code focusing on the number of words with the maximum of 300.

participants were asked to evaluate their text in terms of its action orientation.[4] At the end of the questionnaire, participants were asked about their demographic background (age and gender). They were also presented with the attention and manipulation checks and asked about their English proficiency level. The whole study took approximately 8-10 minutes to complete.

Measures

Verb Index. The verb index was computed as the percentage of lexical verbs in their base form (VBs; e.g., "work" or "strive"), relative to the total number of words in the text. VBs were identified using the SpaCy[5] (v3.2.4) natural language processing library (Honnibal & Johnson, 2015). We focused on VBs, because people describe actions in a more agentic way when using the simple present tense (vs. simple past tense; Carrera et al., 2012). Following Formanowicz (2020), we also excluded the two most common auxiliary and linking verbs (i.e., "be" and "have") from the VBs count, as these are typically used to describe states and dispositions rather than actions. We decided to use SpaCy instead of Linguistic Inquiry and Word Count (LIWC; Tausczik & Pennebaker, 2010), because LIWC comprises sets of finite word lists (e.g., approximately 1000 common verbs), whereas SpaCy applies machine learning techniques to perform part-of-speech (POS) identification and tagging. Machine learning techniques determine the POS of a given word based on its context (e.g., the entire sentence) and achieve high accuracy rates (e.g., 97.4% on the OntoNotes Release 5.0 corpus).[6] This allowed us to capture all verbs rather than a limited subset provided by LIWC (the correlation of Verb Index, as produced by POS tagging, and LIWC verb count: $r(726) = .28$, with a confidence interval of [.21, .35], see also SOM).

[4] Additionally, in all three studies, we asked participants to indicate how concrete and abstract they thought their text was. The results for these variables are presented in SOM.

[5] https://spacy.io/

[6] https://spacy.io/usage/facts-figures#benchmarks

Concreteness. Linguistic concreteness was measured using the procedure previously employed by Bhatia and Walasek (2016). Specifically, we used concreteness ratings provided for over 40,000 English words by over 4,000 participants in the study by Brysbaert et al. (2014). These words were evaluated on a 5-point scale ranging from "abstract" to "concrete," with higher values signifying higher concreteness (e.g., hope = 1.25, cinnamon = 4.85). For each text, we averaged the concreteness ratings of its words. We decided to use this measure of linguistic concreteness following the rationale provided by Yeomans (2021), who distinguishes three types of concreteness measures: *word-level*, in which individual concreteness scores are assigned to lists of common words (e.g., Brysbaert et al., 2014); *categorical*, in which groups of common word types are assigned a concreteness score (e.g., based on LIWC categories of quantifiers, numbers, articles, and preposition); and *machine-learning*, in which a corpus of previously labeled data is used to train a language model to assign a concreteness score to a text. Although Yeomans (2021) observed promising results of domain-specific machine learning models, he recommends word-level measures of concreteness (such as the one by Brysbaert et al., 2014), when good training data for machine-learning models is not yet available, or creating a dataset to train a machine-learning model would not be feasible given the dataset size.

Action Orientation. Participants evaluated their own text using a three-item scale based on Palmeira (2015). They were asked to indicate "how much the message conveyed by their text could be considered": "practical", "task-oriented", and "focused on getting things done" (Cronbach's α = .81). The answers were given on a 7-point scale ranging from "Not at all" to "Very much so."

Results

The correlation coefficients between all the measures, along with the means and standard deviations, are presented in Table 1.

Table 1

Correlation Coefficients for the Variables in Study 1

	2.	3.
1. Verb Index	.38*** [.32, .44]	.11** [.04, .18]
2. Concreteness		.15*** [.07, .22]
3. Action orientation (Author)		

Note. Values in square brackets indicate the 95% confidence interval for each correlation coefficient. *** $p < .001$, $p = .004$

For each of the variables, we conducted a two-way between-subject ANOVA in the 2 (experimental condition: expressing thoughts vs. mobilizing) x 3 (study topic: environmental action vs. volunteering vs. voting) design. The means and standard deviations for all the variables are reported in Table 2. Confidence intervals were calculated using R software with the MBES package (Kelley, 2007).

Verb Index

The analysis showed a significant main effect of experimental condition, $F(1, 722) = 90.51$, $p < .001$, $\eta^2 = .11$, 90% CI [.08, .15].[7] Leaflets written by participants in the mobilizing condition included a higher percentage of verbs than those written in the expressing thoughts condition. Neither the main effect of the study context, $F(2, 722) = 0.60$, $p = .55$, $\eta^2 = .002$, 90% CI [0, .008], nor the interaction term, $F(2, 722) = 1.08$, $p = .34$, $\eta^2 = .003$, 90% CI [0, .01], were significant.

Concreteness

[7] Following Steiger (2004), we provide 90% confidence intervals for one-sided tests.

The analysis showed a significant main effect of experimental condition, $F(1, 722) = 86.50$, $p < .001$, $\eta^2 = .11$, 90% CI [.07, .14]. Leaflets written in the mobilizing condition had higher concreteness scores than those written in the expressing thoughts condition. A significant main effect was also found for the study context, $F(2, 722) = 25.07$, $p < .001$, $\eta^2 = .07$, 90% CI [.04, .09]. The Bonferroni post hoc test revealed that leaflets written on the topic of environmental action had higher concreteness scores than those written on the topic of volunteering ($p < .001$) and voting ($p < .001$); volunteering leaflets had also a higher concreteness score than voting leaflets ($p = .046$). Finally, there was a significant interaction between experimental condition and study context, $F(2, 722) = 10.31$, $p < .001$, $\eta^2 = .03$, 90% CI [.01, .05]. An analysis of simple main effects revealed that the effect of experimental condition was significant for all three contexts: environmental action $F(1, 722) = 60.54$, $p < .001$, $\eta^2 = .08$, 90% CI [.05, .11], volunteering $F(1, 722) = 5.39$, $p = .02$, $\eta^2 = .01$, 90% CI [.001, .02], and voting $F(1, 722) = 31.18$, $p < .001$, $\eta^2 = .04$, 90% CI [.02, .07]; however, the size of the effects differed.

Action orientation

The analysis showed a significant main effect of experimental condition, $F(1, 722) = 13.71$, $p < .001$, $\eta^2 = .02$, 90% CI [.01, .04]. Leaflets written in the mobilizing condition were rated as more action-oriented than those written in the expressing thoughts condition. Neither the main effect of study context, $F(2, 722) = 1.12$, $p = .33$, $\eta^2 = .003$, 90% CI [0, .01], nor the interaction term, $F(2, 722) = 2.52$, $p = .08$, $\eta^2 = .007$, 90% CI [0, .02], were significant.

Table 2

Means and Standard Deviations for the Variables in Study 1 Across Experimental Conditions and Study Contexts

	Experimental condition

	Mobilizing	Expressing thoughts	Across conditions
	M (SD)	*M (SD)*	*M (SD)*
Study context			
Environmental action			
Verb Index	7.96 (3.04)	5.97 (2.54)	7.09 (3.00)
Concreteness	2.53 (0.13)	2.40 (0.12)	2.47 (0.14)
Action orientation (Author)	5.19 (1.29)	4.75 (1.26)	4.99 (1.29)
Volunteering			
Verb Index	7.68 (2.69)	6.02 (2.60)	6.83 (2.77)
Concreteness	2.43 (0.10)	2.40 (0.11)	2.41 (0.11)
Action orientation (Author)	4.87 (1.17)	4.79 (1.35)	4.83 (1.26)
Voting			
Verb Index	8.28 (3.10)	5.94 (2.55)	7.11 (3.06)
Concreteness	2.43 (0.09)	2.36 (0.10)	2.39 (0.10)
Action orientation (Author)	5.25 (1.04)	4.71 (1.40)	4.98 (1.26)
Across contexts			
Verb Index	7.98 (2.95)	5.98 (2.56)	7.00 (2.94)
Concreteness	2.45 (0.12)	2.38 (0.11)	2.42 (0.12)

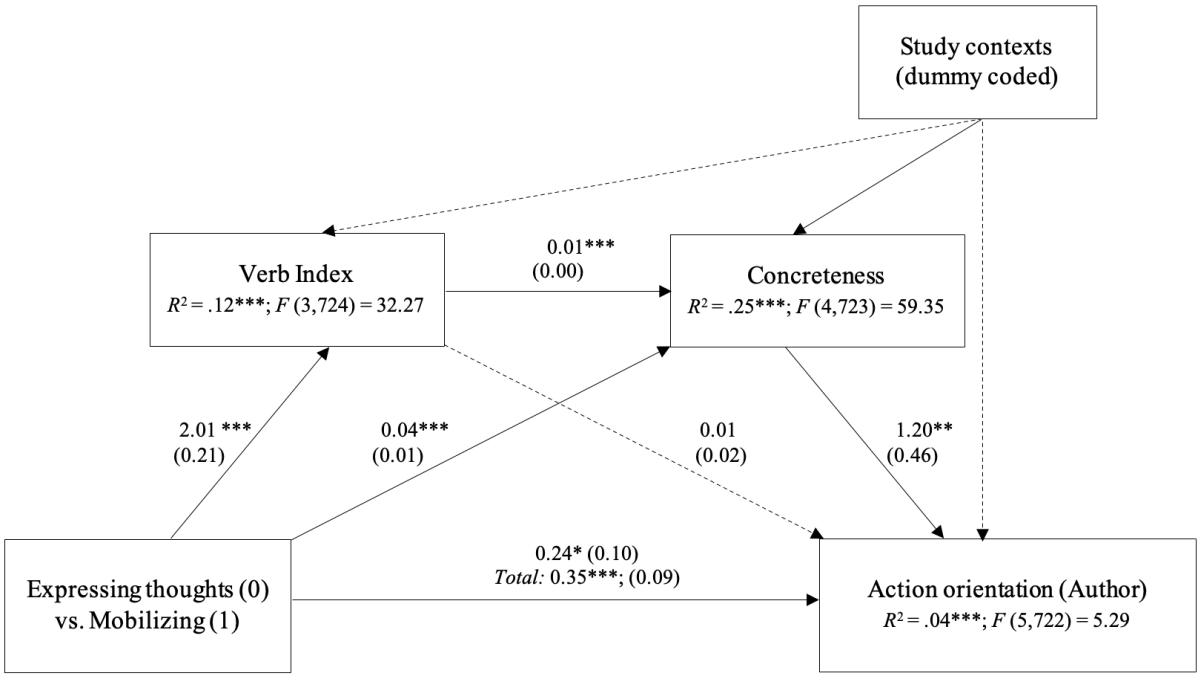
Action orientation (Author)	5.10 (1.17)	4.75 (1.34)	4.93 (1.27)

Mediation Analysis

To examine whether having a mobilizing communicative goal (vs. a goal of expressing one's thoughts) was associated with greater use of verbs and concrete words and whether this, in turn, was linked to rating one's text as more action-oriented, we tested a serial mediation model (see Figure 2), with study context as a covariate (dummy coded with environmental action as the reference category). The analysis was conducted using the PROCESS v.4.0 macro for SPSS (Model 6; Hayes, 2013). We observed two significant indirect effects of the communicative goal on action orientation: through concreteness, estimate = .05, *SE* = .02, 95% BootCI [.02, .10], and through verbs and concreteness, estimate = .03, *SE* = .01, 95% BootCI [.01, .06].

Figure 2

Mediation Model Tested in Study 1



Note. The model shows unstandardized regression coefficients. *** $p < .001$, ** $p \leq .008$, * $p \leq .02$

Discussion

The results of Study 1 indicate that overall the use of verbs and concrete language coincides with one another and with the evaluation of the text as action oriented. The medium size of the positive correlation between verbs and concreteness suggests that the two linguistic features are capturing two related yet separate features, both relevant to the authors' assessment of action orientation of the produced texts. In line with Hypothesis 1, speakers whose communicative goal is to mobilize others use more verbs and concrete words than speakers whose goal is to express their thoughts (Hypothesis 1). This indicates that a goal to mobilize others elicits the use of specific vocabulary. Furthermore, authors did evaluate mobilizing texts as more action oriented. In line with Hypothesis 2a, part of that the text perception was linked to the use of verbs and concrete language, meaning that participants might have evaluated their text as a function of the used language. Importantly, however, including verbs and concrete language explain only part of the variance between mobilizing goal and the evaluation of the text as action oriented. A significant direct effect indicates that part of the variance can be explained by other features of the produced text or by the authors' awareness of their communication goal ("producing a mobilizing text").

Study 2

By showing the spontaneous use of verbs and concrete language in mobilizing (vs. expressing thoughts) communication, Study 1 sets the stage for the next two studies that switch to the audience perspective. The extent to which the choice of linguistic tools affects recipients' views of the text (Hypothesis 2b) and further translates into its persuasive appeal (Hypothesis 3a) remains to be tested. Accordingly, in the following study, we presented participants with leaflets produced in Study 1 and assessed the extent to which they perceived

these messages as action-oriented and persuasive.

Methods

Selection of Text Materials

Text stimuli were selected from the 728 leaflets written by participants in Study 1 (181 on environmental action, 264 on volunteering, and 283 on voting). To ensure that all the text stimuli were of similar length (so that the reading time would not influence the participants' responses), we included only those leaflets that were within ± 1 *SD* of the overall word count mean in each study context. Based on this criterion, 70 leaflets were excluded because they were too long. We also excluded nine leaflets that, upon closer inspection, turned out to include potentially problematic content, for example, ironic tone (e.g., Waste your time, go and vote!"); text that was contrary to the instructions (e.g., "So in short - don't bother voting!"); text written with a sole purpose of achieving the required word count (e.g., "I am filling up the words so that I reach the 100 word count count [...]"); text not written on the topic (e.g., "I am intrigued with this study [...]"). Therefore, the final selection consisted of 649 leaflets. These leaflets were later checked for the presence of any identifying information, and if such was spotted, it was redacted (e.g., person's name was changed to xxx). Finally, the leaflets were checked for any obvious spelling mistakes or editing problems (e.g., multiple spaces), which were subsequently corrected to make the text more readable. No morphosyntactic corrections were made.

Participants

Our goal was to recruit 649 participants (the number corresponding to the number of selected texts) who fulfilled the recruitment criteria (being a native speaker) and passed the attention check ("To continue, click No"). After recruiting the initial 649 participants, we checked the sample for the above criteria, and, as some participants did not fulfill them, they were excluded and the recruitment continued. Overall, 695 participants took part in the study. 36 were excluded due to the above participant replacement procedure (this included 33

participants who admitted to not being native speakers and three who did not pass the attention check). An additional 10 participants were excluded because they rated texts that had already been rated by someone else (as many Prolific users tend to enter studies and then either immediately leave or keep study open for a longer time before either completing it or leaving it unfinished, this creates issues for the randomization counts). After further investigation of the data from 649 participants, we excluded additional 92 participants because they evaluated the texts presented to them as badly written (this exclusion criterion was preregistered; see also *Procedure*). We expected that seeing the text as low quality would impact participants' ratings of all the other variables. Therefore, the final sample consisted of 557 participants (329 female, 220 male, and eight who indicated other gender or did not disclose this information; $M_{\text{age}} = 37.01$, $SD_{age} = 13.60$).

In terms of statistical sensitivity, for Hypotheses 2b and 3a (tested with a mediation analysis), a series of analyses for different regression models was conducted. For a one-predictor regression (which corresponds to the total effect of our mediation analysis, i.e. the effect of communicative goal on persuasiveness or action orientation), the minimum detectable effect is $f^2 = .01$ ($R^2 = .01$). It equals $f^2 = .02$ ($R^2 = .02$) for two- and three-predictor regressions (which correspond to our first and second mediation model) as well as for a four-predictor regression (which corresponds to our second mediation model). Therefore, our sample size is adequate to test our main hypotheses.

Procedure

After completing an informed consent form, participants were asked to carefully read a text randomly chosen from the pool of preselected stimuli. Each participant was presented with a different text. Afterward, participants were asked to evaluate the text in terms of its action orientation and persuasiveness. They were also asked to infer the intention of the person who wrote the text and to rate the quality of the text by indicating how well written the text was using a 7-point scale ranging from "Not at all" to "Very much so." At the end of

the study, participants were asked questions about their demographic background (age and gender) and their proficiency in English. They were also presented with the attention check. The whole study took approximately four minutes to complete.

Measures

In Study 2 dataset, we included the values for verb index, concreteness, and the authors' action-orientation ratings obtained in Study 1. Additionally, participants rated the texts produced in Study 1 in terms of perceived action orientation and persuasiveness. Perceived action orientation was assessed using the same three-item measure (Cronbach's α = .82) as in Study 1. Perceived persuasiveness was assessed with two items (r = .75) asking participants how much they would say the text "encouraged them to to participate in environmental action/volunteering/to vote in elections" and "encourage others to participate in environmental action/volunteering/to vote in elections." The answers were given on a 7-point scale ranging from "Not at all" to "Very much so," and participants were instructed to try to imagine being placed in the same national or local context as the person who had written the text. The correlation coefficients between all the measures are presented in Table 3.

Table 3

Correlation Coefficients for the Variables in Study 2

	2.	3.	4.	5.
1. Verb Index	.39*** [.31, .46]	.14*** [.06, .22]	.22*** [.14, .30]	.14*** [.05, .22]
2. Concreteness		.18*** [.09, .25]	.20*** [.12, .28]	.19*** [.11, .27]

3. Action orientation (Author)	.12** [.04, .21]	.12** [.03, .20]
4. Action orientation (Reader)		.50*** [.43, .56]
5. Persuasiveness (Reader)		

Note: Values in square brackets indicate the 95% confidence interval for each correlation coefficient. *** $p < .001$, ** $p \leq .006$

Results

For each of the variables, we conducted a two-way between-subject ANOVA in the 2 (experimental condition: expressing thoughts vs. mobilizing) x 3 (study topic: environmental action vs. volunteering vs. voting) design. The means and standard deviations for all the variables are reported in Table 4. The analyses concerning verbs, concreteness, and the authors' ratings of action orientation are very similar to those reported for Study 1, and therefore are included in SOM to provide information about the characteristics of the texts presented in Study 2.

Action orientation (Reader)

The analysis showed a significant main effect of experimental condition, $F(1, 551) = 10.84$, $p = .001$, $\eta^2 = .02$, 90% CI [.005; .04]. Leaflets written in the mobilizing condition were evaluated as more action-oriented than those written in the expressing thoughts condition. A significant main effect was also found for study context, $F(2, 551) = 7.65$, $p < .001$, $\eta^2 = .03$, 90% CI [.008; .05]. The Bonferroni post hoc test revealed that leaflets written on the topic of environmental action were rated as less action-oriented than those written on the topic of voting ($p < .001$); volunteering leaflets were also rated as less action-oriented than

voting leaflets (p = .051); there was no difference in the ratings of environmental action and volunteering leaflets (p = .23). Finally, a significant interaction was found between experimental condition and study context, $F(2, 551) = 6.12$, p = .002, η^2 = .02, 90% CI [.005; .04]. An analysis of simple main effects revealed that the effect of experimental condition was significant only for the voting context $F(1, 551) = 23.31$, $p < .001$, η^2 = .04, 90% CI [.02; .07], but not for the environmental action $F(1, 551) = 1.69$, p = .19, η^2 = .003, 90% CI [0; .02] and volunteering contexts, $F(1, 551) = 0.01$, p = .91, η^2 = .000, 90% CI [0; .002].

Persuasiveness (Reader)

The analysis showed a significant main effect of experimental condition, $F(1, 551) = 8.61$, p = .003, η^2 = .02, 90% CI [.003; .04]. Leaflets written in the mobilizing condition were rated as more persuasive than those written in the expressing thoughts condition. There was also a significant main effect of study context, $F(2, 551) = 3.93$, p = .02, η^2 = .01, 90% CI [.001; .03]. The Bonferroni post hoc test revealed that leaflets written on the topic of voting were evaluated as more persuasive than those written on the topic of volunteering (p <.033). Environmental action and volunteering leaflets (p = .10) as well as environmental action and voting leaflets (p = 1.00) were rated similarly. The interaction term was non-significant $F(2, 551) = 2.09$, p = .13, η^2 = .01, 90% CI [0; .02].

Table 4

Means and Standard Deviations for the Variables in Study 2 Across Experimental Conditions and Study Contexts

	Experimental condition		
	Mobilizing	Expressing thoughts	Across conditions
	M (SD)	*M (SD)*	*M (SD)*

Study context			
Environmental action			
Action orientation (Reader)	5.03 (1.46)	4.74 (1.18)	4.93 (1.37)
Persuasiveness (Reader)	5.31 (1.32)	4.85 (1.36)	5.14 (1.35)
Volunteering			
Action orientation (Reader)	5.12 (1.04)	5.14 (0.97)	5.13 (1.00)
Persuasiveness (Reader)	4.75 (1.52)	4.69 (1.60)	4.72 (1.55)
Voting			
Action orientation (Reader)	5.80 (0.99)	5.01 (1.50)	5.44 (1.31)
Persuasiveness (Reader)	5.39 (1.12)	4.77 (1.73)	5.11 (1.46)
Across contexts			
Action orientation (Reader)	5.36 (1.20)	5.02 (1.25)	5.20 (1.23)
Persuasiveness (Reader)	5.15 (1.35)	4.75 (1.61)	4.97 (1.48)

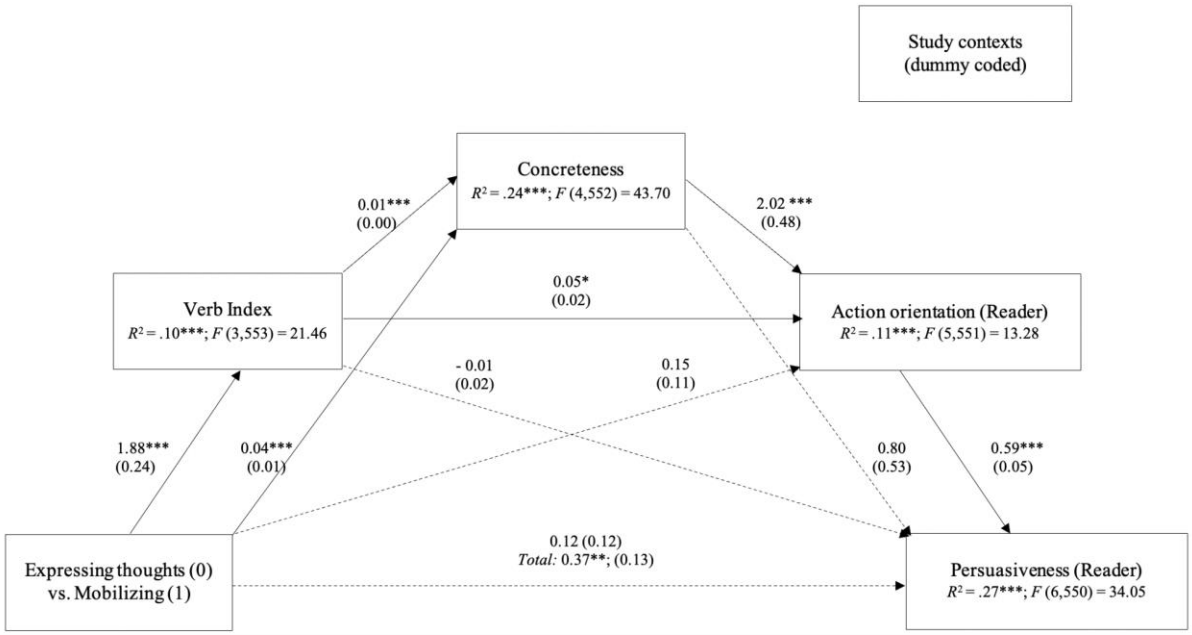
Mediation Analysis

We tested two serial mediation models using the PROCESS v.4.0 macro for SPSS (Model 6; Hayes, 2013). In the first model (analogous to the one in Study 1), we assessed whether having a mobilizing communicative goal (vs. a goal of expressing one's thoughts)

was associated with greater use of verbs and concrete words and whether this, in turn, was linked to greater perceived action orientation among readers. We observed three significant indirect effects of the communicative goal on perceived action orientation: through verbs, estimate = .09, *SE* = .04, 95% BootCI [.02, .17]; through concreteness, estimate = .08, *SE* = .02, 95% BootCI [.03, .13], and through both verbs and concreteness, estimate = .05, *SE* = .02, 95% BootCI [.03, .09]. More details concerning this analysis can be found in SOM. The second model, presented in Figure 3, assessed whether having a mobilizing communicative goal (vs. expressing one's thoughts) was associated with a greater use of verbs and concrete words and whether this, in turn, was linked to both greater perceived action orientation and persuasiveness among message readers. We observed three significant indirect effects of the communicative goal on persuasiveness: through verbs and perceived action orientation, estimate = .05, *SE* = .02, 95% BootCI [.01, .10]; through concreteness and perceived action orientation, estimate = .04, *SE* = .02, 95% BootCI [.02, .08]; and through verbs, concreteness, and perceived action orientation, estimate = .03, *SE* = .01, 95% BootCI [.01, .05].

Figure 3

Mediation Model Tested in Study 2



Note. The model shows unstandardized regression coefficients. *** $p < .001$, ** $p \leq .003$, * $p < .01$

Perceived Intention of the Author

Participants were also asked to guess the intention with which the text was written: to mobilize others, to express thoughts, or "other" (n = 6, excluded from further analyses). Importantly, for the mobilizing condition ($n = 302$), 275 participants (91.1%) correctly recognized the author's intention, whereas for the expressing thoughts condition ($n = 249$), only 108 participants (43.4%) managed to do the same. This difference in recognition was significant and indicative of a large effect, $\chi^2(1) = 87.48$, $p < .001$, $\varphi = .40$, suggesting that participants had a greater ability to identify mobilizing texts than those expressing thoughts.

Additionally, we conducted a logistic regression to test whether being able to guess the author's intention was related to the author's use of verbs and concrete words. The overall regression was significant, $\chi^2(2) = 33.21$, $p < .001$, Nagelkerke $R^2 = .09$. A significant effect was found for both verb index, $B = 0.13$, Wald(1) = 10.40, $p = .001$, and concrete language, $B = 3.21$, Wald(1) = 10.15, $p < .001$. These results indicate that the use of verbs and concrete language increased the log odds of guessing the author's intention as mobilizing.

Discussion

The results of Study 2 complement Study 1's showing that the increased use of verbs and concrete words for mobilizing (vs. informative) communication goals is related to the evaluation of the texts as more action oriented also by text readers. Furthemore, the use of verbs and concrete language in the mobilizing communication is related to how persuasive the text is rated. This suggests that there is some shared understanding and agreement as to how mobilizing text should be construed (Friestad & Wright, 1994) and when texts follow these rules they are appreciated. This assumption is further corroborated by the fact that readers were able to correctly guess the mobilizing intentions of the authors, and this guess was related to the use of verbs and concrete language.

Study 3

In Study 3 we replicate the results of the Study 2 regarding Hypothesis 2b. Additionally, we replaced the perceived persuasiveness with behavioral intention as an outcome measure. Previous research has demonstrated an agreement between perceived persuasiveness of the message and its actual effectiveness (e.g., in the form of behavioral intention or an actual behavior induced; Noar et al., 2020). In Study 3, we examine whether this would be true also in the communicative context of our research by assessing participants' intentions to behave in a way encouraged by the previously used messages (Hypothesis 3b).

Methods

Selection of Text Materials

We used the same pool of 649 leaflets selected for Study 2.

Participants

Our goal was to recruit 649 participants (the number corresponding to the number of selected texts) who fulfilled the recruitment criteria (being a native speaker) and passed the attention check ("To continue, click No"). Overall, 658 participants took part in the study. Two were excluded because they did not pass the attention check. Additional seven participants were excluded because they rated texts that had already been rated by someone else due to the previously-mentioned randomization issues related to participation processes on Prolific. As in Study 2, we also excluded participants who evaluated the text presented to them as badly written (n = 93). Therefore, the final sample consisted of 556 participants (269 female, 271 male, and 16 who indicated "other gender"; M_{age} = 36.77, SD_{age} = 12.49).

In terms of statistical sensitivity, for Hypotheses 2b and 3b (tested with a mediation analysis), a series of analyses for different regression models was conducted. For a one-predictor regression (which corresponds to the total effect of our mediation analysis, i.e., the effect of communicative goal on behavioral intention or action orientation), the minimum

detectable effect is f^2 = .01 (R^2 = .01). It equals f^2 = .02 (R^2 = .02) for two- and three-predictor regressions (which correspond to our first and second mediation model) as well as for a four-predictor regression (which corresponds to our second mediation model). Therefore, our sample size is adequate to test our main hypotheses.

Procedure

Study 3 employed the same procedure as Study 2, with one exception: instead of assessing perceived persuasiveness of the message, we examined participants' behavioral intentions.

Measures

In Study 3 dataset, we included the values for verb index, concreteness, and the authors' action orientation ratings obtained in Study 1. Additionally, participants rated the texts produced in Study 1 in terms of action orientation using the same three-item measure as in the two previous studies (Cronbach's α = .81). Finally, participants were presented with a three-item measure of behavioral intention (Cronbach's α_{EA} = .78; α_{Vol} = .88; α_{Vote} = .74). Depending on the context, participants were asked to indicate "how likely they would be to do the following": 1) "Volunteer their time or money in the next four weeks", "Support a charitable organization or event in the next four weeks", and "Engage in voluntary work more than in the past four weeks"; 2) "Do something for the environment in the next four weeks", "Support an environmental organization or movement in the next four weeks", and "Engage in climate action more than in the past four weeks;" or 3) "Vote in the next scheduled election", "Try to convince others to vote in the next scheduled election", "Participate in an election rally before the next scheduled election", and "Support an organization or initiative that promotes voter turnout". The answers were given on a 7-point scale ranging from "Not at all" to "Very much so." The correlation coefficients between all the measures are presented in Table 5.

Table 5

Correlation Coefficients for the Variables in Study 3

	2.	3.	4.	5.
1. Verb Index	.36*** [.28, .43]	.11** [.03, .19]	.16*** [.08, .24]	.01 [-.07, .09]
2. Concreteness		.14*** [.05, .22]	.16*** [.08, .24]	.00 [-.08, .08]
3. Action orientation (Author)			.12** [.04, .20]	.06 [-.03, .14]
4. Action orientation (Reader)				.17*** [.09, .25]
5. Behavioral intention (Reader)				

Note: Values in square brackets indicate the 95% confidence interval for each correlation coefficient. *** $p < .001$, ** $p \leq .008$

Results

For each of the variables, we conducted a two-way between-subject ANOVA in the 2 (experimental condition: expressing thoughts vs. mobilizing) x 3 (study topic: environmental action vs. volunteering vs. voting) design. The means and standard deviations for all variables are reported in Table 6. The analyses concerning verbs, concreteness, and the authors' ratings

of action orientation are very similar to those reported for Study 1, and therefore are included in SOM to provide information about the characteristics of the texts presented in Study 3.

Action orientation (Reader)

Regarding the readers' ratings of action orientation, there was a significant main effect of experimental condition, $F(1, 550) = 16.46$, $p < .001$, $\eta^2 = .03$, 90% CI [01, .06]. Mobilizing leaflets were rated as more action-oriented than leaflets written in the expressing thoughts condition. No significant effect was found for study context, $F(2, 550) = 2.42$, $p = .09$, $\eta^2 = .01$, 90% CI [0, .02], and the interaction between experimental condition and study context was also non-significant, $F(2, 550) = 1.53$, $p = .22$, $\eta^2 = .01$, 90% CI [0, .02].

Behavioral intention

There was no significant main effect of experimental condition, $F(1, 550) = 1.77$, $p = .19$, $\eta^2 = .00$, 90% CI [0, .02]. There was, however, a significant main effect of study context, $F(2, 550) = 25.69$, $p < .001$, $\eta^2 = .09$, 90% CI [.05, .12], indicating that participants in the voting context had a higher behavioral intention than participants in the environmental action ($p < .001$) and volunteering contexts ($p < .001$). Participants in the latter two conditions did not differ ($p = .31$). The interaction between experimental condition and study context was non-significant, $F(2, 550) = 0.72$, $p = .49$, $\eta^2 = .003$, 90% CI [0, .01].

Table 6

Means and Standard Deviations for the Variables in Study 3 Across Experimental Conditions and Study Contexts

	Experimental condition		
	Mobilizing	Expressing thoughts	Across conditions
	M (SD)	*M (SD)*	*M (SD)*

Study context			
Environmental action			
Action orientation (Reader)	5.30 (1.04)	4.92 (1.22)	5.15 (1.13)
Behavioral intention (Reader)	3.53 (1.60)	3.56 (1.33)	3.54 (1.50)
Volunteering			
Action orientation (Reader)	5.09 (1.06)	4.84 (1.22)	4.97 (1.14)
Behavioral intention (Reader)	3.36 (1.68)	3.18 (1.60)	3.27 (1.64)
Voting			
Action orientation (Reader)	5.53 (0.98)	4.90 (1.49)	5.24 (1.28)
Behavioral intention (Reader)	4.45 (1.26)	4.09 (1.35)	4.28 (1.31)
Across contexts			
Action orientation (Reader)	5.32 (1.04)	4.88 (1.33)	5.12 (1.20)
Behavioral intention (Reader)	3.83 (1.58)	3.62 (1.50)	3.74 (1.55)

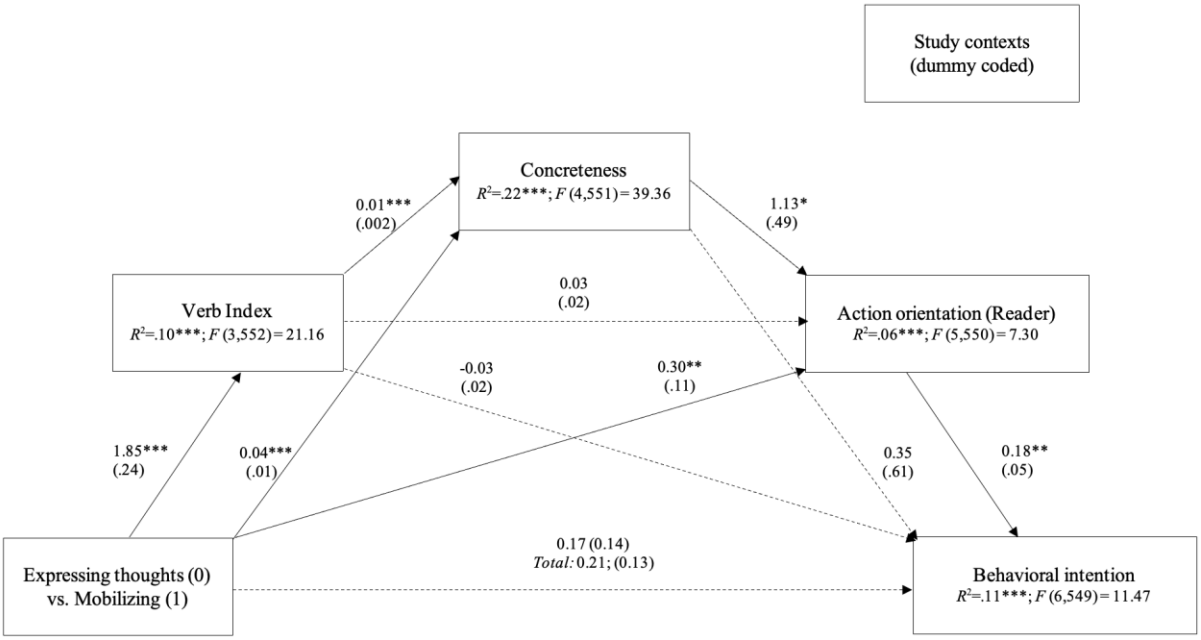
Mediation Analysis

We tested two serial mediation models using the PROCESS v.4.0 macro for SPSS (Model 6; Hayes, 2013). In the first model (analogous to those in Studies 1 and 2), we

assessed whether having a mobilizing communicative goal (vs. a goal of expressing one's thoughts) was associated with greater use of verbs and concrete words and whether this, in turn, was linked to greater perceived action orientation among readers. We observed two significant indirect effects of the communicative goal on perceived action orientation: through concreteness, estimate = .05, *SE* = .02, 95% BootCI [.01, .10]; and through both verbs and concreteness, estimate = .03, *SE* = .01, 95% BootCI [.004, .05]. More details concerning this analysis can be found in SOM. The second model, presented in Figure 4, assessed whether having a mobilizing communicative goal (vs. a goal of expressing one's thoughts) was associated with greater use of verbs and concrete words and whether this, in turn, was linked to both greater perceived action orientation and behavioral intention. We observed three significant indirect effects of the communicative goal on behavioral intention: through perceived action orientation, estimate = .05, *SE* = .03, 95% BootCI [.01, .11]; through concreteness and perceived action orientation, estimate = .01, *SE* = .005, 95% BootCI [.001, .02]; and through verbs, concreteness, and perceived action orientation, estimate = .01, *SE* = .003, 95% BootCI [.0004, .01].

Figure 4

Mediation Model Tested in Study 3



Note. The model shows unstandardized regression coefficients. *** $p < .001$, ** $p \leq .005$, * $p = .02$.

Perceived Intention of the Author

Participants were also asked to guess the intention with which the text was written: to mobilize others, to express thoughts, or "other" ($n = 9$ excluded from further analysis). Importantly, for the mobilizing condition ($n = 299$), 265 participants (88.6%) correctly recognized the author's intention, whereas for the expressing thoughts condition ($n = 248$), only 131 participants (52.8%) managed to do the same. This difference in recognition was significant and indicative of a large effect, $\chi^2(1) = 110.57$, $p < .001$, $\varphi = .45$, suggesting that participants had a greater ability to identify mobilizing texts than those expressing thoughts.

Additionally, we conducted a logistic regression to test whether guessing the author's intention was related to the author's use of verbs and concrete words. The overall regression was significant, $\chi^2(2) = 76.12$, $p < .001$, Nagelkerke $R^2 = .18$. A significant effect was found for both verb index, $B = 0.19$, Wald(1) = 20.34, $p < .001$, and concrete language, $B = 5.43$, Wald(1) = 26.58, $p < .001$. These results indicate that the use of verbs and concrete language increased the log odds of guessing the author's intention as mobilizing.

Discussion

Study 3 replicates the pattern of Study 2 regarding ratings of action orientation. Furthermore, as in Study 2, mobilizing communication had a higher number of verbs and concrete language, which was related not only to the perceived action orientation but also increased behavioral intention, suggesting that linguistic cues indeed may serve the hypothesized mobilizing function and are relevant for setting a common goal between the author and the reader. It is also important to note, that participants both in Study 2 and 3 correctly guessed the intentions of the author for the mobilizing condition, whereas they had difficulty identifying messages that did not have mobilizing intent; in over half of these cases, they misattributed the author's goal. It is possible that 1) even when speakers are asked to express their opinion, they may still produce mobilizing messages (indeed, the proportion of participants ascribing the mobilizing goal to texts produced with an expressive goal in mind was relatively high); 2) people tend to assume that speakers try to mobilize others more often than simply express their opinion; or 3) both.

General Discussion

In three experimental studies, we investigated how people communicate when their goal is to mobilize others and what makes such communication effective. The findings from Study 1 reveal that speakers aiming to mobilize others use more verbs and concrete language compared to those simply expressing their thoughts on a given topic. The communicative goal also affected how authors judged their own messages in terms of action orientation, and the relationship between communicative goal and authors' evaluation was mediated by verbs and concrete language use. The results of Study 2 and 3 complement those of Study 1, demonstrating that the increased use of verbs and concrete language in messages with a mobilizing goal, as opposed to an informative one, is not only perceived as more action-oriented by authors but also by readers. Additionally, readers evaluated the text as more persuasive (Study 2) or affecting their behavioral intentions (Study 3).

Importantly, authors of the messages converge on how to construct a mobilizing communication, as they commonly apply similar linguistic devices, aligned with a communication goal. Similarly, it has been found that individuals, when aiming to affect others' opinion on a given product, enhanced the emotional intensity of their arguments (Rocklage et al., 2018). The authors of that line of work postulate that the use of emotional language in persuasive attempts taps to the Aristotelian *pathos* - the idea that effective persuasion requires inducing an appropriate emotional state in the audience. The use of verbs and concrete language can tap into the two other features of successful rhetoric, that is *logos* and *ethos* (Aristotle, 2007). Activating and concrete communication can help build a logical and rational appeal, as it provides an action goal and a plan that makes it feasible. The results of Study 2 and 3, corroborate that the audience indeed considers such communication as persuasive. Furthermore, messages constructed with the use of verbs (increasing author's agency - Formanowicz et al., 2021) and concrete language (increasing message trustworthiness - Hansen & Wänke, 2010) may contribute also to the evaluation of the author's *ethos* (credibility and character).

The results obtained in this research may be important for the understanding of the emergent shared meaning in the case of calls to action. The ability to form shared representations of tasks has been considered a "cornerstone of social cognition" (Sebanz et al., 2006, p. 73; Sebanz & Knoblich, 2021) because it allows for functional human interactions, often based on common goals. The alignment in how both authors and readers interpret linguistic features emphasizing action confirms the dual role of linguistic cues in social cognition—a bottom-up and top-down process—where understanding how linguistic features contribute to constructing a shared reality is essential. Immersed in natural language, we may learn by association how messages effectively encouraging us to act are construed and accordingly create such messages when needing to persuade others to act. The expectations regarding how mobilizing communication should look like may be relevant not

only for the language production but also reception and contribute to the effectiveness of the message among its recipients (see Friestad & Wright, 1994).

The congruence between authors and readers in the manner they perceive the text and its language also suggests that perceivers did not engage in reactance, a phenomenon of when a message is perceived as aiming at persuasion, people deny compliance to affirm their free will and autonomy (for a review, see Rains, 2013). Indeed, when we looked at behavioral intentions in Study 3, and instead of the experimental manipulation we used the guessed intention of the author as the predictor, the effect was significant and positive. Previous studies have suggested that subtler elements of persuasion, including more concrete language, do not instigate reactance (Miller et al., 2007). Accordingly, the use of verbs and concrete language might subtly affect the reader. Importantly, both verbs and concrete language were the factors that predicted the guessed intention of the author among message readers.

Interestingly as well, messages were construed with the use of linguistic devices that were aligned with one's communication goal but also with what literature suggests as effective in goal pursuit (e.g. Gollwitzer & Oettingen, 2012), signifying the importance of both action setting and planning as fundamental components of action orientation. The results of the presented studies indicate that the pathway proposed for goal-striving motivation can also guide the construction and interpretation of communication strategies that effectively prompt action among people.

Relevance of the findings

The results are important for the following reasons. Our work's context was centered around pressing issues of climate and civic engagement necessary for large scale societal changes. Accordingly, this research could be relevant from a collective action perspective. The defining features of collective action are related to people (i.e., *a collective*) applying their efforts toward change (i.e., *action*). Not surprisingly, both a shared sense of identity and agency are among the core predictors of engagement in collective action (van Zomeren,

2013). To create the shared realization of a common goal, people need to communicate. Yet, even though collective action often arises from language, including passionate speeches, inspiring social media posts, or emotional stories by victims of injustice, language has not received proper attention in collective action research. The current research can be an important step in understanding how language affects the formation of collective action. Importantly, anecdotal evidence matches the pattern described in this article. For example, slogans such as "Vote leave" in the pro-Brexit campaign were likely effective because they provided clear instructions on what people should do.

This work can also be considered within the framework of the Elaboration Likelihood Model (Petty & Cacioppo, 1986), positing two main routes to processing persuasive messages: the central route and the peripheral route. In the central route, individuals engage in careful and thoughtful processing of message content when they are motivated and able to do so, leading to a lasting attitude change based on the merits of the arguments. The peripheral route involves individuals relying on cues outside the message content, such as speaker attractiveness or emotional appeals, when motivation or ability for systematic processing is low. Persuasion through the peripheral route tends to be more temporary and superficial. The linguistic features studied in this work could be contributing to the peripheral route and, as such, do not lead to a lasting change. However, information science research emphasizes that "in the era of information overflow, people are often forced to use indirect cues more often than before, because of the abundance of information to be handled. When an individual sees relevant cues, heuristics are triggered." (Oinas-Kukkonen & Harjumaa, 2009, p. 488). This notion indicates that linguistic devices may serve a powerful role in mobilizing communication.

Limitations and Future Directions

While the participants' ratings of their own texts differed depending on their communication goal, which could be linked to the use of verbs and concrete words, we

cannot ascertain whether participants deliberately chose those linguistic devices or whether they were driven by habitual cultural norms of language use existing outside of their awareness. Similarly, for text recipients, while participants were relatively correct in guessing the speaker's intention, we do not know whether they were aware of what drove their decisions. Addressing this is an important future research avenue. Previous work on linguistic abstractness indicates that its use can be both strategic and automatic (Douglas & Sutton, 2003)—both of which are likely in the presented scenario of mobilizing communication.

An additional limit of the present work concerns the co-occurrence of the use of verbs and concrete language in persuasive attempts. Of theoretical and pragmatic relevance, future research is needed to tease apart the two cues, to investigate their unique contribution, their independence, or the incremental role in persuasive language. Experiments that orthogonally manipulate the two cues may shed light on the cognitive process and temporal dynamic of the persuasion process.

Future work could also examine the mechanisms behind the choice of specific linguistic devices. On an apparent level, goal-oriented communication can affect the choice of linguistic features, and these, in turn, can affect the perception of the text in terms of its action orientation. On a broader level, the mechanism responsible for the success of such communication could be fluency. Processing fluency refers to the ease or difficulty with which information is processed; it is known to be a significant factor in shaping our judgments, independent of the thought content (Alter & Oppenheimer, 2009). In general, high fluency tends to elicit more positive evaluations, for example, in terms of truthfulness and liking (Reber et al., 1998). Accordingly, messages whose style is in sync with their goals can be evaluated as more persuasive. Persuasion research has indicated that forming shared representation requires an alignment (or matching; Teeny et al., 2021) of numerous elements in the communication. In the case of action mobilization, the message author (source) has to

formulate it in a way that clearly leads the message recipient to act or intend to act in the given direction (goal of communication).

Finally, although caution should be taken when generalizing findings of this study to other contexts and languages, we believe this research contributes to the understanding which linguistic features are used in mobilizing communication and can serve to achieve a shared understanding of action.

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