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To cite this article: Nicoletta Cavazza & Michele Roccato (2021) Are we gaining or losing ground? Dynamic perceptions of public opinion influence willingness to speak out and participate in land use conflicts, *Social Influence*, 16:1, 12-23, DOI: [10.1080/15534510.2021.1944907](https://doi.org/10.1080/15534510.2021.1944907)

To link to this article: <https://doi.org/10.1080/15534510.2021.1944907>



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Published online: 28 Jun 2021.



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# Are we gaining or losing ground? Dynamic perceptions of public opinion influence willingness to speak out and participate in land use conflicts

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## ABSTRACT

Using an Italian land use conflict on the building a high-speed railway (HSR) as case study, we analyzed how perceived changes in public opinion influence (a) people's willingness to speak out, and (b) subsequently their intentions to engage in action ( $N = 311$ ). Regardless of whether they were on the majority or minority side of the conflict, citizens' willingness to speak out was positively associated with their perceptions that their position was becoming more or less widespread within public opinion, especially among participants with extreme attitudes toward the HSR. Willingness to speak out about the HSR mediated the relation between increasing support discrepancy and intention to participate in the conflict. Strengths, limitations and implications are discussed.

## ARTICLE HISTORY

Received 20 March 2020

Accepted 11 June 2021

## KEYWORDS

Land use conflicts; participation; public opinion; spiral of silence; willingness to speak out

## Introduction

Conflicts over land use are increasing worldwide (Saint et al., 2009). In Italy, where we performed this study, there were 359 oppositions to infrastructural projects in 2017 – a growing trend compared to previous years (see <http://www.nimbyforum.it>). The academic community's growing interest in such conflicts is thus far from surprising.

In the present study, we applied a social-psychological approach to the analysis of an Italian land use conflict. We explored in detail whether citizens' perceptions of change in the balance between support of and opposition to the building of a high-speed railway (HSR) designed to link Italy and France were associated with their intentions to participate in the enduring conflict over its construction, mediated by their willingness to speak out about the HSR. We focused on this topic because citizen participation and expressing opinions about socially relevant issues are of the utmost importance for a healthy democracy. One predictor of citizens' expressiveness is their perceptions of the climate of public opinion, a form of social influence reflected in phenomena such as the spiral of silence (Noelle-Neumann, 1974). Individuals validate their opinions in comparison to others (Festinger, 1954) and in relation to how much those opinions are shared by others. Consistent with this, those who perceive their own position as in line with the majority consensus have a greater willingness to speak out as compared to those

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expressing a minority view (Noelle-Neumann, 1974). However, as time goes by, citizens may acquire additional information, discuss the topic with people who hold similar and dissimilar views, be exposed to media examining the issue, participate in public debates and so on. Thus, the balance between opposing positions may evolve and citizens' perceptions of that change may influence their behavior. Previous research has devoted little attention to the effects of individuals' perceptions of changes in public opinion on their willingness to participate in social controversies.

Land use conflicts are fertile ground to study the role of social influence on individuals' willingness to speak out and participate, as they involve unequal consequences for different social groups and activate social-psychological factors such as collective identity and collective efficacy (Mannarini et al., 2009). Moreover, such social-psychological factors are key elements of a collective action frame composed of beliefs, attitudes and representations that defines the collective mind-set in which participation is socially created (e.g. Cavazza & Rubichi, 2014; Klandermans, 1997). In this light, land use conflicts are forms of collective action occurring in opinion-based groups whose members share similar views on that social issue and are often actively engaged in defending their own position (Roccatò et al., 2018). As a result, the feeling of belonging to a majority or minority group – and, in particular, perceiving a change in the balance between supporters and opponents – could influence people's willingness to speak out and participate in these social conflicts.

### Speaking majorities and loquacious minorities

The spiral of silence theory is a lynchpin for researchers examining the influence exerted by public opinion on individuals' tendencies to speak out. The theory was developed by Noelle-Neumann (1974) to explain the failure of two subsequent surveys intended to predict the results of West German general elections. In her view, public opinion is a means of social control because it 'demands consent or at least compels silence, or abstention, from contradiction' (p. 44). The theory postulates that most people have a basic fear of isolation and ostracism. Therefore, they constantly scan the environment to determine which opinions are part of the majority consensus and which are not using a 'quasi-statistical' sense that aims to grasp the state of public opinion.

People with a majority opinion feel sufficiently confident in expressing it publicly without fear of being socially sanctioned, while those with a minority opinion tend to remain silent in order to minimize the probability of being sanctioned. Majority opinions will thus tend to be expressed freely and frequently while minority opinions typically remain unexpressed, leading the former to become increasingly visible. In light of this, a self-perpetuating system may develop in which majority opinions become more and more dominant over time at the expense of minority opinions (Salmon & Oshagan, 1990).

A number of studies have tested and expanded upon the basic tenet of the spiral of silence theory (e.g., Gearhart & Zhangm, 2015; Geiger & Swim, 2016). The focus has shifted from the objective majority or minority status of people's opinions to the way that an individual's own opinion is perceived as either dominant or held by a minority based on the idea that people often misperceive the spread of their opinion among the public

(e.g., Dvir-Gvirzman, 2015). This has been shown to hold true in the realm of land use conflicts (Mannarini et al., 2015).

However, even people holding minority opinions are often active and incisive in speaking publicly about their opinions. For example, Hornsey et al. (2004) induced participants to believe that their opinion about a gay rights law reform was shared by a majority or minority of their student group. Pro-gay rights law reform participants appeared immune to the manipulated influence and were prone to speak out despite their minority status. This indicates that when individuals feel that their attitude is opposed by the majority, they may be motivated to use the public arena to justify it and try to persuade other members to change the status quo.

A meta-analysis of spiral of silence studies showed a rather weak relationship between perceived majority status of an individual's opinion and their willingness to express that opinion (Matthes et al., 2018). These findings, along with the evidence that minority members are often prone to speak out as much as or more than those who hold majority opinions, challenge predictions of spiral of silence theory. We contend that perceptions of the dynamic of public support for opposing positions over time might play a relevant role, more so than the mere perception of the minority or majority status of one's own position.

### The perception of a changing social climate

Many studies carried out in the framework of the spiral of silence theory have focused on the perception of a stable social climate, which is in reality always in evolution. Changes in public opinion may signal to individuals that people have not permanently fixed themselves to one position and are still considering the matter at hand. Thus, the dynamics of public opinion demonstrate the possibility of gaining support by expressing one's own opinion. For example, Sparkman and Walton (2017) showed that information about the dynamic of descriptive norms over time convinced people to decrease meat consumption more than the mere information about the static descriptive norm.

Social identity theory suggests that the perception of change in the balance of public opinion reflects the instability of status relations and enhances intergroup competition (e.g., Doosje et al., 2002). Glynn and McLeod (1984) found that individuals who saw their preferred political candidate as gaining support were pushed toward publicly discussing politics. Moreover, supporters of a new conservative movement in Australia were willing to speak out about the issue of Asian immigration when they perceived an increasing shift of public opinion in favor of their opinion, while opponents of the movement were willing to speak out when they perceived that the social climate was changing against them (Louis et al., 2010).

We argue that the effects exerted by the perception of change in the climate of public opinion on outspokenness are a more general phenomenon. Regardless of the perceiver's majority or minority position, the perception of either gaining or losing ground (vs. perception of stability) should motivate people to speak out. Indeed, feeling that support for a position is increasing over time should motivate supporters to speak out in order to strengthen their group status. Equally, the perception that support for the same position is decreasing should also motivate supporters to react defensively and speak out to influence public opinion and shore up any losses. Moreover, since people's motivation

to speak out is a sign of public commitment, it should involve other signs of commitment as well: in particular, it should promote intentions to mobilize in favor of one's own opinion.

### The present study: context, goals and hypotheses

We focused on an Italian conflict concerning the construction of the HSR in the Susa Valley (in north-western Italy near Turin). This railway project is designed to link the cities of Turin and Lyon within a European HSR network. The anti-HSR movement was born in the Susa Valley in the early 1990s. Since the autumn of 2005, following clashes with the police, it has gradually spread across the district area of Turin. After these violent episodes, the movement and the HSR project gained much greater media visibility (Mannarini & Roccato, 2011). We aimed to develop an understanding of the associations among perceptions of changes in public opinion, willingness to speak out and participation in the land use conflict concerning the HSR infrastructure in Italy. We hypothesized that the perception that participants' position is gaining (H1a) or losing (H1b) ground would show positive associations with their intentions to participate in the conflict, via the mediation of their tendency to speak out about the HSR. Moreover, as indicated by Louis et al. (2010) and Hornsey et al. (2004), we hypothesized that respondents should have a greater tendency to speak out about the project when they perceive that their position is either gaining (H2a) or losing (H2b) ground with respect to the perceived stability of public opinion, regardless of the valence of their attitude toward the HSR. Then, we expected a positive association between participants' tendencies to speak out about the HSR and their intentions to take part in the land use conflict, with both serving as signs of public commitment (H3). Finally, since people with strong (vs. weak) attitudes act more in accordance with their attitudes and perceptions (e.g., Fazio & Williams, 1986) – even within the spiral of silence dynamics (e.g., Matthes et al., 2010) – we expected that the strength of attitudes toward the HSR would moderate the relation between perceptions of dynamic support of one's own opinion and willingness to speak out. We used attitude extremity as a proxy of attitude strength (Petty & Krosnick, 2014) in order to test this moderated mediation model and hypothesized that the association between the perception that a participant's position was either gaining (H4a) or losing (H4b) ground and their tendency to speak out about the HSR would be stronger among people with an extreme attitude toward the HSR (Figure 1).

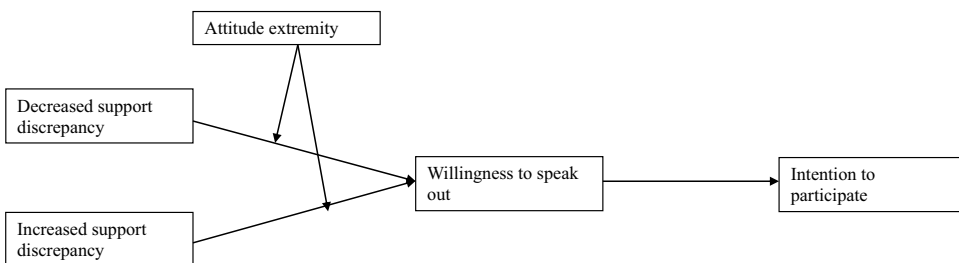


Figure 1. The hypothesized model.

## Method

### Participants and procedure

We administered an online survey to a quota sample of people over 18 years old living in Turin, Italy, stratified by gender and age ( $N = 311$ ; men = 48.2%;  $M_{\text{age}} = 43.21$ ,  $SD = 13.40$ ). According to the ethical standards of the 1964 Declaration of Helsinki, before they took part in the study we informed participants about any relevant aspect of the study. Importantly, they were informed of the right to refuse to participate in the study or to withdraw consent to participate at any time during the study without reprisal. They then confirmed that they understood the instructions correctly, accepted to participate, and started filling out the questionnaire. Participants were presented with a 52-item questionnaire, presented as a survey on people's beliefs and attitudes toward a number of social issues. To save space, we describe only the variables we used in the following analyses, performed after weighting the dataset as concerns participants' gender, age and education to equal the socio-demographic distribution of the sample to that of the Turin population. The questionnaire, data and syntax we used are available at [https://osf.io/you2xn/?view\\_only=d2d80769ab184cc9835b07193ed0c095](https://osf.io/you2xn/?view_only=d2d80769ab184cc9835b07193ed0c095). No participants have been excluded from the dataset.

### Measures

Based on Glynn and McLeod (1984), we operationalized the perception of change in public opinion using two questions. One addressed participants' attitudes toward the HSR. Similar to Mannarini et al. (2015), we asked respondents whether they were in favor of the HSR ('completely in favor' or 'quite in favor') or not ('quite against' or 'completely against'). The other addressed participants' perceptions of the trend of public opinion regarding the HSR in the 12 months preceding the interview based on Willnat et al. (2002): 'In your opinion, in the last 12 months, has the number of citizens of Turin opposed to the HSR grown, remained stable or decreased?' We combined the answers into a single index of support discrepancy. In line with Glynn and McLeod (1984), increased support discrepancy (ISD) was assigned to participants who reported that their opinion was losing public support ( $n = 80$ ), stable support discrepancy (SSD) was assigned to those who reported that their opinion had become no more or no less common within public opinion ( $n = 203$ ) and decreased support discrepancy (DSD) was assigned to those who reported that their opinion had gained public support ( $n = 27$ ). ISD indicates a feeling of becoming more distanced from a social norm whereas DSD indicates a sense of aligning with a social norm. We used ISD and DSD as predictors in our model, using SSD as the reference category.

We assessed participants' willingness to speak out about the HSR via a three-item measure, computed as the mean of the following three-category (often, sometimes, never) items: (a) 'In the last 12 months, did you express your opinion about the HSR when discussing it with friends, relatives, or acquaintances?'; (b) 'In the last 12 months, did you express your opinion about the HSR in your workplace?'; and (c) 'In the last 12 months, did you express your opinion about the HSR in public debates?' ( $\alpha = .68$ ). We slightly adapted these items from Katz and Baldassarre (1992).<sup>1</sup>

We used five 4-category (very likely, quite likely, quite unlikely, very unlikely) items to measure participants' intentions to mobilize in the land use conflict around the HSR:

'How likely is it that in the following months you will: (a) collect signatures against/in favor of the building of the HSR; (b) send letters against/in favor of the building of the HSR to newspapers or politicians; (c) give some money to people or groups mobilized against/in favor of the building of the HSR; (d) distribute leaflets against/in favor of the building of the HSR; (e) take part in a demonstration against/in favor of the building of the HSR'. We averaged the items and used the resulting index as a dependent variable ( $\alpha = .93$ ).

Moreover, we assessed the extremity of participants' opinions by recoding the variable for their attitude toward the HSR as a dummy variable, contrasting those who were completely in favor of or completely against the HSR ( $n = 113$ ) with those who were quite in favor or quite against ( $n = 197$ ).

2.

## Results

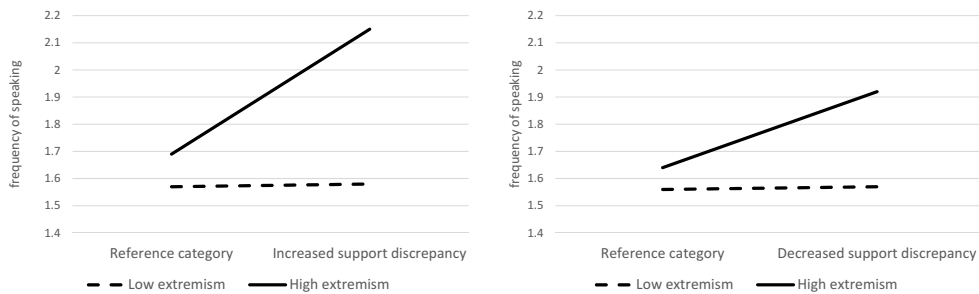
Table 1 shows the descriptive statistics for the variables we used and the correlations among them.

Using SPSS, we applied a regression approach to test our hypotheses. In each regression, we have entered all the independent variables into the equation at the same time, by resorting to the 'enter' method. Relative to each independent variable, ISD and DSD were entered as dummy-coded predictors, with SSD serving as the reference category. Controlling for participants' attitudes toward the HSR ( $\beta = -.03, p = .64$ ), we ascertained that both DSD ( $\beta = .20, p < .001$ ) and ISD ( $\beta = .17, p < .01$ ) showed a positive association with the willingness to speak out, consistent with H2a and H2b, respectively. In turn, consistent with H3, the willingness to speak out showed a positive association with intention to participate ( $\beta = .63, p < .001$ ). Moreover, participants' attitudes toward the HSR were not associated with their intentions to participate in the HSR conflict in the months following the survey ( $\beta = -.08, p = .14$ ), while ISD showed a positive association with respondents' intentions to participate ( $\beta = .21, p < .001$ ) and the link with DSD was not significant ( $\beta = .10, p = .08$ ). When the support discrepancy variables, control variable and willingness of speaking out were entered simultaneously as predictors of participants' intentions to participate, the associations of support discrepancy variables with intention to participate were strongly reduced and non-significant (ISD:  $\beta = -.00, p = .95$ ; DSD:  $\beta = .08, p = .08$ ).

**Table 1.** Descriptive statistics for the variables we used and associations among them.

	Mean	SD	2.	3.	4.	5.
1. High discrepancy	.26	.44	-.60***	.13*	.05	.36***
2. Low discrepancy	.09	.28	-	.17**	.19***	.18***
3. Willingness to speak out	1.62	.47	-	-	.63***	.22***
4. Intention to participate in the conflict	1.61	.74	-	-	-	.22***
5. Attitude extremism	.37	.48	-	-	-	-

When dichotomous variables are concerned, the 'mean' corresponds to the quota of participants coded as 1. The association between dichotomous variables is measured via the polichoric correlation coefficient (computed using Mplus) and that between a dichotomous and a metric variable is measured via the point-biserial correlation coefficient (computed using SPSS). The association between cardinal variables is measured via Pearson's  $r$ . \*\*\*  $p < .001$ . \*\*  $p < .01$ . \*  $p < .05$ .



**Figure 2.** Conditional association between support discrepancy and the frequency of having spoken about the HSR in the 12 months preceding the survey.

We used the PROCESS macro (model 4) to examine the associations between support discrepancy variables and participants' intentions to take part in the HSR conflict, mediated by the willingness to speak out in the 12 months preceding the survey. The indirect effect of DSD was not significant (indirect effect = .19,  $SE = .12$ , 95% CI: -.05, .50) while, consistent with H1a, that of ISD did reach statistical significance (indirect effect = .16,  $SE = .06$ , 95% CI: .04, .29).

In line with H4a and H4b, having an extreme attitude toward the HSR moderated the relations between discrepancy variables and having spoken about the HSR in the 12 months preceding the survey. A moderated regression, performed using PROCESS (model 7), showed that both the ISD–extremism and DSD–extremism interactions (both recoded to a  $-1-1$  format) were significant ( $\beta = .11$ ,  $SE = .05$ ,  $p = .026$  and  $\beta = .07$ ,  $SE = .03$ ,  $p = .030$ , respectively). A simple slope analysis showed that the link between ISD and frequency of having spoken about the HSR was significant among participants with more extreme attitudes (*simple slope* = .22,  $SE = .07$ ,  $p = .004$ ) but not among participants with less extreme attitudes (*simple slope* = .00,  $SE = .06$ ,  $p = .96$ ). A second simple slope analysis showed that the link between DSD and frequency of having spoken about the HSR was also significant among participants with more extreme attitudes (*simple slope* = .14,  $SE = .05$ ,  $p = .004$ ) but not among participants with less extreme attitudes (*simple slope* = .00,  $SE = .04$ ,  $p = .96$ ; see Figure 2).<sup>3</sup> Our model explained the 5.0% variance of willingness to speak out and the 40.0% variance of intention to participate.<sup>4</sup>

## Discussion

We used a social-psychological approach valuing the subjective representation of social reality to explain individual and group behavior to predict people's willingness to speak out about the conflict regarding a HSR designed to link Turin and Lyon and their intentions to take part in it. We reasoned that the social influence on willingness to speak out – and, in turn, to act – could originate from citizens' perceptions of the changing social climate toward the HSR, more so than being on the majoritarian or minoritarian side of the conflict.

Overall, our findings confirmed that individual perceptions of the dynamic in the balance of public opinion mattered more than being in favor of or against the HSR *per se*.



Indeed, participants' intentions to participate in the conflict were not associated with their attitudes toward the HSR. Instead, willingness to speak out was positively associated with the perception that one's opinion was becoming more or less widespread within public opinion. This association also involved the intention to participate for those who perceived that their position was losing ground (ISD) but not for participants who perceived that their position was gaining ground (DSD). Therefore, it seems that the perception that one's own position is becoming more distant from the social norm motivates further commitment to the conflict.

This is not to say that attitudes did not play a role here, as the links between perceptions of change in public opinion balance and willingness to speak out were significant only among participants with an extreme attitude toward the HSR. In addition, other variables denoting attitude strength (e.g., attitude certainty) were positively associated with people's willingness to express their minority opinion (e.g., Rios et al., 2018). Searching for other possible moderators could be another interesting expansion of our research.

Our results are relevant to the literature on land use conflicts for two reasons. First, they are the first empirical findings to show two social-psychological paths leading to residents' participation in such conflicts: one based on the motivation to strengthen the status of their own opinion-based group and the other based on their motivation to defend their group's status. Second, consistent with Bliuc et al. (2007), people tended to display the same socio-cognitive biases independently of their attitudes toward the issue at stake.

Outside the field of land use conflicts, our results help highlight the role of social influence played by people's perceptions of trends in public opinion. Indeed, they highlight two reasons that the observed effects of the spiral of silence are often weak (Matthes et al., 2018). First, the perception of public opinion evolution in favor of one's own opinion can motivate citizens to mobilize, more so than the perception of being part of a majority of public opinion statically supporting a given stance. Second, believing that one's own opinion is losing ground can trigger people's mobilization. Public opinion is a source of normative influence (Deutsch & Gerard, 1955), and it is well known that public opinion can push people's public commitment in favor of majoritarian opinions (Noelle-Neumann, 1974). However, it can also be a source of motivation to try to persuade other people to sustain a stance perceived as having weakening support. Our results are in line with studies showing that electoral polls can have persuasive effects, particularly a 'bandwagon' effect (activated when the information about the majority opinion itself causes some people to adopt it) and an 'underdog' effect (activated when the information causes some people to adopt a minority view; see Marsh, 1985). Future studies could aim to expand our results to the field of electoral polls.

Inevitably, this study had a few limitations. First, as it often happens in studies performed outside the lab, the number of participants who belonged to the conditions defined by the two exogenous variables was not equal. This reflected in the groups defined by the interaction, whose frequencies were unbalanced. For instance, people holding moderate attitude and perceiving ISD were just 14. We could have decided to delete participants from the most numerous groups, equalizing all the groups to the less numerous one. However, participant deletion is always a critical task. Moreover, to do so, we should have had a much larger sample size. A replication of this study performed with

more equilibrated *ns* among subgroups could be interesting. Second, our use of cross-sectional data allowed us to study associations between variables without dealing with causal effects. An experimental extension of this research, performed by manipulating participants' perceptions of the trend of public opinion, could address this limitation. Longitudinal replications of this study might also be appropriate, as evolution in the balance of public opinion may take a long time to become apparent. Finally, we predicted participants' intentions to mobilize in this land use conflict, not their actual mobilization. This was inevitable, as we were interested in surveying people from the general population. People taking part in land use conflicts comprise only a small proportion of residents. Emblematically, Campana et al. (2007) showed that only 6.3% of the people living in Turin mobilized in the HSR conflict in the 12 months preceding their survey. Thus, the sample we should have selected to predict actual participation would have been too large to be reachable.

This study also has some strong points. First, we studied a real-world issue that is salient and relevant to the people living in the context in which we performed our research (Mannarini et al., 2009). Second, we surveyed a quota sample from the general population living where the conflict has been at play for the last 30 years. As such, our results are not biased by the usual narrowness of the databases used in psychological research (Sears, 1986). Third, we adopted a fruitful social-psychological approach that can be integrated with the standard approaches in land use studies, which are often based on political science, planning and human geography (e.g., Haggett, 2011). Fourth, we focused on socio-cognitive processes active among people both in favor of and against the debated HSR using a 'fair' approach that allowed us to see the same process at play independent of people's attitudes. This result could also have practical implications and provide recommendations for both operators of political communication and politicians for participative management of land use conflict.

## Conclusion

Land use conflicts confront social groups with different and contrasting interest. Nevertheless, the main contribution of the present study is to have documented that, when dealing with such a societal matter, being in favor or against a critical facility may not be a crucial factor explaining individual motivation to take part to the debate and to collective actions. A crucial factor is instead the perception of the dynamic balance characterizing public opinion in respect to one's own. Both perceiving that one's own position is losing or gaining ground signal that there is room for influencing other people and push them toward one's own side. However, the willingness to deal with this task requires a further motivation deriving from attitude strength. This revealed to be a second crucial factor.

## Notes

1. A fourth item asked participants to report how often they expressed their opinion about the HSR on TV, on radio, in newspapers, or on the Internet. We did not use it, in that it made reference to much more impersonal ways of communicating than those we used in our analyses.

2. The variables we assessed but did not use in the analyses, as not interesting for our research focus, were: (a) a subset of McCroskey's (1982) PRCA-24; (b) a subset of Paulhus (1984) BIDR; (c) Neuwirth's (2000) four items about fear of isolation; (d) a single item on participants' interest in the HSR issue in the Susa Valley; (e) an item asking respondents whether they have participated in public rallies against the construction of the HSR in the Susa valley; (f) two items asking participants to quantify the number of Torino and Susa Valley residents against the HSR; (g) an item on participants' contextual identification; (h) an item on participants' willingness to be re-interviewed; and (j) an item asking participants to report their perceived whether, in their opinion, the number of Susa Valley residents against the construction of the HSR has increased, remained equal or decreased. To operationalize our critical IV, we decided to only select the item tapping perception of the shift in public opinion in Turin because participants are citizens of Turin, therefore this was the public opinion of reference.
3. The frequency of the participants in the different conditions was as follows: DSD-with less extreme attitudes:  $n = 37$ ; DSD-with more extreme attitudes:  $n = 44$ ; not DSD- with less extreme attitudes:  $n = 160$ ; not DSD-with more extreme attitudes:  $n = 70$ ; ISD-with less extremist attitudes:  $n = 14$ ; ISD-with more extreme attitudes:  $n = 13$ ; not ISD-with less extreme attitudes:  $n = 183$ ; not ISD-with more extreme attitudes:  $n = 100$ .
4. As the richness of information as a base for attitude is another factor often associated to attitude strength, we performed additional analyses considering this possible moderator. We measured participants' actual knowledge about the HSR as the sum of their responses to four factual items about the HSR, after coding correct answers as 1 and incorrect answers as 0 (see Campana et al., 2007). We observed a significant interaction between participants' knowledge about the HSR and ISD on their tendencies to speak about the HSR ( $\beta = .23$ ,  $p = .003$ ). People who were more knowledgeable (+1 *SD*) were more prone to speak about the HSR when they perceived ISD (*simple slope* = .20, *SE* = .06,  $p < .001$ ), whereas the same was not true for people who were less knowledgeable (-1 *SD*; *simple slope* = -.08, *SE* = .07,  $p = .26$ ). On the contrary, the interaction between DSD and knowledge about the HSR was not associated with participants' tendency to speak about the HSR ( $\beta = .05$ , *SE* = .05,  $p = .22$ ).

## Disclosure statement

No potential conflict of interest was reported by the author(s).

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