Competent enough to be heard?

Technicians' expectations about local stakeholders in participative processes

Abstract

The involvement of citizens in environmental decision processes is difficult to implement, and little is known about the psychological mediators for the technicians' resistance. We tested the hypothesis that the subtle denial of human attributes of local stakeholders (dehumanization) produces negative expectations regarding the engagement of communities in the decision process, which may ultimately legitimize their exclusion. Three studies were conducted testing this hypothesis, all involving professionals with experience in implementing local projects. In the first two correlational studies, we showed that a deficit view regarding local communities, a dehumanized idea of those residents and an unfavourable attitude towards their participation were associated. Furthermore, an experimental study was conducted, manipulating the images of the residents in a 2 warmth (high vs low) x 2 competence (high vs low) between-subjects design. Results showed that participants that read a description of the local community as being incompetent developed expectations of more violent and less conventional forms of protest. Moreover, the expectation of conventional protest procedures was associated with stronger support for their engagement in said process. These studies show the importance of psychosocial mediators from the technicians' perspective: an imagined competent public is easier to include in the decision process.

Keywords: attitudes towards participation; dehumanization; deficit model; protest; environmental conflicts; public engagement; experts; Portugal; Spain

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The community's acceptance of large energy projects with local impact is a crucial factor for their implementation. In fact, stakeholder involvement in a project development is a way of building a democratic bottom-up process (Lima, Moreira & Marques, 2012), of reaching consensus and improving policy making processes, while also valuing everyone's expertise, knowledge of the territory, as well as community expectations and motivations (Dvarioniene et al., 2015). For this reason, public participation and community engagement in these projects is required by law, and a great effort has been made in understanding the residents' views.

This recognition of the importance of community engagement is part of a very consensual discourse (Stirling, 2005). There is evidence of the effectiveness of participation practices (e.g., Bierle & Cayford, 2001; National Research Council, 2008; Reed, 2008; Thomas, 1995) and a growing literature on the importance of including local views in the deliberation process (e.g. Boyd & Paveglio, 2015; Devine-Wright, 2005; Groth & Vogt, 2014). It is also congruent with social psychology literature that supports the use of inclusive decision-making processes, as they tend to produce better results (e.g., Abrams et al., 2005: Lind & Tyler, 1988; McGregor, 1960; Vroom & Jago, 1988). And it is also in line with environmental legislation both in the USA and in Europe that promotes the democratic involvement of citizens, companies, environmental groups or scientists in decisions that impact the landscape and their lives (e.g., Water Directive in the EU). Rowe and Frewer (2004) define public participation as the "practice of consulting and involving members of the public in the agenda-setting, decision-making, and policy-forming activities of organizations or institutions

responsible for policy development" (p. 512). Participatory practices thus involve not only the right to know and to be informed, but also the right to comment and influence the decision (Cox & Pezzullo, 2016).

In spite of this apparent support for participatory practices, the implementation of inclusive processes is difficult and the level of community engagement often does not correspond to expectations (e.g., Mensah & Ernest, 2013). Some authors have identified forms of community resistance to the engagement in such processes. For example, Irvin and Stansbury (2004) list some disadvantages of these inclusive processes for citizens (e.g., they are time consuming; and can be regarded as pointless if their opinion is ignored). Community capacity has also been pointed as a key variable in the prediction of the levels of its engagement in participation processes (Freudenberg, Pastor, & Israel, 2011). Not surprisingly, communities that have higher levels of information, skills, resources, education and language ability, as well as those who have higher levels of cohesion, leadership and organizational networks are more active in participation processes. This evidence of environmental injustice has led to the creation of strategies to empower, train and strengthen the resources of communities with a low social status in order to increase their voice in participation processes (Chinman et al., 2005) - for example, by building skills (Freudenberg, Pastor & Israel, 2011) or even by coaching communities to participate (Cohen et al., 2008).

Research focusing on the barriers to the process of community participation from the proponents' point of view is much less common. In fact, another key obstacle to community engagement springs from the technicians and managers involved in the project. Different types of negative expectations about the engagement process (e.g., that it is costly, that loss of control may occur, Irvin and Stansbury, 2004) or about the communities themselves, (e.g., lack of knowledge) tend to reduce community

involvement to a one-way delivery of information (Thomas, 1995) and thus increase the importance of technical approaches, ignoring social and community input (Bracken, Bulkeley, & Maynard, 2014). Given the asymmetry of power between the two parties involved, it is extremely important to understand experts' barriers to community engagement.

In this paper, we undertake, not the perspective of the community, but the perspective of technicians into consideration to understand the factors that account for the exclusion from participative processes. We believe it is increasingly important to understand how technicians and experts form judgments about the public sphere. They are often called upon in policy debates to give their opinion in public forums, and given their "epistemic privilege" (Suldovsky, 2016), framing controversies over certain topics while ignoring others, thus shaping societal interpretations on the topic (Nisbet and Mooney, 2007). As such, this paper focuses on their expectations of public reaction to the project as being a strong barrier to inclusive practices, and on de-humanization as an important underlying psychosocial process that upholds exclusion.

NIMBY and deficit view of the public are barriers to public engagement

One key barrier to participation is the anticipation of negative reactions from the public by the proponents. These have been described in the literature associated with two main topics: NIMBYism and science illiteracy**.**

The conceptualization of public attitudes towards sitting issues has often involved reductionist perspectives of citizens, such as the concept of NIMBYism ("Not In My Back Yard"), describing local residents who are against the development of large projects as self-interested, uninformed and irrational. This perspective stresses the gap between an attitude motivated by a concern for the 'common good' (from proponents)

and behaviour motivated by 'self-interest' (of communities) (Bell, Gray & Hagget, 2005). Although the local opposition to energy projects can be seen as a place-protective action (Devine-Wright, 2009), and even as a rational option (e.g., Fischel, 2001), the NIMBYism label to local movements is usually a very effective way of depreciating the public's arguments, and thusly ignore it. These negative expectations of emotional and irrational responses from citizens are usually contrasted with more positive expectations on the contribution of experts. Characterizing local stakeholders as NIMBYs makes it difficult to take seriously local contributions to the participation process and project sponsors somehow don't feel obligated to address the citizens concerns (Lima, 2004). For example, Cotton & Devine-Wright (2011) studied the views on public engagement held by transmission network operators who worked within the context of sitting power lines. Their NIMBY presumptions of local actors led them to disregard any input, as they were perceived as being unable to understand the broader strategic planning process.

Another barrier to public participation, from the experts perspective, is the expectation of low levels of scientific literacy from the local population associated with the devaluation of the type of expertize they bring to the process. This pattern of expectation has been described as the 'deficit model' (Irwin & Wynne, 1996; Wynne, 1982/2011) and favours an elitist view of decision making, where the opposition from non-experts is perceived as ignorant, and in which public concerns are arrogantly dismissed as irrational and incompetent. From the deficit model perspective, the public must either be educated or marginalized from the process (Hagendijk, 2004, Irwin, 2001). The one-way communication proposed by this model, the assumed purity of the value of expertise and the treatment of the public as homogeneous have been criticized by Irwin (2001, 2014), pointing out the need to eliminate the problematization of the

public and move to educate the experts, recognizing the democratic imperative of open discussion between researchers, policy makers and citizens. Particularly in situations where there is the persistence of uncertainty and science does not have all the answers (Hagendijk, 2004; Maranta et al., 2003). However, this perspective is still quite prevalent among scientific experts, and many studies have found that although there is variability (Simis, Madden, Cacciatore & Yeo 2016), scientists still view the public as uneducated and argue that scientific information needs to be simple, carefully worded (Cook, Pieri & Robbins, 2004), visual and entertaining (Davies, 2008). For example, Besley & Nisbet (2011) analysed the responses of two big samples of scientists and technicians in the UK and USA. Their results showed that experts believe the public knows little about a range of scientific issues and that this knowledge deficit shapes their decisions. They recognize their role as experts in supporting public debate as a way of educating the public, and only a small portion regards their role as enabling public participation. More recently, Entradas (2016) interviewed UK decision makers, science communicators and scientists regarding their views of the public and public participation. The results show that the public was seen as sufficiently sophisticated and knowledgeable to participate in outreach science activities. However, in matters of policy, images of a knowledge-deficient and easily influenced public were found and the prevalent idea was that policy is the responsibility of policymakers and governments. These results show the pervasiveness of the deficit model type of beliefs amongst scientific experts.

The conceptions that experts have of the lay person affect how interactions are framed. Maranta et al. (2003) propose the concept of "imagined lay persons" as "conceptions of lay persons as they are manifested in the products and actions of the experts on the production of socially robust knowledge" (p. 151). Following this

perspective, Barnett and colleagues (2012) made a set of interviews with key actors in the renewable energy sector. They found that engagement practices were determined by the characteristics attributed to an "imagined public" by the actors in the renewable energy sector. Public involvement was conceptualized by energy actors mainly in terms of providing information (consistent with a lack of knowledge representation) and addressing public concerns (some of which are seen as understandable and others as irrational). They also state that the public must always be involved in order to avoid later opposition and litigation; a necessity that is associated with the image of the public as a possible obstacle and danger to the development of projects. However, the involvement is also justified by normative and instrumental motives, as a way to achieve better results. The mechanisms of involvement are also dependent on the characteristics attributed to the imagined public, since experts prefer an information approach that allows more controllable outputs and a more effective management of the imagined opposing public; the meetings could result in conflicting public views due to the presence of attendees with opposite motivations. In a nutshell, the authors show that the practices of public engagement are influenced by the characteristics attributed to the imagined public by the experts, which is much owed to a deficit view of communities.

In this paper, we continue this line of research and directly examine the association between the endorsement of the deficit model of citizens and attitudes towards their exclusion from the participatory process. In fact, most studies regarding public understanding of science present a descriptive, often qualitative approach, where this important link is implicit, but not straightforwardly tested.

Negative stereotypes can promote dehumanization

The experts' beliefs described above show the representation of the public as "other". In fact, Simis et al. (2016) asked scientists "What comes to mind when you hear the words, 'the public?'" and 75% of respondents indicated that scientists conceptualize the public as "other", although not as a homogenous group. From a psychosocial perspective, we argue that these representations of the public can be conceived as stereotypes. Social stereotypes are "shared and simplified evaluative images of a social group and its members" (Hogg & Vaughan, 2009, p.34), and are very useful as a way of simplifying, attributing meaning and guiding action in a complex social environment. When facing strangers, social stereotypes create an illusion of knowledge based on the images of those groups; that illusion generates expectations about the individuals and guides action accordingly. In the case of local communities affected by large projects, stereotypes are usually negative, lowering expectations of said communities. According to this, the experts' views on local communities can be conceived as a negative stereotype, dominated by attributes such as ignorance, irrationality and emotionality.

One of the theories that analysed stereotypes of social groups (the Stereotype Content Model, Cuddy, Fiske and Glick, 2008; Fiske, Cuddy, Glick & Xu, 2002) argues for two universal dimensions of social stereotypes: competence and warmth. Competence refers to a cognitive dimension standing for stereotypical traits related to intelligence, skills and efficiency, while warmth refers to a more emotional dimension, associated to being nice, trustworthy and friendly. Across different and large sample studies (Fiske et al., 2002; Cuddy et al., 2009), individuals from different cultural backgrounds – including more individualistic (e.g., USA and European countries) and collectivistic (e.g., Asian countries) cultures - were surveyed and asked to rate several different social groups in society according to these two basic dimensions. Results

showed remarkable consistency and revealed that these two dimensions are orthogonal and form four distinct clusters of social groups: those perceived as highly competent and highly friendly (e.g., Christians, middle class people), those that are seen as highly competent but unfriendly (e.g., Asians, rich people), those who are considered incompetent but nice (e.g., older and handicapped persons) and those who are seen as incompetent and unfriendly (e.g., homeless persons, drug addicts). According to these authors, competence is predicted by these groups social status (groups with higher social status are seen as more competent than lower social status groups) and warmth is predicted by interdependence (i.e., groups that are seen as threatening are perceived as low in friendliness). For this reason and in line with the reviewed literature, we argue that experts perceive local communities as low in competence (i.e., ignorant, deficit model) and low in warmth (egotistical, hostile) when they are perceived as probable opponents and expected to demonstrate resistance to the project.

Research also demonstrates that members of outgroups stereotypically described as low in competence and warmth evoke negative emotions (disgust and avoidance), and are dehumanized (Fiske, 2009; Harris & Fiske, 2006; Fiske, 2013), i.e., they are implicitly or explicitly perceived as lacking qualities considered to be characteristically human. Early psychological theories viewed dehumanization as an extreme phenomenon, occurring only during overt conflicts but recently more subtle views of dehumanization have emerged, such as infrahumanization (see Haslam & Loughan, 2014 for a review). These studies show, for example, that showing photographs of persons identified as being low in competence and in warmth to participants under an MRI scanner will not activate the medial prefrontal cortex (mPFC), an area of the brain responsible for social cognition that actuates whenever people are thinking about a person (but not an object; Harris & Fiske, 2006). Questionnaire data converged with

these neuro-imaging data (Harris & Fiske, 2011), indicates that participants had more difficulty attributing humanity and a meaningful mind to the photographed people on this quadrant. According to Vaes and Paladino (2009), the tendency to see the in-group as more human relatively to out-groups occurs in almost all inter-group situations but low-low groups are those who are clearly infrahumanized. However, the authors also found that outgroups with high competence but low warmth were seen as most uniquely human, showing that the competence dimension is closer to the uniquely human perception than the warmth dimension.

We argue that in interactions between the experts/scientists and the public during the decision process concerning big projects, a subtle dehumanization process of the lay communities takes place. In fact, Lammers and Stapel (2011) in a series of experiments show that power is associated with dehumanization. When participants were primed with power cues or allocated to high power roles they showed more dehumanized evaluation of outgroups described as low in both competence and warmth. Also, Capozza and colleagues (2012), using both real and minimal group situations, showed that members of higher status groups perceived lower-status groups as less human than the ingroup. Following this line of research, we argue that the asymmetric power between the groups associated to a shared image of low competence and low warmth of the lower status groups (in our case, "lay persons") would dehumanize local communities. The dehumanization could work as a justification for the exclusion from participative processes by the groups with more power (in our case, the experts).

To our knowledge, it is the first time that the dehumanization approach has been applied to public engagement research. We believe that this is an interesting perspective to develop, as it provides insights for intervention that are completely different from the traditionally educational (one way) strategy of scientific communication with the public.

Summary and overview of the studies.

To summarize, in this paper we analyse the strategies used by experts to exclude local communities from the participation process. The three studies reported here were done with professionals (mainly engineers) that have experience in energy-related projects and participation processes (from the perspective of the promotor).

The main hypothesis is that dehumanized community representations (low in competence and warmth), that induce negative expectations, will result in the endorsement of a deficit view of the community and in the formation of unfavourable attitudes towards community participation in the decision process.

We start by testing the association between holding a deficit view of communities and a negative attitude towards their participation in the decision process, a link that has only been implicitly demonstrated in previous research (Study 1). We then test the association between the dehumanization of local communities and support for the deficit model of citizens (Study 2). And finally, we test the link between the dehumanization of local communities and the attitude towards their participation in the decision process (Study 3). The mediating role of expectations is also analysed. In Study 2 we test the role of expected emotions, while in Study 3 the role of expected protest behaviour is analysed.

Study 1. Endorsement of the deficit view and attitudes towards participation

This study analyses the association between the endorsement of the deficit view of local communities and attitudes towards their participation in decision processes, using a sample of technicians. We hypothesized that a deficit view of local stakeholders would be associated with a less favourable attitude towards their participation.

Method

Participants

148 technicians of a big Portuguese energy company took part in this study. 102 (84.6% of the valid cases) were male and the mean age was 47.3 years old (*SD* = 11.25; ranging from 30-86 years old). The participants had been working at the company for a long time. In fact, 35.9% of the sample had been with the company for a period of 25 years or more. 107 respondents (90.7% of the valid cases) reported having a university degree, and 26.1% held a hierarchical position. All respondents had already been involved in projects within the company that included contact with members of local communities.

Procedure and instruments

This study was part of a 2010 project that was dedicated to improve communication procedures from this company in relation to the general public. As an exercise in this project, participants were asked to take part in an online survey regarding perceptions of local communities in areas where their company develops energy projects.

The *deficit view of local communities* was measured using a set of four statements: "W*hen there is a new project to be implemented, people from local communities often tend to act irrationally", "People from local communities often act selfishly when there is a new a project in their area", "Sometimes, talking to people from local communities brings more problems than solutions"* and *"Sometimes it is better not to delve into technical aspects of projects with people from local communities, even if they want to".* Participants were asked to state their agreement in a seven point scale, ranging from 1 (I completely disagree) to 7 (I completely agree). The answers were averaged on a global item explaining 62% of the variance, in which high values stand for strong endorsement of a deficit view of local communities ($\alpha = .79$).

To assess their *attitudes towards local community participation*, participants were asked to state their position on a seven point scale ranging from 1 (I completely disagree) to 7 (I completely agree), on four statements regarding local community participation in the process ("*Local population should be involved in decision-making processes concerning energy projects*"; "*The persons from local communities should have access to all information available about the project*"; "*Local forces should be involved in decisions about this undertaking*"; "*Only technicians should have a say about this issue*", this last one was reversed scored) from an instrument by Santos and Lima (2014) on attitudes towards public participation.

The fitness of the measurement model was tested. We started by performing a Confirmatory Factor Analysis (CFA) with a single factor solution, including all eight items under the same latent variable. To evaluate the goodness of fit we considered the results of the $\chi 2$ tests and various fit indices: incremental fit indices such as the Comparative Fit Index (CFI) and the Tucker-Lewis Index (TLI), and absolute indices such as the Root Mean Square Error of Approximation (RMSEA). In general, a CFI and a TLI between 0.8 and 0.9 mean a poor fit and between 0.9 and 0.95 mean a good fit; and the value of RMSEA should be between 0.05 and 0.10 for an acceptable model and equal or less than 0.05 for a model that fits well (Arbuckle, 2008; Bentler, 1990; Bentler & Bonett, 1980; Mulaik et al., 1989; Wheaton, 1987; Marôco, 2014).

The fitness of this factorial solution was poor, $\chi^2(20, N = 121) = 179.77$, $p \leq .001$, $RMSEA = .26$, $CFI = .48$, $TLI = .28$. Also, most factor loading values were considerably low, varying between .00 and .83, and non significant. A two-factor solution was tested, considering as latent variables the deficit view of the local community and the attitudes toward the participation of the local community. The fit indices for the two-factor solution were good, $\chi^2(18, N = 121) = 25.27$, $p = .118$, $RMSEA = .06$, $CFI = .98$, TLI =

.96 and all observed variables were significantly related to the correspondent latent variables. Factor loadings varied between .29 and .96, but only two observed variables had factor loadings below .50. Convergent validity was also supported by satisfactory Average Variance Extracted (*AVE*) values and good Composite Reliability (*CR*) values (for the deficit view of the local community *AVE* = .48, *CR* = .77; for the attitudes toward the participation of the local community *AVE* = .49, *CR* = .77).

The transition between the single factor and the two-factor solution represented a significant increase in model fit ($\chi 2diff$ = 154.50; $p \leq .001$).

Results and Discussion

In general, technicians had a positive view of local communities. The average deficit description of members of local communities was 2.92 (*SD* = 1.05) bellow the middle point of the scale and their attitude towards participation was clearly positive (*M* = 4.40; *SD* = .99). These results were not unexpected, as the items were quite prone to social desirability. Even so, 54% of respondents agreed with the statement "*People from local communities often act selfishly when there is a new a project in their area".* As expected, attitudes towards participation were negatively associated with the deficit view of local communities (*r* (109) = -.166; *p* =.04).

This study, conducted with a sample of expert technicians of the domain of energy confirms, as predicted, that the more endorsed the deficit view of local communities is, the less local actors are expected to be engaged in the decision process.

Study 2. Dehumanization and endorsement of the deficit view - The mediating role of expected emotions

This study analyses the association between the dehumanized representation of local communities and the endorsement of the deficit view of local communities, using a sample of expert technicians. Based on the literature, we expect to find a negative association between the dehumanized view and the endorsement of the deficit view. Besides, we explore the role of expectations in this association. Stereotypical views of groups allow for the creation of specific expectations which are important to understand reactions towards future encounters. In particular, recent research has shown evidence that anticipated emotions predict social attitudes (e.g. Cottrell, Richards, &Nichols, 2010; DeWall, Baumeister, Chester & Bushman, 2016). In this case, we analyse the role of expected emotions as mediators of the association between views of the local community and the endorsement of a deficit view of said community.

Method

Participants

196 expert technicians of a big Portuguese energy company took part in this study. 148 (85.7% of the valid cases) were male and the mean age was 45.55 years old (SD= 11.31; ranging from 26-62 years old). The participants had been working at the company for a long time. In fact, 58% of the sample had been with the company for 25 years or more. 171 respondents (98% of the valid cases) reported having a university degree, and 35 held a hierarchical position. 63% of respondents had already been involved in projects within the company that included contact with members of local communities.

Procedure and instruments

This study was conducted in 2016 at the same energy company from Study 1, within the scope of the long-term collaboration established with our research team.

Because we were unable to identify participants in the survey due to anonymity issues, it is not possible to identify whether the same participants answered the two surveys. However, given the time lag between these two surveys we expect that a substantial number was indeed different.

As in Study 1, participants were asked to take part in an online survey of their perceptions of local communities in places where their company develops energy projects. This survey contains the following measures:

Humanized view of the local community. Based on Lammers and Stapel (2011) operationalization, three adjectives clearly related to humanization were proposed to describe local communities: *able, friendly,* and *well-intentioned*. To prevent social desirability bias, only positive adjectives were included. Participants were asked to rate their adequacy on a seven point scale (α =.76). The three items were averaged and higher scores correspond to a more humanized view of local communities.

Humanized view of the expert technicians of the company were assessed in a similar way, using the same three items (showing and adequate reliability α = .72.

The *expectation of the communities'/technicians' positive emotions towards the projects* was evaluated with the following emotions: calm, good mood, satisfaction and trust. Participants were asked the degree to which they expected the members of the local community/the members of the technical staff to express these emotions during the sitting process of a new energy project using a seven point scale (1 = not at all; 7= a lot). The four items were averaged for each of the targets (local communities α = .90; technical staff α = .91).

Similarly, the *expectation of negative emotions towards projects* was evaluated with four emotions (frustration, irritation, rage and discontentment) rated on a seven point scale for the two targets (members of the local community/members of the technical

staff). The four items were averaged for each of the targets (local communities α = .93; technical staff α = .91).

Finally, the *deficit view of local communities* was measured using the same items present in Study 1. The four items were averaged on a global item, in which high values stand for strong support for a deficit view of local communities (α = .70).

The measurement model was analyzed via a CFA. The first model tested the fitness of a single factor solution, including all items under the same latent variable. The fitness of this factorial solution was poor, $\chi^2(299, N = 113) = 1215.70$, $p \leq .001$, RMSEA = .17, CFI = .49, TLI = .45. Also, most factor loading values were considerably low (between .18 and .80) and non significant.

A pooled solution, with seven first order latent variables and two second-order latent variables, was tested. Positive and negative emotions towards experts and local community were organized in a second-order latent variable named "*Emotions*, and *humanized* views of local community" and experts were combined in a second order variable, named "Humanized views". The fit indices for the pooled solution were good, $\chi^2(258, N = 113) = 247.37$, $p = .672$, RMSEA = .00, CFI = .99, TLI = 1.01, and all observed variables were significantly related to the correspondent latent variables. Factor loadings varied between .53 and .95. Good AVE and CR values also supported convergent validity (deficit view of the local community AVE = .41, CR = .73; humanized view of local community and experts AVE = .41, CR = .66 and AVE = .43, CR = .69; positive emotion of local community and experts AVE = .75, CR = .92 and AVE = .72, CR = .91; negative emotion of local community and experts AVE = .74, CR = .92 and AVE = .65, CR = .88).

The transition between the single factor and the seven-factor solution represented a significant increase in model fit ($\chi 2diff = 968.33$; $p \leq .001$).

Results

In general, technicians had a humanized view of local communities ($M = 3.72$; $SD = .75$), and during energy projects they expected those communities to express more

positive (M = 3.81; SD = 1.22) than negative emotions (M = 3.24; SD = 1.35; t (188) = 3.62; $p < .001$). However, the local community was significantly represented as less humanized than the technical staff and, when compared with technicians, it was expected that they would express less positive emotions and more negative ones (Table 1).

== Table 1 ==

Moreover, the participants do not state a clear deficit view of local communities in energy projects. The average on this variable is slightly below the medium point 4 (M = 3.41; SD = 1.06), but that can be the result of the aggregation of different opinions. In fact, we should note that 59% of respondents agree that members of the local community tend to act irrationally and 76% believe that they tend to be selfish.

Their views regarding the local community were less humanized (M = 3.73; SD =. 75) than ones regarding their group (M = 4.32; SD = .54; t (191) = 8.05; $p < .001$). Besides, they expected the technical staff to express much more positive (M = 5.11; SD = 1.04) than negative emotions about the project (M = 2.34; SD = 1.17; t (188) = 21.71; $p < .001$). The subjects' previous participation in energy projects involving local communities had no impact over the variables considered in this study.

As expected, a more humanized view of local communities is negatively associated with a deficit view of their inclusion in the process (r (180) = -.42; $p < .001$). Also, the more humanized the view of local communities, the more they expect them to express positive emotions (r (183) = .28; $p < .001$) and less negative emotions regarding the project (r (183) = -.27; $p < .001$).

== Figure 1 ==

The mediation effects of expected negative and positive emotions in the relationship between humanized and deficit views of local community were tested via

structural equation modelling. The mediation revealed a good fit to the model (χ^2 (72) = 59.83, p = .85; χ^2 /DF = .83; CFI = 1.00; TLI = 1.14; $RMSEA$ = .00).

The direct, nonmediated, paths from the humanized view of the local community to the deficit view of local community was significant (β = -.66, $p \leq .001$). The humanized view is positively associated with positive and negative expected emotions (β = .72, $p \leq .001$; β = -.81, $p \leq .001$). However, only negative emotions were significantly associated with the deficit view of the local community (β = .39, p = .05). The expectation of positive emotions, although linked to the view of the community, is not associated with the deficit view of the community (β = -.29, p = .11).

Discussion

This study was performed with expert technicians from a big Portuguese energy company, with experience in projects that involved local communities. Although they expect them to show more positive than negative emotions towards new local energy projects, they clearly show beliefs that are consistent with a deficit view and a dehumanized view of local communities, compared to their own group. In fact, the humanization index was below the middle point of the scale and the majority of participants agreed that said communities tended to act irrationally and selfishly when an energy project was implemented in their locality.

This study brings two important findings to light. The first is that the dehumanized view of local communities predicts the endorsement of the deficit model of the citizens. In fact, the more humanized the view of local communities, the less they are seen as unable to be taken seriously in a participatory process. Furthermore, our results also show that the expectation of negative emotions among members of local communities is an important mediator of this association.

However, these two studies are correlational, and that limits the inference of causal links between the variables. In the following study, an experimental approach was undertaken. The description of local communities was systematically manipulated to create a more or less dehumanized representation of the public, and the expected reactions were observed.

Study 3. A (de)humanized representation effect on attitudes towards participation - The role of expected reactions

In the first two studies, we analysed the association between the representation of local communities and the endorsement of the deficit view, within samples of expert technicians from a big Portuguese energy company. With this third study, we want to test the causal link between the representation of the imagined local community as more or less humanized and their expected protest reactions. We hypothesized that a more dehumanized representation of the local community would result in greater expectation of illegal and violent forms of protest than a less dehumanized representation, leading to less positive attitudes towards their participation in the decision process. In other words, we hypothesized that a more dehumanized community representation would result in unfavourable attitudes towards community participation. Dehumanization in this study was operationalized according to the stereotype content model, one of the four theories on the field (Haslam & Lougnan, 2014). There is now robust evidence, with neural and behavioral responses, showing that groups perceived as the least warm and competent tend to be denied humanity and a meaningful mind (Fiske, 2009; Harris & Fiske, 2006, 2009, 2011). So, in this study the attribution of competence and warmth will be manipulated to induce more or less dehumanized perceptions of local communities.

We also tested a mediator associated to expectations regarding the local community: the expected forms of protest. Although political protest behaviour itself has largely been studied (e. g. De Weerd, 1999; Klandermans, 1997, 2000; Van Stakelenburg, 2013; Van Zomeren, 2013), experts' expectations regarding different forms of community protest and their role in the attitudes towards community participation have not been studied. Expectations, regarding oneself or others, have a long tradition of being studied as predictors of participation behaviour. For example, self-efficacy is a good predictor of participation in political actions (Bulger & Mellor, 1997). However, expectation regarding others is extremely important in social situations. For example, Buck and Plant (2006) showed that enhancing negative expectation towards the outgroup increased hostile actions during interracial interactions. Przybylinski & Andersen (2015) showed that creating representations of significant others as not sharing the same worldview produced anticipation of less meaningful interactions. Negative expectations regarding the outgroups are thus an important source of discriminatory behavior, and this study will focus on a topic that, to our knowledge, has not been studied: the expectations on different forms of political protest.

Participants

In order to obtain this sample, several organizations that unite environmental expert technicians in Portugal and Spain (e.g., association of water engineers; association of environmental engineers) were contacted for their collaboration in this study. Those who accepted distributed the link for the online survey amongst their associates. 185 members of professional associations related to the environment accepted to participate in this study with a valid questionnaire. The majority of the sample was collected in Spain (82%). 123 (66%) of the participants were male and the mean age was 42.36

years old (SD = 11.70; ranging from 19-71 years old). They were mostly engineers, agronomists, and environmental scientists. In fact, 89 respondents (48%) reported having a masters degree, 61 (33%) reported having a university degree, and 31 (17%) reported having a doctoral degree. 54% of the respondents had already been involved in participation processes and 32% had already been involved as the technicians responsible for project development.

Procedure and Instruments

Participants were asked to read a vignette regarding the sitting process of a wind farm. The description was based on a real case of environmental conflict and the description of the process, the image of the local community was manipulated based on the two-dimensions of the Stereotype Content Model. Participants were randomly distributed across the four experimental conditions (2 x 2 design), based on the two-dimensions of the Stereotype Content Model: competence (high/low) and warmth (high/low).

Manipulation of humanization: Participants read a vignette based on a real situation regarding the construction of a wind farm in a fictitious small town of Portugal (supposedly called “Casais”, or “Casales” in the Spanish sample), which was the subject of public consultation and a subsequent environmental impact statement, with no complaints during the licensing process. However, later on, when the energy company sent a letter to the owners of the land where the farm was to be built, said owners showed opposition, claiming negative consequences for rare plants and the value of the land. To manipulate the competence dimension, in the high competence condition participants read in this vignette that “People who live there are very attached to the place. A recent report describes the population of Casais as ‘competent and very determined people. They show high capacity for intervention regarding issues related to

their place and, in general, a high level of intelligence'", whereas in the low competence condition the vignette read "Neither competent, nor determined people. They show low capacity for intervention on issues related to their place and, in general, their intelligence level is not high". To manipulate the warmth dimension, participants in the high warmth condition also read in this vignette that "The contact with the community is easy, since people are described as friendly and well-meaning. Moreover, they also show themselves as tolerant and honest regarding issues related to their place", whereas in the low warmth condition they read that "The contact with the community is difficult, since people are described as unkind and not very well-meaning. Furthermore, they also show themselves as intolerant and dishonest regarding issues related to their place". In this way, participants in the low competence and low warmth condition read a dehumanizing representation of the community of Casais (Casales, in the Spanish version). This manipulation was pretested in a pilot study with 90 university students, and the vignettes were perceived as credible and clear.

Expectation of community reaction towards the project: After reading the vignette manipulating the local community's image, participants responded to the question "What do you think the reaction of the population will be?", with a set of 13 statements with a seven point Likert scale ranging from 1 (I think they will not do it) to 7 (I think they will do it), adapted from an instrument by Amna & Ekman (2013) on political participation. These 13 items were organized in three dimensions: four items reflect actions of conventional protest (*They will: complain to the authorities; take the company to court; mobilize social networks to protest; form an association to deal with the problem*; $\alpha = .71$); three items form a dimension of actions of unconventional and legal protest ("*They will: use protest stickers, t-shirts or badges; distribute flyers and put up posters; organize a protest";* $\alpha = .68$); and three items belong to a dimension of

actions of unconventional and illegal protest ("*They will: damage company facilities; initiate violent actions against the company; take control of company facilities*"; α = .83).

Attitudes towards local community participation. Participants were asked to state their position on a seven point scale ranging from 1 (I completely disagree) to 7 (I completely agree), on a set of three statements on the local community participation in the process *("Local authorities should have access to all available information regarding important issues of the installation of the Wind Farm at Casais"; "Local population must have access to available information regarding all important issues related to the installation of the Wind Farm at Casais"; "Local authorities should be involved in the decision-making processes regarding the installation of the Wind Farm at Casais"*), adapted from Santos and Lima (2014). The items showed an adequate reliability (α = .76). Higher values stand for strong support for local community participation.

In this study, two CFAs tested the measurement model. The first model examined the fitness of a single factor solution, which almost reached an adequate level, $\chi^2(55, N = 175) = 113.30$, $p \leq .001$, RMSEA = .08, CFI = .90, TLI = .86. However, most factor loading values were low (between -.08 and .65) and non significant.

A second solution, a pooled CFA with four first order latent variables and one second-order latent variable, was tested. The second order latent variable *protest expectation* was divided in three first order latent variables: *conventional protest, unconventional and legal protest and unconventional and illegal protest.* The other first order latent variable referred to the *attitudes towards local participation.* The fit of the pooled solution was good, $\chi^2(55, N = 175) = 48.49$, $p = .720$, RMSEA = .00, CFI = 1.00, TLI = 1.02, and all observed variables were significantly related to the

correspondent latent variables. Factor loadings varied between .53 and .88. AVE and CR values supported convergent validity (*conventional protest* AVE = .40, CR = .72; *unconventional and legal protest* AVE = .54, CR = .65 and *unconventional and illegal protest* AVE = .65, CR = .78).

When compared with the single factor, the pooled solution represented a significant increase in model fit ($\chi 2diff = 64.81$; $p \leq .01$).

Manipulation check: To check the manipulation, at the end of the study participants were asked to rate on a seven point scale the degree to which they thought the following adjectives described the local community of Casais: *able, efficient* (for competence), *friendly and kind* (for warmth).

Results

The manipulation check produced a significant effect on both dimensions. Competence manipulation had a positive effect on the perceived competence of the local communities (high competence condition: $M = 5.13$; $SD = 1.38$; low competence condition: $M = 3.75$; $SD = 1.46$; $F(1,184) = 44.430$; $p < .001$), and warmth manipulation had a positive effect on perceived warmth (high warmth condition: $M = 5.37$; $SD = 1.29$; low warmth condition: $M = 3.46$; $SD = 1.52$; $F(184) = 86.459$; $p < .001$).

In general, participants expected a favourable reaction from the local community, since they expected that it would express more conventional forms of protest ($M = 5.212$, SE = .083), than unconventionally legal ones ($M = 4.702$, $SE = .102$, $t(182) = 4.402$, $p < .001$), and that these were more expected than illegal forms of protest ($M = 2.831$, $SE = .107$, $t(181) = 12.535$, $p < .001$).

== Table 2 ==

A MANOVA was performed with these three types of protest as a within factor, and competence and warmth as between-subject factors. Besides the significant effect of the type of protest (F (2,177) = 134.182, $p < .001$), results show a significant interaction effect between the type of protest and competence (F (2,177) = 19.112; $p = .001$). Conventional protest is particularly expected and illegal protest particularly not expected, when communities are described as competent (Table 2). Moreover, the interaction between the type of protest and warmth was also significant (F(2,177) = 8.326, $p < .001$), indicating that communities viewed as friendly are less expected to protest in illegal ways (Table 2). No other significant main effects or interactions were found. The expected three-way interaction effect of dehumanized descriptions of communities was also non-significant (F (2,177) = 1.222; $p = .297$). In fact, as Figure 2 illustrates, unconventionally legal forms of protest were not affected by the manipulations. Against our expectations based on the dehumanization studies, the low-low condition had no prominent reaction upon the expectations.

== Figure 2 ==

In order to test the mediation effect of these expected forms of protest in the attitude towards participation of local members of the community in energy projects, a structural equation model procedure was used. The general model showed an excellent fit (χ^2 (3) = 1.29, $p = .73$; $\chi^2/DF = .43$; $CFI = 1.00$; $TLI = 1.14$; $RMSEA = .000$). This model (Figure 3) showed that competence was positively associated with an expectation of conventional protest ($\beta = .45$; $p < .001$) and unconventional and legal protest ($\beta = .17$; $p < .001$), but only the expectation of conventional protest was positively associated with favourable attitudes towards the local population ($\beta = .24$; $p < .01$). Warmth was negatively associated with unconventional protest ($\beta = -.33$; $p < .001$). Looking to the

pattern as a whole, perceived community competence is the most important variable to predict a positive attitude towards their participation in the process, and this association is mediated by the expectation of conventional types of protest. The interaction between competence and warmth (and thus dehumanization of local communities according to the stereotype content model) is not associated with the variables at stake.

== Figure 3 ==

Discussion

This study was performed with a sample of Portuguese and Spanish members of professional associations related to the environment, a significant part of which had already participated in decision-making processes as experts. Although they hold favourable expectations regarding community reactions and expect more conventional than unconventional protest reactions, the results also show that community representation has a significant impact on their attitudes towards community participation. In particular, the image of a competent or even a competent and friendly local community creates the expectation of conventional forms of protest. In fact, they expected more conventional and legal forms of protest from the community when it was represented as competent, and expected less illegal and violent reactions when it was represented as friendly. Moreover, we found that the expectation of conventional reactions from the community has an important and positive role in the association between the representation of the community and attitudes held by the technicians towards community participation. The other types of expected protest had no impact on the inclusive attitude towards participation.

Although our hypotheses were not fully confirmed, this study shows that the technicians' representation of a community plays an important role in their inclusion in

the decision-making process. Imagining a community as unfriendly produces the expectation of unconventional and illegal protest, while the representation of a community as competent creates an expectation of conventional protest, which in turn, predicts a more favourable attitude towards community involvement in the development of a project. These results have important implications to the engagement of local communities in participative processes.

General discussion and conclusion

This paper presents a set of studies that focus on the social cognitive processes that sustain exclusive practices in participation processes, from the perspective of expert technicians and managers. Our main hypothesis was that the denial of human attributes to local stakeholders would produce negative expectations regarding the communities in the participation process and legitimize their exclusion. The negative expectations regarding the local communities considered as mediators in this paper were the anticipated emotions elicited by the project and the expected forms of protest of residents. In a first correlational online study we showed that the endorsement of the deficit view of local communities was linked to a negative attitude towards their participation in the decision process. The second correlational study showed that a dehumanized view of local communities was associated with an endorsement of the deficit citizen model, and that this relationship was mediated by the expectation of negative emotions from local stakeholders. In the last study, we experimentally manipulated the dehumanization of local communities following the stereotype content model approach (Fiske et al., 2002). The online experiment was conducted with a sample of professionals with experience in participation processes and results show that the image of a competent local community is associated with the expectation of more

conventional and legal forms of protest, the only ones that predict an inclusive attitude towards local participation. Moreover, lack of warmth in the representation of the community is associated with an expectation of illegal and violent forms of protest. Contrary to the expectation derived from the dehumanization theoretical model used, the interaction between competence and warmth was not a significant predictor of expectations.

Although there is a strong research tradition in studies focusing on the barriers to public engagement from the perspective of experts, this paper takes an innovative approach as it systematically links the views of local stakeholders, the endorsement of a deficit view of local communities and attitudes toward participation in environmental decision processes. In addition, we applied the concept of dehumanization to explain this exclusion from the participation process. Our results show clear signs of endorsement of a deficit and dehumanized view of local communities from experts. We have also been able to show that an imagined incompetent public (Barnett et al., 2012) generates negative expectations (towards its emotional reactions and forms of protest) that justify exclusion form the process. It is also innovative in the application of a cognitive social psychological process (dehumanization) to understand the barriers to participation from the experts' perspective.

Our study shows that competence alone has a major role in the perception of communities and their (de)humanization, and that this dimension is more prominent than warmth. This result is congruent with the work of Vaes and Paladino (2010) that states that humanization is driven more by competence than by warmth. Moreover, the clear difference of power between the local community and technicians, according to the stereotype content model would contribute to emphasize the competence dimension (highly associated with social status, Fiske et al., 2002). Further, in this particular type

of environmental conflict where there is always a technical/scientific framing of the discussion, the often evoked deficit view of the local community is compatible with the (low) competence dimension in that model. On the other hand, NIMBYism, the other argument often used by experts in this type of conflict, should be more related to an expressive rather than cognitive dimension (as it is based on an emotional and egotistical view of the public, who easily panics, Lima, 2004). However, this perspective is not consistent with a cold view of local communities. Other perspectives of dehumanization, more centred on emotions, should be considered in future studies within this domain. For example, Leyens and his colleagues (2007) propose a model of dehumanization that denies more complex feelings to outgroups and expects them to show simpler, animal-like types of emotions. In fact, our first study showed that negative emotions (including rage, a basic animal emotion) were particularly expected from derogated communities, and had an important role in the mediation between the representation of the community and the support for the deficit model. As such, the role of negative emotions, namely those associated with NIMBYism, should be addressed in future research on this topic.

Following Maranta's and colleagues (2003) and Barnett et al. (2012) proposals, this work stresses the importance of expectations held by experts on their interactions with lay people. Beyond its influence as a mediator of cognitive processes, expectations impact behaviour. Negative expectations, being used as an excuse to exclude citizens from participation, can act as self-fulfilling prophecies (Merton, 1948; Weaver et al., 2016): low levels of participation observed as consequence of their exclusive practices can be interpreted as a demonstration of the lack of interest or capacity of communities in dealing with these issues. These processes ultimately defend and justify the status quo and the legitimacy of social order (Jost, Banaji & Nosek, 2004), and they are

particularly important for those in positions of power, as managers and technicians tend to be. These lines of research would also be interesting to pursue.

Our last study also focuses on the expected protest reactions. It was somehow surprising that the more violent type of protest (illegal and unconventional) and the more contemporary type of protest (unconventional and legal) were unrelated to the attitudes towards participation. Maybe conventional forms of protest are perceived as more easily predictable and controllable by project proponents, even though they may not often lead to actual social changes. The relationship between these more challenging forms of protest and attitudes toward participation should be further explored in future studies. For instance, would the manipulation of the type of protest communities undertake induce different competence representations of said community on experts?

One possibility for the unexpected results in Study 3 may be linked with the characteristics of the surveyed sample. In fact, our analysis revealed that a great amount of participants were agronomists and environmental scientists and that they hold a scientific profile (48% and 17% reported having a masters and a doctoral degree, respectively). Previous studies conducted with scientific experts revealed a mixed pattern of representations of the public, with more subtle views and not the typical derogative NIMBY pattern. For instance, in a recent study conducted with decision-makers, science communicators and scientists in the UK, Entradas (2016) revealed that the public was perceived as being sufficiently sophisticated and knowledgeable to participate in outreach science activities. However, this positive view was not prevalent across all domains. In fact, in matters of policy, images of a knowledge-deficient and easily influenced public were found and the prevalent idea was that policy is the responsibility of policymakers and governments, thus excluding citizens from this crucial exercise of public participation. Studies as these show the complexity of experts'

opinions regarding the public and the need to address those using different types of methodologies not subject, for instance, to social desirability issues.

This paper also attempts to bring fundamental psychosocial processes to applied social and environmental issues. The application of dehumanization to the exclusion practices in public engagement is novel and promising. The use of participants that have experience in environmental conflicts and sitting projects is also an unusual feature of this paper. However, this research presents several limitations. First of all, the use of these professional samples has some methodological drawbacks, as it does not allow either for the operationalization of many variables nor for the use of more psychometrically elaborated instruments. Moreover, these professionals are quite aware of the social desirability of some of the questions, which can reduce the variability of responses. Although an experimental approach was used in the last study, it can always be argued that confounding factors may be in place and competing for the explanation of results, and more studies on this topic should be considered. For example, the prevailing negative stereotypes and social representations regarding farmers (Naiff, Monteiro, & Naiff, 2009; Riding-Malon, R., & Werth Jr, J.L., 2014) might have been activated when referring to stakeholders from local communities, our findings being thus the result of a prejudiced view of rural residents. A final and important issue relates to the partial test of our model. In fact, if the three studies provide evidence for the idea that dehumanization causes a deficit view of communities and negative expectations towards local stakeholders (which in turn influence the attitude towards participation) these relationships were never tested conjointly. Future research could address these issues in a systematic way, using experimental methodology.

However, we believe that these studies can have important consequences for their practical application. First of all, it states the importance of diversity and

communication training for technicians and experts that have to contact local stakeholders in public engagement processes. Our results suggest that negative expectations are detrimental for the quality of community involvement, an issue that can be addressed through interventions that develop awareness for the dehumanization bias and promote the construction of more complex and heterogeneous representations of members of the public. Finally, our research suggests that the reciprocal views of the public and technicians play an important role in engagement processes. Although it is important to understand how the many stakeholders differ in their perspectives on this issue, and how these diverge from the technical approach, it is important to consider that these mutual representations play an important role in the quality of communication between both parties.

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