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Ways of thinking about the incinerator: A typology of citizens' mindsets☆

Nicoletta Cavazza*, Sandro Rubichi[1]

Università di Modena-Reggio Emilia, via Allegri 9, 42121 Reggio Emilia, Italy

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ABSTRACT

This paper considers the social representation of an incinerator plant operating for more than 30 years in a medium-sized city in Italy. A survey was carried out with a representative sample of an Italian town, a community that was not generally hostile to it. On the basis of self-efficacy and trust in institutions, and by applying cluster analyses, we obtain evidence for four distinct groups labelled as Fatalists, Collaboratives, Activists, and Delegants. The four groups express systematic variations in social representation. We discuss the theoretical and practical impacts of these results.

1. Introduction

This study explores whether citizens in a community peacefully hosting a waste incinerator that has been operating for a long time, share a homogenous view of it, or whether they express distinct and complex configurations of beliefs and evaluations.

Research on environmental attitude as well as on public engagement and dialogue on science and technology has typically focused attention on public opinion, especially when controversial technologies and their societal consequences are at stake (Einsiedel, 2008).

The field of waste disposal solutions is one of such example, since local governments often have to deal with the population's opposition towards facilities because the facilities are perceived as costly in terms of environmental pollution and health risks. Many studies have examined locally unwanted land use (Freudenburg and Pastor, 1992) and, as one of the prototypical examples, local opposition to incinerator sites (Davies, 2008; Hsu, 2006; Kikuchi and Gerard, 2009; Ladd, 1991; Matias, 2004).

However, successful experiences of plant siting exist (Achillas et al., 2011; Furuseth & O'Callaghan, 1991; Khammaneechan et al., 2011), and many incinerators operate in communities where no conflict is at stake, since citizens agree with the local administrators' waste management solution.

In this regard, some scholars underline the importance for both the environmental social scientists and local administrators to deepen the understanding of the psycho-social correlates of public acceptability. Such an understanding would help generate positive responses to potentially controversial technologies and prevent the

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* Corresponding author. Tel.: +39 0522 523262; fax: +39 0522 523055.
E-mail addresses: nicoletta.cavazza@unimore.it (N. Cavazza), sandro.rubichi@unimore.it (S. Rubichi).
[1] Tel.: +39 0522 523224; fax: +39 0522 523055.

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negative consequences of public disquiet (Gupta et al., 2011; Petts, 1994; Venables et al., 2012).

A number of studies cast light on citizens' attitudes towards waste facilities or risk perceptions linked to various waste management solutions, such as incinerators (Khammaneechan et al., 2011; Lima, 1996). However, attitude and risk perception are just two aspects of a more global and complex socially shared representation. A recent review of the psychosocial determinants of public acceptance of technologies shows that perceived risk, perceived benefit, trust, knowledge, individual differences, and attitude are the most influential predictors of public acceptance of technologies (Gupta et al., 2011). Castro (2006) suggests that the social representations approach (Moscovici, 1984) is well-suited to individuate citizens' mindset towards environmental problems. In the same vein, Brondi and colleagues (Brondi et al., 2012) show that such an approach is particularly useful to unfold also the long-term effects of environmental public policies on communities.

Indeed, social representations are complex configurations of attitudes, beliefs, knowledge, and emotions built around a socially relevant object and shared by social groups (Moscovici, 1984). Thus, social representation is a more inclusive concept than attitude or belief. Social representations are forms of social knowledge: systems of values, beliefs, opinions, semantic repertoires, and theories of common sense resulting from a process of reconstruction of reality into a symbolic system elaborated in relation to socially relevant objects, through communicative exchanges between people in groups and communities (Doise, 1989). Social representations therefore are a sort of map of the semantic field relative to an object–in our case, the incinerator. Within this common field of reference, individuals and social groups adopt different positions, but they are able to meet on common ground. For example, everybody has an idea of what an incinerator is, regardless of personal risk perception. Social representations allow people to understand each other when talking about the object and to orient their behaviour towards it. Hence, for example, social representations of the facility designed to solve the waste problem determine what citizens are willing to do in order to sustain or oppose its implementation.

But does the weakness of a manifested opposition[2] mean that public opinion holds an undifferentiated and positive representation of the plant? Following the social representations approach the answer would be negative because it suggests that different social representations of the same object could be developed by distinct social groups according to the relevance the object has for them: the symbolic distance between the object and the social groups gives rise to different ways of thinking about it. Thus, it is important to individuate the organising principles that characterise different social representations and that define the social groups holding homogeneous orientations towards the objects. The concept of organising principles of interindividual and intergroup differences was introduced by Doise (1989) in order to underline the importance of variability in social representations. Organising principles correspond to systematic variations in the weight individuals or groups give to the dimensions that substantiate the representation. Following the model of Doise (1993), systematic variations may be anchored at three levels: psychological, psycho-sociological, and/or sociological. Psychological anchoring corresponds to variations as a function of attitudes or value choices at an individual level. Psycho-sociological anchoring refers to the influence due to the way people perceive the social relations among social groups and more generally the social structure (for example, privileged or unprivileged social groups). Finally, the sociological level has to do with variations anchored to socio-demographical belonging of the individuals and their shared experiences, such as political affiliation.

In the domain of public facilities, such as the incinerator at the core of the present research, some authors (Flynn et al., 1992; Freudenburg & Rursch, 1994; Petts, 1994; Petts, 1992) claim that an important factor in citizens' negative attitudes is the lack of trust in waste managers, decision makers, decision processes, and control mechanisms for waste facility siting and operations. More generally, much empirical evidence is now available supporting the idea that trust in institutions is a determinant correlate of perception and acceptability of risks (Besley, 2010; Frewer et al., 1996; Jenkins-Smith et al., 2011; Kasperson et al., 1992; Khammaneechan et al., 2011; Kunreuther et al., 1996; Poortinga & Pidgeon, 2005). Moreover, trust helps people simplify decisions involving a large amount of very complex information and reduce uncertainty to an acceptable level: trust could be used as a heuristic cue in order to formulate judgement. If adopted as an isolated criterion, high level trust could elicit a delegant orientation: "I trust the expert, so I support his/her decision a-critically." Thus, we can expect that an organising principle of social representations of the incinerator is trust in the institutions managing the waste problem.

Furthermore, when socio-political behaviours are at stake, another relevant motivating dimension could be an organising principle of social representations: political self-efficacy. Originally coined by Bandura (1982), self-efficacy is the feeling that individual action can actually achieve a desired goal or exert an impact upon the context. Citizens characterised by high levels of political self-efficacy should tend to see a collective problem as something calling for some personal, cognitive or behavioural effort (Anderson, 2010; Caprara et al., 2009; Cavazza et al., 2006; Craig et al., 1990). Thus, it seems reasonable to expect that if high self-efficacy citizens trust public institutions, they would also tend to collaborate with them, whereas they would be in contrast with public institutions in case of low trust. Moreover, a low perception of control by individuals with respect to their physical and social environment is typically associated with social disengagement

[2] A committee for opposing the maintenance and the development of the plant exists, "Modena Salute Ambiente" (Modena Health & Environment, http://www.modenasaluteambiente.org/), but we infer that citizens are not very implicated in its activity. On 19th February 2011 it launched a petition against the development of the plant. The goal of its members was to reach 5000 signatures, but only 385 citizens actually signed it (http://firmiamo.it/contro-potenziamento-inceneritore-di-modena).