



The comparative effectiveness of persuasion, commitment and leader block strategies in motivating sorting



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ABSTRACT

Household waste management has become essential in industrialized countries. For the recycling programs to be a success, all citizens must comply with the developed residential procedures. Governmental bodies are thus dependent on as many people as possible adhering to the sorting systems they develop. Since the 1970s oil crisis, governments have called upon social psychologists to help develop effective communication strategies. These studies have been based on persuasion and behavioral commitment (Kiesler, 1971). Less common are studies based on developing participative communication (Horsley, 1977), a form of communication that relies on individuals to pass on information. After going through the main communication perspectives as they relate to the sorting of household waste, a comparative field study will be presented on the effectiveness of persuasive, committing and participative communication. Participative communication relied on users to pass along information to their neighbors. The results show that the participants who spread information in this way, along with those who made a commitment, changed their behavior to a greater degree than the other participants.

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1. Introduction

Economies in industrialized countries are based on high levels of resource consumption. About one third of these resources become waste. On average, each American citizen throws out about 1650 lbs of household waste per year (Toxic Action Center, 2012), and this output has only increased over the past 30 years. The environmental impact from this production and consumption has therefore also grown substantially.

This being the case, industrialized countries must face the formidable task of breaking the bond between economic growth and the environmental impact of this consumption and waste production. As a solution, governmental authorities have developed material reuse and energy conservation programs.

With these management programs, waste is no longer only the responsibility of the private sector, the individual household or person, but is now under the management of the government, and is definitively a responsibility of the public sector. It follows that if governmental authorities are in charge of household waste management, everyone must comply with the developed household procedures for these programs to be a success.

Residents must learn to sort waste, only placing waste in the bin when it complies with the specified guidelines. This requires more reflection on the part of the individual who wishes to get rid of his trash in the most rapid, simple and discrete way, and on the part of the citizen who participates in the collective sorting project. These two identities confront each other, and the individual's stance of indifference to the collective is set against citizen.

The officials involved rely on the greatest number of people participating in these waste sorting operations. Consequently, for over 30 years, regional communities and their partners have been communicating a great deal with their residents about sorting. Beginning during the energy crisis of the 1970s, head politicians called upon social psychologists to work on developing effective communication strategies for promoting waste sorting. The goal of our research is to test different methods of communication and influence in order to improve household waste sorting. This article will begin by laying persuasive, commitment and participative strategies that have been developed over the past several decades. Next, an applied research study will be presented on the long-term effects of communication strategies on waste sorting. In addition to persuasive communication strategies and those involving behavioral commitment, we will examine in depth the use of participative communication, in which the subjects become agents and the residents become citizens.

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2. Influence strategies and household waste management

2.1. Persuasive strategy

Persuasive communication is probably the strategy that seems to be most easily applicable to a large population. The effectiveness of rhetoric strategies has been scientifically tested time and again (Hovland et al., 1953). These strategies are based on the assumption that an individual's behavior is in line with his attitude. The goal in these communication activities is therefore to influence individuals' attitude positively towards sorting waste. The many governmental informational and awareness campaigns for household waste sorting are still primarily based on the persuasion method. So, in prescribing the "right act" and proscribing the "wrong act," these operations become an almost childish education, negating the accountability hoped for in the citizen. Like instructions given to a child by their parents, sorting instructions are often motivated only by moral explanation.

While the resident is informed about recyclable and non-recyclable waste, he still does not know why this waste is recyclable or not, and this information is also important so that he understands the meaning behind the requested behavior. The questions that surround the "whys" and "for-whats" of his acts places the individual in the middle of a representational void, while he would benefit from being rationally convinced of the effort that is asked of him. Indeed, the lack of information about separate collection defines an "expert system" that favors neither personal responsibility nor implication in a collective project.

Werner and Makela (1998) have shown that individuals who are strongly in favor of recycling are more likely to adopt and maintain their sorting practices in a sustainable way. Even so, several meta-analyses have found that average correlations between behavior and attitude are from 0.15 (Wicker, 1969) to 0.40 (Krauss, 1995). Interest/concern for the environment cannot account for more than 10% of the variance of ecological behaviors such as recycling (Bamberg, 2003). Moreover, a meta-analysis of 94 studies from Webb and Sheeran (2006) showed that the relationship between the intention to complete a behavior and the actual completion of the behavior is very weak ($d = .65$).

Conclusions from studies on persuasive communication as applied to waste sorting are not in agreement. While several studies have observed a behavioral impact (Burn and Oskamp, 1986; Luyben and Bailey, 1979), others have found no effect (Timlett and Williams, 2008; Witmer and Geller, 1976).

Even so, Burn and Oskamp (1986) were able to improve sorting behavior in a sustainable manner, and defined the conditions of an effective persuasive communication. They recommend informing the individuals of the collective norms, illustrating the concrete behavior to adopt and to remind them of the results of their actions.

Even so, many works show that sustainable behavioral modifications could only be obtained with a form of communication that allows the individual to be involved (Witmer and Geller, 1976) and to participate actively (Ingram and Geller, 1975). Besides the numerous practical issues involved in the implementation of a persuasive message, it is maybe the theoretical rationality of the individual that limits the effectiveness of rhetorical strategies. Indeed, behavioral changes could do not result from a change of attitude.

2.2. Commitment strategy

A second communication strategy, drawn from commitment theory (Kiesler, 1971), recommends behavioral rather than rhetorical strategies. For commitment theorists, "acts carried out by individuals are the fundamental motors for the cognitive and behavioral process" (Louche and Lanneau, 2004, p. 1). Behavioral

strategies rely on the fulfillment of an act of free will (Kiesler, 1971). The committing strength of the act can vary depending on several factors (Kiesler, 1971; Joule and Beauvois, 1998):

Public acts have a greater impact on an individual's commitment than a private act that no one is aware of.

The more costly (in time, cognitions, etc.) the act is to the individual, the more he will commit to it.

The greater the consequences of the act to the individual, the more he will commit to it.

Repetition of the act also increases the individual's commitment.

An irreversible act leads to greater commitment than an act that can be undone.

The act must be completed with a sense of freedom to support the internal justifications of this behavior. Many manipulation techniques rely on the fulfillment of a committing act on several prosocial behaviors (Cialdini et al., 1978; Freedman and Frazer, 1966). While they allow for instantaneous behavior or attitude changes (Guéguen et al., 2010; Freedman and Frazer, 1966), their goal is not to lead to long-term or sustainable changes.

When attempting to obtain long term behavioral changes, the committing act takes the form of a declaration of intention. It can be a verbal commitment (Bachman and Katzev 1982), or a raised hand (Lewin, 1947), a promise (Geller et al., 1987), or the signature of an individual (Pallak and Cummings, 1976) or collective (Wang and Katzev, 1990) behavioral contract.

In their first experiment, Pallak and Cummings (1976) were able to reduce energy consumption by having their subjects sign a behavioral contract. This is the form most often implemented (Burn and Oskamp, 1986) and the one that offers the best results.

Many studies have shown that signing a behavioral contract can lead to both the immediate adoption of waste sorting as well as the long-term continuation of the practice (Cobern et al., 1995; Werner et al., 1995). Studies on verbal commitment did not, however, show any meaningful behavioral changes (Kulik and Carlino, 1987).

Pardini and Katzev (1983–1984) compared sorting behavior in subjects who committed, verbally or by signature, to sort their newspapers for 2 weeks. In the control group, the subjects attended an informational meeting on the importance of environmental protection. The results show that the subjects who engaged verbally or in written form recycled significantly more than the control group over the course of the 2 weeks. The researchers continued their measurements for 2 weeks beyond the original experimental agreement. They then observed that the subjects who had committed in written form continued the recycling longer over the course of 2 weeks than the subjects who engaged orally. A second experiment carried out by Katzev and Pardini, (1987–88) corroborates these conclusions.

Wang and Katzev (1990) compared the impact of incentive, persuasive, and commitment strategies on sorting practices. 67% of the subjects who had signed a behavioral contract sorted for the four experimental weeks, and 40% for the three post-experimental weeks. The results obtained for these two periods are better than those obtained with a collective commitment, an incentive strategy or with persuasive communication.

Nevertheless, all experiments of signature do not conclude to long time effects (Cobern et al., 1995; Pardini and Katzev, 1983–1984).

Despite the encouraging results obtained, the interest of researchers and the number of published works in behavioral strategies has been declining since the beginning of the 1980s.

This can be explained by the difficulties in measuring the effects of the different independent variables. Entry conditions (population, target behavior, tools, experimental length, etc.) can in fact vary considerably among experiments. This absence of homogene-

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