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# **Does binding communication increase consideration of future consequences and decision-making concerning a pro-environmental behaviour<sup>1</sup> ?**

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## ABSTRACT

This research was intended to study the impact of binding communication (Joule, Py, & Bernard, 2004), a procedure that is at the crossroads between persuasion and commitment, on Consideration of future consequences (CFC – Strathman, Gleicher, Boninger, & Edwards, 1994) and individuals' decision-making in the field of environmental protection. Since pro-environmental behaviours often involve an investment directed towards the future, we hypothesized that time perspective and especially the consideration of future consequences, traditionally regarded as a personality trait, could be reinforced in a situation of social influence. The goal was to make people more sensitive to long-term consequences of their behaviours, since this sensitivity leads to an increased setting up of pro-environmental behaviours. The results showed an increase of subjects' CFC score after a binding communication procedure. We discuss the practical implications of these results as they relate to communication about environmental issues.

## KEY WORDS

Future time perspective; Consideration of Future Consequences; Binding communication; Pro-environmental behaviours.

## **Future time perspective and environment**

Since the founding work of Lewin in 1942, time perspective has been the concept of choice for studying the relationships between individuals and time from a psychosocial perspective. In his earliest work in this area, Lewin considered it as an essential structuring element of the psychological field. Many studies conducted in recent years in social psychology (Karniol & Ross, 1996; Zimbardo & Boyd, 1999; Strathman & Joireman, 2005) have focused particularly on future time perspective and on the role of the experience of future time in the determination of behaviour.

Studying future time perspective seems particularly relevant in the field of pro-environmental behaviours. Indeed, the “psychological time” factor may enlighten us about these behaviours’ dynamics, as they take place in the future and require anticipation. The development, in the twentieth century, of new technologies with beneficial effects in the short term, but more uncertain ones in the long term, quickly raised questions about the long term environmental consequences of human actions. For instance, although nuclear plants enable the production of electricity with low greenhouse gas emissions, they generate waste with several thousand years of shelf life, hence raising the question of waste treatment. This increased awareness of future consequences at a collective level lead to the formulation of the precautionary principle, insisting on the dimension of irreversibility: even though a degradation of the environment could happen very quickly, for instance through an accidental event like an oil slick, a return to the *status quo ante* could take a very long time (Moser, 2009). Therefore, the precautionary principle involves *de facto* responsibility toward future generations, as well as the notion of sustainable development. Initially evoked within the Brundtland report in 1987, this development is defined as “a development which meets the needs of the present without compromising the ability of future generations to meet their own needs”. Interestingly, anticipation and future time register predominate in this definition:

sustainable development is situated by definition in the long run, since it aims at the adoption of anticipatory behaviours, establishing the principle of a consideration of our behaviours' consequences and of future generations' needs when we act today on the environment. Thus, because of their nature, environmental behaviours imply, for the individual, an investment oriented toward the future.

If the question of environmental protection has found endorsement in the majority of the population, individual pro-environmental behaviours are still difficult to initiate (Barr, 2004). This is explained partly by the specific temporality of environmental issues but also by the fact that environmental behaviours, because they concern limited resources, may be considered as social dilemma situations. This idea was expressed by Hardin in 1968 in his article *The tragedy of the commons*. According to Hardin, the management of limited resources will always lead to conflicts between individual and collective interests, even if a suitable institutional intervention enables a regulation of these conflicts (Ostrom, 1990). Beyond the individual *versus* collective dichotomy, Platt's work (1973) on the idea of social trap emphasises that environmental behaviours are generally characterised by short term benefits and long term costs. Therefore, these behaviours may be considered as temporal dilemmas (Joireman, 2005). Since the perception of losses is more intense than those of the benefits of equivalent gains (Tversky & Kahneman, 1974), we may suppose that a loss in the present is hard to consider, even over a future benefit. This set of characteristics makes it difficult for an individual to create a link between a behaviour and its consequences.

### **The importance of the consideration of the future consequences of our actions**

This difficulty is problematic. Indeed, Stern (2005) reminds us that "People who do not see connections between their behaviour and such consequences or who believe that their

actions are so insignificant in the scheme of things as not to matter will not be motivated to act by an internalized sense of obligation.” (p.10788). According to Stern, making people aware of their behaviours’ consequences for valorised objects makes it is possible to influence individual behaviour, in the limits determined by the context, habits, and personal capacities. Therefore, we have chosen to focus more specifically on a particular aspect of future time perspective to study pro-environmental behaviours: the degree of consideration for future consequences, measured through the Consideration of Future Consequences scale – CFC (Strathman, Gleicher, Boninger, & Scott Edwards, 1994). According to Strathman et al., individuals differ in the way in which they foresee the consequences of their acts, some focusing on the long term consequences, while others do not see beyond the immediate consequences. Therefore CFC measures a particular dimension of future psychological time experience, namely time extension, since the scale measures the extent to which the subjects are able to perceive the consequences of their behaviours over time. According to the specific temporality of environmental issues, CFC could be a relevant construct to explain the setting up of pro-environmental behaviours.

This general hypothesis has been confirmed by research employing the CFC scale in the domain of environmental protection. Indeed, these studies showed that the individuals who obtained a high score on the CFC<sup>2</sup> scale declared they felt more concern for environmental problems, had pro-environmental attitudes, and stated that they either followed, or intended to follow to a greater extent, “eco-citizen” patterns of behaviour (Strathman et al., 1994 ; Joireman, Lasane, Bennett, Richards, & Solaimani, 2001), in particular in the areas of recycling (Lindsay & Strathman, 1997 ; Ebreo & Vining, 2001) and the use of public transportation (Joireman, Van Lange, & Van Vugt, 2004). If the studied behaviours were diverse (in terms of cost, visibility, automaticity, etc.), positive albeit weak correlations were

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<sup>2</sup> A high score indicates a strong tendency to focus on the future consequences of their acts in making behavioural choices rather than focusing on immediate consequences.

observed, generally between 0.15 and 0.30. A few experimental results are available. Subjects were exposed to hypothetical dilemma situations where they had to manage some fictitious natural resources (Joireman, Posey, Truelove, & Parks, 2009; Kortenkamp & Moore, 2006). Subjects who scored high on the CFC scale were significantly more cooperative and managed resources by taking the collective interest more into account.

### **Influencing CFC through binding communication**

Since pro-environmental behaviours often involve, because of their nature, an investment directed toward the future (Joireman, 2005), we hypothesized that time perspective, traditionally regarded as a personality trait, could be reinforced in a situation of social influence. Indeed, one cannot ignore the socially regulated character of this psychological construct, whose development among individuals is largely based on social learning (Trommsdorff, 1983). Therefore, we can assume that the relation to time is the result of dynamic interrelations between people and their environment, as well as their social characteristics, including: social class, cultural capital, and family relationships (Bourdieu, 1977; Agarwal, Tripathi, & Srivastava, 1983; Fieulaine, 2006). In the same vein, Zimbardo and Boyd (1999) consider Time Perspective to be a construct determined by relatively stable inter-individual differences, acquired via cultural and social belonging factors, but it is also a construct determined by the characteristics of the situation. Furthermore, a contextualised approach is needed to better understand the role of CFC in initiating pro-environmental behaviours. Indeed, according to Lewin, the behaviour (B) should be considered as a function (f) of the person (P) and of her/his environment (E):  $B = f(P,E)$ .

Taking into account the results described above, the aim of our study is to discover whether we can make people more sensitive to the long-term consequences of their

behaviours, since this sensitivity leads to an increased setting up of pro-environmental behaviours (Joireman, Strathman, & Balliett, 2006). In other words, if it is well-established that CFC plays a contextualising role, by offering a cognitive frame for individuals' psychological activities, it seems important to us to insist on its contextualised character (or dependency on the context). Our research thus intends to study the impact of binding communication (Joule, 2000; Joule, Py, & Bernard, 2004) on CFC and individuals' decision making in the field of pro-environmental behaviours. Binding communication is a procedure that stands at the crossroads between persuasion and commitment: in a situation of classic persuasive communication (Hovland, Janis, & Kelley, 1953; Perloff, 2003), participants receive a persuasive message defending a given position that we want them to adopt; in a situation of binding communication (Girandola & Joule, 2008; Joule, Girandola, & Bernard, 2007; Joule, Bernard, & Halimi-Falkowicz, 2008), participants receive the same persuasive message, but only after they have fulfilled a simple request (preparatory action) matching the message. For instance, if the message promotes waste separation, participants are requested to wear a badge that promotes waste separation just before they read the message. This situation is based on the foot-in-the-door technique (Freedman & Fraser, 1966). A situation of binding communication thus differs from a situation of persuasive communication by the inexpensive act that participants are requested to perform. The act must be, according to consistency theories, consistent with the position defended in the message. Much research, notably in the area of eco-citizenry, has demonstrated that binding communication is more effective than persuasive communication in eliciting changes in behaviours (Joule, Bernard, & Halimi-Falkowicz, 2008). With regards to this set of theoretical elements, we hypothesised that we could influence the subjects' CFC scores and decision-making in the context of a binding communication procedure. More precisely, we have chosen to study a costly behaviour, governed by volition and characterised by great social visibility: manning a stand for an

environmental awareness organisation. In order to test these hypotheses, we carried out an experimental study.

## **Procedure**

The subjects were asked to read a document about environmental issues (the so-called new awareness document about environmental issues developed by the French Agency for the Environment and Energy Control (*Agence de l'Environnement et de la Maîtrise de l'Energie* – *ADEME*). Once they had agreed to read it, they completed the 12 items of the Consideration of Future Consequences scale (step **T1**). At this time, we explained to the subjects that this questionnaire had in fact nothing to do with our work and was distributed at the request of another PhD student. They were also informed that they would be asked to answer another questionnaire via email a week later (which was, in fact, the CFC scale again).

Then we presented a persuasive message to the experimental subjects (N=56) about the consequences of pro-environmental behaviours and their benefits for future generations, according to two conditions:

- Direct presentation of the persuasive message, without preparatory action (condition 1 “persuasive communication”, N=19).
- Presentation of the message after a committing procedure that involved a preparatory action. The action consisted in producing arguments which stress the importance of the preservation of the environment, in order to protect future generations (condition 2 “binding communication”, N=37).

When they had finished their reading, we asked them for their opinion about the text. We finally asked them if they would agree to man a stand for the ADEME. Then, they had to fill in the CFC scale again a week later, via email (step **T2**).

A group of control subjects (N=20) answered the questionnaire without the persuasive message, then we made the target query. They also filled in the questionnaire a week later. Subjects were female students at the Université de Provence.

Our dependent variables were the mean differences on the CFC scale between T1 and T2 and the agreement to man the ADEME stand. We anticipated that the subjects' average score on the CFC scale would be higher in T2 than in T1, in the two experimental conditions vs. Control (Hypothesis 1). Specifically, we anticipated that the difference between T1 and T2 would be higher in the "binding communication" situation than in the "persuasive communication" situation (Hypothesis 2). Concerning the willingness to man the stand, we hypothesized that it would be higher in the experimental conditions than in the control condition (Hypothesis 3) and higher in the "binding communication" situation than in the "persuasive communication" condition (Hypothesis 4).

## **Results**

With respect to our first dependent variable, we observed the expected results. Globally, in our experimental conditions, average scores in T2 were higher than scores in T1 (3.48 vs. 3.60,  $t(55) = -3.14$ ,  $p < 0.01$ ), a difference we did not find in the control condition. These results confirm our first hypothesis. More precisely, this difference was significant and more pronounced only for subjects who obtained low scores on the CFC scale<sup>3</sup> (3.03 vs. 3.24,  $t(27) = -3.61$ ,  $p < 0.001$ ). According to our second hypothesis, in condition 1 ("persuasive communication"), there was no significant difference between T1 and T2, whereas in condition 2 ("binding communication"), the average scores in T2 were higher than in T1 (3.48 vs. 3.68,  $t(36) = -4.07$ ,  $p < 0.001$ ).

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<sup>3</sup> We dichotomized "CFC+" and "CFC-" subjects with the aid of a median split.

For our second dependent variable, only 1 subject out of 20 (5 %) agreed to man the ADEME stand in the control condition. There were 3 subjects out of 19 (15.8 %) in the condition 1 (“persuasive communication”) and 10 subjects out of 37 (27 %) in the condition 2 (“binding communication”). We did not observe a significant difference between the control and the experimental conditions. However, a tendential difference was observed between the control and the binding communication condition ( $\text{Chi}^2 = 2.75$ ,  $p < 0.10$ ). This result confirms only partially our third hypothesis and refutes the fourth one. Nevertheless, we observed that the reinforcement of the CFC score between T1 and T2 was stronger among the 13 experimental subjects who agreed to man the ADEME stand (3.41 vs. 3.73,  $t(12) = -3.72$ ,  $p < 0.01$ ). On the other hand, the difference was not significant among the other experimental subjects (3.49 vs. 3.56).

## **Discussion**

These results, although exploratory, have a dual interest, both theoretical and practical. First, they give us information about the future time perspective status. According to these previously unseen effects, a so-called personality trait could be reinforced, at least temporarily, in an experimental socially influential situation. This reinforcement of the CFC score seems to indicate that the subjects were more sensitive to the future consequences of their behaviours after a binding communication procedure (at least subjects with a low score in T1). Thus, we consider that future time perspective, and especially CFC, should not be considered strictly as a stable and cross-situational disposition. Adopting a similar point of view, Lewin (1942) asserted that time perspective is largely dependent on the social context in which the individual evolves, and he observed a narrowing of future time perspective in a crisis situation, such as unemployment. Whereas a dominant personality-based approach often considers time perspective as a trans-situational personal trait, we tried to adopt a more Lewinian perspective of ecological psychology: CFC should be considered as a dynamic psychological construct, since individuals have relations of circular interdependence with their environment. It also should be noted that a classical persuasive situation was not sufficient to detect changes. On the other hand, as binding communication required an active participation of the subjects, it allowed us to observe a reinforcement of the subjects' scores. Thus, the active participation resulting from the preparatory action was necessary. This placement in a socially influential situation also seemed to be necessary for the CFC to intervene as a facilitator for decision-making. Furthermore, when the subjects accepted the final request, we observed the most significant reinforcement of the CFC score. These results again underscore the necessity of taking into account social context and behavioural commitment when we study the relation to time.

However, this work obviously involved important limitations and should be considered as an exploratory study. There were relatively few subjects in each condition, and they were exclusively female students. For this first attempt, we used a convenience sample, which restricts the scope of our results. Nevertheless, previous studies in the field of binding communication, using diverse populations (Joule et al., 2008) allow us to conjecture that similar results would be observed in other samples. We can also point another limitation: we did not observe strong effects, although significant, of binding communication on the CFC score and decision-making. Furthermore, it would be necessary to set up longitudinal studies in order to study the persistence of the observed effects over time.

Despite the fact that they are preliminary, these results open up interesting new perspectives in CFC research, around the idea of double contextualisation (contextualising role/contextualised effect, Fieulaine, 2006). On the other hand, if we manage to influence the sensitivity to future consequences, it could have some practical implications in the field of awareness of environmental issues. Indeed, we saw that people who were sensitive to long-term consequences were more concerned with environmental issues and acted accordingly. Thus, the recognition of consideration for the future consequences of behaviour could prove to be relevant in composing persuasive arguments and putting in place strategies for modifying behaviour. Moreover, future research will have to develop a more contextual approach to the study of links between CFC and pro-environmental behaviour, taking into consideration the dynamics and the issues of the social communicative situation. In this context, the binding communication situation presents an interesting heuristic value.

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