

How is the economic crisis socially assessed?

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Abstract

Based on the Social Representation Theory, the purpose of this paper is to explore how lay-people consider both the economic crisis and risk, and to link these social representations to behavior. The paper offers an original approach with the articulation of two studies about the social construction of risk and crises. It also contributes to the development of research methods in order to study the connections between representations and practical implications. Based on

this, the impact of the social representation of the crisis on the perceived ability to act is approached. The first study focuses on free-association tasks, with two distinct target terms: 'risk' and 'crisis'. The structural approach, with a prototypical analysis, allowed the identification of two different representations: (i) for risk, 'danger' is the most central element; (ii) for crisis, 'economy' and 'money' constitute the main components of the representation. The second study investigates the links between the two previously detected structures and their relations with the perceived ability to act in a financial crisis context. Some aspects of social knowledge were found to have an impact on perceived ability to act.

Keywords

economic crisis, perceived ability to act, prototypical analysis, risk, social representation

Résumé

Fondé sur la Théorie des Représentations Sociales, cet article explore comment la crise économique et le risque sont perçus en lien avec des représentations sociales communes et partagées. Il s'agit d'une approche originale qui articule deux études sur la construction sociale du risque et de la crise, tout en contribuant au développement d'outils méthodologiques permettant d'accéder aux liens entre représentation sociales et pratiques sociales. Ainsi, par exemple, on aborde la représentation sociale de la crise économique et financière des capacités d'actions perçues. La première étude est basée sur une épreuve associative avec deux termes inducteurs : la crise et le risque. L'approche structurale, à partir d'une analyse prototypique, permet l'identification de deux représentations distinctes : (i) pour le risque, c'est le danger qui émerge de façon centrale, alors que (ii) la crise est focalisée sur l'économie et l'argent. La seconde étude étudie les liens entre les deux structures précédemment dégagées et leurs relations en terme d'action dans le contexte de la crise économique. Nous avons montré que plusieurs aspects du savoir social ont un effet sur les perceptions d'actions face à la crise.

Mots-clés

crise économique, action, analyse prototypique, risque, représentation sociale

Introduction

In public opinion, the notion of risk, as a situation involving exposure to danger, is heteroclitic and complex. According to Slovic (1987), it includes uncertainty, fear, catastrophic potential, possibilities of control and equity, along with risk for future generations. One of the shared assumptions concerning risk is that there is a difference between reality and probability (Zinn, 2008), as well as between experts and non-experts. Whereas economists conceptualize risk as expected utility but not as physical damage (Renn et al., 1992), research on lay perceptions of risk identifies the psychological and cognitive aspects of risk evaluation. Most psychological theories of risk were elaborated to study risk from the perspective of lay perceptions, with its biases, as opposed to the expert's approach. They expressed doubts about people's rationality when facing risk. In the psychology of risk, some descriptive approaches have already focused on cognitive factors, such as in the Prospect Theory (Kahneman & Tversky, 1979), or on risk characteristics, with the psychometric paradigm (Fischhoff et al., 1978; Lichtenstein et al., 1978). These descriptive approaches concentrate on different biases about how people react when they have to decide under uncertainty. Researchers highlighted that there is a need to legitimize what people who are concerned by risk think about it. In this vein, Kahneman (1991) pointed out that psychological research on risk and judgment under uncertainty should be less solely concerned with cognitive factors. For Joffe, 'the response to risk is a highly social, emotive and symbolic entity' (2003: 42). The legitimation of public opinion affected by risks is also explored (Slovic, 1987; Tulloch & Lupton, 2003; Zinn, 2008). In this context, Tulloch and Lupton (2003) studied risk by using the spontaneous evocations technique; when associated with emotions, such as fear and dread, risk was considered as dangerous and unknown. According to these authors, uncertainty, insecurity and loss of control were associated with risk, as were some positive aspects, such as adventure, excitement, joy and the opportunity to excel.

Interconnections between social objects have been highlighted by a series of authors (Bonardi et al., 1994; Di Giacomo, 1980; Larrue et al., 2000; Roland-Lévy et al., 2010). These empirical contributions suggest that a social object cannot be completely isolated from other social objects, that is to say the representations of some social objects are built on earlier representations, as is the case for banks, savings and money (Vergès, 2001). In this context, risk and the economic crisis involve different conceptualizations, which might be interconnected.

In Europe, the economic crisis is no longer viewed as a short-lived paroxysmal moment with an immediate and dramatic impact (Eurobarometer, 2013). In France, at the time of writing, most people consider the economic crisis as a fact of life. This creates a situation with overall economic and social difficulties. The crisis gives rise to uncertainty about the future and can be considered as a collective threat (Ernst-Vintila et al., 2010).

In an international study comparing four European countries --- France, Greece, Italy and Romania --- Galli et al. (2010) confirmed that there is a semantic background common to the economic crisis, credit and savings. Even if there were some differences in terms of economic positions and sociocultural situations, unemployment was identified across all four countries as a structuring element of crises. Gangl et al. (2012), whose study explored lay-people's and experts' social representations of the financial crisis, reported similar findings. Consequently, as risk analysis requires an analytical framework integrating both social and psychological dimensions (Breakwell, 2007), crisis should also be studied as a social object.

Along with Joffe, we consider that, more than a critique of 'models of 'perception'' in the risk sphere, where people are regarded as erroneous perceivers' (Joffe, 2003: 67), the Social Representation Theory is an interesting methodological framework for analyzing lay perceptions, and thus makes it possible to complete existing approaches. It finalizes the descriptive approach with information about how people design a social object; moreover, it may contribute to linking social knowledge with behaviors.

Based on Durkheim's (1898) notion of collective representations, the Social Representation Theory was developed by Moscovici (1961). For him, social representations are

socially constructed and shared forms of common knowledge. Research conducted since Moscovici's pioneering study (1961) on social representations has sought to develop new methods for studying social representations.

Today, the main extensions of this theory are based on the structural approach. According to this approach (Abric, 1984; Flament, 1981), a social representation is made up of a central system (central core) surrounded by a peripheral system containing different categories of elements. The central system is composed of common elements, which are shared by most of the members of a group, whereas the most distant peripheral zone allows the expression of more individual differences.

According to Moscovici, two main processes are involved in the creation and development of a social representation: objectification and anchoring. Objectification is the process whereby complex elements are translated into an understandable social reality (e.g. how lay-people, without any expert knowledge about these topics, describe crises and risks). New elements are classified according to pre-existing mental structures, or standard categories, via the anchoring process (e.g. lay-perceptions of crises and risks are part of broader systems involving socialization processes, cultural contexts and historical backgrounds). Social representations are not intentionally communicated but are disseminated in the daily discourse, for instance through images or behaviors (De Rosa et al., 2010).

By analyzing verbal productions, the Social Representation Theory provides an appropriate theoretical framework for exploring lay explanations of topics such as the recent economic recession. As Zappalà states, 'Social Representation Theory is relevant for identifying the components, structure and developments of economic representations' (2001: 200). Vergès defines economic representations as 'social representations in a particular field, that of the economic society' (1989: 507). Lay perceptions of the economic crisis have already been studied at the social level, using the Social Representation Theory, with analysis of spontaneous words that lay people associate and share when they think about the economic crisis. For Leiser et al. (2010) as well as for Gangl et al. (2012), the social representation of the crisis is mainly

descriptive. O'Connor (2012) obtained three themes to explain the economic recession: 'power', 'ordinary people' and 'fatalism', without any economic explanation. In the same vein, Leiser et al. (2010) showed that lay perceptions of the factors involved in financial and economic crises are organized around two major conceptions: 'economy' from an individual perspective and 'economy' as a complex system, the first being stronger than the second. Combining lay representations of crises and their links with risk knowledge is a new manner of considering the significance of crises.

According to Vergès (2001), because some social objects are built on earlier ones, a social representation is not necessarily completely autonomous; for example according to Morin and Vergès (1992), the social representation of AIDS was initially a compromise between illness and social curse. In the same vein, economic social representations are anchored in both previous knowledge and context. Consequently, representations do not exist in isolation. Vergès (1998) states that social representations can be embedded, reciprocal or intertwined. In the same vein, as shown by Roland-Lévy et al. (2010), economic representations are both anchored in both previous knowledge and interconnected. In their study, the representations of credit and savings are influenced by the social representation of the economic crisis.

Flament (1994) and Abric (1994) clearly established the relationship between social representations and practices. Nevertheless, it remains unclear whether it is the social representation that determines the behavior or if it is, as pointed by Guimelli (1994) or Roland-Lévy (1996), a change of a social practice which will modify the social representation itself. Moreover, according to Ernst-Vintila et al. (2010), there is a relationship between thinking about a crisis and the intention to act. Also, as has been shown (Kmiec & Roland-Lévy, 2014), it is an interesting idea to study the capacity to act when risk in general as well other specific risks connected to the financial crisis, are approached together. This provided a better understanding about what worries people and why they fulfill, or not, specific actions, i.e. investment, consumption, savings or spending. Therefore, the combination of the social representations of

risk and crises can contribute to a better understanding of why people engage, or not, in certain actions when facing an economic crisis.

These actions could be influenced by the level of personal involvement and, more precisely, by perceived ability to act. Personal involvement is an indicator of how individuals are connected with a social object or situation. Flament and Rouquette (2003) identified three components of personal involvement: (1) how the object is valued (i.e. the social object represents something that is important vs. unimportant); (2) how individuals identify with the social object (i.e. individuals feel personally involved with the social object vs they feel that the object concerns everyone); (3) and perceived ability to act (i.e. we can act when facing a social object vs we feel powerless). With this in mind, we claim that the economic crisis and risk are two distinct social objects; however, these two social objects should be interconnected rather than autonomous. They might generate common knowledge shared across different social groups. Finally, these social objects should influence behavior through the perceived ability to act.

The three main hypotheses for this paper are (H1) that there are two distinct social representations of risk and the crisis; (H2) that some connections between the social representations of risk and crisis are expected; (H3) we predict that, in the context of a crisis, the two social representations, risk and crisis will have an effect on the perceived ability to act.

STUDY 1

The aim of the first study is to test the existence of two distinct social representations of risk and the crisis (H1), and to identify how verbal productions around these two notions are structured.

Method

Participants

Seven hundred and thirty-two students took in part in this study; among them 490 (67 %) were women. Participants' mean age was 21.62 years; they were enrolled from various programs, including humanities and social sciences (n = 290), business and management (n = 267), science (n = 75) and technical studies (n = 68).

Procedure and measures

The technique employed is the free-association task, which makes it possible to identify and to describe social representations of a given social object. It allows highlighting latent dimensions structuring the semantic world; it also allows accessing the figurative nucleus of the social representation (De Rosa, 1988). As pointed out by Moliner et al. (2002), analysis of verbal productions provides access to relationships that can connect different concepts together. According to Vergès and Bastounis (2001), this technique, based on spontaneous evocations, allows defining the structure of both the central system and the peripheral system of the social representation. It also allows determining the hierarchy of the mentioned terms at the collective level.

In order to identify the content of the social representation of risk and the crisis, two free-association tasks, in which the target terms are 'risk' and 'crisis', were administered. Participants had to answer the first association task based on the question: '*What do you think about when you read the term "risk"?*' For each word or expression they produced, participants then had to say whether it evoked something positive, neutral or negative in relation to the target term 'risk'.

Participants received an email with an invitation to fill in an online questionnaire. They were told that the survey focused on students' representations. No other information was given to the participants in order to limit the priming effect. They were told that their responses would remain anonymous and confidential. Participation was voluntary and non-incentive. After

answering a few demographic questions (sex, age, type of education and year of study), participants answered the free-association task based on the inductor 'risk'. Then, for each word or expression they produced, participants had to give their valence in relation to the target term 'risk'. The same questions were asked for the target term 'crisis'. All participants were presented first with the risk target term and after with the crisis target term.

Data analyses

To define the hierarchical structure of the social representations based on the prototypical analysis, two kinds of data were intersected: (1) the frequency of the evocations (i.e. spontaneously mentioned more or less often, which is an indicator of the degree of words-sharing among participants) and (2) the order of appearance (i.e. among the first or the last terms to be mentioned) known as the rank of appearance. This reveals the degree of proximity between the target term and associated words or expressions (Vergès, 1989, 1992); it is an indicator of the accessibility of the word in the participant's memory (Abric, 2003). In an association task, the words or expressions among the first to be produced (lower rank) with a high frequency are considered to be salient and important to the participants. This becomes an indicator for the typicality (Rosch, 1973) of words cited, with two characteristics: (1) great accessibility (typical elements are cited among the first) and (2) shared accessibility (the most typical elements are cited by a large number of participants). Based on these elements, it is assumed that the terms or expressions with a high frequency and a low rank (cited among the first ones) are most central and thus belong to the common and shared central system. Those mentioned less often and with a higher rank (i.e. among the last to be listed) are considered more peripheral. The peripheral elements are organized into three categories: two distinct zones in the near periphery (first near periphery: high frequency and high ranking; second near periphery: low frequency and low ranking), and one zone in the distant periphery, with terms or expressions that are produced at a low frequency and with a high rank, thus allowing space for more individual ideas.

Results

A lemmatization was carried out on the corpus but no categorization was realized. The frequency of occurrence (Vergès & Bastounis, 2001) was considered for each word or expression produced, relative to the total number of participants. Concerning the rank of appearance (among the first terms or among the last), we calculated the mean rank of appearance, which is based on all the ranks produced by all the participants for a given term. This was completed by the attitudinal valence of the produced term in relation to the target term. Since, on average, participants produced 5.43 words, the low mean rank is established as being from 1 to 2.5; what ever is above 2.5 is considered here as being of a high mean rank. In agreement with Vergès et al. (1994), a term is considered to have a high frequency when it is spontaneously produced by a minimum of 20 % of the participants.

The social representation of risk

As shown in Table 1, based on a minimum threshold of 10 %, the social representation of risk is composed of 10 terms: one term is hypothesized as central (as it has a frequency of occurrence of 67 %, which is higher than the 20 % threshold, and it has a low mean rank of 1.81); three terms belong to the first near periphery, while the remaining six belong to the more distant periphery (as their frequency of occurrence is below the 20 % threshold and their mean ranks are higher than 2.5).

TABLE 1 ABOUT HERE

The only term that can be hypothesized as central is ‘danger’. The idea of danger is shared by a large number of participants (67 % of the sample) in relation to risk; it also has a low mean

rank (1.89), the lowest of the social representation, which implies that it is often the first term mentioned. Therefore, danger occupies an important place in the social representation of risk. The first near peripheral zone (high frequency and high mean rank) of the social representation of risk is composed of three terms: 'fear', 'courage' and 'adrenalin'. As suggested by their position in the social representation, these terms are shared by the participants but they do not correspond to the most important ideas associated with risk. No term belongs to the second near peripheral zone. In the distant periphery, composed of terms that are neither frequently nor immediately mentioned by the participants (high rank and low frequency) among the different elements of the social representation of risk, it is possible to highlight an opposition between negative terms (i.e. 'losses', 'uncertainty', 'accident' and 'difficulties') and positive ones (i.e. 'challenge', 'opportunity'). Whereas negative terms indicate consequences ('losses', 'difficulties'), situations ('accident') or a description ('uncertainty') of risk, positive words designate risk as involving a situation creating opportunities, as well as risk-taking seen as a challenge. These contrasting ideas illustrate the contribution of individual differences in the shared representation.

To summarize, the social representation of risk appears to be organized around the concept of 'danger', which is shared by two thirds of our sample; it is by far the most shared element. Globally, the terms belonging to the social representation could be organized around three topics: the consequences of risk, the emotions and the actions associated with risk. According to this sample, the consequences of risk are characterized as mainly negative: 'danger', 'losses', 'accident' and 'difficulties' (negative valence). However, one term represents a positive consequence of risk: 'opportunity'. The theme concerning the emotions associated with risk is composed of two terms, which are in the first near periphery: 'fear' (32 %) and 'adrenaline' (20 %). Fear has a negative valence, while adrenaline has here a positive valence. It shows that risk can lead to both positive and negative emotions. Even if those terms are not central, they are shared by a rather large part of the concerned population. Thus, emotions have an important place in this social representation. Two terms compose the actions associated with the topic of risk: 'courage' and 'challenge'; both these terms have a positive valence. 'Courage'

and ‘challenge’ are not actions but concepts related to actions. According to the online Oxford Dictionary, courage is ‘the ability to do something that frightens one’, in other words the capacity for action when the emotional demand is important; a challenge is ‘a task or situation that tests someone’s abilities’. Overall, the distant periphery of risk features an opposition between two consequences: ‘losses’ versus ‘opportunity’ (which could represent the opportunity to gain). A fairly large number of participants from the sample tend to associate ‘losses’ (n = 17 %) and ‘opportunity’ (n = 10 %) with the target term ‘risk’. To some extent, this is consistent with Prospect Theory (Kahneman & Tversky, (1979), which materializes outcomes in terms of gains and losses under uncertainty, confirming that it is much more unpleasant to lose than it is pleasant to win. In the same vein, the higher proportion of evocations of losses (17 %) than of gains (9 %) could be emphasized here. Nevertheless, their peripheral location in the social representation of risk suggests that these elements reflect differences between individuals rather than something that is shared by the whole population.

The identified social representation of risk is structured around subjective elements and supported by references to emotions and to the ‘adrenalin’ generated by risk-taking. For the French university students who performed this free-association task, the shared social representation of risk is not directly related to losses and gains, as these ideas are not located among the top-ranking evocations; instead they belong to the elements in the distant peripheral zone, which allows space for inter-individual differences.

The social representation of the crisis

With a minimum threshold set at 10 %, the social representation of the ‘crisis’ is composed of 16 terms (see Table 2). Two of them are hypothesized as being part of the central system (i.e. both of them having a high frequency and a low mean rank); four terms belong to the first near periphery and the remaining ten belong to the distant periphery.

TABLE 2 ABOUT HERE

The two terms that can be hypothesized as being part of the central system are ‘economy’ and ‘money’. The former is mentioned by almost half of the participants ($n = 46\%$), with a low mean rank (2), while the latter is mentioned by one third of the students ($n = 31\%$), with a mean rank of 2.3. These terms are therefore the two most shared terms; moreover they have the lowest mean ranks of all the terms composing the social representation of the crisis. While the first near peripheral zone is structured around ‘unemployment’, ‘difficulties’, ‘finance’ and ‘politics’, there is no term belonging to the second near peripheral zone. In the distant periphery, the different elements of the social representation of the crisis are ‘poverty’, ‘austerity’, ‘social disorder’, ‘purchasing power’, ‘countries’, ‘recession’, ‘banks’, ‘debts’, ‘fear’ and ‘opportunity’. Some participants consider the names of certain banks or countries, including Greece, the USA and France, as also being specific to the crisis.

As we have seen, the social representation of the crisis appears to be organized around ‘economy’ and ‘money’, which are two ideas globally shared by the members of our sample. The terms belonging to the social representation of the crisis can be organized into two main themes: the characteristics of a crisis and the consequences of the crisis. Most of the terms belong to the first theme, thus dealing with the characteristics of crisis, have according to the participants themselves a neutral valence: ‘economy’, ‘money’, ‘politics’, ‘countries’ and ‘bank’. Only one, ‘finance’, has, according to the participants, an overall negative valence in relation to the crisis (i.e. participants expressed that ‘finance’ evoked something negative in relation to crisis). This theme is composed of six terms, out of sixteen, including the two most central terms of the social representation of the crisis (‘economy’ and ‘money’). For our participants, this theme has an important place when thinking about the crisis. With the exception of ‘opportunity’, all the consequences of the crisis expressed by our sample have a negative valence: ‘unemployment’, ‘difficulties’, ‘poverty’, ‘austerity’, ‘social disorder’, ‘purchasing power’, ‘recession’ and ‘debts’.

Most of the terms (9 out of 16) belonging to the social representation of crisis represent consequences of the crisis. Most of them are in the distant periphery; however, ‘unemployment’ and ‘difficulties’ are in the first near periphery. This theme, as well as the previous one, is a key theme for the social representation of the crisis.

Comparison of the two social representations: Risk and crisis

The results shown in Tables 1 and 2 indicate different social representations, which have some similarities. It can be assumed that ‘danger’ is a central element for our participants’ social representation of risk, and that ‘economy’ and ‘money’ potentially belong to the central system of the social representation of the crisis.

While the social representation of risk is well balanced in terms of valence (according to the participants, there are five negative terms, four positive ones and one neutral), the social representation of the crisis is, for them, mainly negative (10 negative terms, 5 neutral terms and only one positive term).

The social representation of risk is organized around three main themes related to consequences, emotions and actions, while the social representation of the crisis is mainly organized around two themes, one descriptive and one which emphasizes the consequences of a crisis.

Among the themes characterizing the two social representations, there is one that is similar and shared by both representations; it concerns the consequences of both risk and the economic crisis. Some elements, namely ‘fear’, ‘difficulties’ and the notion of ‘opportunity’ are also common to both representations. On the one hand, ‘fear’ is an emotion associated with both concepts; both risk and crisis lead to an increase of fear, which is the main emotion related to these two concepts. On the other hand, ‘difficulties’ and ‘opportunity’ are two consequences of risk and crisis. ‘Difficulties’ presents the negative consequences, while ‘opportunity’ presents the positive ones. ‘Opportunity’ also makes the link between consequences and actions.

There is no difference between students according to their university program, except the rank of the word 'danger', which was produced later by business students (mean rank = 2.37) than students from other programs (mean rank = 1.61), thus indicating that the crisis is perceived as less dangerous by business students. Results of this study suggest that the representation of risk is here very similar among the different field of studies; only small changes are noticeable. This finding is also true for the social representation of the crisis.

Words belonging to these two social representations were used to construct the material of the second study.

STUDY 2

The aim of the second study was to test how the social representations of crisis and risk are anchored. The effects of the social representations on the participants' ratings of perceived crisis seriousness and perceived ability to act were also analyzed. Two hypotheses were tested in Study 2: (1) Relations between the social representations of risk and crisis are expected (H2). (2) It is predicted that, in the context of a crisis, the two social representations will have an effect on the perceived ability to act (H3).

Method

Participants

One hundred and sixteen French students (68 % women) from Rheims University, France, with a mean age of 22.28 years, participated in this study on a voluntary and non-incentive basis. They came from the following fields of study: psychology (n = 27), marketing (n = 24), management (n = 22) and finance (n = 19); while the remaining participants came from diverse other fields,

including commerce (n = 7), human resources (n = 4), supply chain (n = 2) and philosophy (n = 1) and 10 not specified.

Procedure and measures

First, the relationship between the two social representations was explored. Adopting the method recommended by Vergès (2001) for investigating how two social representations may be linked, participants were asked to fill out a questionnaire featuring twenty words that had emerged from the previous study (Study 1) and which corresponded either to one or to both representations. They were asked to indicate if, in their opinion, the words in the list corresponded or not to ‘risk’, and if they correspond or not to ‘crisis’. The order of presentation of the target terms was randomly counterbalanced. The main criterion for selecting these twenty words was their specificity for each of our target terms; we included all the terms up to the limit of 9 %, e.g. ‘gains’ (a specific term of the economic definition of risk) and ‘success’ (as a possible outcome of a global risky situation) were the only two terms included with a frequency of 9 %.

The final list is composed of the twenty following terms:

- 1) Eight terms were specific to risk: ‘danger’, ‘courage’, ‘adrenalin’, ‘losses’, ‘uncertainty’, ‘challenge’, ‘gains’ and ‘success’.
- 2) Nine terms were specific to crisis: ‘money’, ‘economy’, ‘unemployment’, ‘finance’, ‘politics’, ‘poverty’, ‘austerity’, ‘purchasing power’ and ‘recession’.
- 3) Three terms were common to both risk and crisis: ‘fear’, ‘difficulties’ and ‘opportunity’.

After this first task, participants were also asked to rate their perceived ability to act (*‘Some people think that acting when facing economic crisis does not depend on themselves, whereas others think that they can act. What do you think concerning yourself’* (from 1 = *I can do nothing* to 7 = *I can act*)), on a 7-point Likert scale.

Responses were provided via a computerized questionnaire distributed by email.

Data analyses

The answers to the questions about the correspondence between the list of words and either ‘risk’ or ‘crisis’ enabled us to categorize each word according to one of the four possible patterns: the word corresponds neither to risk nor to crisis (pattern 1), only to risk (pattern 2), only to crisis (pattern 3), to both risk and crisis (pattern 4). According to Vergès (2001), this technique allows gathering information about those words or expressions that are associated by the majority with the object of the social representation, versus those that may be the expression of a more composite or uncertain representation.

The answers also enabled us to categorize the participants into four groups for each word: those who consider that the word does not correspond either to risk or to crisis (group 1), only to risk (group 2), only to crisis (group 3) or to both risk and to crisis (group 4). For example, participants considering the word ‘danger’ as characteristic of risk, and not of crisis, belong to the second group for the word ‘danger’; participants choosing ‘fear’ for risk and also for crisis belong to the fourth group for the word ‘fear’, and so on. This categorization enabled us to create 20 qualitative variables composed of four categories each. To predict the influence of these variables on the perceived ability to act, these variables can be transformed into dummy variables, which enabled us to conduct multiple regressions.

Results

In this study, participants had to decide whether the 20 words correspond to pattern 1, 2, 3 or 4. The choices they made for each word are displayed, in percentages, in Table 3.

TABLE 3 ABOUT HERE

Table 3 shows, in percentages, that, among the eight words coming from the social representation of risk, four are related mainly to risk (pattern 2): ‘danger’, ‘adrenalin’, ‘courage’ and ‘challenge’. Among the four others, ‘uncertainty’ is related to both risk and crisis (pattern 4), ‘losses’ is related to crisis (pattern 3), while ‘success’ and ‘gains’ are related neither to risk nor to crisis (pattern 1). Table 3 indicates that the nine words coming from the social representation of crisis are categorized as typical only of crisis (pattern 3). Among the three words that were common to both social representations, ‘difficulties’ is categorized as typical of crisis, ‘opportunity’ is related neither to risk nor to crisis and the chi-square test indicates that ‘fear’ does not belong to any of these four patterns ($\chi^2(3, N = 116) = 5.86, p = .119$).[*]

Specific attention was paid to the word ‘danger’, which is the central element in the representation of risk. This term was categorized as being specific only to risk or to both risk and crisis by 79 % of the participants; this emphasizes the results of the prototypical analysis from Study 1, which suggest that ‘danger’ occupies a central place in the social representation of risk. The word ‘danger’ is also associated with crisis or with both risk and crisis by almost one third of our sample. This could imply that the social construction of the crisis is not based only on economic description, but also on ‘danger’. Although, according to the prototypical analysis from Study 1, ‘uncertainty’ belonged only to the social representation of risk, in Study 2, it was categorized as specific of both risk and crisis by 48 % of the participants. This result suggests that ‘uncertainty’ may be part of the peripheral system of the social representation of the crisis. The same comment can be made for the idea of ‘losses’, which is associated with crisis, and with both risk and crisis, by 41 % and 22 % of participants, respectively.

Results concerning the terms coming from the social representation of the crisis indicate that all these terms are categorized as mostly related to crisis. According to the results gathered from the prototypical analysis carried out in Study 1, the words ‘economy’ and ‘money’ are

hypothesized as being a part of the central system of the representation of the crisis. In Study 2, ‘economy’ is categorized as being specific only to crisis, or to both risk and crisis, by 73 % of the participants; this emphasizes the results of the prototypical analysis from Study 1, which suggested that ‘economy’ had a central place in the social representation of the crisis. The result for ‘money’ is less straightforward: 58 % of our sample indicated that money was specific only to crisis (42 %), or to both risk and crisis (16 %) (cf. Table 3, line 10). This implies that ‘money’ does not have such a central place in the social representation of the crisis.

‘Difficulties’ is a term that was sometimes chosen for crisis (45 %) and sometimes for both risk and crisis (31 %), and less often for risk on its own (10 %). That might be due to the fact that risk is socially perceived as less negative than crisis and its consequences (previous analyses from Study 1 highlighted more positive elements for the representation of risk than for that of crisis). This is also confirmed by the position of the word ‘opportunity’, which is selected more often in Study 2 for risk (20 %) than for crisis (15 %).

Moreover, for the participants, words used to describe risk are also employed to describe the crisis, or both risk and crisis, whereas specific terms related to the crisis have less descriptive power for risk (pattern 2 in Table 3). Words such as ‘losses’, ‘danger’ and ‘uncertainty’ (identified as part of the representation of risk in Study 1) are, in Study 2, also chosen as belonging to crisis. Risk means ‘danger’, ‘losses’ and ‘uncertainty’, while crisis is considered as a specific type of risk (described as ‘dangerous’, ‘uncertain’ and a ‘source of losses’) that has a certain specificity (e.g. ‘economy’ and ‘money’). Positive aspects of risk, such as ‘challenge’, ‘opportunity’, ‘success’ or ‘adrenalin’, are not often recognized as belonging to crisis.

In this study, the perceived ability to act in the context of a crisis was measured because we hypothesized that, in the context of a crisis, the two social representations of risk and crisis would have an effect on perceived ability to act. The mean score for the perceived ability to act is 2.73 ($SD = 1.11$, $min = 1$, $max = 5$), based on a 7-point Likert scale. The perceived ability to act was normally distributed based on the skewness and kurtosis ($skewness_{perceived\ ability\ to\ act} = 0.21$, $kurtosis_{perceived\ ability\ to\ act} = -0.58$). There is no significant effect of sex and university program on

the dependent variable. In order to test the influence of the categorization of each word on perceived ability to act in the context of a crisis, 20 multiple regressions, corresponding to the twenty words, were carried out. In each regression the categorization of each word was coded as a dummy variable as a predictor, and the score of the perceived ability to act as a dependent variable. In order to correct for multiple comparisons, the Bonferroni correction was applied to our analyses. The traditional α value of .05 was divided by 20 (the number of multiple regressions performed), which resulted in a new α value of .0025. Thus, in order to consider the differences found between the means as being statistically significant, the probability (p value) that their differences are not due to chance should be lower than .0025 instead of the traditional .05 threshold. Among the categorizations of the words, only one predicts the perceived ability to act: the categorization of the word ‘challenge’. The multiple regression analysis showed that the categorization of the word ‘challenge’ predicts 16 % of the variance of the perceived ability to act ($R^2 = .16$, $F(3,111) = 7.07$, $p < .001$).

TABLE 4 ABOUT HERE

As can be seen in Table 4, the categorization of the word ‘challenge’ as a term related to crisis does not significantly increase the perceived ability to act compared to the categorization of the word ‘challenge’ as a term related neither to crisis nor to risk ($\beta = .24$, $p = .016$). The categorization of the word ‘challenge’ as a term related to risk increases the perceived ability to act compared to the categorization of the word ‘challenge’ as a term related neither to crisis nor to risk ($\beta = .35$, $p < .001$). The categorization of the word ‘challenge’ as a term related to crisis and risk increases the perceived ability to act compared to the categorization of the word ‘challenge’ as a term neither related to crisis nor to risk ($\beta = .34$, $p = .001$). H3 was verified only for the choices of the word ‘challenge’ as affecting perceived ability to act. Students associating the idea

of challenge with crisis, or with risk or with both risk and crisis express that they feel more able to cope with the crisis than those who do not.

Discussion

We posited that there are two distinct but interconnected social representations of risk and crisis. The data and analyses confirmed these hypotheses and enabled us to identify the emergence of two distinct social representations, one for risk and one for crisis, with two specific identified structures.

Risk is organized mainly around the idea of danger, with some added emotional dimensions. Several concrete aspects of risk (results, actions), which appeared to reflect essentially the expression of individual differences rather than shared knowledge, were identified. The idea of losing and gaining (through the opportunity offered by risk-taking) belongs to the social representation of risk, with a stronger anchoring for losses; this is consistent with the Prospect Theory, which postulates that feelings connected to losing are stronger than those connected to gaining (Kahneman & Tversky, 1979). This is also in agreement with Hobfoll's (1989) Conservation of Resources Theory, which states that a loss of resources will have a much greater impact than gains; loss of resources is disproportionately more salient than gain of resources.

The social representation of the crisis could be considered as an economic representation because it contains words connected to the economy. It is structured around themes such as the neutrally valued economy and money. Negative references to the consequences of the crisis (unemployment, difficulties, poverty...) appear to be peripheral elements.

Although the representation of risk is broader and contains more items that could be classified in the more general framework of the system of emotion/action/results-consequences, it gives rise to emotions in a configuration in which action is related to risk. The social

representation of crisis is narrower and more concrete, since its elements are more related to economic concerns. As in Gangl et al. (2012), participants included economic descriptive variables in their verbal production. The two social representations appear to be distinct, since their central systems are different (H1). Nevertheless, the first level of analysis highlighted some common elements, which led us to think that some elements from the social representations of crisis and risk may form a network. The test with the word list in the second study confirmed this part of our second hypothesis: the economic crisis is a social representation, which cannot exist in an isolated way in the participants' mind. The components of the representation of risk are almost always deemed to belong not only to risk but also to crises (H2).

The activation of certain elements of the social knowledge about risk and crisis influenced the way people perceived the ability to act in the context of crisis. Participants used social knowledge as their reference point. Thus, it partially confirms H3. Attitudes about the social object of crises and actions are not determined by the isolated social representation of crises but by a set of interacting representations, which influence each other. One of the social representations tested here is risk as a social object; 'challenge' as a component of the social representation of risk, when associated with risk, with crises or with both risk and crises, allows students to feel better able to cope with the crisis. These findings are consistent with results stressing the fact that a social representation does not exist independently but as a part of a symbolic and social frame in which people are living (Jeoffrion, 2009). This is also consistent with previous studies, which showed that lay perceptions and risk assessments are not the results of computations and probabilities of occurrence, but instead rely on meaning or on 'qualitative understanding' (Boholm, 1998). Cognitive psychologists, most notably in Prospect Theory, have shown that, when individuals have to make decisions under risk and uncertainty, instead of relying on probabilistic judgments, their choices are biased. For instance, according to Brehmer (1994), risk judgment is not influenced by probabilities and utilities but depends on the expected nature of the consequences (fear-related catastrophic potential and degree of knowledge about the risk). For Brehmer, this is why 'judgments of risk by non-specialists are made in a way that is

almost totally unconnected with the types of concepts that fall within the estimates of engineers and statisticians' (1994: 86).

What role does social knowledge play in assessing risks and crises in the economic world? The analysis of verbal productions highlighted how the representation of risk can influence the evaluation and assessment of crises. Crises are perceived as more negative than risk alone. Risk, which is characterized by danger and loss as well as by confidence and adrenalin, is in the present economic situation a collective risk, which is negatively affecting communities. The actions involved in each case are quite different: avoidance will be associated with threat, while actions in order to cope with a difficult situation will correspond to people thinking that a crisis is a challenge. These results may also be related to the Stress Transactional Theory (Lazarus & Folkman, 1984), in which the authors suggest that a stressor may be appraised as a threat (anxiety) or as a challenge (excitement), thus that how inter-individual differences (as found in the peripheral zones of the representation of risk) are present in the way people perceive a stressor. Today, the crisis is a stressor of everyday life and is incorporated in the framework of global risk, which also helps some people to consider it as a challenge. This is an important point since it indicates ways of predicting when individuals will act in a positive and constructive way.

Risk judgment depends on the expected nature of the consequences and fear-related potential. Consequently, discourse analysis can yield important clues for understanding how social representations provide guidance on how to act. When people think, talk and share their knowledge about risk, this social discourse provides them with elements on which to base their judgments and actions. To make a judgment about a crisis, people use a 'number of cognitive shortcuts as well as naïve theories' (Gana et al., 2010: 142). The social reality of the economic crisis perceived as a risk can provide fresh insights into this phenomenon. Moreover, considering the crisis as a risk at a social level, and not just at an economic one, could open up new possibilities for action.

One of the main implications of these findings is that one can restructure how a situation is perceived (i.e. more as a risk and less as a crisis), thus creating greater ability to act and to be

more optimistic. This coincides with Fredrickson's (2001) cognitive theory, which states that, even if negative emotions narrow one's cognitive field, positive emotions, on the contrary, broaden them, thus making one more receptive to new and constructive ideas, for example on how to cope with economic difficulties. ~~it allows more creativity and can perhaps guide economic behavior.~~

Some limits have to be considered before generalizing our results to other categories of people. The first limit is that the participants in these two studies were students. It would be interesting to administer the same tasks to experts who are dealing with crises, as well as to other 'lay-people', such as unemployed people or managers, in order to understand how scientific knowledge is mixed within social knowledge. A second limit is that, in the first study, all participants had to produce answers to two free-association tasks, one with the inductor 'risk' and then another one with the inductor 'crisis'. It is obviously possible that the first task might have contaminated the second and that it would have been preferable to have different participants for the two social representations. However, some complementary questionnaires (not reported in this paper) have been completed by another group of participants to counterbalance this effect, and the results show no order effect. In the second study, a single item was used to measure the perceived ability to act, which also constitutes a weakness. It would be interesting to employ specific tools in order to have more precise measures for this variable. For example, various scales could be used on perceived control, as it can influence the belief that one can determine his/her own internal attitudes and behaviors, in order to produce the desired issues (cf. Wallston et al. (1987)). Finally, a last limit concerns the statistical analyses of the second study: since it is an exploratory study, we had no specific hypotheses concerning which words would have an impact on perceived ability to act. Therefore, a large number of multiple regressions were carried out, and we had to use the Bonferroni correction to correct for multiple comparisons. This correction reduced the α value from .05 to .0025. With more precise hypotheses and thus fewer analyses, the α value would have been higher, and more multiple regressions would have been significant.

In further studies, it could be interesting to cross analyses of people's verbal productions with media discourse, as in De Rosa et al. (2010); this could be another way of exploring this topic more deeply. As the social representation is a mediator of economic judgments and decisions, the psychological and behavioral implications need to be explored in more depth. It seems important to integrate the study of motivations and emotions within a cognitive and social approach to the perceptions of risk and of crisis.

Conclusion

A major result of these two studies is the logic of the connection of the components of 'crisis' with the social representation of 'risk' and its possible influence on actions taken when facing a crisis. When participants link positive elements of global risk to crisis, i.e. challenge, they feel more able to act (risk-seeking motivated by the challenge, and adrenalin provided by risk-taking). The representation of the crisis as a negative heuristic precludes action.

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Note

This is the only word for which the Chi-square test was not significant. The Chi-square tests of the 19 other words were significant at $p < .001$.

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Table 1

Prototypical analysis of the social representation of *risk*

		Rank	
		Low (≤ 2.50)	High (> 2.50)
Frequency	High ($\geq 20\%$)	Danger (67%; 1.81; -)	Fear (32%; 2.87; -) Courage (25%; 3.41; +) Adrenalin (20%; 2.99; +)
	Low ($< 20\%$)		Losses (17%; 3.32; -) Uncertainty (12%; 3.33; =) Challenge (11%; 3.02; +) Accident (10%; 2.73; -) Difficulties (10%; 3.24; -) Opportunity (10%; 3.46; +) Gains/Earnings (9%; 3.18; +) Success (9%; 2.60; +)

Note. Frequency $\geq 20\%$ & Rank < 2.50 : hypothesized central system; Frequency $\geq 20\%$ & Rank ≥ 2.50 : first peripheral zone; Frequency $< 20\%$ & Rank ≤ 2.50 : second peripheral zone; Frequency $< 20\%$ & Rank ≥ 2.50 : distant periphery. '+', '=', '-' represent the valence. No word was found in the low rank and low frequency zone.

Table 2

Prototypical analysis of the social representation of *crisis*

		Rank	
		Low (≤ 2.50)	High (> 2.50)
Frequency	High ($\geq 20\%$)	Economy (46%; 2.00; =) Money (31%; 2.30; =)	Unemployment (30%; 2.81; -) Difficulties (29%; 3.19; -) Finance (26%; 2.74; -)
	Low ($< 20\%$)		Politics (22%; 3.47; =) Poverty (18%; 3.29; -) Austerity (18%; 3.40; -) Social disorder (17%; 3.98; -) Purchasing power (13%; 3.12; -) Recession (12%; 3.21; -) Banks (12%; 3.38; =) Countries (12%; 3.49; =) Debts (11%; 2.96; -) Fear (11%; 3.58; -) Opportunity (11%; 3.94; +)

Note. Frequency $\geq 20\%$ & Rank < 2.50 : hypothesized central system; Frequency $\geq 20\%$ & Rank ≥ 2.50 : first peripheral zone; Frequency $< 20\%$ & Rank ≤ 2.50 : second peripheral zone; Frequency $< 20\%$ & Rank ≥ 2.50 : distant periphery. '+', '=', '-' represent the valence. No word was found in the low rank and low frequency zone.

Table 3

Positioning, in percentages, of the 20 words across the four different patterns

Origin of words	Words	Frequency in SR of <i>Risk/Crisis</i> in Study 1	Patterns			
			1 None	2 Risk	3 Crisis	4 Risk and Crisis
Social representation of <i>Risk</i>	Danger	67%	14%	57%	7%	22%
	Courage	25%	47%	47%	3%	3%
	Adrenalin	20%	35%	62%	-	3%
	Losses	17%	28%	9%	41%	22%
	Uncertainty	12%	6%	26%	20%	48%
	Challenge	11%	32%	47%	9%	12%
	Gains	9%	65%	25%	7%	3%
	Success	9%	76%	22%	2%	-
Social representation of <i>Crisis</i>	Economy	46%	25%	2%	61%	12%
	Money	31%	39%	3%	42%	16%
	Unemployment	30%	18%	-	67%	15%
	Finance	26%	38%	7%	45%	10%
	Politics	22%	34%	-	57%	9%
	Poverty	18%	42%	-	46%	12%
	Austerity	18%	35%	1%	60%	4%
	Purchasing power Recession	13% 12%	41% 36%	1% 2%	55% 53%	3% 9%
Social representations of <i>Risk</i> and <i>Crisis</i>	Fear	32% / 11%	32%	28%	18%	22%
	Difficulties	11% / 29%	14%	10%	45%	31%
	Opportunity	10% / 11%	55%	20%	15%	10%

Table 4

Multiple regression of the perceived ability to act with as predictor the categorization of the word “challenge” into dummy variables

	<i>b</i>	<i>SE B</i>	β	<i>p</i>
Constant	2.22 (1.88, 2.56)	0.17		$p < .001$
Crisis	0.54 (0.10, 0.98)	0.22	.24	$p = .016$
Risk	1.38 (0.65, 2.12)	0.37	.35	$p < .001$
Crisis and Risk	1.14 (0.50, 1.79)	0.33	.34	$p = .001$

Note. $R^2 = .16$.