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Is the Lightbulb Still On? Social Representations of Creativity in a Western Context

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The present article aims to explore the social representations of creativity in a Western cultural context. In doing so it starts by addressing the theoretical bases for such an investigation and especially the more developed literature on implicit theories of creativity. Contributions of the social representations approach are discussed, in particular the mechanisms of anchoring and objectification and processes of thematisation. The empirical research was based on an on-line survey and the analysis included 106 responses, mainly from participants living in the US and the UK. The questionnaire employed both closed and open-ended questions concerning: a) common creativity symbols; b) existing dichotomies about the nature of creativity, and c) self-evaluations of creativity. Participants were first asked to think of what would be the best creativity symbol for them and to rate and comment on eight symbols emerging out of a pre-study of Google Images. Findings indicate that current representations of creativity are complex and multi-faceted and the strongest association present was between creativity and the arts (especially symbols like paintbrush and colour, children's drawings, etc.). This has several important practical implications for how creativity is understood, recognised and legitimated in everyday contexts.

We live in a world where creativity is fashionable, is desirable, and embodies, at least in Western cultures, the necessity and universality of a true *social value* (see Mason, 2003). And yet, what is creativity? What do psychologists mean when using the term? What about managers, teachers, art critics, etc.? Unfortunately, even after several decades of research, many would probably agree with Borofsky (2001, p. 69) that "grasping creativity is like trying to catch the wind". Despite this fundamental ambiguity and inherent complexity of the phenomenon, creativity is something we comment on, we 'discover' in and around us, we even make comparative judgements about. Since creativity basically deals with the emergence of the 'new', of the 'unfamiliar', its outcomes and processes are unavoidably accompanied by *collective meaning-making efforts*. The social representation of creativity, as shall be argued in this article, has deep roots in social interactions among different actors of the public sphere, each and every one of us being, at some point or another, confronted with questions such as 'What is and what is not creative?'

The present article reports on a research aiming to uncover the social representation of creativity. As such it will start with a theoretical discussion concerning social

representations and their points of (dis)connection with what is known as implicit theories of creativity. An argument will be made that looking at creativity *as a social representation* enriches both our understanding of the phenomenon and extends our practical means of studying it. The research discussed here uses several insights afforded by a social representations approach and explores creativity symbols and their relation with more general beliefs about creativity and with self-evaluations. In so doing it is hoped that a new contextual and more comprehensive view of what creativity is for ‘laypeople’ and in the everyday (at least in a Western context) will emerge.

THEORETICAL LENSES

The importance of studying laypeople’s conceptions of creativity has relatively recently been acknowledged by researchers who, for the most part, focused on the nature of the creative process and its enhancement (Spiel & von Korff, 1998). In the past three decades though ideas about social agreement, the attribution of creativity and its individual and collective representation became salient and today we can find a fairly well-developed body of literature on ‘implicit theories of creativity’. Nonetheless, folk conceptions of creativity have rarely been discussed from a more social and cultural perspective, such as the theory of social representations. Theoretical and empirical arguments will be offered for why this situation should be reconsidered.

From implicit theories...

The study of implicit theories is not restricted to creativity, not even to psychology itself, given that it represents a wide area of investigation for most social sciences (Furnham, 1988). Implicit theories are largely considered to be poorly articulated, to constitute core assumptions that construct reality and provide frameworks for thought and action (Dweck, Chiu, & Hong, 1995). In a more recent formulation by Runco and Johnson (2002, p. 427), they are defined as “the constellations of thoughts and ideas about a particular construct that are held and applied by individuals”. As such, implicit theories can and should be understood in their relation to ‘explicit theories’, considered to be formal, logical, testable, and created by scientists. A great and somehow artificial divide between laypeople and scientists is therefore set at the very core of an implicit theories approach.

Moreover, the mere distinction between ‘implicit’ and explicit’ becomes *problematic* under further scrutiny. To take an example, in his 1999 chapter on implicit theories, Mark Runco describes them in different ways: as belonging to laypeople, as personal, as often unshared and non-articulated (in contrast to explicit theories). This understanding generally permeates his extensive work on the topic (see also Runco, 2007, p. 186). Many of these assumptions are however contradicting previous conceptualisations, such as that of Robert Sternberg who, in 1985, more generously defined implicit theories as constructions of people in general, useful in formulating “common-cultural views” (so necessarily shared), and studied by looking at people’s communications (hence implicit theories need to be articulated in some form). The implicit–explicit opposition is therefore more blurred than current depictions would make us believe and clear-cut distinctions, such as science versus common sense, often lead to an over-simplification. As Furnham (1988, p. 7) readily admitted, “lay theories *overlap* with scientific theories; they *function* in similar ways, indeed the one may be seen as an outgrowth of the other”.

Despite theoretical debates, the actual research on implicit theories of creativity has known a considerable expansion in the past years and most studies use a *social validation method* to uncover the structure of lay beliefs. This procedure (see Runco, 1989; 1999) implies two stages: first an open-ended exploration of what is considered ‘creative’ by a certain group, followed by the construction of a checklist used to collect more quantitative data from an equivalent, often larger group. Research on implicit theories based on methodologies similar to the one described here has been conducted using various populations, from parents and teachers, to managers and even scientists (Karwowski, 2010; Runco, 1989; Runco & Bahleda, 1986; Runco & Johnson, 2002; Sternberg, 1985; Wickes & Ward, 2006), including from a cross-cultural perspective (Chan & Chan, 1999; Lim & Plucker, 2001).

The interest in implicit theories among creativity researchers is increasing and it is alimented by both theoretical and practical considerations. At a theoretical level it is hoped that an understanding of implicit theories may help to refine and develop our current scientific or ‘explicit’ theories of creativity, to make them more realistic and to broaden their scope (Chan & Chan, 1999; Runco & Bahleda, 1986; Sternberg, 1985). Perhaps even more important, implicit theories are studied for their *practical relevance*. Their value is twofold: in relation to evaluations and in relation to actual behaviour. Implicit theories play a great role in how we assess creativity in ourselves and others (Wickes & Ward, 2006). This is by no means inconsequential since holding an implicit theory connects to a certain expectation and expectations influence behaviours (Runco, 2007). Implicit theories are similar to standards we come to use and, from this perspective, they have the power to either inhibit or facilitate creative expression (Runco & Johnson, 2002). In sum, they “define how we think and behave with regard to creativity” (Wickes & Ward, 2006, p. 138).

... to social representations

The same assumptions about the evaluative and behavioural consequences of lay beliefs are emphasised by social representation theorists. From the pioneering study of Serge Moscovici (1961) on psychoanalysis in the French society, the theory of social representations took shape as a *theory of social knowledge*, moreover, a theory concerned with the transformation of knowledge as it ‘travels’ through different communities and social milieus. Representation in this context is said to constitute the basis of all our knowledge systems (Jovchelovitch, 2007, p. 2) and, as such, to make up our reality and the reality of the world around us (Duveen, 2007; Moscovici, 2000). Representations are, at once, *symbolic and social* in their origin and expression. Once created, “they are autonomous” and “evolve beyond the reach of individuals” (Philogène & Deaux, 2001, p. 6). Representations are bound to social contexts and, just as the later exist in such a multitude, so is our knowledge defined by plurality and heterogeneity. Last but not least, identities are also built on a foundation of social representations (Breakwell, 2001) and it is argued that “social representations and social identities must be seen as two sides of the same coin” (Howarth, 2007, p. 133).

Until the present moment, social representations have been studied in a variety of contexts and related to a diversity of social objects (for a review see Jovchelovitch, 2007), and yet there is still a scarcity of studies that bring together creativity and social representations (Lancciano, De Caroli, Castiglione, & Sagone, 2010; Magioglou, 2008). Perhaps the clearest attempts to reunite the two belong to the field of *giftedness* research. Tavani, Zenasni and Pereira-Fradin (2009) investigated the social

representations of gifted children. In addition to actual studies, it has also been suggested that the evaluation of creativity should be based on an examination of social representations and experiences of creativity in different cultures (Häyrynen, 2009). On the whole, the literature on social representations of creativity is underdeveloped, especially by comparison to that on implicit theories. A necessary question arises in this context: aren't we in fact studying the same realities under different names?

The answer to this is *yes and no*. Yes to the extent that, indeed, the results of implicit theories studies can be said to uncover social forms of representation. No if we consider the different epistemological considerations that seem to underpin the two kinds of investigation. To elaborate on this second aspect, it became obvious from the above that implicit theories are often said to be “personal rather than shared” (Runco, 1999, p. 27), to “reside in the minds” of individuals, “in people’s heads” (Sternberg, 1985), although not in a complete social vacuum. Contrary to this view, the social representations approach would *emphasise* the fact that representations of creativity emerge out of *a space of inter-subjectivity* and through different kinds of social interaction. In the words of Sandra Jovchelovitch (1996), social representations are never the solitary products of an individual mind, although they might find expression in individual minds. This distinction is paramount, since conceptualising implicit theories as social representations opens up a whole new world of questions implicit theory researchers seem not to be very preoccupied with: How do lay beliefs emerge in macro and micro-level social interaction? How is it that individuals come to ‘acquire’ certain representations? How does an individual engage with dominant forms of representation? How are identities ‘forged’ in these representational fields? etc. In essence: If implicit theories are in the individual mind where do they come from, what explains their variations and, more importantly, their transformation?

And yet, there are also many points of *connection* between implicit theories and social representations. In fact, some authors like Romo and Alfonso (2003) have defined implicit theories as “social knowledge schemas” (p. 410). Even more, the very purpose of implicit theories seems to be matching that of social representations: to make the world more stable, orderly, predictable, and understandable (Furnham, 1988, p. 19). Even methodologically there are many similarities between implicit theories studies and traditional social representations research. For instance the use of different groups of respondents (see Spiel & von Kroff, 1988; Sternberg, 1988), which allows for an appreciation of the context-dependent nature of creativity beliefs. This is why it could be agreed that much of the work on implicit theories is relevant for our understanding of the social representation of creativity. What then would be the contribution of social representations theory to the general literature?

The social representing of creativity

To inquire about the social *representing* of creativity with the conceptual tools offered by the theory of social representations could help illuminate how representations of this kind take shape and function in society. It is to be noted that what is referred to here is the representation of ‘creativity’ *per se*, and not of the ‘creative person’ particularly (something previously studied as well by Spiel and von Kroff, 1988).

One of the reasons why creativity should be studied as a representation is the function social representations are said to have, that of making something unfamiliar,

even unfamiliarity itself, familiar (Moscovici, 2000, p. 37). And what can be more unfamiliar than creativity, the process by which unfamiliarity itself emerges? The seemingly unpredictability of creativity can be most unsettling for individuals, groups and even societies, and calls for constant representational efforts. The theory of social representation suggests what these efforts might consist of. Moscovici, in his seminal writing on ‘The Phenomenon of Social Representations’ (2000, pp. 41-54; originally published in 1984), discusses the inter-related processes of *anchoring and objectification*. Anchoring, often reflected in naming and classifying, takes place when a strange reality is reduced to ordinary categories and images, is in other words set in a familiar context. Objectifying complements this by turning the abstract (almost) concrete, ‘saturating’ the idea of unfamiliarity with reality, making it physical and accessible. As Moscovici (2000, p. 49) describes it, “to objectify is to discover the iconic quality of an imprecise idea or being, to reduce a concept in an image”. These processes can easily be illustrated by the case of creativity where anchoring (in a certain domain, for example the arts) is supported by objectifications (the emblematic Guernica by Picasso, The Persistence of Memory by Dali, etc.), which vary according to social groups and historical times.

However, the logic of anchoring and objectification, and therefore the production of representations, is not random. Its constraints have to do on the one hand with the inherent characteristics of the human mind, and on the other with larger social, cultural and historical contexts. Both these aspects are taken into account in more recent discussions about *themata* and *thematization*. Ivana Marková (2003) considers as the fundamental characteristic of human thinking, language and communication the quality of being based on *oppositional dichotomies* (e.g., individual/society, freedom/oppression, justice/injustice, etc). It is such oppositions that, when thematised in public discourses, become the engine behind the construction of social representations. Science expresses themata in the form of scholarly debates between different orientations or schools of thought. In the creativity literature for instance we often find polarities like: children creativity–adult creativity, creativity as domain-general or domain-specific, etc. (see the discussions by Sawyer and colleagues, 2003). Naturally, common-sense functions following similar principles and it is repeatedly the case that scientific themata originate from lay thinking (Marková, 2003, p. 184). However, as argued by Marková, themata in common sense are frequently dormant and become active only in the course of social or even historical events when established conceptions are challenged either because new realities emerge or existing constructions become obsolete. These kinds of situations are very common in everyday life where the ‘creative’ needs to be defended or separated from the ‘uncreative’.

These ideas have many practical implications, several of which concern research *methodologies*. If representations are created in the course of communication and co-operation (Moscovici, 2000), then we would need to look for representations of creativity in everyday discussion, in the media and in scientific discourses (Häyrynen, 2009, p. 292). The link between science and common-sense is in fact of maximal importance for the theory of social representation as Moscovici’s original project on psychoanalysis has shown. Similar to the notions of ‘unconscious’ or ‘repression’ in the case of psychoanalysis, psychological constructs like ‘intelligence’ or ‘creativity’ “shuttle between the everyday talk and scholarly discussion, and bear traces of the former discussion when entering, for example, from everyday public treatment into scientific articulation” (Häyrynen, 2009, p. 293). The ethos of social representations

research is not to consider lay conceptions as ‘biases’ and compare them to scientific—and therefore ‘truthful’—depictions (as it sometimes happens in implicit theories research), but to understand each and every construction in its own right.

METHOD

The research reported in this article is exploratory in nature and had the general aim of uncovering social representations of creativity among laypeople (non-creativity researchers) in Western countries.

Participants

The on-line survey designed for the research was answered by 118 respondents (by 10th of September 2010). The major eligibility criterion was for participants to be nationals of Western countries (for greater cultural homogeneity) or to have lived in a Western country for at least five years. After excluding non-eligible participants and incomplete responses, 106 participants were kept in the final data analysis. Over a half of them (57.5%) were from the United States and a third (30.2%) from the United Kingdom so it can be considered that the results reflect by and large an Anglo-Saxon cultural context. About three quarters of the respondents were females (76.4%) and the mean age for the sample was around 28 (ages ranging from 16 to 63). Most respondents had finished higher education at either a post-graduate (33%) or graduate (20.8%) level, followed by secondary level/high-school (34.9%). A third of the respondents (30.2%) were not studying at the moment of the survey and those enrolled in education reflected a variety of disciplines, most notably psychology (25.5% of the whole sample). Finally, more than half of the participants (57.5%) were employed (just 5 working in Arts and Creative Industries).

Materials and design

The research instrument was a questionnaire created by the researcher. The design of the questionnaire was guided by a social representations approach and combined closed questions (ratings on Likert scales) with open-ended questions (allowing a better understanding of meaning-making processes). As previously argued, some important *premises* of social representations theory and research are the following:

1. Social representations are often ‘objectified’ or ‘materialised’ in concrete, even physical forms in public discourses;
2. Social representations are ‘anchored’ in bodies of previous knowledge that can often exist antinomically, as part of larger themata;
3. Social representations are linked with identity processes and therefore with the positioning of the self in relation to the object of representation.

Considering the fact that a study of ‘objectified’ depictions of creativity offers probably one of the best ways to start exploring broader patterns of representation, the present research centred on evaluations of ‘common’ *creativity symbols*. Respondents were first asked to think of what the best symbol of creativity would be for them and to explain their choice. Then they were shown eight potential creativity symbols, asked to rate them on how well they represent creativity, and comment on their link to the idea of creativity. A second part of the survey invited respondents to rate, separately, the importance of several factors for creativity: heredity, environment, originality, social value, perspiration, inspiration, domain-generality, and domain-specificity.

These factors form in effect dichotomies that underpin key debates in the literature and help scientists (and potentially laypeople as well) to ‘anchor’ the unfamiliar reality of the creative process in larger bodies of signification by means of definition and classification. Finally, self-positioning was also studied by asking respondents to appreciate what percentage of people in the general population could be considered creative, to rate their own overall creativity, explain the rating and mention their biggest creative achievement to date. The survey ended with questions collecting demographic information. It is to be noted that all ratings mentioned above were made on seven-point Likert scales (where 1 was associated with low suitability or importance and 7 with high suitability or importance) and that all explanations and comments were captured through open-ended questions.

Certainly one of the most important decisions to be made in designing the research instrument had to do with selecting creativity symbols. Since the process of objectification lends representations an almost material form it was decided that pictorial depictions related to creativity in different kinds of public media needed to be explored. One of the most readily available ‘databases’ for such depictions is of course the Internet and therefore a pre-study was conducted using the Google Images (UK) search engine on the 23rd of January 2010. The first 500 images have been selected when typing the word ‘*creativity*’ and 43 of these excluded due to repetition. The 457 images left were subjected to content analysis. Images were not coded as a whole so double/multiple coding was not uncommon. The most frequent symbols (appearing at least more than once) were: lightbulb (29), brain (15), paintbrush and colours (12), computer (10), toy (9), musical note (8), children’s drawings (7), jigsaw puzzle (6), photo cameras (5), images of leaders or recognised creators (5), butterfly (6), lock and/or key (4), star (4), coloured crayons (3), flower (3), birth/growth (3), images of flying (3), ship (2), Earth (2), bottle (2). A decision was made to select all elements with a frequency above five and so a manageable number of *eight symbols* were included in the questionnaire (lightbulb, brain, paintbrush and colours, computer, toy, musical note, children’s drawings, and jigsaw puzzle). It must be specified that respondents were prompted with verbal formulations and not with images and the order of presentation was randomised in the survey.

Procedure

Participants were “invited to participate in a survey on creativity that focuses on creativity symbols, beliefs about creativity and personal creative expression”. They were informed about their rights, the risks and benefits of participation, and their consent was recorded. The study was advertised on several on-line research websites (in UK and US), and collected data starting February 2010. No material compensation was given for participation.

RESULTS

The results of this research are presented in two sections. The current section looks at the main findings (generally quantitative) following the succession of the questions asked in the survey. An important observation is that non-parametric statistics have been employed for data analysis considering the ordinal nature of Likert scales and the fact that ratings presented deviations from normality. The data discussed in the next section explores the ‘symbolic universe’ of creativity more closely by focusing on participant interpretations (qualitative data) and relating, whenever possible, lay-

people's conceptions to the scientific literature on creativity. Depending mostly on the respondent's rating, associated qualitative answers were primarily grouped into favourable (for ratings of 5, 6, and 7), unfavourable (for ratings of 1, 2, and 3) and undecided (for ratings of 4). All answers in these preliminary categories were listed and a synthesis of main points was made by the researcher for each and illustrated with what were judged to be the most representative verbatim formulations. Many of them are included hereafter as direct quotations without a specified author.

The survey was opened by asking respondents to think of what would be the 'best creativity symbol' for them and explain their choice. Main categories are presented in Figure 1 (some responses were double coded). As can be noticed, most respondents mentioned symbols that have to do with *artistic expression* (paintbrush, colour, and palette). Other two well-represented classes of response were those of 'abstract' and 'natural' symbols. Most *abstract symbols* chosen for creativity revolved around ideas of complexity, messiness, excitement and strangeness as well as "infinite possibilities". Examples here are: mobius strip, Celtic knot, squiggle, infinity sign, question mark, Yin and Yang, cross, Vitruvian man, compass, prism, empty chair, etc. On the other hand, *natural symbols* were used to emphasise ideas of growth, mobility and change, the ordinariness and simplicity of creation. Common symbols in this category: seed, flower, tree, rainbow, clouds, water, star, flame, humming bird or butterfly, blob of mercury, etc. Not remote from the idea of 'natural' symbols, and yet forming a clear category in itself, was the concept of *brain or mind*, associated with creativity in 12 of the responses. In the fifth position considering frequency, were *writing objects* (pen, pencil, crayon, even paper or quill), suggesting associations with literary forms of creativity but also chosen for their multifunctional nature ("Creative people doodle, draw, write and usually would use a pen to do so"). This category was followed by the *lightbulb* symbol with nine responses, a choice often justified by its predominance in popular culture. *Manual work* symbols emphasised the role of hands and connected creativity to crafts and everyday life activities. At last, *music note* and *computer* symbols were mentioned in two responses each. The 'Other' category included symbols that didn't fit the above, such as the dollar sign, autism, dance, etc. Standing out was the "no symbol" response and justification: "I don't think you could give creativity a symbol because anything could be one". It is also interesting to note that five out of the eight most common creativity symbols from Google Images were also spontaneously generated by the respondents, which supports the ecological validity of using Internet databases for this kind of research tasks.

When it came to rating the eight Google-generated creativity symbols on the 1 – "poor creativity symbol" to 7 – "great creativity symbol" scale, respondents generally appreciated 'paintbrush and colours' the most (mode 7), closely followed by 'children's drawings' (mode 6). The 'lightbulb', 'musical note' and 'brain' symbols were slightly less appreciated (with modes of 5, 5 and 4 respectively) and 'puzzle', 'toy' and 'computer' were least appreciated in general (with modes of 2, 2 and 1 respectively). Table 2 depicts the descriptive results for each symbol. A Friedman test was also conducted to determine whether participants had a differential rank ordered preference for the eight creativity symbols. Results indicated a significant difference, $\chi^2(7)=214.25$, $p<.001$. The following section will come back to these ratings and interpret them in light of the qualitative responses (participants were asked what they thought was the connection between symbol X and creativity). For the moment it is important to keep in mind the apparent preference for art related symbols (paintbrush

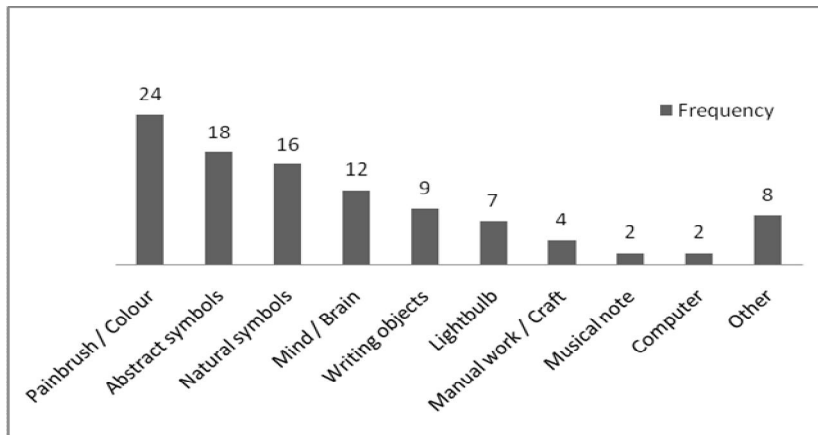


Figure 1. Categories of Creativity Symbols as Proposed by the Respondents

and colours, children's drawings, musical note) and the apparent dislike for more 'technical' associations (with computers, puzzles, etc.) but also associations related exclusively to childhood (like toy). The brain and lightbulb symbols generally obtained good ratings but there were also reservations about their capacity to reflect the 'true' nature of creativity. Even more interesting, if we are to look at Spearman correlation coefficients between the ratings of the eight symbols, we notice highly significant statistical correlations among the 'triplet' *paintbrush and colours*, *children's drawings* and *musical note* (paintbrush and colours–children's drawings: $r_s(104)=.438$, $p<0.001$; paintbrush and colours–musical note: $r_s(104)=.344$, $p<0.001$; children's drawings–musical note: $r_s(104)=.378$, $p<0.001$), but also among a 'quadruple' of *lightbulb*, *brain*, *computer* and *puzzle* (lightbulb–brain: $r_s(104)=.446$, $p<0.001$; lightbulb–computer: $r_s(104)=.263$, $p=0.007$; lightbulb–puzzle: $r_s(104)=.257$, $p=0.008$; brain–computer: $r_s(104)=.391$, $p<0.001$; brain–puzzle: $r_s(104)=.255$, $p=0.008$; computer–puzzle: $r_s(104)=.345$, $p<0.001$). Unsurprisingly, children's drawings also significantly correlated with toy, but the correlation was a bit less strong ($r_s(104)=.248$, $p=0.01$). This is already indicative of certain patterns of representation in relation to creativity to be analysed more carefully in the next section.

To help us clarify some of the general meanings associated with these symbols a further piece of information comes from the correlations symbol ratings had with the ratings of the eight factors concerning the nature of creativity. Before considering these and in order to first summarise the results 'within' pairs, let us note that the Wilcoxon test yield significant differences between the medians of heredity and social environment, $Z=-3.72$, $p<0.001$ (heredity mean of ranks 33.13, environment 46.52), of originality and social value, $Z=-.611$, $p<0.001$ (mean of ranks for originality 45.88, for social value 34.21), and of inspiration and perspiration, $Z=-4.65$, $p<0.001$ (mean of ranks for inspiration 40.73, perspiration 37.32). No significant difference was discovered between creativity in a specific domain versus creativity in general ($Z=-1.23$, $p=0.219$). Hence, to begin with, our respondents' representation of creativity emphasised *originality*, *inspiration* and *the role of the social environment*. In relation to the ratings of creativity symbols, it is important to observe that the paintbrush and colours ratings significantly and positively correlated with scores on heredity ($r_s(104)$

Table 2
*Descriptive Results for Proposed Creativity Symbols:
 Frequencies for Each Likert Scale Point*, Median and Mode*

Creativity symbols	1	2	3	4	5	6	7	Median	Mode
Lightbulb	4	10	17	16	29	14	16	5	5
Brain	6	14	7	23	22	14	20	5	4
Paintbrush and colour	1	5	9	14	25	23	29	5	7
Computer	30	23	26	7	12	6	2	2.5	1
Toy	11	27	21	19	18	5	5	3	2
Musical note	4	16	17	14	23	18	14	5	5
Jigsaw puzzle	18	24	20	15	18	10	1	3	2
Children's drawings	1	4	12	19	22	26	22	5	6

* Where 1 is 'very poor creativity symbol' and 7 'excellent creativity symbol'.

Note. Results based on the whole sample of 106 participants.

=.295, $p=0.002$) and negatively with scores on the importance of social environment for creativity ($r_s(104)=-.228$, $p=0.19$). This suggests that people who associate creativity mostly with artistic expression tend to consider it greatly influenced by heredity as well. Ratings for lightbulb correlated with those for inspiration ($r_s(104)=.204$, $p=0.036$) and social value ($r_s(104)=.193$, $p=0.047$). The first correlation is not surprising since the lightbulb itself, as we shall see, was appreciated as a symbol of inspiration, insight, and the 'Aha!' moment. Incidentally, ratings for brain also correlated with those for inspiration ($r_s(104)=.298$, $p=0.002$). The second correlation in the case of the lightbulb symbol might be explained by an underlying connection with technology and in fact ratings for computer also correlated with social value ($r_s(104)=.289$, $p=0.003$).

The last part of the survey explored self-evaluations of creativity. The mean value for the general percentage of the population respondents consider to be creative was 55.77 and their own evaluation of creativity had a median of 6 and a mode of 7 (on a seven-point Likert scale). Therefore one can conclude that participants in the study tended to see themselves as *generally creative*. Furthermore, the two ratings were positively correlated ($r_s(104)=.234$, $p=0.016$), which means that persons who appreciated themselves as more creative also thought more people from the general population were creative. Equally, it should be noted that one of the few correlations these two had with the other variables has been with the ratings for creativity as domain-specific; particularly for self-rating of creativity the correlation was significant ($r_s(104)=.270$, $p=0.005$). This could perhaps suggest that people tended to see themselves as creative in particular domains rather than in each and every domain. There certainly are different ways of being creative and, when asked to comment on their self-creativity rating and to describe what they thought was their biggest creative achievement up to date, responses followed three main categories (single coding). The best represented was the *artistic* one (50% of the cases), with participants who

mentioned as creative achievement activities like: painting or drawing, writing essays or poems, composing music, dancing, being skilled at photography or an artistic craft, interested in film or sculpture. The *scientific-professional* activities category (19.8%) was represented by creative activities such as being admitted to or completing a PhD, writing an article or a book, coming up with new methods of scientific investigation, having innovative business initiatives, etc. Finally, the *everyday life* creativity class of responses, accounting for about a third of the responses (30.2%), was illustrated by: decorating a room or a house, raising a family, solving problems and organising daily activities, creating a personal style, improvising in cooking, creating unique gifts, having a sense of humour and also feeling creative as a person. What is salient here as well is yet another indication of how significant art is for the representation of creativity and how it can be said to constitute the most potent ‘*anchor*’ for understanding creativity (both in general and for the creative expression of the self).

Interpreting the results: The symbolic universe of creativity

A classic social representations analysis would be incomplete without paying attention to the actual reasons behind people’s preferences, as expressed in their own words. Exploring the ‘symbolic universe’ of creativity means exactly that: focusing not only on the *structure* but also on the *texture* of the responses, and this is accomplished by having a closer look at how participants create and/or comment on creativity symbols. The open task of choosing their own symbol suggested that creativity, as the ultimate ‘unfamiliar’, is anchored in a variety of domains and seen through a multitude of lenses. Most often these had to do with the arts, especially drawing and painting, but also with abstractions, with nature, with the human brain, with manual work, etc. It can be concluded, just from this series of answers, that creativity is *multiply anchored and objectified* in laypeople’s representations. This testifies to the richness and complexity of the phenomenon, something creativity researchers are confronted with themselves. The various connections between ‘lay’ and ‘scientific’ thinking, between ‘lay’ and ‘scientific’ concerns and dilemmas, will also become clearer as follows.

Paintbrush and colours – Musical note

These two symbols have both to do with art and although both could be said to have been appreciated by respondents, it was clearly the paintbrush and colours that gained their preference more. Behind the positive ratings of these symbols lays a strong association between *art and creativity*: “when someone is good with art, people will often label them as creative”, “art is a field founded almost completely in creativity”, “when people think of creativity, art is usually one of the first things they associate it with”, etc. These kinds of associations seem to have deep cultural and historical roots, located by some authors as far back as ancient Greece (Friedman & Rogers, 1998). The connection tends to be even stronger in the case of the paintbrush and colours symbol, as both ratings and comments have shown. This was considered the “typical symbol for creativity” since “painting is what many people think of as a major and important type of creativity”. By comparison, comments for musical note described it as creative because it is “one of the arts”, and not necessarily the prototypical form of art.

Why is art creative? The analysis of responses offers grounds for understanding this. To begin with, art is a form of *self-expression*. Moreover, this expression is fundamentally *free*, and open to “endless possibilities” (“a creative person can create

anything with a paintbrush and colors”; “the possibilities are endless with musical notes”, etc.). It also connects with *emotions and emotionality* and this was seen as a requirement for creative production. “A note”, it was said, “can mean anything, happiness, sadness, empathy, knowledge, even danger. It can be put anywhere on a measure line and mean something totally different”. This is why artistic expression was also considered to reflect the *uniqueness* of the person. Finally, drawing and painting particularly are activities many people considered to reflect “the actual making of something”. Creativity is very much related to *material outcomes* and processes of physical labour.

And yet, even these acclaimed symbols did not escape *criticism*, most of all for not representing the whole of creativity. Paintbrush and colours and musical notes have also been thought of as: “context specific and limited”, a “disciplined aspect of creativity” or “only one aspect of it”, “a very narrow conception of creativity”, “stereotypical and restrictive”, etc. Summing up, the idea emerged that “creativity is much more than just having a talent” and also that “there is more to creativity than art”. Further critiques were expressed for the musical note symbol as somehow contradicting the freedom that is specific for true creativity. Since music is written with notes, they are “the discipling of music, the antithesis of creativity”, a “plan of sound that has been followed”, “a very rigid and controlled form of musical expression”. But perhaps the strongest arguments raised against this particular symbol had to do with the fact that the mere interpretation of music is basically uncreative. In the words of one of the respondents: “I am not very musical, but at school I learned to read music and add chords using a method without any creativity”. By contrast: “Musicians, especially composers, spontaneously create improvised melody. I'd say that's creative!” Distinctions such as these are also raised in the scientific literature and authors like Umberto Eco would certainly argue for the creativity of each ‘interpretation’ since *every* work of art “is effectively open to a virtually unlimited range of possible readings” (Eco, 1989, p. 21).

In the end there seems to be an acknowledged relation between the arts of painting and music (music notes were compared with colour blobs). Both notes and colours are “tools for creativity”, and perhaps their most important virtue as creativity symbols rests in the fact that they represent “something that all cultures and most individuals can relate to and readily understand”.

Children’s drawings – Toy

These two symbols are, in essence, both related to children and childhood and yet their ratings contrasted greatly. While children’s drawings were generally appreciated as a very good symbol for creativity, this was not so much the case for toy. It might be that the former was again associated with artistic expression and, in fact, paintbrush and colours and children’s drawings seem to be most preferred by comparison to the other depictions. A quick look at the qualitative answers supports such a supposition. Again references were made to the arts (“anytime you draw you are creative”) and also to imagination (“drawing images from one’s imagination is a creative act”). But it should be noted though that, in the case of both symbols, most of the comments had to do with *children and their creativity*.

It might well be the case that children’s creativity represents a *themata* in common-sense thinking because there appear to be two opposing views on this matter, both supported by a series of arguments. On the one hand, and for most respondents, child-

ren were the actual *embodiment of creativity*; they “always have a creative mind” and “are some of the most creative beings”. Why is that? Because children are “un-inhibited”, “open to all possible ideas or solutions”, “are less self-conscious” and “have the innocence and the imagination to create”. They also “have a different perception on reality”, “various views of the world” and are “less constrained by what society wants”. As such they “are not afraid or discouraged to show what they want”, “not yet restrained by convention”. Their “open minds” and “wild imaginations” make drawing or playing unique since “the same child will never produce two similar drawings, because their creativity explores different paths”. In most of these accounts there was an explicit dichotomy at work between *children and adults*, who are more “logical”, more “closed-minded” and much more connected to the real world (“adults feel much more constrained by the fact that their picture isn't a good representation of the real world”). Consequently, “the best creative minds, whatever the ideas they are working on, are those that can continue to be open, playful, experimental, questioning and flexible like a child's”, or, in other words, “the child within all of us is the part which longs to create and come up with answers to all things”. Such statements are in fact mirrored in the scientific literature, and Freud himself made a parallel between children at play and creative writers (Freud, 1970, pp. 126-127, in original 1908).

Faced with such compelling statements could anyone doubt the creativity of children? Some of the respondents actually did, and they *problematized* this by asking if creativity isn't actually developed “in older age” and if children's drawings don't stand for “less creative, more creation to come”. As one of the participants put it: “often children lack the technical ability to bring their creativity into fruition of a real product, so it is only a moderately good symbol for creativity”. A strikingly similar argument has been advocated for in the creativity literature by Mihaly Csikszentmihalyi (in Sawyer et al., 2003, p. 223) who argued that creativity needs to have an effect on culture and children can almost never achieve that. Other authors noticed the same contradictions if and when we operate with this kind of definition for creativity (Cohen & Ambrose, 1999, p. 11). Furthermore, children are not always creative or can easily become uncreative if, for example, “a drawing is something a teacher tells the child to make”. “Children draw creatively until we stifle their creativity” is has been said, again echoing larger debates about the ‘creativity slump’ in school (see Lubart, 2003). Finally, questions were raised in the case of the toy symbol whether children's *play* is always creative. In this case many considered it as depending on the toy since “some toys encourage creativity more than others”. This further connects to scientific concerns since the traditional view in child's psychology was that play encourages an “autistic” mode of thought (see Harris, 2000, p. 188) and “the question of whether play is necessarily creative (or, indeed, whether creativity is necessarily playful) is a persistent one” (Banaji, Burn, & Buckingham, 2006, p. 35).

Brain – Computer

The brain and the computer are both highly complex systems, the former being the highest achievement of the natural world, the latter probably the greatest triumph of human thinking. This was well acknowledged in participants' comments where, for example, the computer has been catalogued as “an artificial brain”. And yet, by and large, these two were not the most popular symbols for creativity and both were generally accused of being, in essence, “machines”, rather associated with other psychological functions than creativity: “thoughts”, “learning”, “problem solving ac-

tivities”, “idea processing”, “logic”, “rationality”, “science”, “intelligence”, “technological/scientific creativity”, in one word, hard and cold *cognitive processes and outcomes*. Considering though the different nature of brains and computers, both positive and negative views tended to be more specific as follows.

Brains were seen as a relatively good creativity symbol (at least compared to computers) and there was a large consensus among participants who supported this symbol that the brain is the one doing the creating: it is creativity’s “place and motor”, its “source”, a “necessary” condition, it “allows creativity”, it is “behind” it, it is “where creativity takes place”, where it “comes”, “originates”, “steams from”. Summing up, the brain “controls creativity”, creativity “involves using brainpower” so “you need to be able to use your brain in order to be creative”. Consequently, “without brains, there wouldn’t be any creativity”. Such strong claims characterise lay thinking perhaps more than scientific thinking where, for example, neurological studies of creativity (see Martindale, 1999) are a growing field but without (yet) the claim that they could explain creativity away. In fact, although “the possibilities are promising, we are not anywhere near the point of being able to image the creative process as it unfolds in the human brain” (Hennessey & Amabile, 2010, p. 574). Similar reservations were also expressed by some of the respondents who considered the brain as the *beginning* of creativity but certainly “not the whole story”. Moreover, we all have a brain but we are not all creative: “creativity all comes from the brain... but so does everything else”. The brain may well be “the powerhouse of all though” but, at the end of the day, it is “merely tissue with potential (or sometimes, a lack thereof)”.

If brains were considered to be an integral part of the story when it comes to creativity, computers were oftentimes completely excluded from it. The main reason: a computer “can only do things you tell it to do”, they strictly follow “programmed instructions”, are “constrained to rules”, and “can only manipulate facts”. This is radically opposed to a vision of creativity as random generation, fluidity and flexibility, emotion and self-expression. In the end, “electronics and creativity don’t really mix—there is only one way to access the Internet, to use Excel or other programs”. The natural reaction for some of the respondents when faced with this symbol was to be intrigued: “how can a machine symbolize something as deeply human as creativity??” and “Can creativity really be replicated in computers?” These kinds of interrogations are not uncommon in the scientific literature either (see Runco, 2007). Directly interested in *computational systems*, authors like Margaret Boden (1994, p. 84) would answer that yes, they can certainly help us understand how human creativity is possible, to a certain point can appear to be creative and even appear to recognise creativity. These ideas are generally not widespread among laypersons, although occasionally some would say that “a computer in itself is a product of creativity as well as a major tool for creativity, especially today”. Indeed, looking at the ‘bright’ side of the associations between computers and creativity, there is a sense that computers are valuable *tools* for creative expression, especially when it comes to graphics, design, multimedia, image creation, etc. They “open up opportunities” and also “limitless capabilities” for their users. Nonetheless, this point was also counteracted by the belief that: “You can do many creative things with a computer. But you can do many more non-creative things”. Computers can promote “uniform thinking” and be “equally used to waste away time and energy as they are used to discover”. All

things considered, their connection to creativity seems to be either bluntly rejected or constantly scrutinised.

Lightbulb – Jigsaw puzzle

The lightbulb and the puzzle are also connected (as the quantitative analysis has shown) in some ways with the symbolism of brain and computer. Indeed when one looks at the qualitative responses, associations with cognitive processes are predominant. The lightbulb, a classical symbol of *insight* (Runco, 2007, p. 21), was generally recognised by lay respondents as associated with ideas and idea generation in particular, the “Eureka” or “Aha! moment”, sudden thoughts, illumination and inspiration. Intellectual kinds of association are also specific for the jigsaw puzzle, seen as connected to intelligence, problem solving skills, “logical and practical thinking”, and even “mathematics” and the “brain”. And yet, just as in the case of the brain or the computer, anchoring creativity in more technical or cognitive domains was not considered entirely ‘representative’ for creative phenomena.

The lightbulb nevertheless was better received than the puzzle, although less well appreciated on the whole compared to more artistic symbols (paintbrush and colours, children’s drawings, etc.). So the title question of whether the lightbulb as a consecrated image of creativity is still “on” can be answered positively or negatively, depending on the comparison term. Partially to blame for its ‘moderate’ popularity seems to be exactly its fame. The lightbulb appeared “conventional” and “over-used” and this made it “rather uncreative” for a creativity symbol. On the whole though, the lightbulb’s link to thinking and ideas worked in its favour since “a lightbulb, to me, means that you were able to think outside the box, pairing up the details, and coming up with a solution. It takes creativity to be able to come up with a bright new idea”. And it is exactly the process of coming up with ‘bright’ ideas that the lightbulb stands for. The experience of an insight and its connection to creativity have long been discussed in psychology as well, where inspiration attracted the interest of both psychoanalysis (see Slochower, 1974) and Gestalt or cognitive psychologists (see Sternberg & Davidson, 1999). Both approaches came to the conclusion that a considerable amount of *preparatory work* is needed before insights can take place. This is not so clear in the case of the lightbulb symbol though since “it suggests that creativity is an instant inspiration, that occurs as quickly as flipping a switch”.

Besides this, the lightbulb was also disliked for saying nothing about the *application* of an idea and the *intentionality* behind creative work (“it suits better the accidental discovery of an idea”). And even when it does connect to creativity, it was said to better represent the “academic”, “practical” or “logical” aspect of it. In many ways the puzzle symbol had the same ‘shortcoming’ for the participants, who thought “it isn’t really a symbol of creativity, more of a complex mind”. Nonetheless, despite its rather low ratings, the jigsaw puzzle did have some recognised advantages as an image of creativity. “It involves critical thinking and looking at objects in multiple ways”, and, in the end, “creativity is about piecing together different ideas to make a whole one”. Even the stages of the creative process were, for some, very well symbolised by puzzle making. First, in both creativity and making a puzzle rests “an initial desire, wish or question”, then “you have to think outside the box and put bits and pieces of information together”, this requires both time and patience but, “once you get a good start on that jigsaw puzzle, its quick to finish. And like creativity, once you warm up, thoughts start to fly out of your head”. However, what can justify the

low rating of the puzzle symbol is the fact that most respondents focused on its “mechanical” side and its predictability. Puzzles were qualified as the opposite of creativity since “there is no invention or new insight”, “a puzzle only goes together one way”. Plus the process of making a puzzle requires more intelligence and problem solving skills than creativity. The connection to these cognitive mechanisms seems by and large to preoccupy scientists (see Eysenck, 1994; Lubart, 2003; Runco, 2007; Sternberg, 1999) more than laypeople, who are more inclined to just distinguish between the two.

DISCUSSION

The present research explored current representations of creativity in a Western context with a particular focus on creativity symbols as objectifications of creativity, *tell tale signs* that lead to the very core of representational systems. As Moscovici (2000, p. 51) acknowledged, collectively-constructed images of an object become objects in themselves, they no longer just signify the object but “are what is significant”. Creativity certainly is a significant object and a study of its images among lay respondents comes to emphasise once more how *complex and multifaceted* the reality of creativity really is for each and every one of us. More than once, all of the eight proposed symbols were criticised for not representing the whole of creativity and there is a clear sense that perhaps nothing could represent the whole of it. Creativity will always have an essence, or at least part of it, that manages to *escape ‘representation’*. This is valid for both lay and scientific efforts to understand this phenomenon. And yet, paradoxically, it is exactly what gives *vitality* to the subject and keeps all possible and competing representations in (*creative*) *tension* with one another.

To being with, there seems to be a deep-seated tension between at least two meanings of creativity: the *artistic and the scientific/technical* one. Rooted in Romanticism and Enlightenment, respectively (Weiner, 2000), these thematised dichotomies continue to alight both scientific and common-sense thinking. And yet, if there is anything this research testified for is the predominant tendency, at least among the respondents, to anchor creativity in the *artistic domain*: “Usually when we talk about creativity it is in the artistic domain so I think paintbrushes and colours symbolize artistic talent, which I find more strongly associated with creativity than the more practical/inventive creativity”. Symbols like paintbrush and colours were not only the most popular when rated but also the most frequent in the case of spontaneous associations. Creativity researchers might consider this an *art bias*, “a *misunderstanding* of creativity that equates it with artistic talent” (Runco, 2007, p. 384; emphasis added). From a social representations perspective this is an *understanding*, an understanding that needs itself to be understood both in terms of its roots and its implications.

And one of the most direct implications has to do with *self-categorisation* in relation to creativity. In fact, when one looks through the justifications given for the rating of personal creativity, many times they make explicit reference to art: “I am interested in the arts”, “I am no artist but I do occasionally have good ideas”, “I like making art but I don't have many original ideas so I don't consider myself creative”, “I can generate original ideas so feel creative in that sense, but lack expertise in drawing or playing music so I rate myself as kind of average”, etc. What comes out, especially from the last example, is the risk of sometimes being discouraged in

developing an identity as a creative person by the lack of expertise in the arts. This can be even more problematic if we remember that ratings for the paintbrush and colours symbol correlated with the heredity factor and had a negative correlation with the social environment one. A particular representation might emerge from this in which creativity is seen as more *remote* from actions of everyday life and everyday people and closer to the realm of great creators, especially artists (something also defined as the He-paradigm, Glăveanu, 2010). And yet, it is not always the case that artistic expression is represented as ‘inaccessible’. In fact, the children’s drawings symbol, again very much preferred, can well illustrate this since “it is the expression of creativity in a manner not reserved for artists but in a raw sense applicable to anyone”. Furthermore, numerous comments of self-ratings explored this *everyday life dimension* which portrays creativity as ordinary, natural, an integral part of people and actions: “My mind is constantly creating meaning as I interpret the world. In that sense, I am constantly creating a subjective experience. Like me, all individuals are inherently creative”. Also found in previous research (Karwowski, 2009), more people tended to consider themselves capable of ‘little-c’ creative acts rather than ‘Big-C’ creativity.

The present study is not without its *limitations*. To begin with, as in any convenience-based sampling, there might be a self-selection of participants so that those who are more interested in creativity and potentially think they are creative took the survey. Furthermore, the sample was not representative of the whole population and was composed more of females, persons with higher levels of education and students (often of psychology). While it was not the purpose of the study to make general claims (related to the Western context), it could be interesting in the future to develop comparisons between different groups using the same methodology: male and female, different professional categories, Easterners and Westerners, etc. In fact this kind of designs would be very much in tune with the social representations approach, which strives to connect back systems of belief to the socio-cultural context of the participants. Also as a future perspective, data could be collected using more methods, particularly helpful being the focus groups since they are equipped to capture the social interaction and communication aspects only inferred in survey research.

In concluding, there is *no singular representation of creativity*, and this can be noticed both at an individual and social level, both in lay and scientific thinking. In effect, controversies about what creativity is and is not dominate public as well as scientific discourses and, as this research indicates, there are more points of connection between these than we might think. Similar kinds of questions preoccupy both lay respondents and creativity researchers and among them we find: Is artistic creativity different from scientific creativity? Are children creative? Do toys and computers help or hinder the development of creativity? What is the relationship between creativity and the brain? etc. Of course there are differences in how these questions are answered and the context in which they are raised (a scientific reunion, a discussion at the local pub, an on-line survey and so on) puts certain constraints on the representational work and its outcomes. What transpires though from the research on social representations or implicit theories of creativity, independent of whether they are studied as a personal or a social construct, is their *importance* for each and every one of us, and especially for scientists. Sternberg (1985, p. 621) once wrote that “the study of implicit theories has at least as much relevance as does the study of explicit theories, and perhaps even more relevance”. This is especially true in the case

of creativity which all of us, implicitly and explicitly, individually and socially, are making constant efforts to *represent*.

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