CREATIVITY UNDER THE INFLUENCE OF GENDER

How gender affects group creativity in organisations

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Summary

Creativity literature advocates the positive impact of diversity within the creative group but pays little attention to the place of gender diversity and its impact on the quality of the group's creativity. This article questions the impact of group composition in terms of gender on creative performance and on the judgement that the organisation may have of group creativity. It also examines the effect of the gender of evaluators on the evaluation of ideas. Based on two experimental studies conducted with 99 professionals and 463 students respectively, we confirm that there is no difference in creative performance between men and women. On the other hand, men and women evaluate ideas differently. Finally, while there is no glass ceiling for ideas put forward by mixed groups are less selected by the organisation.

KEYWORDS: Group creativity, Diversity, Gender, Organisations

This article looks at the influence of gender on the creative process as a whole, from the generation of an idea by a man or a woman, to its selection - by men and by women - by the organization. Individual or group creativity is crucial to the competitiveness of organisations in highly competitive environments (Cohendet & Simon, 2015). The challenge of creativity is to generate ideas of sufficient quality to be developed into innovations (Le Loarne & Blanco, 2012; Amabile, 1988). This means selecting the best ideas so as to exploit and develop only those that are most interesting for the company. Nevertheless, creativity in organisations is acknowledged as a multifaceted phenomenon contingent on individual aptitudes, organisational context and creative processes (Woodman, Sawyer & Griffin, 1993). In terms of context, diversity in work groups seems to be conducive to the generation of ideas (Paulus, 2000). However, in order to benefit creativity, diversity needs to be well managed (Foss, Woll, & Moilanen, 2013) as it can lead to misunderstandings or conflicts that reduce the quality and quantity of ideas generated (Pearsall, Ellis, & Evans, 2008). However, it is still necessary to determine the specific type of diversity under consideration. Recent studies have demonstrated that factors such as age, education, social environment and gender can influence group creativity (Han et al., 2014; Shin et al., 2012). The extant literature on innovation assumes that innovation processes are influenced by gender (Acker, 2006). Consequently, it seems reasonable to posit that gender may also have a significant effect on creativity in organisations, both in terms of idea generation, evaluation and idea selection. For instance, the presence of women on company boards has been demonstrated to have a positive influence on the generation of innovations (Galia, Zenou, & Ingham, 2015; Torchia, Calabrò, & Huse, 2011). Conversely, for the same volume of ideas generated, men's ideas are selected more frequently than women's ideas (Foss et al., 2013). Similarly, in R&D teams, gender diversity even favours radical innovation (Díaz-García, González-Moreno, & Sáez-Martínez, 2013). However, despite these results, the literature on gender in creativity has focused mainly on idea generation processes and very little on the evaluation and selection of ideas.

The objective of this article is to provide an overview of the impact of gender on the idea generation process and to gain a deeper understanding of the impact of this variable on the evaluation of creative ideas and, subsequently, on their selection by the organisation. The approach adopted in order to achieve this objective has been informed by extant literature on the topic, the majority of which concerns the idea generation process, as well as two experiments conducted with 99 working professionals and 463 first-year business school students, who have limited professional experience (see Appendix 1 for a description of the experiments). The findings of our research corroborate those of existing studies on creativity and gender, indicating that the creative fluidity of women is comparable to that of men and that women employ distinct evaluation criteria compared to men. Furthermore, our two experiments yielded results that challenge certain hypotheses in the existing literature. Specifically, we found that there was no significant difference in the peer evaluation of ideas produced by groups comprising primarily women and groups comprising primarily men. Conversely, mixed-gender groups were less likely to have their ideas selected by peers.

The article is structured as follows, with the aim of reporting on the influence of gender on the entire creative process. First, we describe the creative process in order to identify the possible influence of gender. Secondly, we examine the effect of gender on the generation of ideas both by an individual (male or female) and within the small group. Thirdly, we look at the evaluation of ideas generated by women, in comparison with those generated by men. We also test the effect of group composition in terms of gender on the

perception of ideas. Each of these two parts of the creative process (idea generation and evaluation) is based on the results of two research experiments. Each part corresponds to an aspect. For each of them, we explain the hypotheses generated by the literature review, and explain our research results whose respective protocols and tables are presented in the appendix. Finally, the discussion allows us to theorize about the influence of gender throughout the creative process and to discuss this contribution to the debate on gender diversity in creativity and innovation.

THE IDEA AND THE PHASES OF THE CREATIVE PROCESS

Creativity is referred to as both the result in terms of ideas, and the creative process by which these ideas are produced. It is an activity of producing new, appropriate, useful and feasible ideas by an individual or a small group of individuals working together (Amabile, 1988). The aim of creativity is to find innovative solutions by mobilising the imagination to rethink what already exists (Ford, 1996). At the heart of the concept of creativity, however, is the idea itself, which is poorly defined in the literature. We consider that it stems from an intention to act, as emphasised by the work of Osborn (1953), which led to the conception of CPS (Creative Problem Solving), or by Amabile (1997), who shows the importance of motivation in the phenomenon of creativity. The idea also incorporates the linking of existing knowledge, as described in the phenomenon of bissociation (Koestler, 1964) or Amabile's componential model, in which domain knowledge plays a major role in ideation (1988, 1996). Finally, the idea is also often the bearer of connections between individuals, because in order to exist in an organisation or, more broadly, in society, it must be socialised by its bearer(s) (Hargadon and Bechky, 2006, Perry-Smith, 2006). We therefore see the idea as the result of an intention to act, which leads to a statement that integrates a new network of knowledge, and sometimes links individuals in a new relational network. Creativity as a process can be broken down into phases that follow on from each other, culminating in the creation of ideas. At the beginning of the 20^e century, Poincaré, in a lecture to the French Psychological Society, described the process of discovering the Fuchsian functions (Poincaré, 1908). This account, taken up by Wallas in 1926, enabled him to formulate a process of individual creativity in 4 stages: preparation, incubation, illumination and verification (Wallas, 1926). Subsequently, many studies have taken up Wallas' sequence, but more recently work has focused on the sub-processes within these stages and on the many links between the stages of individual creativity (Doyle, 1998; Lubart, 2001). More recently, Amabile formalised a collective process in 5 stages: problem identification, preparation, idea generation, idea validation and idea selection (Amabile, 1988). Creativity techniques such as brainstorming and CPS (Creative Problem Solving) repeat these stages of the individual and collective creative process. Brainstorming generates a large number of ideas, the principle being that the more ideas generated, the greater the chance of obtaining quality ideas (Osborn, 1953). Following a brainstorming session, it is still necessary to identify the good ideas. The idea evaluation and selection phases are therefore just as vital as the idea generation phase. However, this second aspect of the process is still under-explored (Girotra et al., 2010).

In the remainder of this article, we will focus on two main phases in the creative process that are likely to be influenced by the gender of the participants: idea generation and selection.

THE EFFECT OF GENDER ON THE GENERATION OF IDEAS

The psychometric approach to creativity considers creativity to be a measurable mental trait (Guilford, 1950). From this perspective, divergent thinking is considered to be one of the key elements of creativity. Guilford breaks it down into four components (Guilford, 1967): fluency (the number of ideas), flexibility (the number of categories to which these ideas belong), originality (the degree of novelty of the ideas) and elaboration (the degree of development of the idea). These four components form the basis of the TTCT (Torrance Test of Creative Thinking, Torrance, 1974).

The question of the disparity between men's and women's creativity in divergent thinking has been widely addressed in the literature (Baer, 1999; Kaufman, 2010). However, work on gender differences in divergent thinking performance has produced ambiguous results that do not allow us to settle this question. Out of 77 articles published in psychology journals between 1974 and 2005, 34 articles concluded that there were no differences in creativity between men and women, 30 articles presented mixed results and only 13 articles concluded that there was a difference (Baer & Kaufman, 2008). This suggests that, a priori, individuals of both genders have the same capacity to generate original and innovative ideas. However, the social environment, sexist thinking, cultural values (Helson, 1985) and access to resources (Simonton, 1994) could explain the few differences observed in female and male creativity. The two experiments we conducted confirm these conclusions from the literature on creativity.

On an individual level, we carried out a creative fluency test prior to creative sessions with both management school students (with no professional experience, who had just joined an integration week and who, it should be pointed out, did not know each other at the start of the experiment), and professionals at the annual conference of tourism advisers (who had experience in the field for several years, at least 5 years, and some of whom knew each other without working in the same institution). The aim was to generate as many ideas as possible for using a sheet of paper. This simple test does not assess the four components of divergent thinking, but it does provide a quick assessment of creative fluency, one of the components of the Torrence test. It assesses the cognitive ability to come up with as many alternatives as possible, an ability identified by Amabile as one of the foundations of individual creativity (Amabile, 1988). Moreover, most studies measure individual creative agility based solely on novelty and fluency (Runco & Chand, 1995). This test was carried out in both contexts with students and professionals prior to idea generation and evaluation. Among the 463 students, there was no significant difference between men and women in terms of average creative fluency scores (see table 2 in appendix 2). Among the 91 professionals, the results show no correlation between gender and average creative fluency scores. There was therefore no significant difference between men and women for the attribute of creative fluency in our experiments (see table 1 in appendix 2). Comparing the averages in our two experiments between men and women shows that there is no significant difference in creative fluency between men and women at the individual level (see tables 1 and 2 in appendix 2).

At a collective level, during the creativity session with the students, groups of 4 or 5 students, using a creativity game, worked together to come up with an innovation idea, which was then to be presented to their peers. The creativity session with the students resulted in the generation of 100 ideas, which were described in an idea sheet. These ideas were evaluated blindly by three creativity experts on the criteria of originality, feasibility and usefulness. This type of evaluation, described in the next chapter, is the most commonly used in creativity experiments (Dean, Hender, Rodgers, & Santanen, 2006).

In this case, we went beyond individual creative fluency by assessing the quality of the ideas produced by the groups. The comparisons made on the averages of the experts' evaluation of the ideas showed no significant difference between the groups, whatever the composition of the groups in terms of gender (see table 3 in appendix 2). We were unable to carry out the test with purely male and female groups, but the variation in gender composition compared with purely mixed groups had no influence on the creative performance of the groups.

These experiments suggest that in a controlled environment where participants have access to the same resources, we reach the same conclusions as the literature on gender and creativity, both at individual and group level. In fact, we found no difference in performance between female and male creativity at either individual or group level.

EVALUATING IDEAS ACCORDING TO THE GENDER OF THE EVALUATOR

Creative sessions generate lots of ideas. The challenge is then to select the most interesting ones from the organisation's point of view. The complexity of the evaluation process underlines the importance of finding the right criteria, organising the process well and involving the right participants. Four evaluation criteria were identified as the most relevant from a literature review of 90 articles outlining the evaluation methods used in the field and in research laboratories during creativity sessions: the novelty, feasibility, relevance and specificity of ideas (Dean, Hender, Rodgers, & Santanen, 2006). The novelty of an idea represents its degree of originality and and its break with the dominant paradigm. The feasibility of an idea represents its social acceptability and its degree of technical implementation. Relevance represents its degree of application to the problem and its effectiveness in solving the problem. Specificity represents its explicit implications and clarity. In practice, however, it is most often the first three criteria that are used during creative sessions to evaluate ideas, and when experts intuitively evaluate ideas, they unconsciously use the criteria of originality, use value and effectiveness (Magnusson, Netz, & Wästlund, 2014). As evaluation is a cognitive process that results in explicitly giving a rating or opinion on the value of an idea based on specific or intuitive criteria, it is likely that this evaluation is influenced by gender. Although there is little literature on the difference in the evaluation of ideas by men and women (Fagenson & Marcus, 1991), we can hypothesise that differences in creative practices and the differentiation of social roles between the sexes could create differences in the way in which the value of an idea is perceived. Ultimately, therefore, the evaluation of ideas could be influenced by the gender of the evaluator. This hypothesis is confirmed by the results of the few existing studies on the subject. For example, Fagenson & Marcus (1991) show that women who are able to judge the qualities of an entrepreneur, particularly a female entrepreneur, evaluate women with masculine attributes better than women with feminine attributes.

To test the existence of this difference, we compared idea evaluation scores according to the gender of the evaluator. During a creative session with tourism professionals, following the idea generation phase, at the creativity tables, the participants had to evaluate these three ideas in order to select just one in the end using the three criteria of originality, feasibility and relevance. The criteria were clearly explained in the instructions and a facilitator was assigned to each table to ensure that the discussions flowed smoothly and that the instructions were properly understood. We tested the random allocation of ideas between the groups to check whether some tables had more creative ideas to evaluate than others. None of the tests carried out on the basis of the

experts' evaluations showed any significant difference between the tables. Moreover, the ideas put forward by the participants in the group that voted individually and the group that voted collectively were of equal quality when evaluated by the group of experts. We can conclude from this that there is a random distribution of ideas between the tables. This finding allows us to isolate the impact of gender on the evaluation of ideas. To test the hypothesis of the influence of gender on the evaluation, we carried out a panel linear regression, since our level of observation was the place where the ideas generated by the participants were evaluated, and the votes were carried out by group (see table 4 in appendix 2). The results of this study show that the gender of the evaluator does have an effect on the evaluation of ideas during the creativity session. Evaluation is influenced by the composition of the group in terms of gender. The average ratings for the feasibility and relevance criteria were higher overall for each additional man in the group (feasibility: m=3.80, difference of 0.401, p<5% and relevance: m=3.83, difference of 0.218, p<5%). Women were therefore stricter in their assessments of feasibility and relevance. During the same experiment, we were able to show that the creative fluency of individuals also influenced the evaluation of ideas. The most creative individuals, whether men or women, were the most severe in their assessments. On the other hand, experience in the field and the age of the evaluators had no effect on the evaluation of ideas in this type of creative session.

THE PERCEPTION OF IDEAS ACCORDING TO THE GENDER OF THE CREATOR

During a creativity session, ideas are usually evaluated directly by the participants in order to make an initial selection of the best ideas. However, during a creative session, participants have difficulty identifying the best ideas (Putman & Paulus, 2009) and it is not always the best ideas for the company that are selected by the participants (Girotra et al., 2010). Research has shown that men and women are not evaluated in the same way in organisations. Female managers with narcissistic personalities are perceived by their subordinates as less effective than men in the same position with the same personality trait (De Hoogh, Den Hartog, & Nevicka, 2015). In the school environment, a study carried out in the Basque Country shows a difference in teachers' assessment of creativity according to gender, and this difference is explained mainly by the difference between the social roles assigned to girls and boys (Ai, 1999). This suggests that there are gender biases in evaluation in workgroups and organisations. For example, there are differences in the evaluation of new business ideas when they are attributed to women or men (Gupta & Turban, 2012). Ultimately, the gender of the idea originator could therefore influence its evaluation. The literature has done little research on this issue (Gnan & Le Loarne, 2014), so we conducted an experiment to test this hypothesis of the influence of the creator's gender on the evaluation of their ideas.

We were able to test this influence, at a collective level, during the creative session with management school students mentioned above. Each creativity group had to present its idea in front of 7 other groups and at the end of the presentation each participant had three votes to distribute among the other groups. The total votes represent the peer evaluation of the groups' ideas. Unlike the blind evaluation by the experts, the score of the ideas was influenced by the composition of the groups in terms of gender. We ran a multiple linear regression to assess the effects of group composition on the evaluation of ideas, using the scores of the 15 mixed groups as a reference (see table 3 in appendix 2). Our results show that groups with a high proportion of women and men were, on average, much better

evaluated by their peers than mixed groups. This difference in average compared with the mixed groups was 5.93 for the groups with a high proportion of women and 7.33 for the groups with a high proportion of men (p<5%). However, the difference in mean values between groups with a high proportion of men and groups with a high proportion of women was not significant. In the end, in terms of perception of the ideas, the men's groups were not rated any higher than the women's groups. However, the ideas put forward by mixed groups were perceived less favourably than those put forward by groups with a high proportion of men or women. There is therefore an influence of gender mix on the evaluation of ideas among students at a business school.

DISCUSSION

The literature review and our experiments with creative sessions in both professional and student environments show that creative processes are influenced by gender. However, the generation of ideas seems to be little influenced by gender, whether at individual or group level, whereas the evaluation of ideas depends on the gender of the evaluator and the gender diversity of creativity groups. These results allow us to discuss the importance of context in determining the influence of gender, the absence of gender bias, and the effect of the gender mix of creativity groups.

The impact of organisational context and climate on idea generation

The lack of difference between the performance of male and female creativity in the studies and our experiments could be linked to the type of creativity studied and the effect of the context. This leads us to differentiate between potential creativity and perceived creativity. Psychological studies on cognitive abilities, personality traits and cognitive styles conducive to creativity deal with potential creativity. The TTCT test in fact assesses a potential for creativity that can be expressed if the context is favourable. Perceived potential is linked to the perception of opportunities to use creative skills. In terms of perceived creativity, organisational obstacles have a strong impact on creative performance, with individuals believing that they cannot use their creative abilities in their work, and not putting their potential creativity to use (Caniëls & Rietzschel, 2015). Some studies suggest that the organisational climate may not be perceived in the same way by men and women. Studies on the creative organisational climate show that organisational motivation, management styles, the type of organisational structure and resources have a strong influence on the creativity of the members of an organisation (Amabile, 1996; Ekvall, 1996). For example, in the school environment, a study shows that adolescent girls are more sensitive than adolescent boys to the prospect of evaluation, and their creative performance decreases when it is announced that their work will be evaluated (Baer, 1997). In the workplace, a management style based on control is perceived as a greater barrier to creativity for women than for men (Kwasniewska & Nçcka, 2004). In our experiments, there was little pressure and the outcome of the creativity sessions was not an issue for the participants, students or professionals. What's more, access to resources was identical, whatever the gender of the participant. The context therefore had little effect on the generation of ideas for either men or women. The difference in creativity between men and women, when it is observed, could ultimately be essentially linked to the perception of the context. The latter could act on perceived creativity, inhibiting or encouraging the expression of potential creativity. In future research, it would be interesting to explore the differences between men's and women's perceptions of context and organisational climate in order to develop specific contexts that enable both women and men to express their potential creativity.

Gender bias in the evaluation of ideas and the effect of gender diversity

The significance of our results needs to be discussed in the context of the experiment, i.e. with regard to the nature of the audience analysed. Like many experiments in creativity, our work is based on an analysis of the behaviour of students and professionals (Amabile, 1997), in particular students at a business school, where traditionally there is a mix of students and professionals. This may explain the absence of bias in the evaluation of women's creative ideas: As the male and female students had been working in a mixed environment practically from the start of their studies (remember that they had all studied in the French education system), the quality of the creative ideas would not be linked so much to the gender of the individual supporting the idea but more to other criteria such as leadership, etc. These results would therefore tend to show that if there is a difference in evaluation between the ideas put forward by men and women, it would be formed after the studies and not in higher education (in management) but rather within the company. However, our results show that the ideas of mixed groups are less well evaluated. This difference could be explained by the fact that men and women tend to evaluate the performance of their counterparts better (Luthar, 1997). For mixed groups, in our experiment, given the gender balance in the group and among the evaluators, this effect would balance out. On the other hand, in a group in which women (or men) predominate, this effect would be strong. The predominant gender would evaluate the ideas of this group better, while the minority gender would not evaluate them any better. Our results also indicate a difference in the evaluation of ideas depending on the gender of the evaluator. Women's strictness on the feasibility and relevance criteria could be explained by a difference in education and the social roles attributed to women in Western society. These results are consistent with women's entrepreneurial stance. They tend to adopt pragmatic attitudes, relying on the resources available to them to devise the business model for their activity and develop their offering (Le Loarne-Lemaire et al., 2012). Similarly, this finding is also consistent with those relating to the way in which female bankers assess entrepreneurial projects (Carter et al., 2007). Research in the educational sciences may also shed some light on these results. In mixed schools, girls develop attitudes of survival, compensation or rebellion, depending on their school results (Boudoux and Noircent, 1995). One mechanism associated with one of these three strategies is the harsh judgement they make of their own work and that of others. If this trait, detected in young girls in mixed classes in Quebec, could be generalised to France and to young women, this could explain some of our results.

Limitations and future research

The results of this research are based on experiments carried out in the specific contexts of a management school and a conference for tourism development consultants, where gender mixing is common. This work also calls for comparative research to be carried out on similar audiences but in contexts where gender diversity is not the norm, in engineering schools or in industrial or 'high tech' environments, for example, where the representation of women is rather low. It would therefore be interesting to repeat these experiments in companies where women are less present, to check whether there is a

difference in the way creative ideas from women or men are evaluated in this type of context.

A second limitation of our research lies in the research protocol used, which finds gender effects on creativity, but does not explain why mixed groups are less well evaluated, or why the gender of the evaluator affects the outcome of the evaluation. Given the lack of research on the subject, future research should be based on qualitative studies focusing on motivations and evaluation mechanisms in assessment processes.

CONCLUSION

The managerial and organisational impact of the results presented

The two experimental studies we have carried out with 1ère year business school students and tourism professionals respectively reveal results that are both expected and unprecedented. Expected because they show that a man's creative agility is equivalent to that of a woman. Unprecedented because they highlight the fact that the gender of the people involved in the organisation, whether they are evaluators or creators, is not a neutral variable in the creative process. Firstly, female evaluators do not evaluate innovative ideas in the same way as male evaluators, all other things being equal. Secondly, while there is no statistical evidence to suggest that women's ideas are less well received than men's, it does appear that gender diversity in a creativity group has an impact on the evaluation of the ideas put forward by that group. In our experiment, the ideas of mixed groups were much less evaluated by their peers.

In a context where the organisation, in particular the company, is seeking to democratise its innovation processes (Von Hippel, 2003) and to include its stakeholders to a greater extent by setting up creative processes such as those used for these two experiments, in a context where it is seeking new opportunities for growth by identifying new markets, new less costly processes, new products or services, it cannot afford to let tomorrow's relevant ideas slip through its fingers. In this sense, this work concludes with a *plea* for the organisation to reflect on the impact of setting up such creative systems and on the fact that the gender of the person who evaluates ideas, or who puts forward ideas for innovation, is not neutral and that the judgement of the idea is not so much about its intrinsic content but that the sender or evaluator plays a crucial role.

If we consider that creative ideas can also concern ideas for better managing a company or ideas relating to the formulation of a company strategy, this research reminds us that the inclusion of more women on a board of directors does not necessarily mean a better selection of ideas put forward by women in a group. However, there is no evidence to the contrary. On the other hand, the introduction of a mixed gender on a board of directors could generate strategic ideas that might be less well evaluated by stakeholders. Consequently, the next challenge for promoting the role of women in strategic decision-making is not only to maintain gender parity on boards, but also to help stakeholders assess the new strategies put forward by these boards.

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Appendix 1 - Details of experiments

Trial 1 with tourism professionals

We conducted a study during a 2-hour creativity session attended by 102 people from the tourism sector at a professional conference. The participants were all tourism development advisors who help businesses to create and develop their activities. The participants were divided into 11 tables of up to 10 people, 9 participants and a facilitator. The creativity session was advertised as a training activity, and participants had to preregister before arriving at the conference. Eleven of the volunteers were trained in the creativity method in order to facilitate the creativity table, and 91 people actually took part in generating and evaluating ideas. Using a creativity game, each group generated three ideas, and the participants had to evaluate these three ideas in order to select just one in the end, based on the three criteria of originality, feasibility and relevance (in relation to the fields of tourism). We varied the method of evaluation: 6 tables evaluated the ideas individually, with 50 participants (group A), and 5 tables collectively, with 41 participants (group B). In the group evaluation, a single mark was awarded for each criterion for each of the ideas in the table. The group had to agree collectively on the score. During the individual evaluation, each participant evaluated all the ideas on the table on each criterion. The average of these scores gave the final score. In addition, each participant was asked to complete a questionnaire at the beginning of the session to collect the following data: gender, age, experience and creative fluency test.

Experiment 2 with students in their 1ère year at a business school

We conducted a study during a creativity session in a French management school with students aged 19 to 21 who had just joined the school and therefore had no previous specialisation in any management discipline and limited professional experience (463 students, 217 men and 246 women). We randomly formed 109 groups of 4 to 5 students in 16 classes for the creativity sessions: 5 all-female groups, 4 all-male groups, 25 heavily female groups (1 male with 3 or 4 females), 16 heavily male groups (1 female with 3 or 4 males), 23 predominantly female groups (3 females and 2 males), 21 predominantly male groups (3 males and 2 females) and 15 strictly mixed groups (2 males and 2 females). However, as the all-male and all-female groups represented only a small proportion of the groups, we removed them from the sample, and our regression was based on 100 groups (36 groups of 4 students and 64 groups of 5 students). The students were first given a test of creative fluency, which consisted in coming up with as many ideas as possible for objects that could be created with a sheet of paper in a limited period of time (1 minute). Fluency is measured by the number of ideas found per minute. The students then worked in groups to generate ideas. Each student in the group came up with an idea for a product designed to improve their daily lives; within the small group, one idea for an object was selected and an idea sheet was drawn up. Each group then presented its idea to the other students in a room made up of 8 groups. The rooms were set up to ensure a balance between men and women. At the end of the presentations, the students selected the ideas they thought were the most relevant by sticking stickers on the idea cards that were displayed in the room (we distributed three stickers per student). After the creative session, all the idea cards were evaluated blindly (with no indication of the composition of the group) by a committee of three experts made up of 1 woman and 2 men, using the criteria of originality, feasibility and usefulness.

Profiles and choice of the two populations

- 1) The choice to work on these two populations is a matter of what Girin calls methodical opportunism (1989): the possibility of teaching these people meant that two experiments could be carried out. For all that, the choice of these populations remains consistent with the populations studied in creativity research: the student population (Perry Smith, 2006 for example) or a population of professionals in a well-identified and homogeneous field or profession, Amabile (1988, 2002) for the researcher population and Drazin et al. (1996) for project managers, etc.).
- 2) It should be remembered that all people are potentially creative. Amabile (1988) establishes that individual creativity is a function of three components: motivation, creativity training and, ultimately, knowledge of the field. Here, the two populations being tested are fairly homogeneous in terms of their capacity for creativity: the ideas they are asked to generate relate to their respective daily lives (life in general and ideas about tourism organisation). Their training in creativity with regard to this subject is practically non-existent. It is practically impossible to guarantee homogeneity in terms of motivation for the exercise. That said, the tourism professionals all volunteered to take part in the exercise. The students, for their part, had all freely chosen their studies and their place of study and were motivated by an external factor.

Appendix 2 - Statistical tables of results

Table 1 - Correlation matrix for Experiment 1 on individual attributes

Variables	m	sd	1	2	3	4	5
1. Experience (years)	13.4	0.9	1.000				
	6	8					
2. Age (years)	45.0	1.0	0.4852**	1.000			
	3	0	*				
3. Perceived creativity	2.53	0.0	0.0118	-	1.000		
		8		0.0527			
4. Creative fluidity	6.95	0.3	0.1435	0.1206	0.1418	1.000	
		4					
5 Candan (m. 42 060/. vv. 56 040/)			0.1996*	0.1231	-	-	1.000
5. Gender (m: 43.96%; w: 56.04%)				0.1193	0.0124		

^{*:} p < 10%; ** p < 5%; *** p < 1%.

Table 2 - Comparison of the creative fluidity of men and women in Experiment 2

M (N. 217)	m	11.72	
Men (N=217)	sd	4.27	z-value: 0.699*
Waman (N=246)	m	11.69	p-value: 0.484
Women (N=246)	sd	4.64	

^{*} We used the Mann-Whitney-U test instead of the *t-test* because the dependent variables are not normally distributed.

Table 3 - Determination of expert and student evaluations in Experiment 2

	Number of groups	Expert assessment	Student assessment
Constant		7.77***	3.19
		(0.70)	(3.43)
Creative fluidity of teams		0.04	0.41
		(0.06)	(0.27)
Team size		0.51	4.06^{*}
		(0.39)	(1.99)
Male-dominated team	16	0.25	7.33**
		(0.44)	(2.65)
A predominantly male team	21	-0.87	4.41
		(0.63)	(2.83)
A predominantly female team	23	-0.49	4.22
-		(0.57)	(2.45)
Predominantly female team	25	0.09	5.90**
-		(0.49)	(1.99)
Comments		100	100
\mathbb{R}^2		0.09	0.21

Note: The standard error is in brackets. The reference category is the mixed team (15 groups) - * : p < 10%; *** p < 5%; **** p < 1

<u>Table 4 - Panel linear regressions for Experiment 1</u>

Model	1	2	3	4
Variables	Score		Score	Score
	Total	Originality Score	Relevance	Feasibility
Experience	-0,011	-0,009	-0,012**	0,008
(in years)	(0,011)	(0,007)	(0,006)	(0,009)
Age	0,002	0,001	0,010*	-0,010
	(0,011)	(0,007)	(0,006)	(0,009)
Perceived creativity	0,133	-0,045	0,030	0,122*
	(0,089)	(0,055)	(0,044)	(0,072)
Creative ability	-0,056*	-0,053***	-0,010	0,017
	(0,03)	(0,019)	(0,015)	(0,024)
Туре	0,601***	-0,029	0,218**	0,401**
	(0,195)	(0,120)	(0,098)	(0,157)
Type of vote	0,028	0,005	0,143	-0,099
	(0,429)	(0,322)	(0,095)	(0,413)
	N = 91	N = 91	N = 91	N = 91
	Number of groups = 11			
	Wald chi2 $(6) = 13.59$	Wald chi2 $(6) = 12.36$	Wald chi2 $(6) = 12.92$	Wald chi2 $(6) = 11.70$
	Prob > chi2 = 0.0346	Prob > chi2 = 0.0545	Prob > chi2 = 0.0443	Prob > chi2 = 0.0690

Note: the standard error is in brackets - *: p < 10%; *** p < 5%; *** p < 1% -.