# "I would be more creative if…": Are there perceived barriers to college students' creative expression according to gender?

## *"Eu seria mais criativo se…": barreiras à expressão criativa percebidas segundo o gênero dos universitários*

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## Abstract

Creativity has become essential to the innovation that is demanded today. In this context, the university is fundamental in promoting creative skills and, thus, meeting such demand. Despite the lack of research concerning what college students think about creativity, these students perceive barriers to their creative expression. A total of 582 Portuguese college students were analyzed in the present study regarding their perceived barriers to the expression of creativity, using an inventory concerning psychological and social dimensions. Gender differences were assessed, not only considering the inventory's factors, but also items independently. Statistically significant differences were found in both analyses. These results are the starting point to a debate about the role of university in students' development, which should be not only professional, but also social and personal, besides the importance of finding place to creativity in their daily academic lives.

**Keywords**: Barriers; Creativity; Education, higher; Gender.

## Resumo

*A criatividade torna-se essencial à inovação que se exige atualmente. Nesse contexto, a universidade é fundamental para promover competências criativas que atendam a tal exigência. Porém, apesar da pouca investigação acerca do que*

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*os universitários pensam sobre criatividade, estes percebem existirem barreiras à sua expressão criativa. Neste estudo, 582 estudantes universitários portugueses foram investigados acerca de tais barreiras a partir de um inventário que explora dimensões psicológicas e sociais. Foram avaliadas diferenças em função do gênero, considerando não apenas os fatores do inventário, mas também itens de forma independente. Foram encontradas diferenças estatisticamente significantes em ambas as análises. Esses resultados permitem discutir o papel da universidade no desenvolvimento não só profissional, mas também social e pessoal dos alunos, além da importância de se encontrar lugar para a criatividade no quotidiano acadêmico.*

***Palavras-chave****: Barreiras; Criatividade; Educação superior; Gênero.*

Creativity is one of the most important requirements of innovation (Rietzschel & Caniels, 2013; Williams, Runco, & Berlow, 2016) and, understanding innovation as the successful implementation of creative ideas (Hennessey & Amabile, 2010), creativity is a priority in the present and in the future. It is already common for creative competencies to be referred to as the urge of survival as an individual and of organizations at the beginning of this century, thus asserting a radical importance (Soulé & Warrick, 2015) made "a possibility of escape from stagnation" (Nehardani, Mormoosavi, Sani, Tabarraei, & Ghodrati, 2013, p.1566) and the opportunity for personal growth (Wechsler, Oliveira, & Tonete-Suárez, 2015). Being creative is a key element to the challenge of being in the world today (Miller & Dumford, 2014).

The definition of creativity is considered as complex (Barbot, Besançon, & Lubart, 2011); however, there is a consensus about the simultaneity of originality and effectiveness for something to be creative (Kaufman, 2016; Runco & Jager, 2012). For its part, being creative can be worked out. Meta-analysis studies on interventions in creative competencies have already shown improvement (Ma, 2006; Scott, Leritz, & Mumford, 2004). Many of these interventions are conducted in an academic context, thus appearing as a relevant scenario to foster creative problem solving by addressing the curriculum and pedagogical practices at all levels of education (Cropley, 2015).

Consistent with the modifiability of creative competencies, there is concern about the predominance of a creative climate, which is an environment that promotes such skills and innovation (Miller & Dumford, 2014). The research of characteristics of a creative climate has emerged in the domain of business organizations (Hong, Chang, & Chai, 2014), having had less development in the educational context despite their relevance (Péter-Szarka, 2012; Tan et al., 2015).

Comparing the characteristics pointed at a creative climate in business organizations (Isaksen, 2007) and in educational contexts, namely a school context (Fleith & Morais, 2017; Romo, 2012), great similarities are observed, as one would expect. In a systematization, from these and other authors, an environment that enables creative expression should guarantee psychological security, which is permissive of risk-and-mistake-taking behaviors such as formulating new situations and questioning. This security climate also promotes autonomy, criticism, debate and participation in general. The contents and strategies work in a way not to prevail routine, but contemplating diversity and articulation regarding personal interests. The stimulus to creative responses must also be explicit and achievements must receive continuous and constructive feedback. A creative climate also allows to combine working or learning to playfulness, for example by favoring humor or imagination. It is therefore understandable that this climate gives rise to commitment and engagement.

As for the still ambiguous topic of intrinsic/extrinsic motivation in the face of creativity (Kaufman, Reiter--Palmon, & Royston, 2015), several authors (Hennessey & Amabile, 2010; Jesus, Rus, Lens, & Imaginário, 2013) have affirmed the importance of intrinsic motivation for creative manifestation, even if it can be achieved with rewards, that is, when they are processed as confirmation of competence of the already intrinsically motivated individual. The pressure of deadlines on creating also raises controversy; however, facilitating enough time to perform tasks is one of the most commonly mentioned characteristics for a climate conducive to creativity (Isaksen & Akkermans, 2011). However, these characteristics alone cannot guarantee anything

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in terms of creativity, but only their co-occurrence and even a "creative blend of these ingredients" allows such "cocktail" to be "a success" as Grainger, Barnes, and Scoffham (2004, p.252) have commented. On the other hand, personal characteristics are underlined in the facilitation of the creative process. For decades, there has been consensus on a set of attributes such as autonomy, self-confidence, willingness to risk-taking, tolerance to ambiguity or persistence (Barbot, Besançon, & Lubart, 2015).

The other *side of the coin* of creative climate and individual attributes that facilitate creative expression is, naturally, the existence of inhibiting factors. However, as for creativity, there is a dynamic coincidence of individual and contextual factors (Lubart, 2017), also when we talk about barriers, which are often specified as internal or personal, external, social or organizational, they cannot be taken independently (Nehardani et al., 2013). Thus, personal attributes that facilitate or hinder creative expression are reinforced or inhibited in lifelong modeling and under different contexts (Alencar & Sobrinho, 2017).

Some characteristics that illustrate this negative interaction of social influence and personal attributes in relation to creative expression in an educational context are social pressures on those who deviate from the norm, negative attitudes towards behaviors that imply risks, emphasis on conformism, devaluation of fantasy, lack of confidence and cooperation or authoritarianism (Sahlberg, 2011), as well as different expectations of achievement according to the gender of the individual (Mundim & Wechsler, 2015). Amabile (1999) referred to *creative murderers* an excessive and explicit control of tasks, competition and rewards processed as external.

Standardized procedures, when facing methodologies and content that do not contemplate such individual differences, which in turn are oriented almost exclusively to single response patterns, are denounced as creativity barriers (Sahlberg, 2011). This author even calls such procedures "the worst enemy of creativity" (Sahlberg, 2011, p.341). Also, teaching, learning and evaluation methods that focus on the transmission and reproduction of knowledge, emphasizing passivity and demotivation of the student, are pointed out (Csikszentmihalyi, 2007). Creativity requires curiosity, criticism, ambiguity management, persistence or remote association of knowledge (Lubart, 2017); most of the time, the pressure to perform quickly leads to the fragmentation of work and the lack of focus what is relevant, being impossible to create, but only to (re) produce (Hennessey & Amabile, 2010). If the focus is on the individual, the lack of self-confidence and self-esteem, the fear of questioning, of error, of being criticized (the fear of risking, inhibition), the avoidance of problems, the perception of oneself as incapable of being original, or the internalization of criticism as to being different (Alencar & Sobrinho, 2017) arise associated as a barrier of creative expression. These characteristics can then be read as more internal barriers, which are reinforced throughout the life-course by the presence of the previous procedures.

The research on obstacles to creativity is, however, scarce (Miller & Dumford, 2014) and, in Higher Education, more research on creativity in general is needed (Craft, Hall, & Costello, 2014). However, this level of education appears as an essential scenario for the development of citizens capable of facing the challenges of the future (Deverell & Moore, 2014). There is the responsibility of training students, not only regarding curricular competencies, but to prepare them for risks and opportunities to manage outside the academia (MacLaren, 2012). They should be capable not only of the increasingly fleeting action of learning, but above all of "manipulating, transforming and creating knowledge" (Garcia-Cepero, 2008, p.295), being trained for flexibility, criticism and creativity.

However, difficulties at implementing creative practices at the university have been noted (Deverell & Moore, 2014) and there have been perceptions of students reporting obstacles to their creative expression (Morais & Almeida, 2015). The fear students have of taking risks and being criticized is commented on by Hargreaves (2008). Misconceptions both from teachers and students about creativity may also contribute to institutional and personal barriers to creativity (MacLaren, 2012; Morais & Almeida, 2016). Regarding the

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students population, stress, shyness or fatigue (Oliveira & Alencar, 2007; Wilcoxson, Cotter, & Joy, 2011) also emerge as obstacles to creativity, being the lack of time and opportunities some of the most common factors (Sathler & Fleith, 2010).

The scarcity of literature about higher education students' perceptions of creativity (Craft et al., 2014) greatly influences their specific knowledge according to gender. However, some data may help to understand the relevance of this kind of research. The relation between gender and creative achievement has elicited inconclusive results (Prado, Alencar, & Fleith, 2016). Some results show a higher score for one of the genders, while some point to an equality between them (Kemmelmeier & Walton, 2012). As gender is a very influential variable, through the course of a lifetime, by psychosocial dimensions (Caleo & Heilman, 2014), it is expected its influence over representations in general and consequently over creativity in higher education. The female gender is indicated, by influence of stereotypes since childhood, as being more conformist, with less propensity for risk-taking, less professional success, less entrepreneurial skills, with lower self-esteem (Wai, 2013) and, thus, with fewer opportunities relating to the creative expression (Gralewski & Karwowski, 2013).

In education and taking college students, few studies can be found. Alencar (2001) showed that boys perceive the lack of motivation as a major obstacle to creativity, while girls do so by referencing to social repression. In a cross-cultural study, this author and colleagues (Alencar, Fleith, & Martinez, 2003) also found results in which female students, more than their male counterparts, referred to inhibition or shyness as a barrier to creativity in higher education. Both studies relate the data obtained with roles and social expectations that shape attitudes and behaviors differently in both genders. More research on this topic is clearly needed.

Listening to higher education students about creativity becomes a current necessity, as well as knowing more about the barriers they perceive. In this sense, this article aims to analyze differences in university students' perceptions regarding the obstacles to their creative expression, considering the gender variable.

## Method

### Participants

A total of 582 students from a Portuguese public university participated in the study. The areas of study were divided into Arts and Humanities, Science and Technology, and Social and Human Sciences, with 2$^{nd}$ year university students and master's degree 1$^{st}$ year students. Regarding gender, 58% of the participants were women, with the average age being 23.4 years, ranging from 18 to 59 years.

### Instruments

The Inventory of Barriers to Personal Creativity, originally developed in Brazil by Alencar (1999), in its adapted version to Portugal (Morais, Almeida, Azevedo, Alencar, & Fleith, 2014) was applied. This inventory identifies dimensions that affect creative expression, starting from the formulation "I would be more creative if ....". The opinion is given on a 5-point Likert scale (ranging from *strongly disagree to strongly agree*). The inventory has 44 items organized into four factors: Inhibition/Shyness (14 items), Lack of Motivation (12 items), Lack of Time/Opportunities (10 items) and Social Repression (8 items). The factors Lack of Time/Opportunities and Social Repression refer essentially to social elements with an influence on creative expression (examples: "if I had more time" and "if I were less criticized"). The Inhibition/Shyness and Lack of Motivation factors correspond to emotional, motivational and personality variables (examples: "if I trusted myself more" and "if

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I were more persistent"). This instrument demonstrates good indicators of accuracy and validity. Cronbach's alphas oscillated between 0.81 and 0.91, with a variance of 46% explained by these four factors.

## Procedures

University professors were contacted in order to authorize the application of this instrument in their classes. The students responded to the inventory in classroom context, with the professor present at the time of application, which took approximately 15 minutes. The instrument was applied in each class by two psychologists previously instructed regarding the inventory to be applied. In the beginning, the purpose of the research was succinctly explained, requesting a written consent form from the students, guaranteeing their anonymity. The entire process lasted approximately 20 minutes. For the data analysis, the Windows-based 23.0 International Business Machines Statistical Package for the Social Sciences (IBM SPSS Inc., Chicago, Illinois, United States) software was used.

# Results

Regarding gender, the perceptions about barriers to creative expression expressed by the whole sample (values of Means and Standard Deviations) are presented in Table 1.

It is verified that the average values are superior for the female gender in the dimensions Lack of Time/ Opportunities and Inhibition/Shyness, while men perceive more barriers in Lack of Motivation and in Social Repression. It is in Inhibition/Shyness that the discrepancy between genders is more evident.

From the analysis of mean differences ($t$-test), the only dimension which did not show any statistically significant differences was Lack of Time/Opportunities. Thus, women perceive more barriers in Inhibition/ Shyness ($t = 3.135$, $df = 575$, $p = 0.002$), while men do so in the face of Social Repression ($t = 2.560$, $df = 572$, $p = 0.011$) and Lack of Motivation ($t = 2.307$, $df = 575$, $p = 0.021$).

In a closer look, mean differences between the genders were tested according to each of the items. The descriptive data (mean and standard deviation) corresponding to the items in which statistically significant differences were found are presented in Table 2.

Statistically significant differences according to gender were found in five items of the Inhibition/ Shyness factor, and in all cases there was superiority of women, that is, perceiving women more obstacles to creativity. Thus, women tend to "trust themselves less" ($t = -5.382$, $df = 579$, $p = 0.000$), and are more prone to feeling "shy when needing to expose their ideas" ($t = -4.292$, $df = 579$, $p = 0.000$), have more "fear of facing the unknown" ($t = -2.726$, $df = 579$, $p = 0.007$), of "facing criticism" ($t = -2.083$, $df = 579$, $p = 0.038$) and of "executing their ideas" ($t = -2.763$, $df = 579$, $p = 0.006$). On the contrary, it is men who

Table 1
*Mean and Standard Deviation of results in barriers to creative expression according to gender*

| Gender | Inhibition/Shyness (14 items) | | Lack of Motivation (12 items) | | Lack of Time/Opportunities (10 items) | | Social Repression (8 items) | |
|---|---|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| Male | 42.83 | 11.89 | 40.79 | 9.95 | 34.87 | 7.23 | 19.97 | 6.05 |
| Female | 46.02 | 12.05 | 38.75 | 1.79 | 35.97 | 7.04 | 18.60 | 6.38 |

Note: M: Mean; SD: Standard Deviation.

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Table 2

*Mean and Standard Deviation of results in barriers to creative expression according to item and gender*

| Itens | Male | | Female | |
|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* |
| If I trusted myself more | 3.28 | 1.27 | 3.84 | 1.22 |
| If I were less shy when exposing my ideas | 3.34 | 1.32 | 3.81 | 1.28 |
| If I weren't afraid of facing the unknown | 2.93 | 1.29 | 3.23 | 1.26 |
| If I weren't afraid of criticism | 3.03 | 1.22 | 3.25 | 1.32 |
| If I weren't afraid of carrying out my own ideas | 3.11 | 1.20 | 3.40 | 1.21 |
| If I weren't so comfortable | 3.34 | 1.29 | 2.77 | 1.34 |
| If I were less lazy | 3.56 | 1.35 | 2.67 | 1.43 |
| If I had the habit of searching for new ideas | 3.50 | 1.12 | 3.74 | 1.11 |
| If I were more dedicated to what I do | 3.50 | 1.24 | 3.13 | 2.62 |
| If I had been more motivated by my professors | 3.31 | 1.23 | 3.53 | 1.22 |
| If there was greater collaboration between people | 3.46 | 1.12 | 3.67 | 1.04 |
| If I hadn't had such rigid education | 2.25 | 1.08 | 1.80 | 1.14 |
| If I were less authoritarian | 2.25 | 1.07 | 1.94 | 1.04 |

Note: M: Mean; SD: Standard Deviation.

show more barriers to creative expression in items contained in the Lack of Motivation factor, perceiving themselves as more "accommodated" ($t = 5.118$, $df = 579$, $p = 0.000$), "lazier" ($t = 2.003$, $df = 578$, $p = 0.043$) and less "dedicated to what they do" ($t = 2.003$, $df = 578$, $p = 0.043$); inversely, women do not quite "have the habit of searching for new ideas" ($t = -2.618$, $df = 578$, $p = 0.009$). Two more differences were found in items within the Lack of Time/Opportunities factor, with women having the perception of more barriers. They reported to have been less "professor-stimulated" ($t = -2.141$, $df = 577$, $p = 0.033$) ($t = -2.219$, $df = 579$, $p = 0.027$) and the need for "more collaboration between people" ($t = -2.219$, $df = 579$, $p = 0.027$). On the contrary, it is men who show more difficulties associated with a "rigid education" ($t = 2.078$, $df = 578$, $p = 0.038$) and with being "authoritarian" ($t = 3.497$, $df = 578$, $p = 0.001$), items present within the Social Repression factor.

## Discussion

Perceptions of barriers to creativity in university students have been found (Morais & Almeida, 2015). However, there is still very little specific research regarding gender differentiation in these perceptions. With this same goal in mind, a group of Portuguese university students was analyzed, having participants of both genders. Differences were evaluated as a function of this variable, considering the factors of the inventory of barriers used, but also their items in a more detailed analysis. Significant differences in factors and items were found separately.

Based on the analysis per factor in the inventory, the superiority of women reported in Inhibition/Shyness, as well as the superiority of men reported in Lack of Motivation, are echoed in the few studies on the subject (Alencar, 2001; Alencar et al., 2003). Contrary to these studies, a superiority of men was reported in Social Repression. A detailed analysis per item may provide a greater understanding of such data and of differences related to the Lack of Time/Opportunities.

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Thus, a greater inhibition, lower self-esteem and self-confidence, less fear of taking risks and less initiative underlying items in which women rated higher, are in agreement with the literature (Shinnar, Giacomin, & Janssen, 2012), drawing essentially on the social roles that shape behaviors and attitudes differently for both genders (Caleo & Heilman, 2014). Women also show more barriers related to feeling stimulation from their professors and to the need for collaboration – these obstacles, harbingers of a greater lack of opportunities, can also be understood by the aforementioned social vision. Relating to boys, the barrier constituted by the least effort that they put in the activities can still be understood by the different roles and social expectations according to gender through a lifetime (Alencar, 2001) and the same can happen by taking a closer look to the items of Social Repression which are differentiated in this study. This way, men show a "rigid education" that can condition creative expression and, possibly, by shaping, they internalize more inflexible behaviors (they are "more authoritarian") which act this way as well. This study cannot affirm that women encounters more obstacles to creativity, but only when facing some barriers.

These results may trigger some alerts. Taking the gender variable, the university should be routinely focused on a greater incentive of self-confidence, initiative, risk taking or collaboration regarding the participation of female students, but also calling for a greater flexibility of stereotypes, attitudes and behaviors in boys. Thus, higher education may participate in the deconstruction of beliefs possibly rooted in traditional educational practices and conditioners of creative expression. Such beliefs may have been reinforced in the academic life, but also in other contexts of life. The university can and should therefore exert a positive influence on the development not only of the professional, but also the social and personal development of its students (Alencar, 2011; Deverell & Moore, 2014).

However, this research presents its own limitations. The sample could be more diverse regarding the type of evaluated institution (public and private). It should also not be forgotten that the results are based on self-reports, always loaded with some social desirability and this problem is difficult to overcome when researching this topic. Nevertheless, the research presents a topic not yet studied in Portugal and even with few results at the international level, although its research is claimed (Sathler & Fleith, 2010). It is hoped, with this study, to have contributed to the development of further studies on creative competences in higher education and to a greater emphasis on these skills in the everyday life of a university *campus*.

## Contributors

All authors made substantial contributions to the conception and design of this study, data gathering, and manuscript writing.

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