

## Gender Differences in Humor Styles and Verbal Creativity Among Students of English at Guelma University

الاختلافات الجنسية في أنماط الفكاهة والإبداع اللفظي لدى طلاب اللغة  
الإنجليزية في جامعة قلمة

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Abstract (English):

Studies on gender, humor, and creativity report conflicting results across cultures. Hence, this study aims to explore gender differences in humor styles and verbal creativity among Algerian students of English, besides the broader relationship between gender, verbal creativity, and humor. It utilizes the Humor Styles Questionnaire and the Divergent Association Task on a sample of 64 students at Guelma University. The results show that women lean towards affiliative, self-enhancing, and aggressive humor, while men prefer self-defeating humor. Yet, there is no correlation between creativity and humor; the fact that women are more verbally creative plays no mediating role.

**Keywords:** Gender; Humor; Verbal Creativity; Humor Styles Questionnaire; Divergent Association Task.

ملخص باللغة العربية:

تقدم الدراسات المتعلقة بالجنس، الفكاهة، والإبداع نتائج متناقضة بين مختلف الثقافات. وعليه، تهدف هذه الدراسة إلى استكشاف الاختلافات الجنسية في أنماط الفكاهة والإبداع اللفظي لدى طلاب اللغة الإنجليزية الجزائرين، بالإضافة إلى العلاقة الأوسع بين الجنس، الإبداع اللفظي، والفكاهة. تستعمل الدراسة استبيان أنماط الفكاهة واختبار الارتباط المتنوع على عينة تتألف من 64 طالبًا في جامعة قلمة. تظهر النتائج أن النساء يملن للفكاهة التآزرية، والمعززة للذات، والعدوانية، بينما يفضل الرجال الفكاهة المثبطة للذات. ومع ذلك، لا يوجد ترابط بين الإبداع والفكاهة؛ فحقيقة أن النساء أكثر إبداعًا لفظيًا لا تلعب دورًا وسيطًا.

كلمات مفتاحية: الجنس؛ الفكاهة؛ الإبداع اللفظي؛ استبيان أنماط الفكاهة؛ اختبار الارتباط المتنوع.

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## 1- Introduction

When examined, humor is a ubiquitous aspect of human life and a common means of self-expression and social interaction. Thus, it is not surprising that humor has been the subject of numerous studies exploring its relationship with a range of linguistic, social, and psychological variables. In recent years, there has been a growing interest in examining gender differences in humor styles, as well as the relationship between humor and verbal creativity. On the one hand, some research, particularly in western societies, suggests that women lean more towards positive humor while men tend to prefer negative humor (Yue & Hui, 2015). However, these findings are not universal and are influenced by a multitude of other factors, such as cultural background. On the other hand, a positive link between the capacity to articulate humor (or having a sense of humor) and creativity has been firmly established (O'Quin & Derks, 1997; Rudowicz & Yue, 2001). Yet, since humor can be primarily carried out through language, verbal creativity in particular remains an interesting avenue for research. Furthermore, it is still unclear whether gender impacts verbal creativity and if this latter is also related to certain affinities in humor styles. To explore these issues, and fill a research gap in the Algerian context, this study seeks to answer four questions: First, are there any gender differences in humor styles amongst students of English? Second, are women more verbally creative than men? Third, is there any correlation between verbal creativity and humor styles? Fourth and last, does verbal creativity serve a mediating role in the relationship between gender and humor? From these questions, we hypothesize that men might score higher than women on negative humor styles, while women might score higher on positive humor styles. Furthermore, there may be no differences in verbal creativity among male and female students of English. Then, verbal creativity may be positively correlated with affiliative and self-enhancing humor. Finally, verbal creativity may mediate the use of the humor styles between men and women. Therefore, this article aims to uncover gender differences in proclivities towards the four humor styles and in verbal creativity. Additionally, we strive to spot any correlation between verbal creativity and humor styles, as well as investigate the mediator role of verbal creativity between gender and humor styles so as to better understand gender differences in the use of humor. To our knowledge, this study serves as pioneering research on the matter of gender, humor, and verbal creativity in an Algerian context.

### 1.1. Previous Research

According to Martin et al. (2003), people's general personality traits are mirrored in the way they use humor. On this basis, they distinguish four humor styles, which represent the many ways that people use humor in daily life, whether consciously or subconsciously. Furthermore, Martin et al. (2003) devised the Humor Styles Questionnaire (HSQ) to measure these four types of humor: self-enhancing, affiliative, aggressive, and self-defeating (as cited in Martin & Ford, 2018, pp. 105-107).

First, 'self-enhancing humor' is often associated with high self-esteem. It is observed in individuals who have an overall humorous outlook on life. The second style is called 'affiliative humor,' and it is used by those who like to joke around and make others laugh. Third, 'aggressive humor' is the use of sexual and/or derogatory jokes and the intentional targeting of others for amusement's sake. It can be used to manipulate others by making fun of them. This also involves the use of vulgar language, and joking about taboo topics. Fourth, individuals with poor self-esteem frequently resort to 'self-defeating humor'. These people accept being mocked, and even undermine themselves to make others laugh (Martin & Ford, 2018, pp. 106-109).

Aside this, it is generally acknowledged that gender plays such a significant role in shaping our experiences. If so, then "it stands to reason that the way we "do" humor, the way we receive humor, and perhaps even our sense of humor may also, in some way, be accordingly gendered" (Chiaro & Baccolini, 2014, p. 1). In this vein, it is suggested that men produce and appreciate aggressive humor more than women do, and women tend to produce and appreciate affiliative and self-enhancing humor (Martin et al., 2003; Yip & Martin, 2006). However, other studies present different results. In fact, some report that men exhibit higher use of all styles of humor than women do (Dyck and Holtzman, 2013; Salavera et al., 2018). Meanwhile, Kazarian and Martin (2006) put forward the idea that men often make jokes that are either aggressive or self-defeating. Furthermore, Chan et al. (2009) report that among Asian men, negative humor was favored, whereas Asian women leaned more towards affiliative humor so as to enrich social relationships. Still, other scholars (e.g., Hemmasi, Graf, & Russ, 1994; Henkin & Fish, 1986; Herzog, 1999; and Lampert & Ervin-Tripp, 1998) have come to different conclusions about how often men and women tell sexual or aggressive jokes and what kinds of humor women may like the most (as cited in Martin, 2014, pp. 127-129). All this in mind, it stands evident that more research is necessary, especially in communities such as Algeria where studies on humor are relatively rare. That said, there can be other factors, besides gender, that affect a person's proclivity towards certain humor styles. One such element may be verbal creativity.

#### **1.1.1. The Role of Verbal Creativity in the Relationship Between Gender and Humor**

Creativity is the capacity to provide novel and practical answers to challenges in various domains (Sternberg, 2005; Amabile & Pillemer, 2012). In particular, the ability to generate novel ideas via language is known as verbal creativity. It is related to the "fluency, flexibility, and originality that can be seen in divergent thought" and is revealed through words and sentences (Munandar, 2009, as cited in Ghufuron & Ermawati, 2018). For more than a century, the effect of gender on creativity has been an issue of dispute (Abraham, 2016; Odzemir & Sak, 2013). In a review of 133 papers published between 1975 and 2020, Nakano et al. (2021) conclude that most studies report gender differences. While 31.50% fluctuate depending on the material assessed, 45.20% favor women, and

23.28% lean towards men. As such, the sample, the aspect of creativity assessed, the metrics used, and the cultural context all influence the findings. Consensus, therefore, remains distant. Moreover, in the domain of language learning and use, research informs us that, from an early age, females are typically more proficient language users than males (Dionne et al., 2003) as they display a significant advantage in native and foreign language courses (Voyer & Voyer, 2014).

Undoubtedly, humor is a salient form of divergent thinking and a creative activity (Koestler, 1964; Romero & Pescosolido, 2008; Wood, Beckman, & Rossiter, 2011). It is widely accepted that humor and creativity are inextricably tied and that “humor styles are correlated with both creative thinking abilities and creative personality traits” (Yue & Hui, 2015, p. 845). Generally, positive humor styles (affiliative humor and self-enhancing humor) are more closely correlated with creativity than the negative styles (aggressive humor and self-defeating humor) (Ren et al., 2011). Regarding this, researchers claim that high school students who are humorous also tend to be creative and that creativity can be accurately correlated with affiliative humor style (Fan et al., 2021). However, in contrast to western studies, research conducted in Asian countries such as China suggests that there is no association between humor styles and creativity (Yue & Hui, 2015). As for the Algerian context, we could not find any research tackling this question.

## 2- Methods

The current paper is a quantitative study targeting students of English at University of 8 May 1945 – Guelma for the aim of exploring gender differences in verbal creativity and humor styles and identify, with gender in mind, any association between verbal creativity and humor.

### 2.1. Research Sample

64 English students from 8 May 1945 University in Guelma were chosen for this study. This choice is informed by the scarcity of similar research in this specific group as well as the ease of access. As investigating the entire population is outside the scope of this study, a random sample of 32 male and 32 female is considered representative.

### 2.2. Data Collection Tools and Procedures

To reach the aims of this study, two measuring tools were used: the Humor Styles Questionnaire (HSQ) and the Divergent Association Task (DAT). First, the researchers used the humor styles questionnaire that was developed by Martin et al. (2003). In this task, participants indicate their level of agreement or disagreement with 32 statements on a scale of 1–7. These statements are divided so that each 05 focus on one of the four humor style. Hence, for self-enhancing humor, an example would be “if I am feeling depressed, I can usually cheer myself up with humor.” For affiliative humor, one statement is “I usually don’t laugh or joke around much with other people.” For As for aggressive humor, statements include “people are never offended or hurt by my sense of humor.” Finally, one

statement for self-defeating humor is “I let people laugh at me or make fun at my expense more than I should.” The internal consistency coefficients of the HSQ were observed to range from .77 to .81, indicating good reliability.

Second, creative people, according to associative theories, find it easier to make connections between seemingly unrelated items (Mednick, 1962; Kenett & Faust, 2019). Based on this, Olson et al. (2021) propose the task of identifying 10 unrelated words as a valid measurement of verbal creativity. This task, known as DAT, was administered to our sample on a sheet of paper. The participants were asked to specify their gender and write 10 unrelated words. Upon collecting the needed number of responses, the data were input on the website: datacreativity.com. At this stage, the algorithm GloVe (35), used frequently in the domain of creativity tests (Beaty & Johnson, 2021; Dumas et. al., 2020), automatically calculated verbal creativity based on the relatedness of words (or semantic distance); “words that are used in similar contexts have smaller distances. The words cat and dog, for example, would be close to each other since they are often used together, whereas cat and thimble would not” (Olson et al., 2021, p. 2). In theory, thinking of words with ‘greater distance’ between them is reflective of higher verbal creativity. Of course, since the DAT is used to assess only one aspect of creativity (divergent thinking), the results it generates are not indicative of the complex process of creativity as a whole. Nevertheless, the DAT allows us to focus on verbal creativity in isolation, to the extent it can be isolated, of course. More importantly, unlike traditional tests, the DAT’s scoring is automatic, objective, and not limited to specific samples. This permits us to increase the sample size and obtain data with little effort and no bias, not to mention that multilingualism does not affect the results (Olson et al., 2021). Finally, data were analyzed on SPSS V26.

### 3- Results

The following section outlines the steps of statistical analysis in this study and the results obtained from each test.

#### 3.1. Gender Differences in Humor Styles and Verbal Creativity

To start with, Table 1 includes the mean and SD values attained from the Humor Styles Questionnaire and the Divergent Association Task for students of English at 8 May 1945 University – Guelma, categorized by men and women.

Table 1. Gender Differences in Humor Styles and Verbal Creativity

	Men		Women		<i>t</i>	<i>d</i>
	N= 32		N= 32			
	Mean	SD	Mean	SD		
Humor styles						
Affiliative *	4.35	0.79	4.80	0.77	-2.27	-0.57
Self-enhancing **	4.76	1.01	5.37	0.75	-2.69	-0.68
Aggressive *	4.33	0.70	4.75	0.69	-2.39	-0.60
Self-defeating ***	4.15	1.01	3.19	0.80	4.14	1.05
Verbal Creativity *	71.37	4.60	75.68	4.84	-3.64	-0.91

The results obtained through DAT make it clear that women have a higher verbal creativity than men in our sample ( $p < 0.05$ ,  $t > -3.64$ ,  $d > -0.91$ ). Following this, women score higher on affiliative humor ( $p < 0.05$ ,  $t > -2.27$ ,  $d > -0.57$ ) and self-enhancing humor ( $p < 0.01$ ,  $t > -2.69$ ,  $d > -0.68$ ). Surprisingly, women score higher than men also on aggressive humor ( $p < 0.05$ ,  $t > -2.39$ ,  $d > -0.60$ ). As for self-defeating humor, men score quite higher than women ( $p < 0.001$ ,  $t > 4.14$ ,  $d > 1.05$ ). Furthermore, both genders score higher on positive humor than on negative humor. Specifically, they score the highest on self-enhancing humor, followed by affiliative humor, aggressive humor, and finally self-defeating humor.

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

### 3.2. Correlation Results

#### 3.2.1. Correlation Between Gender and Humor Styles

Results show a significant correlation between gender and verbal creativity ( $r = 0.42$ ,  $p < 0.01$ ). As far the correlation between gender and each of the humor styles, Table 2 shows that there is a statistically significant correlation between gender and affiliative humor ( $r = 0.27$ ,  $p < 0.05$ ), between gender and self-enhancing humor ( $r = 0.32$ ,  $p < 0.01$ ), between gender and aggressive humor ( $r = 0.29$ ,  $p < 0.05$ ), as well as between gender and self-defeating humor ( $r = -0.46$ ,  $p < 0.01$ ).

Table 2. Correlation Between Gender and Humor Styles

Gender	Humor Styles			
	Affiliative	Self-Enhancing	Aggressive	Self-defeating
	0.27	0.32	0.29	-0.46

**3.2.2. Correlation Between Verbal Creativity and Humor Styles**

Next, we calculated the correlation between verbal creativity and each of the humor styles. Table 3 shows the values of Pearson correlation. We note a non-significant correlation regarding affiliative humor and verbal creativity ( $r= 0.08, p> 0.05$ ), as well as self-enhancing humor and verbal creativity, ( $r= 0.23, p> 0.05$ ). The same non-significant correlation is established regarding aggressive humor and verbal creativity ( $r= 0.20, p> 0.05$ ), in addition to self-defeating humor and verbal creativity, ( $r= - 0.24, p> 0.05$ ). Hence, there is no correlation between verbal creativity and any of the four humor styles.

Table 3. Correlation Between Verbal Creativity and Humor Styles

Verbal Creativity	Humor Styles			
	Affiliative	Self-enhancing	Aggressive	Self-defeating
	0.08	0.23	0.20	-0.24

**3.3. Mediation Results**

Finally, we investigated the indirect effects of gender on humor styles through verbal creativity using the Sobel Test. Fig.1 shows that verbal creativity does not mediate the relation between gender and affiliative humor ( $p> 0.05, Z= -0.02$ ). Next, Fig.2 shows that verbal creativity is irrelevant to the relation between gender and self- enhancing humor either ( $p> 0.05, Z= 0.08$ ). Similarly, Fig.3 shows that verbal creativity does not play a role in the relationship between gender and aggressive humor ( $p> 0.05, Z= 0.05$ ). Finally, in Fig.4, the data do not stray from what was found before, in that verbal creativity does not serve as a mediator between gender and self-defeating humor ( $p> 0.05, Z= -0.03$ ).

Fig.1. Verbal Creativity Mediation Between Gender and Affiliative Humor

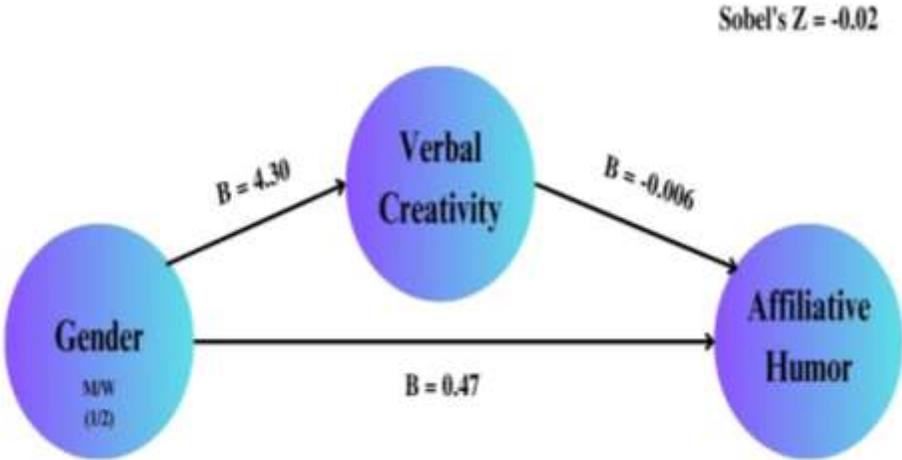


Fig.2. Verbal Creativity Mediation Between Gender and Self-Enhancing Humor

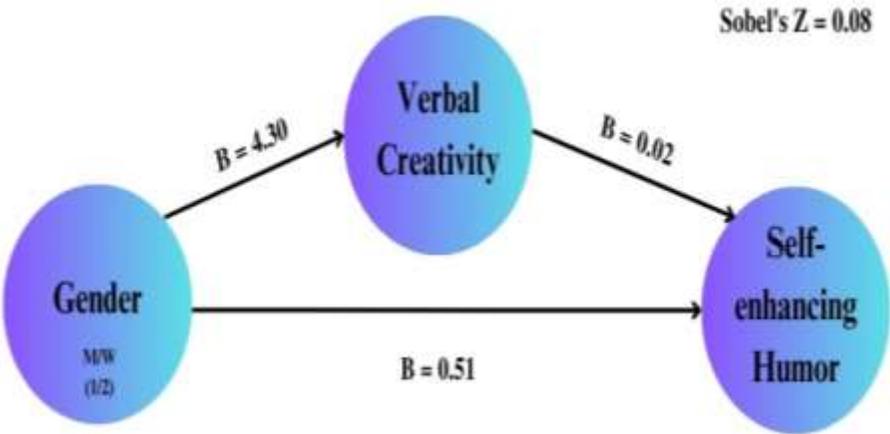


Fig.3. Verbal Creativity Mediation Between Gender and Aggressive Humor

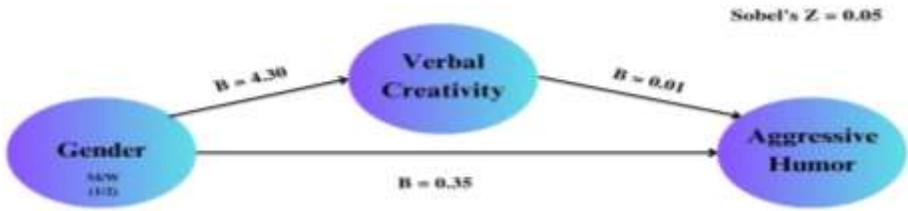
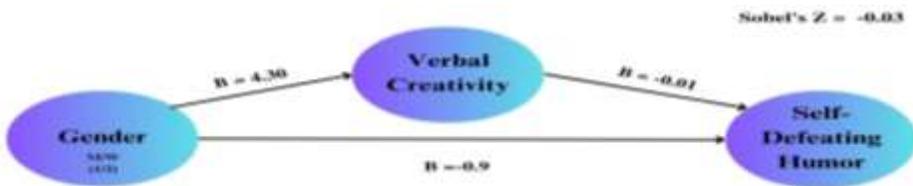


Fig.4. Verbal Creativity Mediation Between Gender and Self-Defeating Humor



#### 4- Discussion

For this research, four hypotheses were put forth: 1) Men might score higher than women on negative humor styles, while women might score higher on positive humor styles; 2) there might be no verbal creativity differences amongst men and women; 3) verbal creativity may be positively correlated with affiliative and self-enhancing humor; and 4) verbal creativity mediates the use of the humor styles between men and women.

Starting with our first hypothesis, our results show significant differences in humor styles between men and women. Not to mention, we uncovered a significant correlation between gender and each style. Evidently, the relationship between these two variables is clear. In our sample, women score substantially higher than men on affiliative and self-enhancing humor. This is in line with some studies (Martin et al., 2003; Yip & Martin, 2006; Chen et al., 2009), but also in contrast to some others, which report that men score higher on all humor styles (Dyck and Holtzman, 2013; Salavera et al., 2018). It is also worthy of mention that both genders score higher on positive humor than on negative humor.

The fact that women score higher on affiliative and self-enhancing humor does further confirm that women may increasingly lean towards humor that serves to enrich the self and relationships, which is importantly proven by the fact that women score higher on positive humor than on negative humor. However, the same can be said about men. Surprisingly, men score lower than women on aggressive humor, which stands in striking contrast to a host of other studies (Martin et

al., 2003; Yip & Martin, 2006; Chen et al., 2009; Kazarian & Martin, 2006; Dyck & Holtzman, 2013; Salavera et al., 2018). While these results cement a number of key assumptions in the literature, they completely contradict others. In our view, this may be due to the socio-educational context. Given that these are English majors at a predominantly female faculty, the abundant presence of female students may prevent some of the more extreme forms of humor that have been observed among male students. As a result, men may be encouraged by their immediate surroundings to resort to more friendly forms of expression. Such an idea is in accordance with a study by Salavera et al. (2018), in which they postulate that the socio-educational context does influence men's affinity for positive humor.

Be that as it may, the reasons behind women's elevated inclination towards aggressive humor are somewhat vague. It could again be that the female-dominated context encourages women to be more competitive and display more aggressive intent. Alternatively, it could simply indicate that the idea of women having less interest in aggressive humor is not set in stone. Lastly, in accordance with other studies (Kazarian and Martin, 2006; Chen et al., 2009), our findings further confirm that men are substantially more interested in self-defeating humor than women. As such, our first hypothesis is only partly valid. These findings alone pose a plethora of questions regarding how Algerian women, specifically those in English departments, perceive and use aggressive humor. Indeed, there is no reason to assume that cultural background does not influence humor inclinations or that all women must fall into one classification, knowing that research on this issue in Algeria tends to be scarce.

Turning to our second hypothesis, it stands that women score higher on the Divergent Association Task, thereby displaying a greater ability to think of semantically distant words, which, according to Olson et al. (2021), is indicative of higher verbal creativity. We are inclined to relate this to studies that report women's advantage in language learning and use (Dionne et al., 2003; Voyer & Voyer, 2014). If these claims are accurate, then it is logical to suggest that women's high literary or linguistic aptitude reveals itself in their capacity to conceive of words that are widely unrelated, an element of divergent thinking that contributes to substantial verbal creativity. In any case, the results refute our prediction that there are no gender differences in verbal creativity; therefore, the second hypothesis is invalid.

As for our third and fourth hypotheses, unexpectedly, the results disprove any link between verbal creativity, as measured through the DAT, and the four humor styles. Indeed, not only did we not find any correlation between verbal creativity and any of the humor styles, but we also ruled out the possibility of verbal creativity as a mediator between gender and the humor styles. Even though this is not completely unheard of, as it is in accordance with some studies (Yue & Hui, 2015), it admittedly goes against what the vast majority of research has shown. Of course, the results of the

current study do not permit us to posit that there is no association between verbal creativity and humor. Instead, it is more plausible to argue that our findings may be due to the small sample. Alternatively, the results – and the relationship between gender, verbal creativity, and humor at large – may be context dependent. If anything, our findings highlight the importance of considering multiple factors when assessing individual differences in creative abilities and humor styles, among which we can mention culture, age, education, geographical location, openness, extraversion, neuroticism, etc. Furthermore, it is possible that the lack of correlation is due to the method of measuring verbal creativity. In other words, given that creativity as a whole is complex, detecting a significant correlation with humor may hinge on the use of multiple tools of measurement. Naturally, this is not to imply that the results produced by DAT are null. Rather, we must keep in mind that this tool measures only a sliver of creativity and would perhaps yield more comprehensive results when used along with other metrics.

All considered, our results are sufficient to answer the research questions. First, regarding whether or not there are any gender differences in humor styles, we found that both men and women score higher on positive humor than on negative humor. Both genders score the highest on self-enhancing humor, followed by affiliative humor, aggressive humor, and finally self-defeating humor. Furthermore, women score higher than men on affiliative, self-enhancing, and aggressive humor, while men score substantially higher on self-defeating humor. Second, regarding gender differences in verbal creativity, it transpired that women are more verbally creative than men since they scored higher on DAT. Third, for the relationship between verbal creativity and humor styles, notwithstanding the significant correlation between gender and verbal creativity, we found no correlation between verbal creativity and any of the humor styles. Fourth and last, it was concluded that verbal creativity does not play a mediating role in the relationship between gender and humor styles.

#### **4.1. Research Limitations**

Several obstacles hindered this research effort. Primarily, the sample size is insufficient to draw definitive conclusions. In addition, we were able to measure verbal creativity via only one tool, the Divergent Association Task. In order to obtain more generalizable and conclusive results, we recommend that future studies utilize random sampling with larger sample sizes. Specifically, there should be a focus on exploring Algerian women's outlook on negative humor in general and aggressive humor in particular to see whether the findings of this research can be generalized. In addition, it is suggested that creativity be measured using a combination of instruments in order to obtain a holistic understanding of this crucial aspect of human nature.

#### **5- Conclusion**

Overall, the present research is a pioneering study with the aim of exploring gender differences in humor styles and verbal creativity among students of English at the university of Guelma. It also looks at the relationship between gender, humor, and verbal creativity. After collecting data using DAT and HSQ from a group of students of English at 8 May 1945 university in Guelma, we discovered that women are more verbally creative than men. Further, we found that women show more proclivity towards positive humor than men do, and unexpectedly, a greater preference for aggressive humor as well, though men do score higher on self-defeating humor. Further, the results do not support the hypothesized association between verbal creativity and humor styles. We found no evidence that verbal creativity mediates the relationship between gender and humor. These findings inform us that the interaction between gender, verbal creativity, and humor styles may be context sensitive. As such, it would be wise to further investigate this matter, taking into consideration a number of factors, such as culture. Additionally, it is preferable to adopt a more holistic approach to measuring creativity, which can be achieved by using multiple instruments. It remains to be said that research on gender, humor, and creativity is intriguing and merits further investigation for the insights it may provide in so far as attaining a better understanding of how cultural and social factors, or even educational ones such as studying English, may affect people's preferences and use of humor, not to mention the role creativity may play in mediating such a complex relationship.

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